

C.V. - RONGSHENG ROGER RUAN
Professor and Director of Graduate Studies
Department of Bioproducts and Biosystems Engineering (BBE)
Director of Center for Biorefining
University of Minnesota

Office: 206 BAE Building, 1390 Eckles Avenue, St. Paul, MN 55108, USA
Phone: (612) 625-1710 *Fax:* (612) 624-3005
E-mail: ruanx001@umn.edu [http://biorefining.cfans.umn.edu/
www.bbe.umn.edu/staff/ruan.html](http://biorefining.cfans.umn.edu/www.bbe.umn.edu/staff/ruan.html)

R. Roger Ruan, Professor and Director of the Center for Biorefining at the University of Minnesota, is a globally recognized scientist known for his pioneering work in catalytic microwave processing and microalgae research. His innovative contributions to utilizing solid and liquid waste have played a crucial role in advancing sustainable circular economy development. Dr. Ruan is a Member of the National Academy of Engineering (NAE) and a Fellow of the National Academy of Inventors (NAI). He is also a Fellow of multiple professional organizations, including the American Society of Agricultural and Biological Engineers (ASABE), the Institute of Food Technologists (IFT), the International Association of Advanced Materials (IAAM), and Vebleo. His contributions have been recognized with numerous awards, including the International Bioprocessing Association's Pandey Award, the CAFS Professional Achievement Award, and the Scientist of IAAM Award, among others.

Dr. Ruan's research is primarily focused on renewable energy and environmental technologies, as well as food engineering to support sustainable circular economy development. His work encompasses a wide range of areas, including the treatment and utilization of solid, liquid, and gas wastes, such as biomass and plastic waste pyrolysis and gasification for the treatment and production of chemicals, materials, fuels, and energy. He also explores innovative approaches like anaerobic digestion, microalgae, and hydroponics for municipal and animal wastewater and food waste utilization. Furthermore, his research extends to the development and application of cutting-edge technologies such as catalytic non-thermal plasma, low-temperature microwave and pulse microwave, photocatalytic intensive pulse light, and NMR/MRI in food quality improvement, safety assurance, airborne pathogen disinfection, pollutant control, and nitrogen fixation.

Dr. Ruan's academic contributions include over 600 papers published in refereed journals, 2 books, and 30 book chapters. He holds a portfolio of 21 US patents. He is also recognized as a top-cited author, ranking 83rd nationally and 190th globally in the field of Engineering and Technology according to research.com. Notably, he holds the Number One global ranking in both microwave pyrolysis, and microalgae and wastewater treatment research fields according to Web of Science, with an h-index of 114, an i10-index of 587, and over 52,000 citations on Google Scholar.

Dr. Ruan's impact extends beyond research, as he has mentored over 100 graduate students, 150 post-doctoral fellows, and numerous other engineers and scientists, many of whom have gone on

to hold positions at universities. He has been invited to deliver more than 400 keynote or plenary lectures, invited symposium presentations, company seminars, and short courses. Additionally, he has provided consultancy services to government agencies and numerous local, national, and international companies in the fields of bioprocess engineering, food engineering, renewable energy, and environmental technologies.

Furthermore, Dr. Ruan's leadership is evident in his role as the recipient and manager of over 220 research projects, with a total funding exceeding \$45 million from various sources, including the USDA, DOE, DOT, DOD, LCCMR, and various industries. He has also actively contributed to the academic community by serving as a editor-in-chief, guest editor or editorial board member for many esteemed journals, including Bioresource Technology, Renewable Energy, Engineering, Applied Catalysis and Chemical Engineering, Journal of Food Process Engineering, The Open Plasma Physics Journal, and Transactions of ASABE, Engineering Applications in Agriculture, International Journal of Agricultural and Biological Engineering (IJABE), Sustainable Carbon Materials (SCM), Algae and Environment, and Transactions of CSAE. He has successfully organized and chaired numerous international conferences, including the IFT-EFFoST Nonthermal Processing Workshop and Short Course (2023), Conference of Food Engineering (CoFE2018), International Conference on Environmental Pollution and Governance (ICEPG 2021), 2nd International Symposium on Environmental Protection and Chemical Engineering (ISEPCE 2021), and International Conference on Energy Engineering, New Energy Materials, and Devices (NEMD 2021), among others.

In addition to his research and leadership roles, Dr. Ruan is a dedicated educator and mentor. Earlier in his career, he served as Director of Undergraduate Studies and later as Director of Graduate Studies, making significant contributions to both undergraduate and graduate education in the Department of Bioproducts and Biosystems Engineering. As a committed instructor, he has taught a diverse range of courses, including Renewable Energy Technologies, Biological Process Engineering, Managing Water in Food and Biological Systems, Instrumentation and Control for Biological Systems, Food Process Engineering, and Engineering Principles and Applications, etc. His dedication to education has significantly contributed to shaping the next generation of researchers and industry leaders.

Synergistic Activities

1. Started up the [Fiberstar Company](#) from our patented HRC technology in 2000, the company has annual sales in tens of millions of US\$.
2. Transferred the patented non-thermal plasma for odor control technology to SCP Control, Inc. in 2004.
3. Transferred the microwave assisted pyrolysis technology to [Resynergi, Inc.](#) in 2017, the company has received over tens of million US\$ in funding for waste plastics utilization, including Series B fundings.
4. Transferred the microwave distillation/pyrolysis technology to Resynergi, Inc. in 2020.

5. Established and direct the University of Minnesota [Center for Biorefining](#) since 2003 with a number of innovative bioconversion technologies and pilot facilities developed, demonstrated, and/or commercialized.
6. Established the Electric Power Research Institute (EPRI) and Northern States Power (NSP) Food Technology Center - Research and Development, and help obtained the grass status for ozone application in foods from the FDA.
7. Established and lead the St. Paul Campus Magnetic Resonance Research Laboratory with two permanent magnet NMR relaxometry and imaging systems and one low field NMR relaxometry system.
8. Served on AAAS, NSF, DOE, USDA and many other major proposal review panels. Also served in many capacities in various professional organizations.

Professional Employment Summary

- 6/2001 – Present: Professor, Department of Bioproducts and Biosystems Engineering, and Graduate Faculty of Department of Food Science and Nutrition
Director, Center for Biorefining (since 2003); Director of Undergraduate Studies (1998-2003); Director of Graduate Studies (since 2020); University of Minnesota.
- 6/1998 – 6/2001: Associate Professor and Director of Undergraduate Studies, Department of Bioproducts and Biosystems Engineering, and Department of Food Science and Nutrition, University of Minnesota.
- 1/1994 – 6/1998: Assistant Professor, Department of Bioproducts and Biosystems Engineering, and Department of Food Science and Nutrition, University of Minnesota.
- 11/1991 – 1/1994: Research Associate, Department of Food Science and Nutrition, University of Minnesota, and Research Scientist, Pillsbury Technology Center, Grand Metropolitan Pillsbury Company.
- 8/1991 – 11/1991: Post-Doctoral Research Associate, Department of Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign.
- 8/1988 – 8/1991: Graduate Research Assistant, Department of Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign.
- 1/1987 – 8/1988: Graduate Research Assistant, Department of Biosystems and Agricultural Engineering, Oklahoma State University at Stillwater.
- 5/1986 – 1/1987: Visiting Research Associate, Department of Biological and Agricultural Engineering, University of California at Davis.
- 8/1983 – 5/1986: Research Engineer, Department of Food and Value-added Process Engineering, Nanjing Research Institute for Agricultural Mechanization, Ministry of Agriculture, China.

Professional Preparation

China Agricultural University

Mechanical Engineering

B.S.

Oklahoma State University	Biosystems and Agricultural Engineering	M.S.
University of Illinois at Urbana-Champaign	Agricultural and Biological Engineering	Ph.D.

Selected University and Professional Services

1. Review Panelist: *NSF Trailblazer Engineering Impact Award (NSF Trailblazer)* May, 2026
2. Successfully nominated M.S., Ph.D., and Postdoctoral advisee Peng Peng for the BBE Early Career Alumni Award. April, 2026
3. Honorary Editor-in-Chief of *the Advanced Energy Conversion Journal*. April, 2026 - present
4. Guest Editor, *Nano-Micro Letters* journal, for the collection of “AI catalysis towards a low-carbon and sustainable future.” Feb. 2026 - Feb. 27
5. Successfully nominated Ph.D. advisee Jon Schroeder for the SWANA 2026 YP of the Year Award. Jan. - Feb., 2026
6. Minnesota Center for Prion Research and Outreach (MNPRO) Scientific Advisory Board (Scientific Board) Member. Jan. 2026 – present
7. Keynote Speaker, First International Forum on Sustainable Carbon Materials and Environmental Energy. Nanjing January 10, 2026
8. Plenary Speaker and Panelist, International Symposium on the Sustainable Processing of Carbon Waste, Clayton, Australia December 4, 2025
9. Gave an interview to The Minnesota Daily on PFAS, the story Published on the November 30, 2025 issue. November, 2025
10. Inducted into the US National Academy of Engineering (NAE), NAE Annual Meeting, October 4-7, 2025, Washington, DC. October 5, 2025
11. Successfully nominated graduate advisee Jon Schroeder for the SWANA Technical Division Awards. August - Sept., 2025
12. 12th World Congress of Chemical Engineering and 21st Asian Pacific Confederation of Chemical Engineering Congress 2025 (WCCE 12 & APCChE 2025) – Session 32: Engineering Thermochemistry and Low Carbon Chemical Engineering, Conference Co-Chair, Keynote Speaker, and Keynote Session Host. July, 2025.
13. Dr. Ali Ubeyitogullari’s Promotion and Tenure in the Department of Food Science at the University of Arkansas – External Evaluator Summer, 2025
14. Review Panelist: A Major NSF program April - June, 2025
15. Editor-in-Chief, Sustainable Carbon Materials Spr., 2025 - Present
16. Judge of The China Bridge Competition: Strategies for an Evolving U.S.-China Relation: Joint Initiatives in Renewable Energy and Green Technology February, 2025
17. Elected as a Member of US National Academy of Engineering (NAE), February, 2025 Class of 2025.
18. Keynote Speaker, Session Chair, and International Advisory Committee member, Advanced Bioprocessing Technologies for Biomass Conversion – Sustainability & Bioresource Management Dec. 1- 6, 2024

- (IBA-IFIBiop XI), Hong Kong & Dongguan.
19. Invited Biorefining Presenter and Panelist. *19th Annual California Bioresources Alliance Symposium* – Refining California’s Future: Innovating Together for a Thriving Circular Bio-Economy. University of California, Davis, CA. November 19-20, 2024. Nov. 19 - 20, 2024
 20. Expert panelist to serve on the USDA AFRI A1364 Novel Foods and Innovative Manufacturing Technology program Oct. 2024 – Jan., 25
 21. Board Members of National Council of IAAM 2024 - 2026
 22. Guest Editor for *Frontiers of Chemical Science and Engineering’s* Special issue on Microwave for electrification and decarbonization of chemical industry. Oct. 2024 – Jun. 25
 23. IonE Annual Meeting Unlocking the Ancient Biodegradation Power For Tackling the New ‘Forever Chemical’ Issue Breakout sessions Co-Host, Minneapolis, MN. Sept. 27, 2024
 24. Search Committee Chair, Renewable Energy Systems Engineering Faculty position in BBE Fall, 2024 – Spr, 25
 25. CFANS Graduate Research & Policy Review Committee (GRPRC) Chair 2024 – 2025
 26. Editor-in-Chief, *Algae and Environment* Sum., 2024 - Present
 27. External reviewer for the Promotion and Tenure of Dr. Heyang (Harry) Yuan of Temper University Civil & Environmental Engineering Department August, 2024
 28. The 4th International Microwave Power Applications in Chemical Engineering Scientific Committee member and Plenary Speaker August 9-11, 2024
 29. Board member of the American Council of the International Association of Advanced Materials (IAAM). Aug., 2024 - Jul., 26
 30. Inducted into the Fellow of the US National Academy of Inventors (NAI), June 16-18, 2024, Raleigh, NC. June 18, 2024
 31. 58th Annual Microwave Power Symposium (IMPI 58) Invited Plenary Session Speaker, Washington, DC. May 29-31, 2024
 32. IFT FED Poster and Oral Competition Judge April-July, 2024
 33. American Society of Agricultural and Biological Engineers Circular Bioeconomy Systems Institute (CBSI)’s Circular Processing, Packaging, and Food Loss and Waste Workshop, invited speaker. Chicago, IL. April 22-24, 2024
 34. Plastic recycling/upcycling research story published in Minnesota Monthly for Earth Day. April 22, 2024
 35. 3M Tech Forum Feature Speaker, Sustainable technology for circular economy development, Maplewood, MN. April 22, 2024
 36. Gave an interview to MinnPost on manure complete utilization. Story published on April 17, 2024 as “More than fertilizer for farm fields.” April 10, 2024
 37. Judge of The China Bridge Competition organized by the College of Food, Agricultural, and Natural Sciences and China Center, UMN February, 2024
 38. Invited to give a seminar to Pennsylvania State University Chemical Engineering Department. State College, PA. February 22, 2024.

39. Gave an interview to Star Tribune on manure AD for renewable Natural gas production. Story published on January 31, 2024	January 26, 2024
40. Elected as a Fellow of US National Academy of Inventors (NAI), Class of 2023.	November, 2023
41. Podcast for ASABE on sustainable animal and food production technologies. Aired on January 29, 2024	November, 2023
42. USDA SBIR/STTR 8.8 Phase I review panelist	Nov. – Dec., 2023
43. Conference Chair 2023 IFT-EFFoST International Nonthermal Processing Workshop & Short Course, also Chair for Session 1 – Nonthermal Food and Bioprocessing for Circular Economy, and Chair and Panelist for Breakout Session – Scientific advances and innovations in nonthermal processing for sustainable circular economy development and workforce	October, 2023
44. Regional Roundtable: Fueling a low-carbon future in Minnesota, Center for Climate and Energy Solutions (C2ES)	October, 2023
45. USSSTC Underrepresented Students in STEM Symposium Judge	September 23, 2023
46. External reviewer for the promotion of Dr. Zhiliang Fan from associate professor to full professor	September, 2023
47. External reviewer for the promotion of Dr. Wei Lin from associate professor to full professor	September, 2023
48. Gave an interview to Minnesota Public Radio on Manure anaerobic digestion for methane and renewable nature gas production, story aired on September 12, 2023	September, 2023
49. External reviewer for the promotion of Dr. Carmen Gomes from associate professor to full professor	August, 2023
50. 3 rd International Conference on Sustainable Solid Waste Treatments And Managements (SWTM-2023) International Advisory Committee Member, Session Co-Chair, and Invited Speaker	July, 2023
51. Dr. Wan-Ting (Grace) Chen's Tenure and Promotion University of Massachusetts Lowell, Department of Plastics Engineering, External evaluator	June, 2023
52. IFT FED Poster and Oral Competition Judge	June, 2023
53. International Conference on Solid Waste 2023: Waste Management In Circular Economy and Climate Resilience (ICSWHK2023) Thermal Treatment (Pyrolysis, Gasification & Incineration) Session Chair and Plenary Speaker, Poster Competition Judge	May-June, 2023
54. Conference Chair 2023 International Joint Conference on Environmental Engineering and Biotechnology (CoEEB 2023) and Plenary Speaker	May, 2023
55. Panelist, University of Minnesota Sustainability Symposium – Bridging the Gap	April, 2023
56. Supported Dr. Sergio Capareda's ASABE Fellow nomination	April, 2023
57. Dr. Wei Du's Tenured Professor Promotion, Department of Chemical Engineering, Tsinghua University - External evaluator	Spring, 2023
58. Plenary Speaker of the 7th Edition of Global Energy Meet	March, 2023

March 6-10, 2023, Boston, MA	
59. Testified at the Minnesota State Legislature Environment and Natural Resources Finance and Policy Committee on the PFAS clean up using biochar absorption and catalytic microwave assisted pyrolysis. February 14, 2023.	February, 2023
60. USDA SBIR/STTR 8.8 Phase I review panelist	Dec 2022 – Jan 2023
61. BBE Space and Safety Committee member	Spr, 2023 - Present
62. Vice Chairman of the Scientific Committee, Session III Co-Chair, and Invited Speaker of the International Conference on Green Hydrogen Production (ICGHP-2022)	December, 2022
63. International Advisory Committee Member and Invited Speaker, International Conference on Biotechnology for Sustainable Bioresources and Bioeconomy (BSBB-2022)	December, 2022
64. Gave an interview to MnDrive Environment reporter on hog manure utilization. Story published on MnDrive Environment website as “Hog Manure Revisited with funding from a MnDrive Environment Demonstration Grant, UMN researcher Roger Ruan makes the most of manure.”	December, 2022
65. Dr. Yen Wah Tong’s Professor Promotion, Department of Chemical and Biomolecular Engineering, at the National University of Singapore (NUS) – External evaluator	Fall, 2022
66. Gave an interview to <i>Chemical and Engineering News</i> (C&EN) on waste plastics pyrolysis, story published as cover story on the August 12, 2022 issue of the magazine	August, 2022
67. Search Committee Chair, MnDRIVE faculty position in Robotics and Sensors in Sustainable Agricultural and Environmental Management in BBE	Fall, 2022 – Spr, 23
68. IFT Food Engineering Division Chair	Sept. 2022 – Aug, 23
69. Conference General Chair and Keynote Speaker of the 2022 2 nd International Conference on Environmental Pollution and Governance (ICEPG 2022)	September, 2022
70. Green Energy and Resources Editorial Board Member	Aug., 2022 - Present
71. Invited to the MN Soybean Research & Promotion Council’s Cragun Retreat in Brainerd, MN as an expert panelist	July, 2022
72. Ireland BiOrbic SFI Bioeconomy Research Centre Phase I Project progress and Phase II Proposal Review Panelist	Summer, 2022
73. IFT Food Engineering Division Graduate Oral Competition Committee Co-Chair and Judge	Spring – Sum. 2022
74. 2022 ASABE Annual International Meeting Invited Speaker Session: Recent Advancement in Renewable Energy Resources and Technologies	July, 2022
75. International Symposium on Emerging Trends in Role and Production of Bioenergy for Sustainable Development (ETBSD-2022), International Advisory Committee member and Invited Plenary Speaker	July, 2022
76. The UK Royal Academy of Engineering’s Chair in Emerging	May - July, 2022

Technologies scheme Reviewer	
77. Organizer, Chair, and Panelist of the IFT Webinar/Panel Discussion on Food Security and Sustainable Development	April, 2022
78. Guest editor for <i>Journal of Analytical and Applied Pyrolysis</i> , Special Issue: Microwave-assisted pyrolysis of organic solid wastes for energy, fuels, chemicals, and materials recovery	March, 2022
79. Organize and give the Walmart Foundation Webinar on Innovative Technologies for A Sustainable Swine Industry	March, 2022
80. Invited Speaker, Panelist, and Session 01 Chair at Composite Materials Congress.	March, 2022
81. Organize the Walmart Project Zoom Conference on Swine Production Odor Control and Waste Treatment/Utilization with New Hope Group scientists.	March, 2022
82. Dr. Jin Liu's Associate Professor Promotion and Tenure, Peking University – External reviewer	Spring, 2022
83. NSF Proposal Reviewer	Spring, 2022
84. Dr. Xuebing Zhao's Associate Professor Promotion and Tenure, Tsinghua University – External reviewer	Spring, 2022
85. Invited speaker at the International Symposium on Biomass Refining, Nanchang University	December, 2021
86. Keynote speaker and panelist at the BESS Conference on Zero Waste and Circular Economy, National University of Singapore	December, 2021
87. Invited speaker at the 5 th Conference on Health and Environment, Beijing Union University	December, 2021
88. Honorary Director of the Technical Committee of the MOE Engineering Research Center for Biomass Conversion	2021- Present
89. Selected to attend the UN Climate Change Conference (COP 26) in Glasgow, Scotland	November, 2021
90. Invited speaker in the Fifth BUU Health and Environment Conference	November, 2021
91. Invited as the lunch speaker in the Minnesota Environmental Science and Economic Review Board (MESERB) Fall Conference	November, 2021
92. Invited Speaker in the International Pork Safety Forum	October, 2021
93. Keynote Speaker in the FoodChem-2021 (The Food Chemistry Summit), Washington, DC.	September, 2021
94. Keynote Speaker in the Chemicat-2021 (Chemical Engineering & Catalysis Conference), Washington, DC.	September, 2021
95. Continued to attend the annual USDA S-1075 committee meeting every year as the official Minnesota Representative since the initiation of the committee in 2001	July, 2021
96. Supported the nomination of Dr. Yanyun Zhao for the CAFS Professional Achievement Award	July, 2021
97. Second International Conference on Sustainable Solid Waste Treatments and Managements (SWTM-2021), International	July, 2021

Advisory Committee member and Invited Speaker	
98. Conference Chairman and Keynote Speaker, the 2021 International Conference on Environmental Pollution and Governance (ICEPG 2021)	May, 2021
99. Invited Plenary Speaker in the 5th Asia Pacific Biochar Conference (APBC2021)	May, 2021
100. Invited to present at the USDA Food Loss and Waste Innovation Fair	April, 2021
101. USDA NIFA NC Sun Grant Proposal Review Panelist 2021	April – May,
102. IFT Food Engineering Division Graduate Oral Competition Committee Chair and Judge	Spring – Sum. 2021
103. Keynote Speaker in the Fellow of Vebleo's Webinar on Energy Materials and Technologies	April, 2021
104. Invited Speaker in the International Conference on Sustainable Biowaste Management 2021 (SBM 2021)	April, 2021
105. Chair for the Plenary and Keynote Session, Day-1 Moderator 2021 and Invited Keynote Speaker in the Catalysis Conference (CCE-2021), San Francisco, CA. 2/22-26/2021	February,
106. Conference Co-Chair, Oral Session Chair, and Plenary Session Keynote Speaker in the 2021 2nd International Symposium on Environmental Protection and Chemical Engineering (ISEPCE 2021), and 2021 International Conference on Energy Engineering, New Energy Materials and Devices (NEMD 2021).	January, 2021
107. Supported the nomination of Dr. Ruihong Zhang for the ASABE Award: Cyrus Hall McCormick - Jerome Increase Case Gold Medal	October, 2020
108. Organized a virtual international workshop on Development 2020 of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods.	September,
109. Gave an interview to Star Tribune on nitrogen fixation, the story entitled "On Minnesota farm, experiment could change how farmers get costly nitrogen" was published on August 16, 2020 Sunday paper.	August, 2020
110. Foundation for Food and Agriculture Research (FFAR) 2020 Review Panel Member	July - August, 2020
111. Dr. Christopher Simmons' full professor promotion University of California, Davis – External reviewer	Summer, 2020
112. Dr. Jian Shi's associate professor promotion and tenure at University of Kentucky – External reviewer	Summer, 2020
113. CFANS Graduate Research & Policy Review Committee	July, 2020 - Present
114. Director of Graduate Studies, Bioproducts and Biosystems Science, Engineering and Management (BBSEM), Department of Bioproducts and	July, 2020 - Present

Biosystems Engineering (BBE)		
115.	BBE Executive Committee member	July, 2020 - Present
116.	Dr. Fanbin Kong's full professor promotion at University of Georgia - External reviewer	Summer, 2020
117.	Dr. Vijay Singh's named professor appointment at University of Illinois at Urbana-Champaign - External reviewer	Summer, 2020
118.	Reviewer for the Food Science and Nutrition topic area of the USDA's SBIR Competitive Grants Program.	Spring - Sum, 2020
119.	External Advisory Board Member, Center for Advanced Surface Engineering (CASE), an Arkansas NSF EPSCoR Center	Spring, 2020
120.	ASABE Fellow nominator for Prof. Kumar Mallikarjuna	April, 2020
121.	Elected to IFT Food Engineering Division Executive Committee to serve as Secretary, Chair-Elect, Chair, and Past-Chair each year	Apr, 2020 – Jul, 2024
122.	IFT Fellow Selection Committee Jury	2020
123.	Dr. Zhengrong Jimmy Gu's full professor promotion at South Dakota State University - External reviewer	Fall, 2019
124.	Guest Editor, Bioresource Technology Special Issue on Pyrolysis, Combustion and Gasification of Biomass (Lignocellulosic and Algal Biomass) (PCGB-2020)	Oct, 2019 – Jul, 2020
125.	International Conference on New Horizons in Biotechnology (NHBT-2019), Trivandrum, Kerala, India Keynote Speaker and Poster Judger, and International Advisory Committee Member	November, 2019
126.	Biofuels & Bioenergy and Green Energy & Expo 2019, THEME: "Accelerating Advancement in the Fields of Biofuels & Bioenergy" Rome, Italy. Keynote Speaker and Session Chair	October, 2019
127.	Search Committee Chair, UMN MnDRIVE faculty position in robotics and sensors in sustainable agricultural and environmental management in BBE	Fall, 2019 - Sum. 20
128.	Dr. Ajay Kumar's full professor promotion at Oklahoma State University - External reviewer	Fall, 2019
129.	The 10th Asia-Pacific Conference on Algal Biotechnology Nanchang, Jiangxi. Conference Executive Chair and Plenary Speaker	September, 2019
130.	International Conference on Energy and Environment 2019 The 1st International Conference on Energy and Environment, Nanjing, Jiangsu. Conference Scientific Committee Member and Keynote Speaker	September, 2019
131.	Asst. Prof. Zhenong Jin's mentoring committee	Fall, 2019 - Sum., 24
132.	The 3rd International Conference on Bamboo Utilization – Green Circular Economy and Technology, Fuzhou, Fujian. Keynote Speaker, and Section Chair	June, 2019
133.	IFT Symposium on Intensive Pulse Light (IPL) Technology	June, 2019

- Development and Application organize, IFT Annual Meeting,
New Orleans, LA. Symposium Organizer and Speaker
134. International Conference on Sustainable Solid Waste
Treatments and Managements (SWTM-2019), Yangling,
Shangxi – Invited Plenary Speaker, Anaerobic Digestion
Session Chair, and Poster Judge May, 2019
135. Guest Editor, Bioresource Technology Special Issue on Algal
Biorefinery Mar – Dec., 2019
136. BBE TA Selection Committee Member March – April, 2019
137. Organization Committee Member, *BBC 2019 – International
Conference on Biofuels and Bioenergy*, April 29 - May 1, 2019.
San Francisco, California. Organized and chaired a special
symposium on Biofuels and Sustainable Development Sep. 2018 – May, 19
138. Guest Editor, JFPE special issue on Conference of Food
Engineering 2018 Jul, 2018 – Sept, 19
139. Mathematics Modeling and Emerging Technologies Session
Chair, *Conference of Food Engineering 2018* September, 2018
140. *2nd International Conference on Bioresource Technology for
Bioenergy, Bioproducts & Environmental Sustainability –*
Invited Speaker, and Thermo-Chemical Processing of Biomass
Section Chair September 2018
141. Successfully nominated ph.d. candidate Mr. Peng Peng
For the 2018-2019 Mistletoe Research Fellowship (\$10,000
from August, 2018 – May, 2019). Spring, 2018
142. Supported Dr. Hongda Chen's ASABE Fellow nomination April, 2018
143. Successfully nominated Mr. Peng Peng (my ph.d. student)
To receive the University's 2018 President's Student
Leadership and Service Award Spring, 2018
144. Organization Committee Member, and Sessions I: Biomass:
Biomass feed stocks for renewable energy generation –
Biomass technologies Chair. *13th International Congress on
Biofuels and Bioenergy*, October 18-20, 2018. Ottawa,
Ontario, Canada Dec, 2017 - Oct, 18
145. Gave a welcome speech at the Opening Ceremony and a
keynote presentation at the Keynote Forum, and served as
Poster Competition Judge. *Bioenergy 2018*, July 2-4, 2018
Berlin, Germany July, 2018
146. Foundation for Food and Agriculture Research (FFAR)
2018 Review Panel Member Sept. – Oct., 2018
147. Conference Chairman for Conference of Food Engineering
September 8-12, 2018, Minneapolis, Minnesota, USA Aug, 2017 – Sep, 18
148. Elected Steering Committee member for USDA NC1023
Food Engineering Committee 2017 - 2019
149. USDA NIFA Lignin Utilization Proposal review panelist Oct – Nov, 2017
150. Elected Chair of CFANS Promotion and Tenure Committee Nov 2018 – Nov, 19
151. Elected CFANS Promotion and Tenure Committee member Nov 2017 – Nov, 19

152. IAFP 2017 Symposium on Nonthermal Plasma Technology for Improving Food Safety and Quality organizer and convenor	Jun, 2016 – Jul, 2017
153. AAAS UNC Research Opportunities Initiative Proposal Review Panel Member	June – July, 2017
154. Gave media interviews to Minnesota Daily, Channel 11, etc. on scum to biodiesel and microwave pyrolysis of waste materials for energy, fuels, and chemicals production.	April – July, 2017
155. EPA 13th Annual People, Prosperity, and the Planet (P3) (Phase II) Review Panel Member	May – June, 2017
156. USDA SBIR Phase II proposal review member	April – June, 2017
157. Foundation for Food and Agriculture Research (FFAR) Review Panel Member	March - May, 2017
158. University of Minnesota President's Club member	Dec, 2016 - Present
159. Guest editor, <i>Engineering!</i> A Chinese Academy of Engineering's peer-reviewed Open Access journal	Dec, 2016 – Dec. 19
160. Hosted summer students from Breck School and received recognition of contribution to the Advanced Science Research Program from Head of School	Jun, 2016 – Mar, 17
161. 4 th Bioprocessing India Conference (BPI-2016) – Section Chair.	December, 2016
162. International Conference on Strategies for Environmental Protection and Management (ICSEPM 2016) - Poster Program Judge	December, 2016
163. International Conference on Current Trends in Biotechnology (ICCB-2016) - Poster Program Judge	December, 2016
164. ASIA-Pacific Conference on Biotechnology for Waste Conversion (BioWC-2016) - Section Chair and Poster Program Judge	December, 2016
165. Guest Editor, <i>Renewable Energy</i>	Dec, 2016 - Present
166. Guest Editor, <i>Bioresource Technology</i>	Dec, 2016 – Present
167. Editorial Board Member and Guest Editor, <i>Engineering</i>	Nov, 2016 - Present
168. 1st International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability – Invited Speaker, Section Chair and Poster Program Judge	October, 2016
169. 2016 International Seminar on Advanced Materials Research - International Advisory Committee Member	October, 2016
170. Dr. Samir Khanal's full professor promotion at University of Hawaii - External reviewer	Fall, 2016
171. Dr. Carol Lin's Associate Professor at National University of Singapore - External reviewer	Fall, 2016
172. Conference of Food Engineering (CoFE) 2016 – Safety of Low Moisture Foods Section Chair	September, 2016
173. International Conference on Biomass Energy and Sustainable Economy – Conference Chairman	August, 2016
174. The 4th International Conference on Environmental-Enhancing Energy - Scientific Committee member and Section Chair	May - July, 2016
175. DOE Sustainable Ammonia Synthesis Review Panel Member	May – July, 2016
176. Co-lead fund raising effort with Ms. KaiMay Terry (lead) for	2016-2017

The University of Minnesota Landscape Arboretum Chinese Garden Project (raised >\$1 million in total). The Garden was successfully established on September 18th, 2017.

- | | |
|--|-----------------------|
| 177. EPA 2016 People, Prosperity, and the Planet (P3) Review Panel Member | March – June, 2016 |
| 178. New Horizons in Biotechnology – 2015 International Organizing Committee Member | November, 2015 |
| 179. USDA/DOE Biomass Research and Development Initiative (BRDI) 2016 review panelist | Oct, 2015 – Feb, 16 |
| 180. Dr. Troy Runge Tenure and promotion at UW-Madison
- External reviewer | Fall, 2015 |
| 181. Dr. Mark Wilkins Tenure and promotion at Oklahoma State University - External reviewer | Fall, 2015 |
| 182. Dr. Susie Yan Liu's Tenure and promotion at Michigan State
- External reviewer | Fall, 2015 |
| 183. Dr. Sergio Capareda's full professor promotion at Texas A&M University – External reviewer | Summer, 2015 |
| 184. 2015 EPA P3 Competition Judge, Alexandria, VA | March – April, 2015 |
| 185. EPA 2014 People, Prosperity, and the Planet (P3) Review Panel, St. Paul, MN | Feb – March, 2015 |
| 186. Editorial Board Member – <i>Bioresource Technology</i> | Oct, 2014 - Present |
| 187. Vice Chair of External Advisory Committee, Tianjin Municipal Biomass Solid Waste Reclamation Technology Engineering Center, Nankai University | Fall, 2014 - Fall, 19 |
| 188. Advisory Committee Member, Tianjin Municipal Engineering Center for Biomass Derived Gas and Oils, Tianjin University | Fall, 2014 - Fall, 19 |
| 189. USDA NIFA Enhanced Food Safety through Improved Processing Technology Review Panelist | Summer, 2014 |
| 190. Chairman of the Editorial Board - International Journal of Agricultural and Biological Engineering | Sum. 2014 - Present |
| 191. Organized LCCMR Site Visit to Rosemount and Metroplant Wastewater Treatment Facility in St. Paul and Rosemount on Innovative Waste Utilization Technologies | Summer, 2014 |
| 192. China International Cooperation Program Renewable Renewable Energy and Environment Review and Planning Panelist | July, 2014 |
| 193. Organized 3M-Center for Biorefining Renewable Energy and Environment Meeting, St. Paul, MN. | June, 2014 |
| 194. UMN MnDrive GFV Proposal Reviewer | May, 2014 |
| 195. China National 863 Bioresource and Medical Technology Program Review Panelist | May, 2014 |
| 196. US DOE 2014 DOE Vehicles Incubator Solicitation Reviewer | Srping, 2014 |
| 197. Netherlands Technology Foundation STW Proposal Reviewer | Spring, 2014 |
| 198. US EPA 2014 P3 Competition Judge | Spring, 2014 |
| 199. International Energy Agency (IEA) Bioenergy Task 34 - | Spring, 2014 |

Pyrolysis, US team member	
200. Dr. Nicholas Holden's Full Professor promotion at University College Dublin - international reviewer	Fall, 2013
201. Dr. Lance Schideman, U. of Illinois at Urbana – Champaign, Promotion and Tenure external reviewer	Fall, 2013
202. USDA Food Engineering Committee (NC 1023, Engineering For Food Safety and Quality) Rewrite Committee Chair	Fall, 2013 - Fall, 15
203. BARD - The US-Israel Agricultural Research & Development Fund proposal reviewer	Fall, 2013
204. Dr. Lance Schideman, U. of Illinois at Urbana - Champaign, Promotion and Tenure external reviewer	Summer, 2013
205. Dr. Buddhi Lamsal, Iowa State U, Promotion and Tenure external reviewer	Summer, 2013
206. Dr. Yong-Su Jin, U. of Illinois at Urbana-Champaign Promotion and Tenure external reviewer	Summer, 2013
207. China National 863 Bioresource and Medical Technology Program Review Panelist	July, 2013
208. Member of University of Minnesota President Eric Kaler's Delegation to Hong Kong, Taiwan, and Mainland China	Summer, 2013
209. DOE SBIR/STTR Program Review Panelist	Spring, 2013
210. US EPA 2013 P3 Competition Judge	Spring, 2013
211. CAS Qingdao Institute of Bioenergy and Bioprocess Technology Consultative Committee member	Jan, 2013 - Present
212. USDA Food Engineering Committee (NC 1023, Engineering For Food Safety and Quality) Secretary, Chair Elect, Vice Chair, Chair and Pass Chair)	Fall, 2012 - Fall, 15
213. BBE Biosensor and Bionanotechnology Faculty Search Committee member	Dec, 2012 - May, 13
214. USDA S1041 The Science and Engineering for the Biobased Industry and Economy Committee Rewrite Committee Member, Conversion Subcommittee Chair	Fall, 2012 - Fall, 13
215. Dr. Sridhar Viamajala U. of Toledo, Promotion and Tenure external reviewer	Fall, 2012
216. BBE Faculty Recruitment Committee	Fall, 2012 – Present
217. DOE Advancements in Sustainable Algal Production Solicitation Merit Review Panelist	Spring, 2012
218. Organized CB 2012 Sino-USA Renewable Energy Conference in St. Paul, MN	Spring, 2012
219. US AAAS EPA 2012 P3 Competition Judge	Spring, 2012
220. NSF SBIR Wastewater Review Panelist	Spring, 2012
221. ASABE Food and Process Engineering Division Paper Awards Judge	Spring, 2012
222. CFANS Six Year Capital Plan - Lab and Specimen collection committee	Dec, 2011 - Present
223. Dr. Soojin Jun, U. of Hawaii at Manoa, Promotion and Tenure external reviewer	Fall, 2011

224. Co-organized an AACCI Workshop on Improving the Functionality and Health Attributes of Wheat	Fall, 2011
225. UMN China Center Director Search Committee	Fall, 2011
226. UMN China Center Bylaw Revision Committee	Fall, 2011
227. DOE BRDI 2011 review panelist	July, 2011
228. 2011 International Conference on Agricultural Engineering New Technology & Taishan Forum Academic Committee Member	May, 2011
229. NSF Energy for Sustainability panel on Photobiological Production of Fuels	Spring, 2011
230. NSF SBIR Biofuel Program Merit Review Panelist	Spring, 2011
231. NSF SBIR Algae Program Merit Review Panelist	Spring, 2011
232. USDA SBIR Biofuels Program Merit Review Panelist	Winter, 2011
233. CFANS Blue Ribbon Committee member	Nov. 2009 - Feb. 10
234. NSF SBIR Biofuel Program Merit Review Panelist	Spring, 2010
235. NSF SBIR Algae Program Merit Review Panelist	Spring, 2010
236. Asst. Prof. Bo Hu mentoring committee	Fall, 2009 - Present
237. USDA SBIR Biofuels Program Merit Review Panelist	Winter, 2010
238. DOE (US Department of Energy) Major Algae R&D and Demonstration review Panelist	November, 2009
239. Associate Professor Dr. Steven Severtson's Full Professor promotion dossier review and mentor committee	Fall, 2009
240. Dr. Hossein Nouredini, University of Nebraska - Lincoln Full Professor Promotion Committee External Reviewer	Fall, 2009
241. US Recovery Act: Clean Coal Power Initiative – Round 3 review panelist	Fall, 2009
242. Dr. Steve Severtson's Full Professor Promotion Mentoring Committee member	Fall, 2009
243. USDA S1007 The Science and Technology for the Biobased Economy Committee-Thermochemical Conversion Subcommittee Chair	Fall, 2009
244. Dr. Jian Yu, University of Hawaii Promotion and Tenure Committee External Reviewer	Fall, 2009
245. DOE Carbon Capture and Sequestration from Industrial Sources and Innovative Concepts for Beneficial CO ₂ Use review panelist	Fall, 2009
246. USDA/DOE Biomass R&D Initiative review panelist	Summer, 2009
247. DOE Major Biomass Program Merit Review Panelist	Spring, 2009
248. USDA SBIR Biofuels Program Merit Review Panelist	Winter, 2009
249. Review Panel member for UMN Award for Global Engagement Committee.	Fall, 2008
250. USDA CSREES Competitive Program Biofuels and Biobased Products Review Panelist	Spring, 2008
251. USDA SBIR Biofuels Program Merit Review Panelist	Winter, 2008
252. Organized an Algae R & D & Commercialization Focus Forum – Site Visit and Discussion for DARPA and Other	January, 2008

Opportunities

- | | |
|--|--|
| 253. UMN International Scholarship Advisory Committee | Fall, 2007 – Present |
| 254. UMN UMore Park Task Force on Energy member | May, 2007 - Sum. 08 |
| 255. NSF Biofuels (STTR and SBIR) Program Merit Review Panelist | March, 2007 |
| 256. University of Minnesota China Center Director Search Committee | Spring, 2007 |
| 257. Organized the USDA S1007 Annual Meeting.
(The Science and Technology for the Biobased Economy)
St. Paul, MN. | September, 2006 |
| 258. DOE Major Biomass Program Merit Review Panel | Summer, 2006 |
| 259. DOE/USDA Biomass R&D Initiative Review Team
Member, and “Integrated Feedstock Supply System for Corn
Stover Biomass, Iowa State University, PI: Robert Anex”
Project Review Team Leader | Spring, 2006 |
| 260. ASABE Technical Paper Awards Judge | Spring, 2006 |
| 261. DOE/USDA Joint Biomass Solicitation Review Panel | Spr., 2006, Sum. 07 |
| 262. President, MN Section of ASABE | Mar, 2003 - Apr, 06 |
| 263. Vice President, MN Section of ASABE | April, 2006 – Present
Sum. 2001 - Mar, 03 |
| 264. Outside Reviewer for Associate Professor Dr. Terry
Walker’s (Clemson U) Promotion | Fall, 2007 |
| 265. Outside Reviewer for UI Assistant Professor Dr. Hao
Feng’s Promotion and Tenure | Summer, 2006 |
| 266. Minnesota China Bioenergy Symposium Organization
committee, the symposium was co-sponsored by MN DOA,
IREE, China Center, and Center for Biorefining | Fall, 2005 – Spr, 06 |
| 267. University of Minnesota China Center Advisory Council | Jul, 2005 – Jun, 2015 |
| 268. CFANS International Program Steering Committee | Dec., 2006 – Present |
| 269. Member of the Minnesota Governor Tim Pawlenty’s Trade
Mission to China. | Summer, 2005 |
| 270. IFT Food Engineering Division Paper Competition Judge | Spring, 2005 |
| 271. Selection Committee Member for the University of Minnesota
Distinguished Leadership Award for Internationals. | Spring, 2005 |
| 272. Bioproducts Engineering Faculty Search Committee
Member and Prof. Ping Wang’s on-campus interview host | Nov, 2004 - May, 06 |
| 273. DOE/USDA Biomass R&D Initiative (BRDI) Review
Team Member, and "Biopolymers and Other Value - Added
Products from Distillers' Dried Grains (Iowa State University
PI: Robert C. Brown)” Project Review Team Leader | Fall, 2004 – Spr, 05 |
| 274. USDA CSREES Food Characterization/Process/Product
(71.1) Review Panel | April, 2005
Spring, 2004 |
| 275. United Nations Development Program (UNDP)’s Chief
Technology Advisor (CTA) for Agricultural Processing
Industry in China | Nov., 2003 - Jan, 07 |
| 276. Co-Leader and Coordinator, Bioenergy and Bioproducts | Aug, 2003 – Present |

Cluster, University of Minnesota Initiative for Renewable Energy and The Environment (IREE)		
277.	Director, University of Minnesota Center for Biorefining	May, 2003 – Present
278.	Director of Undergraduate Studies	June, 1998 - Jan, 03
279.	Distinguished Guest Professor, Nanchang University	Fall, 2002 – Fall, 13
280.	ASAE Technical Paper Awards Committee Chair	Sum. 2002 - Sum. 03
281.	Founding Editor-in-Chief, <i>International Journal of Agricultural and Biological Engineering</i>	Fall, 2007 - Fall, 14
282.	Editorial Board, <i>Sensing and Instrumentation for Food Quality and Safety</i>	Sum. 2006 - Present
283.	Editorial Board, <i>Journal of Food Process Engineering</i>	Jan, 2005 - Present
284.	Associate Editor, FPEI, <i>Transactions of The ASABE</i>	Sum. 2002 - Present
	Associate Editor, <i>Applied Engineering in Agriculture</i>	Sum. 2002 – Present
285.	International Editor, <i>Transactions of The CSAE</i>	Jan, 2007 - Present
286.	AOCABFE Publication Committee Chair	Sum. 2002 – Fall, 14
287.	AOCABFE Board of Directors	Sum. 2001 – Fall, 14
288.	AOCABFE Preparatory Committee	Sum. 2000 – Sum. 01
289.	North/South America Director, AOCABFE	Sum. 2001 – Sum. 02
290.	ASABE Section Steering Committee member	Sum. 2003 – Sum. 07
291.	Committee Member of ASABE Publications Group	Sum. 1998 – Present
292.	Appointed FPE representative to the ASAE Technical Paper Awards Committee	Sum. 1998 – Sum. 03
293.	USDA NCDC 209 BioEnergy and BioProducts Committee member, Minnesota representative to the committee	Fall, 06 – Fall, 2007
294.	USDA NC1023 Improvement of Thermal and Alternative Processes for Foods committee member, Minnesota State Representative to the committee	Spr, 2005 – Present
295.	Co-organized w/ Vance Morey the Biorefining Video Conference (Co-organized by Wisconsin and U of M Center for Biorefining, involved two countries (US and Canada), five States, and eight sites). St. Paul, MN.	June, 2004
296.	ICC/AACC/3 rd Food Science International Symposium – Buckwheat and Cereal Grains Session Chair	Fall, 2004
297.	2004 CIGR International Conference – Section II Scientific Committee	Spr, 2003 – Fall, 04
298.	USDA S1007 (then 1041) The Science and Engineering for the Biobased Industry and Economy Committee Member, Minnesota Representative to the Committee	Spr, 2003 – Present
299.	USDA SRDC 00-03 Biomass Conversion Planning Committee member	Spr 2001 - Spr, 2003
300.	Panel Member, Second Annual Renewable Energy and Biorefining Workshop, Morris, MN	March, 2003
301.	Help organized the Agricultural and Food Professing Training Program for Jiangxi's university faculty group	Fall, 2002 – Spr, 03
302.	Help organized the International Symposium on Food Safety and Food Trade Rules, Nanchang, China	Fall, 2002

303.	Organization Committee Member, Forum on Agricultural & Biosystem Engineering Development Strategy, Yangling, China	Sum. 2001 – Sum. 02
304.	International Conference on Food Science and Technology - Program Committee	Winter & Spr, 1998
305.	Symposium on NMR Applications in Food Science and Technology - Program Committee member	Winter & Spr, 1998
306.	International Conference on Food Science and Technology - Overall Program Committee member	Spr & Summer, 1996
307.	Symposium on NMR and MRI Applications in Food Science and Technology - Program Committee and Session Chair, and Food Processing Section Chair	Summer, 1996
308.	EPRI Food Technology Center - Technical Advisory Council Member	Spr, 1996 – Sum. 01
309.	Elected Chair of FPE-043 Paper Awards and Special Publications, ASAE	Sum. 1995 – Sum. 98
310.	Committee member of FPE-043 Paper Awards and Special Publications, ASAE	Sum. 1994 – Sum. 99
311.	BAE Graduate Program Committee Member	Fall, 2002 – Fall, 06
312.	Outside Reviewer for Assistant Professor Dr. Ferenxz S. Denes' (UW) Promotion and Tenure	Spring, 2003
313.	Associate Professor Dr. Bruce Wilson's promotion review committee	Fall, 2002
314.	Outside Reviewer for Assistant Professor Dr. Danielle Bellmer's (Oklahoma SU) Promotion and Tenure	Fall, 2002
315.	Proposal Review Panel member for Rapid Agricultural Response Fund proposals	Spring – Sum. 02
316.	BAE Department Head Search Committee	Sum. 2001
317.	COAFES Campaign Minnesota Committee	Fall, 2000 - Sum. 01
318.	Outside Reviewer for Associate Professor Dr. Ulrike Tschirner's tenure decision	Fall, 2000
319.	University Senate Twin Cities Facilities and Support Services Sub-Committee member	Sum. 2000 – Sum. 02
320.	College Prioritization Themes Group – Agricultural, Food and Human Health member	May, 2000 - May, 05
321.	OIAP China Faculty Advisory Committee member	April, 2000 – Present
322.	CSREES Comprehensive Review Planning Committee Member	Spr, 1998 - Spr, 99
323.	Asst. Prof. Dr. Jun Zhu's Mentoring Committee	Sum. 1999 – Fall, 04
324.	Asso. Prof. Dr. Jun Zhu's Mentoring Committee	Fall, 2004 - Fall, 08
325.	Asso. Prof. Dr. Ping Wang's Mentoring Committee	Fall, 2006 - Fall, 09
326.	Asst. Prof. Dr. Sangwon Suh's Mentoring Committee	Fall, 2006 - Spr, 10
327.	Department Seminar Committee - Co-chair	Sum. 1996 – Spr, 97
328.	Department Faculty Consultative Committee	Sum. 1996 – Sum. 99
329.	Faculty Advisory Committee of IT Libraries	Spr, 1994 – Sum. 98
330.	EPRI/NSP Food Technology Center Director Search	Fall, 1995

Committee

Professional Affiliation and Membership in National Academy and Honorary Society

US National Academy of Engineering (NAE, Class of 2025)
US National Academy of Inventors (NAI, Class of 2023)
American Society of Agricultural and Biological Engineers (ASABE) – Fellow and Lifetime member
Institute of Food Technologists (IFT) – Fellow
International Association of Advanced Materials (IAAM) - Fellow
American Association for the Advancement of Science (AAAS) Professional Member
American Institute of Chemical Engineers (AIChE)
American Chemical Society (ACS)
Association of Oversea Chinese Agricultural, Food and Biological Engineers (AOCAFBE)
Chinese American Food Society (CAFS) – Lifetime member
American Association of Cereal Chemists (AACC)
Tau Beta Pi
Alpha Epsilon

Honors and Awards

2026 Walter Kohn Laureate, in recognition of the outstanding and seminal contributions to the field of Catalytic Pathways for Sustainable Energy & Waste Conversion.
2025 Award for Excellence in Academic Unit Service, University of Minnesota, for outstanding contributions to the academic unit.
2025 US National Academy of Engineering (NAE) Member, elected and inducted for scientific and entrepreneurial contributions to the sustainable development of the circular economy within food and agricultural systems.
2025, 2024, 2023 Top Cited Scholar, by Scilit
2023 US National Academy of Inventors (NAI) Fellow, elected and inducted for having demonstrated a highly prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on the quality of life, economic development, and welfare of society.
2023 Poster Award – First Place, for poster entitled “Conversion of almond hulls to functional ingredients for clean label foods and nutraceutical products” by Juer Liu, Jun An, Yiwei Ma, Dongjie Chen, Nan Zhou, Renchuan Zhang, Yanling Cheng, Peng Peng, Min Addy, Paul Chen, Chi Chen, Guangwei Huang, **Roger Ruan**, at the *IFT-EFFoST Nonthermal Processing Workshop and Short Course*, Minneapolis, MN.
2023 Certificate of Appreciation in gratitude for the outstanding contribution to the 2023 International Joint Conference on Environmental Engineering and Biotechnology (C0EEB 2023) as Conference Chair.
2022 Pandey Award from International Bioprocessing Association (*an international Forum on Industrial Bioprocesses – IBA-ICPHG-2022* in recognition of notable

- and outstanding contributions to research and development of reutilization of agricultural and municipal solid wastes.
- 2022 Fellow of IAAM** in recognition of important contributions and efforts for the advancement of materials.
- 2022 Member of EUAS** in recognition of important contribution and impacts in research and development.
- 2021 Fellow of Vebleo** in recognition of researcher or scientist who has prominence and leadership in the field of science, engineering, and technology. This award serves to honor and acknowledge career achievement.
- 2024, 2023, 2022, 2021, 2020, 2019, 2018, 2017, 2016, 2015, 2014 Top Cited Authors Award in Agricultural and Biological Sciences and in Engineering and Technology, by Web of Science.**
- 2020 Scientist of IAAM Award** in recognition of the contribution to Advancement of Materials Science, Engineering and Technology. International Association of Advanced Materials.
- 2019 CAFS Professional Achievement Award.** The Society's highest honor.
- 2019 Institute of Food Technologists (IFT) Fellow.** The Society's highest honor.
- 2019 IFT Poster Award – Third Place,** for poster entitled “Effects of Cold Atmospheric Plasma on Cronobacter Sakazakii Inoculated in Non-Fat Dry Milk Powder” by Dongjie Chen, Peng Peng, Yanling Cheng, Yiwei Ma, Juer Liu, Yunpu Wang, Yingdan Zhu, Paul Chen, Chi Chen, Dong Li, and **Roger Ruan**, at the IFT Annual International Meeting in New Orleans, LA.
- 2019 University Inventor Recognition,** University of Minnesota 2019 Inventor Recognition Ceremony.
- 2018 Certificates of Outstanding Contribution in Reviewing Bioresource Technology, Powder Technology, Biomass and Bioenergy, Waste Management, Cleaner Production, Energy Conversion and Management, and Ultrasonics – Sonochemistry.**
- 2018 BBE Showcase Best Poster Award (First Place).** For “Integrated process for anaerobically digested swine manure treatment.” (Lu Wang, Min Addy, Paul Chen, Hualin Wang, Roger Ruan).
- 2018, 2017 Bioresource Technology Top (Most Valued) Reviewer Award.**
- 2017 Breck School Recognition.** For contribution to the Advanced Science Research Program.
- 2017 University Innovation Award. University of Minnesota 2013 Inventor Recognition Ceremony.**
- 2015 American Society of Agricultural and Biological Engineers (ASABE) Fellow.** The Society's highest honor.
- 2015 Bioresource Technology Best Paper Award.** For “A review of catalytic hydrodeoxygenation of lignin-derived phenols from biomass pyrolysis.” (Bu, Quan; Lei, Hanwu; Zacher, Alan H.; Wang, Lu; Ren, Shoujie; Liang, Jing; Wei, Yi; Liu, Yupeng; Tang, Juming; Zhang, Qin; Ruan, Roger).
- 2015 Certificate of Recognition for TIB Distinguished Lecturer.** Chinese Academy of Sciences.
- 2015 Elsevier Reviewer Recognition Award.** Reviewer recognized for *Applied Surface Science*; *Powder Technology*; *Process Biochemistry*; *Catalysis Today* journals.

2015 Jiangxi International Cooperation Award. Recognition on the joint biomass waste utilization and green food research effort.

2015 Outstanding Reviewer Award. Elsevier Reviewer Recognition for *Algae Research* journal.

2015 University Innovation Award. University of Minnesota 2013 Inventor Recognition Ceremony.

2014 Outstanding Reviewer Award. Certificate of Outstanding Contribution in Reviewing *Biomass and Bioenergy* from Elsevier.

2014 Elsevier Reviewer Recognition Award. Reviewer recognized for Journal of *Analytical and Applied Pyrolysis*; *Water Research* journals.

2013 University Innovation Award. University of Minnesota 2013 Inventor Recognition Ceremony.

2013 Certificate of Excellence in Reviewing. In recognition of outstanding contribution to the quality of the journal of *Algal Research*, Presented by Elsevier.

2012 University Innovation Award. University of Minnesota 2012 Inventor Recognition Ceremony.

2012 Certification of Appreciation. In recognition of outstanding service as an Associate Editor for the Food & Process Engineering Division, Presented by ASABE.

2012 National Agricultural Biotechnology Council Meeting 1st Place Poster Award. For “Wet torrefaction as a pretreatment for pyrolytic bio-oil production from microalgae.” (Z. Du, P. Chen, and R. Ruan).

2011 University Innovation Award. University of Minnesota 2011 Inventor Recognition Ceremony.

2011 Certificate of Appreciation. For the valuable contribution and dedicated service in the peer review of manuscripts submitted to ACS Journals.

2010 Ganbo 555 Talent Award, Jiangxi Province, China. 2010.

2010 Thousand Talent Plan Expert Award, Nanchang University, China. 2010-2013.

2010 Marquis Who’s Who, 2010 - Present

2009 Midwest Algae Workshop 1st Place Poster Award. For “Effect of various pretreatment on algal lipid extraction.” (Y. Li, M. Min, L. Wang, Y. Cheng, B. Martinez, P. Chen, and R. Ruan).

2009 Midwest Algae Workshop 2nd Place Poster Award. For “Using Wastewater for Mass Microalgae Production as an Energy Crop.” (M. Min, Q. Kong, Y. Li, Y. Chen, L. Wang, P. Chen, A. Sealock, R. Polta, and R. Ruan).

2009 Certification of Appreciation by USDA for exceptional efforts while serving as a Panelist in 2009 for the Biomass Research and Development Initiative.

2008 Second Place in “AACC international protein division’s best student paper in AACC International Conference 2008 (Y. Li and R. Ruan, etc.)

2008 Best Student Poster Award competition in AACC Annual International Conference 2008 (Y. Li and R. Ruan, etc.)

2008 University Innovation Award. University of Minnesota 2008 Inventor Recognition Ceremony.

2007 E3 People’s Choice Poster Award for “Comparative environmental and economic systems analysis of corn stover logistics options for cellulosic ethanol production” (Sangwon Suh and Roger Ruan) by University of Minnesota IREE.

2006 Leaders, Innovators, Pioneers, Bioscience Companies and Institutes, Center for Biorefining been selected as one of the Leaders, Innovators, and Pioneers of the

- bioscience companies and institutes by the Minnesota Biosciences, a supplement to *TwinCities Business*.
- 2006 Leadership Service Award**, in recognition of leadership service as President of MN Section ASABE from 2003 to 2006.
- 2005 Excellent Graduate Faculty**, in recognition of excellence in graduate advising as a guest professor at Nanchang University.
- 2005 CSAE Superior Paper Award**, in recognition of authorship of a contribution to agricultural engineering literature of exceptional merit, as published by the Chinese Society of Agricultural Engineering.
- 2005 ASABE Honorable Mention Paper Award**, in recognition of authorship of a contribution to agricultural engineering literature of exceptional merit, as published by the society.
- 2005 University Innovation Award**, University of Minnesota 2005 Inventor Recognition Ceremony.
- 2005 AOC Paper Award, Third Place**, for ASABE paper number 056113, in recognition of top AOC research papers of engineering merit.
- 2005 CIFT Superior Paper Award, Second Prize**, in recognition of authorship of a contribution to food science literature of exceptional merit.
- 2005 CIFT Superior Paper Award, Third Prize**, in recognition of authorship of a contribution to food science literature of exceptional merit.
- 2003 Chief Technology Advisor for Agricultural Processing Industry in China**, United Nations Development Program (UNDP).
- 2003 Invited Chair Professor**, College of Engineering, China Agricultural University, Beijing, China.
- 2002 Medal of Recognition** in recognition for the excellent contribution to the Second International Conference on Grain, Flour and Bread Quality in Moscow by the Russia Union of Flour Mills and Cereal Plants and the International Industrial Academy in Russia.
- 2002 Yangtze Scholar Distinguished Guest Professor**, Nanchang University, China, 2002-2005.
- 2002, 2001 Who's Who in International Cereal Congress**
- 2001 Certificate of Recognition** in recognition for the excellent contribution to the Second International Wheat Quality Conference in Manhattan, Kansas by ICC.
- 2000 ASABE Superior Paper Award** in recognition of top research papers of engineering merit.
- 1997 Certificate of Appreciation** for outstanding contribution to the 1997 National Imaging Technology Conference presented by the Center for Image Processing in Education, Tucson, AZ.
- 1997 Certificate of Appreciation** for service and leadership in the COAFES through campus involvement.
- 1997 Certificate of Appreciation** for service as an advisor to prospective students from COAFES.
- 1995 Certificate of Appreciation** for service as an advisor to prospective students from COAFES.
- 1995 Bush Excellence in Teaching Award** in recognition of contributions to and participation in the Bush Faculty Development Program for Teaching Excellence and Diversity.

1990 ASABE Superior Paper Award in recognition of top research papers of engineering merit.

1990 Graduate College Conference Travel Award in recognition of outstanding research.

1983, 1982, 1981 Excellent Student Award for excellence in Academic Level, Moral Qualities, and Physical Fitness, China Agricultural University.

1982 Second Place in University's Advanced Mathematics Competition. China Agricultural University.

Peer-Reviewed Journal Publications, Books, Book Chapters, and Patents

Books

1. **Ruan, R.** and L. Chen. 1998. *Water in Foods and Biological Materials - A Nuclear Magnetic Resonance Approach*. Technomic Publishing Co., Inc., Lancaster, Pennsylvania, USA, and Basel, Switzerland. 307 pages. ISBN: 1-56676-589-7.
This book has been independently and favorably reviewed by Dr. Shelly J. Schmidt, Professor of Food Chemistry, University of Illinois at Urbana-Champaign (*INFORM* 9(10):1011); Dr. Arun S. Mujumdar, Professor of Chemical Engineering and Editor of *Drying Technology*, McGill University at Montreal (*Drying Technology* 16(9&10):2117-2118); Laurence Melton of *Food Technology Magazine*; and Keith W. Gates of *Journal of Aquatic Food Product Technology*.
2. **Ruan, R.**, X. Lin, J. Zhang, Y. Li, and P. Chen. 2009. *Nuclear Magnetic Resonance Technology and Its Application in Food and Biological Systems*. China Light Industry Press. 222 pages. ISBN: 978-7-5019-6856-5.
3. Zhiwei Peng, Jiann-Yang Hwang, **Roger Ruan**, Robin Augustine, Morsi Mahmoud, Manoj Gupta, Joonho Lee. 2026. External Field-Intensified Materials Processing. Part of the book series: The Minerals, Metals & Materials Series (MMMS), Springer Nature, Electronic ISSN: 2367-1696; Print ISSN: 2367-1181.

Book Chapters

4. Pengfei Cheng, Shengzhou Shan, Jiameng Guo, Xiaotong Song, Jichang Han, Chengxu Zhou, Xiaojun Yan, **Roger Ruan**. 2025. Bioactive compounds in marine microalgae for nutritional and pharmaceutical applications. In *Algae Biotechnology for Biomedical and Nutritional Applications*: Chapter 2. Edited by Ashfaq Ahmad. Publisher: Elsevier.
5. Pengfei Cheng, Chun Wang, Yahui Bo, Jiameng Guo, Xiaotong Song, Shengzhou Shan, Chengxu Zhou, Xiaojun Yan, **Roger Ruan**. 2023. Algae-based Aquaculture Wastewater Treatment and Resource Utilization. In *Algal Biotechnology*. Chapter 11. P154-170. Edited by Qiang Wang. ISBN-12: 9781800621930 (hardback), 9781800621947 (ePDF), 9781800621954 (ePub). Publisher: CBA International; Published: 2023. DOI: 10.1079/9781800621954.0000

6. Leilei Dai, Jianfei Guo, Junhui Chen, Kirk Cobb, Yanling Cheng, Paul Chen, Hanwu Lei, and **Roger Ruan**. 2023. Microwave-Assisted Pyrolysis of Municipal Solid Wastes for Energy, Fuels, and Chemicals Production. In *Advances in Microwave-Assisted Heterogeneous Catalysis*, Chapter 8. P169-189. Edited by Jianli Hu and Benjaram M Reddy. ISBN (print): 978-1-83916-817-8. Publisher: Royal Society of Chemistry; Published: 2023. DOI: <https://doi.org/10.1039/BK9781839168178-00169>
7. Wei Liu, **Roger Ruan**. 2022. Microalgae-based biomaterials for environmental remediation and functional use. In *Algae-based biomaterial for sustainable development: biomedical, environmental remediation and sustainability assessment – Chapter 14. Book series on Current Developments in Biotechnology and Bioengineering*, Elsevier. Volume Editors: Huu Hao Ngo, Wenshan Guo, Ashok Pandey, Jo-Shu Chang, Duu-Jong Lee. ISBN (Electronic): 9780323961424, ISBN (Print): 9780323961431. 10.1016/b978-0-323-96142-4.00015-4.
8. Pengfei Cheng, Yanzhang Feng, Baoyu Xu, Yahui Bo, Chun Wang, Chengxu Zhou, Guangce Wang, Xiaojun Yan, **Roger Ruan**. 2022. Microalgae-based biomaterials for bioremediation of greenhouse gases. In *Algae-based biomaterial for sustainable development: biomedical, environmental remediation and sustainability assessment – Chapter 10. Book series on Current Developments in Biotechnology and Bioengineering*, Elsevier. Volume Editors: Huu Hao Ngo, Wenshan Guo, Ashok Pandey, Jo-Shu Chang, Duu-Jong Lee. <https://doi.org/10.1016/B978-0-323-96142-4.00013-0>.
9. Xiye Chen, Linyao Zhang, Li Liu, Chang Xing, Yan Zhao, Kirk Cobb, **Roger Ruan** and Penghua Qiu. 2021. Progress on the Co-Pyrolysis of Coal and Biomass. In *Biorefineries - Vision and Development*. Published by IntechOpen. DOI: 10.5772/intechopen.101031
10. Min Addy, Shuhao Huo, Junzhi Liu, Kun Li, Pengfei Cheng, Charles Schiappacasse, Dongjie Chen, Yanling Cheng, Yuhuan Liu, Yiwei Ma, Lu Wang, Yunpu Wang, Kirk Cobb, Paul Chen, and **Roger Ruan**. 2020. Bioconversion Technologies: Insect and Worm Farming. In *Current Developments in Biotechnology and Bioengineering: Sustainable Food Waste Management: Resource Recovery and Treatment*. Editors: Jonathan Wong, Guneet Kaur, Mohammad Taherzadeh, Ashok Pandey, Katia Lasaridi. Page: 235-273. Elsevier Publishing Company. ISBN: 978-0-12-819148-4.
11. Dongjie Chen, Juer Liu, Paul Chen, Yanling Cheng, Peng Peng, Nan Zhou, Yunpu Wang, Yuhuan Liu, **Roger Ruan**, Yuchuan Wang. 2020. Chapter 2. Novel Technologies for Milk Powder Disinfection. In *Advances in Chemistry Research*. Volume 65. Nova Publishers. ISBN: 978-1-53618-711-3
12. **Roger Ruan**, Kuan Ding, Shiyu Liu, Peng Peng, Nan Zhou, Aoxi He, Paul Chen, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Hanwu Lei, Min Addy, Kirk Cobb. 2020. Gasification and pyrolysis of waste. In *Current Developments in Biotechnology and Bioengineering - Sustainable Bioresources for the Emerging Bioeconomy*, Pages 263-297. <https://doi.org/10.1016/B978-0-444-64309-4.00012-X>
13. Kirk Cobb, Erik Anderson, Min Addy, Yong Nie, Yanling Cheng, Peng Peng, Yiwei Ma, Huan Ma, Yuhuan Liu, Hanwu Lei, Paul Chen, **Roger Ruan**. 2020. Chapter 14 - Converting

floating scum from municipal wastewater treatment plants to biodiesel fuel. In *Wastewater Treatment Residues as Resources for Biorefinery Products and Biofuels*, Pages 309-325. <https://doi.org/10.1016/B978-0-12-816204-0.00014-X>

14. Peng Peng, Paul Chen, Nan Zhou, Charles Schiappacasse, Yanling Cheng, Dongjie Chen, Min Addy, Yaning Zhang, Erik Anderson, Liangliang Fan, Raymond Hatzenbeller, Yuhuan Liu, **Roger Ruan**. 2020. Chapter 9. Packed food and packaging materials disinfected by cold plasma. In *Advances in Cold Plasma Applications for Food Safety and Preservation*, Editor: Daniela Bermudez-Aguirre. Elsevier Publishing Company. Pages 269-286. ISBN: 9780128149218. <https://doi.org/10.1016/B978-0-12-814921-8.00009-8>
15. **Roger Ruan**, Yaning Zhang, Paul Chen, Shiyu Liu, Liangliang Fan, Nan Zhou, Kuan Ding, Peng Peng, Min Addy, Yanling Cheng, Erik Anderson, Yunpu Wang, Yuhuan Liu, Hanwu Lei, Bingxi Li. 2019. Chapter 1 - Biofuels: Introduction, Editor(s): Ashok Pandey, Christian Larroche, Claude-Gilles Dussap, Edgard Gnansounou, Samir Kumar Khanal, Steven Ricke, In *Biomass, Biofuels, Biochemicals, Biofuels: Alternative Feedstocks and Conversion Processes for the Production of Liquid and Gaseous Biofuels (Second Edition)*, Academic Press, 2019, Pages 3-43. <https://doi.org/10.1016/B978-0-12-816856-1.00001-4>
16. Yaning Zhang, Yunlei Cui, Paul Chen, Shiyu Liu, Nan Zhou, Kuan Ding, Liangliang Fan, Peng, Min, Yanling Cheng, Yunpu Wang, Yiqin Wan, Yuhuan Liu, Bingxi Li, **Roger Ruan**. 2019. Chapter 14. Gasification Technologies and Their Energy Potentials. In *Sustainable Resource Recovery and Zero Waste approaches*. 2019: 193-206. Editors: Taherzadeh, M.J., Bolton, K., Wong, J., Pandey, A. Elsevier Publishing Company.
17. Peng Peng, Paul Chen, Dongjie Chen, Min Addy, Yanling Cheng, Nan Zhou, Charles Schiappacasse, Yaning Zhang, Erik Anderson, Juer Liu, Yiwei Ma, **Roger Ruan**. 2019. Chapter 5. Impact of Pulsed Light on Food Constituents. In *Effect of Emerging Processing Methods on the Food Quality*. S. Roohinejad et al. (eds.), Springer Nature Switzerland AG. ISBN 978-3-030-18190-1 ISBN 978-3-030-18191-8 (eBook) <https://doi.org/10.1007/978-3-030-18191-8>.
18. Dongyan Mu, Sarah Mack, **Roger Ruan**, and Min Addy. 2018. Chapter 6. Life cycle assessment of beneficial reuse of waste streams for energy in municipal wastewater treatment plants. In *Life-cycle Assessment of Wastewater Treatment (CRC Series "Part of the Life Cycle Assessment and Green Chemistry Series, edited by Vera Kolb")*, edited by Dr. Mu Naushad. CRC Press (<https://www.crcpress.com/>), USA.
19. Yaning Zhang, Paul Chen, Shiyu Liu, Liangliang Fan, Nan Zhou, Min Min, Yanling Cheng, Peng Peng, Erik Anderson, Yunpu Wang, Yiqin Wan, Yuhuan Liu, Bingxi Li and **Roger Ruan**. 2017. Chapter 6. Microwave-Assisted Pyrolysis of Biomass for Bio-Oil Production. In *Pyrolysis*. <http://dx.doi.org/10.5772/65193>. Edited by Mohamed Samer pages: 129-166. Published by InTech.
20. Q. Bu, H. M. Morgan JR., J. Liang, H. Lei, **R. Ruan**. 2016. Chapter 2. Catalytic microwave pyrolysis of lignocellulosic biomass for Fuels and Chemicals. In *Advances in*

Bioenergy. Volume 1, Eds. Y. Li, X. Ge. pp. 69–123. Elsevier. ISBN: 9780128095225. ISSN 2468-0125 <http://dx.doi.org/10.1016/bs.aibe.2016.09.002>

21. Shaobo Deng, Paul Chen, Yun Li, Xiaochen Ma, Yanling Cheng, Xiangyang Lin, Lloyd Metzger, and **Roger Ruan**. 2015. Non-thermal pasteurization of milk using CHIEF technology. In *Emerging Dairy Processing Technologies: Opportunities for the Dairy Industry*. Wiley-Blackwell and the Institute of Food Science and Technology, UK.
22. Lu Wang, Hanwu Lei, **Roger Ruan**. 2015. Techno-Economic Analysis of Microwave-Assisted Pyrolysis for Production of Biofuels. In “*Production of Biofuels and Chemicals with Microwave and Ultrasound*”, Springer Book Series - Biofuels and Biorefineries” Editors: Zhen Fang, Richard L. Smith, Jr., Xinhua Qi. DOI 10.1007/978-94-017-9612-5_12
23. Paul Chen, Qinglong Xie, Zhenyi Du, Fernanda C. Borges, Peng Peng, Yanling Cheng, Yiqin Wan, Xiangyang Lin, Yuhuan Liu, and **Roger Ruan**. 2014. Microwave-assisted thermochemical conversion of biomass for biofuel production. In “*Production of Biofuels and Chemicals with Microwave and Ultrasound*”, Springer Book Series - Biofuels and Biorefineries” Editors: Zhen Fang, Richard L. Smith, Jr., Xinhua Qi. DOI 10.1007/978-94-017-9612-5_5.
24. **Ruan, R.** and P. Chen. 2010. Bioenergy Industry Status and Prospects. In *Industrial Crops and Uses*. CAB International. ISBN: 978-1-84593-616-7.
25. Chen, P., S. Deng, Y. Cheng, X. Lin, L. Metzger, and **R. Ruan**. 2010. Non-thermal Pasteurization Processes. In *Case studies in novel food processing technologies*. Woodhead Publishing Limited. ISBN: 978-1-84569-551-4. <https://doi.org/10.1533/9780857090713.1>.
26. **Ruan, R.**, X. Ye, P. Chen, C. Doona, and T. Yang. 2004. Developments in Ohmic heating. In *Improving Thermal Processing of Foods*. Philip Richardson (Ed). Woodhead Publishing Limited, Cambridge, England.
27. **Ruan, R.** and P. Chen. 2002. Highly refined cellulose - A versatile new material from agricultural fibrous byproducts. In *Advanced Agricultural Science and Technology Part I Advances in Bio-Processing Engineering*. Xiusheng Yang and Juming Tang (Eds). World Scientific Publishers Co, Singapore.
28. **Ruan, R.**, X. Ye, P. Chen, C. Doona, and I. Taub. 2002. Ohmic heating. In *The Nutrition Handbook for Food Processors*. C. K. Henry, and C. Chapman (Eds). Woodhead Publishing Limited, Cambridge, England.
29. **Ruan, R.** and P. Chen. 2001. Nuclear magnetic resonance and magnetic resonance imaging. In *Nondestructive Food Quality Evaluation*, Sundaram Gunasekaran (Editor). Marcel Dekker, New York, USA.

30. **Ruan, R.**, X. Ye, P. Chen, C. Doona, and I. Taub. 2001. Ohmic heating. In *Thermal Technologies in Food Processing*. P. Richardson (Ed.). Woodhead Publishing Limited, Cambridge, England.
31. **Ruan, R.** and P. Chen. 2000. Nuclear magnetic resonance techniques. In *Bread Staling*, P. Chinachoti and Y. Vodovotz (Eds). CRC Press, Boca Raton, Florida, USA. ISBN: 9780429127908.
32. Fulcher, R.G., S.S. Miller, and **R. Ruan**. 1997. Quantitative microscopic approaches to carbohydrate characterization and distribution in cereal grains. In *Functionality of Food Phytochemicals, Recent Advances in Phytochemistry*. T. Johns and JT Romeo (Eds). Plenum Publishing, London, UK.
33. Song, H., **R. Ruan**, S. Schmidt, and J.B. Litchfield. 1991. NMR and MRI: Applications and potential in the food industry. In *Food and Beverage Technology International - USA*. B.A. (Pete) Twigg and J.P. Strachan (Eds). Sterling Publications International, Ltd., London, UK.

Refereed Journal Publications

Publications appear in high impact factor (IF) journals include: *Science* (IF = 63.71), *Nature Review Materials* (IF = 99.80), *Progress in Energy and Combustion Science* (IF = 35.34), *Applied Catalysis B: Environmental* (IF = 21.41), *Nature Communications* (IF = 17.7), *Renewable and Sustainable Energy Reviews* (IF: 16.8), *Chemical Engineering Journal* (IF = 13.27), *Journal of Hazardous Materials* (IF = 12.50), *Bioresource Technology* (IF = 11.88), *Science of The Total Environment* (IF = 10.75), *Green Chemistry* (IF=10.18), *Applied Energy* (IF = 9.75), *Energy Conversion and Management* (IF = 9.71), *Journal of Cleaner Production* (IF = 9.30), *Carbohydrate Polymers* (IF = 9.38), *ChemSusChem* (IF = 9.14), *Energy* (IF=7.19), *Waste Management* (IF = 7.15), *Chemosphere* (IF = 7.09), *Fuel* (IF = 6.61) , *Chemical Communications* (IF = 6.06), *Journal of Analytical and Applied Pyrolysis* (IF = 5.54), *Algal Research* (IF = 5.01), *Chemical Engineering and Processing - Process Intensification* (IF: 4.24), *Food Hydrocolloids* (IF = 9.15), *Food Chemistry* (IF = 7.51), *Foods* (IF = 5.56), *J. of Food Science* (IF = 3.17), ...

34. Jianfei Guo, Yuchuan Wang, Nan Zhou, Xiangyang Lin, Juer Liu, Yuting Li, Kirk Cobb and **Roger Ruan**. 2026. Non-thermal air bubble discharge in water for atmospheric nitrogen fixation: mechanistic insights from experiments and simulations. *Journal of Physics D: Applied Physics*, Volume 59, Number 13. 135204. DOI 10.1088/1361-6463/ae4fd6
35. Zixuan Zhou, Jiali Shen, Min Sun, Wei Zeng, Qi Zhang, Yunpu Wang, Yuhuan Liu, Xian Cui, **Roger Ruan**. 2026. Hydrothermal-assisted enzymatic pretreatment enhances the cassava residue-based integrated biorefinery: “L-lactic acid – Biogas” production technology. *Chemical Engineering Journal*, Volume 537, 1 June 2026, 176359
36. Rumeng Lu, Jiangling Lai, Bingyang Zhu, Yuexin Yan, Heyi Liu, Yuhuan Liu, Yunpu Wang , Xian Cui, Ndzonelelo Bingwa, Mahmood Laghari, **Roger Ruan**, Qi Zhang. 2026.

Functional dissolved organic matter-mediated microalgae-based valorization of Baijiu distillers' grains: Towards a closed-loop bioprocess for biomass production and effluent compliance. *Chemical Engineering Journal*, Volume 538, 15 June 2026, 176163

37. Bo Zhang, Yulong Fan, Xinlei Ma, Neyha Rubab Syed, Xiaoming Guo, Ye Bian, **Roger Ruan**. 2026. Construction and performance study of NiFe-LDH 3D sponge for efficient microplastic removal. *Process Safety and Environmental Protection*, Volume 211, 1 May 2026, 108814.
<https://doi.org/10.1016/j.psep.2026.108814>
38. Li Jiang, Xiaoxiao Yan, Haijun Wang, Bin He, Xiaojun Yan, **Roger Ruan**, Pengfei Cheng. 2026. Sustainable bioprocess engineering for integrated inland water remediation and waste-to-product conversion. *Bioresource Technology*, Volume 447, May 2026, 134256.
<https://doi.org/10.1016/j.biortech.2026.134256>.
39. Qiu hao Wu, Anqi Dai, Tianyu Wang, Linyao Ke, Liangliang Fan, Hui Li, **Roger Ruan**, Yunpu Wang. 2026. Microwave-assisted catalytic pyrolysis of waste cooking oil into hydrocarbon-rich bio-oil: Optimization of dual-stage catalysis and techno-economic assessment. *Journal of Analytical and Applied Pyrolysis*, Volume 194, March 2026, 107604
40. Jianfei Guo, Yuchuan Wang, Nan Zhou, Xiangyang Lin, Juer Liu, Yuting Li, Kirk Cobb and **Roger Ruan**. 2026. Non-thermal air bubble discharge in water for atmospheric nitrogen fixation: mechanistic insights from experiments and simulations. *Journal of Physics D: Applied Physics*, DOI 10.1088/1361-6463/ae4fd6
41. Shupeng Lin, Minmin Pan, Yanfang Ma, Zhihao Chen, Tao Lyu, Renjie Dong, **Roger Ruan**, Shan Liu. 2026. Microalgae-mediated shaping of bacterial communities enhances antibiotic removal and antibiotic resistance control. *Bioresource Technology*, Volume 441, February 2026, 133577, 133577.
42. Shupeng Lin, Minmin Pan, Yanfang Ma, Zhihao Chen, Tao Lyu, Renjie Dong, **Roger Ruan**, Shan Liu. 2026. Long-term operational strategy of microalgal-bacterial granular sludge towards strengthened sulfadiazine antimicrobial resistance control. *Journal of Hazardous Materials*, Volume 504, 15 February 2026, 141277.
43. Xiao-ru Meng, Shuai Gao, Janusz A. Kozinski, **Roger Ruan**, Zhen Fang. 2026. Biochar-based oxygen electrocatalysts for advanced Zn-air batteries: Mechanisms, applications, and prospects. *Chemical Engineering Journal*, Volume 529, 1 February 2026, 172878
44. Yuyang Yao, Juer Liu, Yanling Cheng, Qiming Miao, Xinyue Zhu, Jingyi Xie, Na Zhang, Wei Hua, Guangwei Huang, Xiangyang Lin, Shengquan Mi, **Roger Ruan**. 2026. Lack of Adverse Effects in a Subchronic 90-day Oral Toxicity Study of Almond Hull Powder in Sprague-Dawley Rats. *Food and Chemical Toxicology*, Volume 207, January 2026, 115814.
<https://doi.org/10.1016/j.fct.2025.115814>.

45. Yuan Zeng, Qi Yang, Chuangxin Xu, Hui Li, Hao Zeng, Zhiyi Yu, Xiaojie Tian, Linyao Ke, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2026. A study on the catalytic pyrolysis characteristics of waste oil based on different molecular sieves. *Journal of Environmental Management*, Volume 397, 1 January 2026, 128336
46. Kuan Ding, Junheng Zhang, Deliang Xu, Jinfeng Hang, Félix Mérimée, Bkangmo Kontchouo, Chanchana Thanachayanont, Thipjak Na Lampang, Zhaoyang Xu, Shu Zhang, **Roger Ruan**. 2026. Unraveling role of oxygen vacancies in catalytic deoxygenation of biomass-derived carboxylic acids over ceria. *Bioresource Technology*, Volume 439, January 2026, 133349. <https://doi.org/10.1016/j.biortech.2025.133349>
47. Yuan Zeng, Chuangxin Xu, Xiaojie Tian, Linyao Ke, Kirk Cobb, Nan Zhou, Yuhuan Liu, **Roger Ruan**, Jing Yang, Yunpu Wang. 2026. Synergistic effects of biomass-plastic co-pyrolysis: Enhanced performance with microwave assistance and biomass type variability. *Energy*, Volume 342, 1 January 2026, 139602
48. Longfei Zhang, Qiuhaio Xiang, Bingyang Zhu, Yunpu Wang, **Roger Ruan**, Zhigang Yu, Yuhuan Liu, Xian Cui, Ndzonelelo Bingwa, Mahmood Laghari, Qi Zhang. 2026. Molecular Insights into Synergistic Bioremediation of Sodium Cyclamate by the *Scenedesmus obliquus*-*Niallia nealsonii* Consortia: Efficiency, Application, and Mechanisms. *Journal of Hazardous Materials*, Volume 501, 1 January 2026, 140817.
49. Leilei Dai, Kevin M. Van Geem, Huiyan Zhang, Rui Xiao, Hanwu Lei, **Roger Ruan**. 2026. Designing Zeolite Catalysts for Chemical Recycling of Plastics. *Nature Review Materials*, *Nat Rev Mater* (2026). <https://doi.org/10.1038/s41578-025-00878-z>
50. Rumeng Lu, Qiaoyun Huang, Yunpu Wang, Xian Cui, Zhigang Yu, Naif Abdullah Al-Dhabi, Xiang Wang, **Roger Ruan**, Wangwang Tang, Zihan Li, Ting Zhou, Yuhuan Liu, Qi Zhang. 2025. Symbiotic interaction of *Chlorella* sp. and *Shinella* sp. for enhanced dissolved organic matter removal from sterilized mixed wastewater. *Algal Research*, Available online 30 December 2025, 104501.
51. Yuan Zeng, Chuangxin Xu, Xiaojie Tian, Linyao Ke, Kirk Cobb, Nan Zhou, Yuhuan Liu, **Roger Ruan**, Jing Yang, Yunpu Wang. 2025. Synergistic effects of biomass-plastic co-pyrolysis: Enhanced performance with microwave assistance and biomass type variability. *Energy*, Available online 9 December 2025, 139602.
52. Lei Cao, Shuonan Ma, Shuaicheng Xiang, Yantao Li, Xuezhi Zhang, Zhuoyi Zhu, Xiaojun Yan, **Roger Ruan**, Pengfei Cheng. 2025. Regulating the Carbon-to-Nitrogen ratio for enhanced reconstruction efficiency in *Litopenaeus vannamei* aquaculture systems. *Bioresource Technology*, Volume 435, November 2025, 132961. <https://doi.org/10.1016/j.biortech.2025.132961>
53. Hao Zeng, Yuan Zeng, Linyao Ke, Xiaojie Tian, Nan Zhou, **Roger Ruan**, Yunpu Wang. 2025. Study on co-pyrolysis of waste rapeseed oil and low-density polyethylene: Kinetic study and microwave-assisted process optimization. *Energy Conversion and Management*, Volume 345, 1 December 2025, 120355.

54. Yue Zhang, Jie Yang, Peixin Yu, **Roger Ruan**, Leilei Dai, Jian Zhang, Erguang Huo, Rongge Zou, Chenxi Wang, Yunfeng Zhao, Yunpu Wang. 2025. Catalytic co-pyrolysis of cotton stalks and ground film plastic using fishbone-based metal catalysts: Enhanced production of olefins and aromatics. *Chemical Engineering Journal*, Volume 521, October 2025, 166274.
55. Dengle Duan, Shuo Xu, Yingwei Zhou, Hechao Mo, Wenhua Yang, Yayun Zhang, **Roger Ruan**. 2025. Preparation and characterization of black garlic peels-derived activated carbon to improve H₂S adsorption at room-temperature. *Journal of Analytical and Applied Pyrolysis*, Volume 191, October 2025, 107229
56. Yue Zhang, Yansen Xu, Chentao Tan, **Roger Ruan**, Leilei Dai, Yunpu Wang, Erguang Huo, Yunfeng Zhao, Jian Zhang. 2025. Preparation of highly selective olefins from pyrolyzed ground film plastics catalyzed by fishbone-based catalysts. *Process Safety and Environmental Protection*, Volume 201, Part B, September 2025, 107565.
57. Zhiqiang Gu, Yuhuan Liu, Liandong Zhu, Boyou Fan, Yuan Li, Cuixia Liu, Yunpu Wang, Xian Cui, Zhigang Yu, **Roger Ruan**, Qi Zhang. 2025. Hormetic effect of dissolved organic matter from pig manure anaerobic digestion effluents on *Chlorella* sp.: Physiological and transcriptomic responses. *Water Research*, Volume 283, 1 September 2025, 123877.
58. Jiahui Zhang, Linyao Ke, Qiuhao Wu, Liangliang Fan, Krik Cobb, **Roger Ruan**, Yunpu Wang. 2025. Enhancing mass transfer efficiency via “Burger” co-pyrolysis of plastics and three biomass components. *Journal of Analytical and Applied Pyrolysis*. Volume 89, August 2025, 107084.
59. Zihan Li, **Yuhuan Liu**, Yunpu Wang, Xian Cui, Xiaodan Wu, Qi Zhang, **Roger Ruan**. 2025. Investigation of self-regulation mechanisms of extracellular organic matters in reused medium on *Spirulina platensis*. *Bioresource Technology*, Volume 427, July 2025, 132385.
60. Leilei Dai, **Roger Ruan**, Hanwu Lei, Rui Xiao, and Huiyan Zhang. 2025. Revolutionize textile recycling. *Science*, 15 May 2025, Vol 388, Issue 6748, pp. 713-714. DOI: 10.1126/science.adw0473
61. **Ruan R**, Wang X, Zhang Y. 2025. Empowering human progress through sustainable carbon materials. *Sustainable Carbon Materials* 1: e001 doi: 10.48130/scm-0025-0001.
62. Qiming Miao, Lu Sun, Jiayuan Wu, Xinyue Zhu, Juer Liu, **Roger Ruan**, Guangwei Huang, Shengquan Mi, and Yanling Cheng. 2025. Lipid-Lowering Potential of Almond Hulls (Quercetin, Baicalein, and Kaempferol): Insights from Network Pharmacology and Molecular Dynamics. *Curr. Issues Mol. Biol.* 2025, 47(6), 450; <https://doi.org/10.3390/cimb47060450>.
63. Mark Gino K. Galang, Junhui Chen, Kirk Cobb, Tiziano Zarra, **Roger Ruan**. 2025. Reduction of biogenic CO₂ emissions, COD and nutrients in municipal wastewater via

mixotrophic co-cultivation of *Chlorella vulgaris* – aerobic-activated sludge consortium. *Environmental Technology*. Received 21 Jul 2024, Accepted 20 Jan 2025, Published online: 16 Feb 2025.

<https://www.tandfonline.com/doi/full/10.1080/09593330.2025.2463696>

64. Linyao Ke, Xiaofei Wang, Yujie Peng, Nan Zhou, Hui Li, Liangliang Fan, Kirk Cobb, **Roger Ruan**, Yuhuan Liu, Yunpu Wang. 2025. Continuous microwave co-pyrolysis of LDPE and PET coupled ex-situ catalysis to monocyclic aromatic hydrocarbons using different structural forms of HZSM-5 as catalysts. *Chemical Engineering Journal*, Volume 514, 15 June 2025, 163356.
65. Chen, T.; Wang, X.; Zhu, X.; Shao, H.; Wang, W.; Hua, W.; Zhang, N.; Wu, S.; **Ruan, R.**; Zhou, C.; et al. Manganese Ferrite Nanoparticle Assisted Enhancement of Photosynthetic Carbon Sequestration in Microalgae. *Sustainability* 2025, 17, 4303. <https://doi.org/10.3390/su17104303>.
66. Mark Gino K. Galang, Junhui Chen, Kirk Cobb, Tiziano Zarra, **Roger Ruan**. 2025. Intelligent predictive modeling for the optimization of advanced algal photobioreactors in greenhouse gas capture and utilization. *Journal of Environmental Management*, Volume 381, May 2025, 125275. <https://doi.org/10.1016/j.jenvman.2025.125275>
67. Xiaoyan Yan, Li Tian, Hong Xiao, Shunjing Luo, Tingting Chen, **Rongsheng Ruan**, Yuhuan Liu, Jianyong Wu, Chengmei Liu. 2025. Heat-stable single-helical structures formed during the extrusion process play a key role in the cooking and texture qualities of rice noodles. *International Journal of Biological Macromolecules*, Volume 301, April 2025, 140066.
68. Letian Zhang, Nan Zhou, Linyao Ke, Yuan Zeng, Qiu hao Wu, Jiahui Zhang, Rui Liao, Liangliang Fan, Kirk Cobb, **Roger Ruan**, Yuhuan Liu, Yunpu Wang. 2025. Understanding the role of plastic additives in the pyrolysis of plastic wastes: Impact of additives on product selectivity, kinetics, and mechanistic pathways. *Chemical Engineering Journal*, Volume 514, 15 June 2025, 163194.
69. Xin Gao, Shuntaro Tsubaki, Huacheng Zhu, Daniel R. Slocombe, Daming Fan, **Roger Ruan**. 2025. Microwave for electrification and decarbonization of the chemical industry. *Front. Chem. Sci. Eng.* 2025, 19(4): 27 <https://doi.org/10.1007/s11705-025-2528-3>.
70. Feifei Ma, Jiameng Guo, Yantao Li, Gao Li, Xuezhi Zhang, Zhuoyi Zhu, **Roger Ruan**, Peng-fei Cheng. 2025. Optimizing Fucoxanthin production in *Chaetoceros* sp. Using conditioned wastewater and tailored culture conditions. *Journal of Water Process Engineering*, Volume 72, April 2025, 107450. <https://doi.org/10.1016/j.jwpe.2025.107450>.
71. Rumeng Lu, Bi yuan Hong, Yunpu Wang, Xian Cui, Cuixia Liu, Yuhuan Liu, Xiaodan Wu, **Roger Ruan**, Qi Zhang. 2025. Microalgal biofilm cultivation on lignocellulosic based bio-carriers: Effects of material physical characteristics on microalgal biomass production and composition. *Chemical Engineering Journal*, Volume 510, 15 April 2025, 161656.

72. Jiahui Zhang, Linyao Ke, Qiu hao Wu, Liangliang Fan, Krik Cobb, **Roger Ruan**, Yunpu Wang. Enhancing mass transfer efficiency via “Burger” co-pyrolysis of plastics and three biomass components. *Journal of Analytical and Applied Pyrolysis*. Available online 4 March 2025, 107084.
73. Cassiano Cunha Oliveira, Grazielle Emanuella de Souza dos Santos, Leilei Dai, Suman Lata, Kirk Cobb, Luiz Gustavo Martins Vieira, Carla Eponina Hori, **Roger Ruan**. 2025. Catalytic Microwave-Assisted Co-Pyrolysis of soybean husk and HDPE: Optimization, Kinetics, and enhanced bio-oil production using ZSM-5. *Energy Conversion and Management*, Volume 327, 1 March 2025, 119582. <https://doi.org/10.1016/j.enconman.2025.119582>
74. Baoyu Xu, Qilin He, Danni Sun, Xiaohui Li, Jianhua Fan, Xiaojun Yan, **Roger Ruan**, Ning Wang, Pengfei Cheng. 2025 Inhibition mechanism of leukemia cells HL-60 by exopolysaccharides from *Botryococcus braunii* in response to high-concentration cobalt. *International Journal of Biological Macromolecules*, Volume 290, February 2025, 139092. <https://doi.org/10.1016/j.ijbiomac.2024.139092>
75. Dong Shu, Chentao Tan, Yue Zhang, Lu Gan, **Roger Ruan**, Leilei Dai, Yunpu Wang, Erguang Huo, Qixuan Jiang, Yunfeng Zhao, Jian Zhang. 2025. Nanocellulose synthesis via synergistic application of solid acid and cellulase. *International Journal of Biological Macromolecules*. Volume 291, February 2025, 139158
76. Linlin Yang, Xiaotong Song, Yanzhang Feng, Xiaoting Qiu, Xiaojun Yan, **Roger Ruan**, Pengfei Cheng. 2025. Improving soil structure and function for continuous cropping of sweet melon using microalgae-based biological fertilizer. *Algal Research*, Volume 85, January 2025, 103868. <https://doi.org/10.1016/j.algal.2024.103868>
77. Ruan, R. 2024. Inaugural Editorial: Embracing Great Challenges and Opportunities. *Algae and Environment*. 2024. doi: Retrieved from <https://ojs.sciltp.com/journals/AlgaeEnviron/article/view/460>
78. Yuyang Yao, Juer Liu, Qiming Miao, Xinyue Zhu, Lu Sun, Wei Hua, Na Zhang, Guangwei Huang, **Roger Ruan**, Yanling Cheng, Shengquan Mi. 2024. Inhibition and effect of almond hull extract on activities of α -amylase and α -glucosidase, and postprandial glucose in normal SD rats. *Journal of Functional Foods*. Volume 123, December 2024, 106624
79. Ozlem Akca, Junhui Chen, Leilei Dai, Kirk Cobb, Yanling Cheng, Paul Chen, Hanwu Lei, **Roger Ruan**. 2024. Improving carbon-reduced catalytic gasification of microalgae for biohydrogen production. *Algal Research*, Volume 84, December 2024, 103797. <https://doi.org/10.1016/j.algal.2024.103797>
80. Ruolan Zhou, Xiaojie Tian, Xiaofei Wang, Yuan Zeng, Linyao Ke, Qiu hao Wu, Rui Liao, **Roger Ruan**, Liangliang Fan, Yunpu Wang. 2024. Microwave pyrolysis of *Choerospondias axillaris* seeds with their derived biochar for comprehensive utilization of the biomass. *Chemical Engineering Journal*, Volume 501, 1 December 2024, 157727.

81. Rumeng Lu, Jiangling Lai, Kangping Wu, Qi Zhang, Yunpu Wang, Xian Cui, Yuhuan Liu, Xiaodan Wu, Zhigang Yu, Hailong Luo, **Roger Ruan**. 2024. Sweet sorghum as alternative carbon sources for *Chlorella* sp. valued-added compounds production: A mechanistic insight using transcriptomics. *Chemical Engineering Journal*, Volume 500, 15 November 2024, 157096.
82. Mark Gino K. Galang, Junhui Chen, Kirk Cobb, Tiziano Zarra, **Roger Ruan**. 2024. *Journal of Water Process Engineering*, Volume 67, November 2024, 106105. <https://doi.org/10.1016/j.jwpe.2024.106105>
83. Yilin Fang, Yihui Cai, Qi Zhang, **Roger Ruan**, Ting Zhou. 2024. Research status and prospects for bioactive compounds of *Chlorella* species: Composition, extraction, production, and biosynthesis pathways. *Process Safety and Environmental Protection*, Volume 191, Part A, November 2024, Pages 345-359.
84. Yan X, Shan S, Li X, Xu Q, Yan X, **Ruan R** and Cheng P. 2024. Carbon and energy metabolism for the mixotrophic culture of *Chlorella vulgaris* using sodium acetate as a carbon source. *Front. Microbiol.* 15:1436264. doi: 10.3389/fmicb.2024.1436264
85. Yuqing Zhu, Shengfeng Peng, Sixian Peng, Xing Chen, Liqiang Zou, Ruihong Liang, **Roger Ruan**, Leilei Dai, Wei Liu. 2024. Fiber complex-stabilized high-internal-phase emulsion for allicin encapsulation: microstructure, stability, and thermal-responsive properties. *Journal of the Science of Food and Agriculture*. September, 2024. <https://doi.org/10.1002/jsfa.13902>
86. Feifei Ma, Kang Chen, Chengxu Zhou, Xiaohui Li, Jianhua Fan, Xiaojun Yan, **Roger Ruan**, Pengfei Cheng. 2024. Effect of phytohormone on proliferation and accumulation of cellular metabolites of microalgae *Isochrysis zhanjiangensis*. *Bioresource Technology*, Volume 410, October 2024, 131299. Available online 15 August 2024. <https://doi.org/10.1016/j.biortech.2024.131299>.
87. Yuan Zeng, Yuanyuan Wang, Linyao Ke, Qiuhao Wu, Xiaojie Tian, Liangliang Fan, Kirk Cobb, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2024. Comparison of microwave and conventional pyrolysis of one-step prepared metal soaps (Li/Na/K/Ca/Mg): Product distribution and heating characteristics. *Chemical Engineering Journal*, Volume 493, 1 August 2024, 152481.
88. Jiali Shen, Xuan Luo, Min Zhou, Qi Zhang, Yunpu Wang, **Roger Ruan**, Yuhuan Liu, Xian Cui. 2024. Effect of different opening times on methanogenic potential of different fermentation types of silage during feed-out stage. *Renewable Energy*. Volume 230, September 2024, 120883.
89. Anqi Dai, Qiuhao Wu, Chuangxin Xu, Jianyun Xiong, Liangliang Fan, Linyao Ke, Yuan Zeng, Kirk Cobb, **Roger Ruan**, Yunpu Wang. 2024. Walnut shell oil-bath torrefaction coupled with fast pyrolysis: Effect of torrefaction heating modes. *Bioresource Technology*, Volume 406, August 2024, 130984.

90. Kangping Wu, Jiangling Lai, Qi Zhang, Yunpu Wang, Xian Cui, Yuhuan Liu, Xiaodan Wu, Zhigang Yu, and **Roger Ruan**. 2024. Optimizing *Chlorella vulgaris* Cultivation to Enhance Biomass and Lutein Production. *Foods* 2024, 13(16), 2514; <https://doi.org/10.3390/foods13162514>
91. Dong Shu, Lu Gan, Yue Zhang, Xuan Sun, Chentao Tan, **Roger Ruan**, Leilei Dai, Yunpu Wang, Erguang Huo, Qixuan Jiang, Yunfeng Zhao, Jian Zhang. 2024. A solid acid derived from fishbone catalyzes the hydrolysis of cellulose into nanocellulose. *International Journal of Biological Macromolecules*, 2024 Aug;275(Pt 2):133903. doi: 10.1016/j.ijbiomac.2024.133903. Epub 2024 Jul 31.
92. Ke, L., Zhou, N., Wu, Q., Zeng, Y., Tian, X., Zhang, J., Fan, L., **Ruan, R.**, Wang, Y. 2024. Microwave catalytic pyrolysis of biomass: a review focusing on absorbents and catalysts. *npj Mater. Sustain.* 2, 24 (2024).
93. Leilei Dai, Suman Lata, Kirk Cobb, Rongge Zou, Hanwu Lei, Paul Chen, **Roger Ruan**. 2024. Recent advances in polyolefinic plastic pyrolysis to produce fuels and chemicals. *Journal of Analytical and Applied Pyrolysis*, Volume 180, June 2024, 106551. <https://doi.org/10.1016/j.jaap.2024.106551>
94. Zhiping Zhang, Quanguo Zhang, Youzhou Jiao, Chao He, **Roger Ruan**, Jianjun Hu, Jingzheng Ren, Sara Toiniolo, Danping Jiang, Chaoyang Lu, Yameng Li, Yi Man, Huan Zhang, Chenxi Xia, Yi Wang, Yanyan Jing, Xueting Zhang, Ruojue Lin, Gang Li, Jianzhi Yue, and Nadeem Tahir. 2024. Biological Fermentation Pilot-Scale Systems and Evaluation for Commercial Viability Towards Sustainable Biohydrogen Production. *Nature Communications*, 15, Article number: 4539 (2024).
95. Yuyang Yao, Juer Liu, Qiming Miao, Xinyue Zhu, Wei Hua, Na Zhang, Guangwei Huang, Xiangyang Lin, Shengquan Mi, Yanling Cheng, **Roger Ruan**. 2024. Evaluation of the Genotoxicity of Almond Hull: Implications for Its Use as a Novel Food Ingredient. *Foods* 2024, 13(9), 1404; <https://doi.org/10.3390/foods13091404>
96. Rongge Zou, Zhibin Yang, Jiahui Zhang, Ryan Lei, William Zhang, Fitria Fnu, Daniel C.W. Tsang, Joshua Heyne, Xiao Zhang, Yunpu Wang, **Roger Ruan**, Hanwu Lei. 2024. Machine learning application for predicting key properties of activated carbon produced from lignocellulosic biomass waste with chemical activation. *Bioresource Technology*, Volume 399, May 2024, 130624.
97. Letian Zhang, Xiuhua Yang, Qiuhao Wu, Liangliang Fan, Chuangxin Xu, Rongge Zou, Yuhuan Liu, Krik Cobb, **Roger Ruan**, Yunpu Wang. 2024. ZSM-5@ceramic foam composite catalyst derived from spent bleaching clay for continuous pyrolysis of waste oil to produce monocyclic aromatic hydrocarbons. *Science of The Total Environment*, Volume 926, 20 May 2024, 171887.
98. Xiaofei Wang, Yujie Peng, Ruolan Zhou, Liangliang Fan, Qi Zhang, Xian Cui, Qiuhao Wu, Yuan Zeng, Xiaojie Tian, Linyao Ke, **Roger Ruan**, Yunpu Wang. 2024. Production of

monocyclic aromatic hydrocarbons from microwave co-pyrolysis of polyethylene terephthalate and low-density polyethylene using coconut husk carbon as microwave absorbent. *Chemical Engineering Journal*, Volume 488, 15 May 2024, 150732.

99. Kaili Gao, Tongying Liu, Qi Zhang, Yunpu Wang, Xiaoxiao Song, Xuan Luo, **Roger Ruan**, Le Deng, Xian Cui, Yuhuan Liu. 2024. Stabilization of emulsions prepared by ball milling and cellulase treated pomelo peel insoluble dietary fiber: Integrity of porous fiber structure dominates the stability. *Food Chemistry*, Volume 440, 15 May 2024, 138189.
100. Hongbin Yan, Zhiqiang Gu, Qi Zhang, Yunpu Wang, Xian Cui, Yuhuan Liu, Zhigang Yu, **Roger Ruan**. 2024. Detoxification of copper and zinc from anaerobic digestate effluent by indigenous bacteria: Mechanisms, pathways and metagenomic analysis. *Journal of Hazardous Materials*, Volume 469, 5 May 2024, 133993.
101. Lu Wang, Fei Zhang, Xiaochen Ma, Dmitri Mataya, Junhui Chen, Kirk Cobb, Pengfei Cheng, Yanling Cheng, Min Addy, Paul Chen, **Roger Ruan**. 2024. Treatment of anaerobically digested swine manure using *Chlorella vulgaris* and bacteria in scaled-up systems. *Algal Research*, Volume 79, April 2024, 103463.
<https://doi.org/10.1016/j.algal.2024.103463>
102. Jun Wei Roy Chong, Kuan Shiong Khoo, Kit Wayne Chew, Huong-Yong Ting, Iwamoto Koji, **Roger Ruan**, Zengling Ma, Pau Loke Show. 2024. Artificial intelligence-driven microalgae autotrophic batch cultivation: A comparative study of machine and deep learning-based image classification models. *Algal Research*, Volume 79, April 2024, 103400.
103. Zhiqiang Gu, Hongbin Yan, Qi Zhang, Yunpu Wang, Cuixia Liu, Xian Cui, Yuhuan Liu, Zhi-gang Yu, Xiaodan Wu, **Roger Ruan**. 2024. Elimination of copper obstacle factor in anaerobic digestion effluent for value-added utilization: Performance and resistance mechanisms of indigenous bacterial consortium. *Water Research*, Volume 252, 15 March 2024, 121217
104. Letian Zhang, Qiuhaowu, Liangliang Fan, Rui Liao, Jiahui Zhang, Rongge Zou, Krik Cobb, **Roger Ruan**, Yunpu Wang. 2024. Monocyclic aromatic hydrocarbons production from NaOH pretreatment metallized food plastic packaging waste through microwave pyrolysis coupled with ex-situ catalytic reforming, *Chemical Engineering Journal*, Volume 484, 15 March 2024, 149777
105. Badr A. Mohamed, **Roger Ruan**, Muhammad Bilal, Selvakumar Periyasamy, Mukesh Kumar Awasthi, Natarajan Rajamohan, Lijian Leng. 2024. Sewage sludge co-pyrolysis with agricultural/forest residues: A comparative life-cycle assessment. *Renewable and Sustainable Energy Reviews*, Volume 192, March 2024, 114168.
106. Yi Fang, Xian Li, Xiaonan Wang, Leilei Dai, **Roger Ruan**, Siming You. 2024. Machine learning-based multi-objective optimization of concentrated solar thermal gasification of biomass incorporating life cycle assessment and techno-economic analysis. *Energy Conversion and Management*, Volume 302, 15 February 2024, 118137.

107. Longfei Zhang, Ping Wang, Xiqing Wang, Qi Zhang, Yunpu Wang, Yuhuan Liu, Lantian Zhao, Roger Ruan, Xian Cui. 2023. Resource utilization of wastepaper and bentonite: Cu(II) removal in the aqueous environment. *Journal of Environmental Management*, Volume 353, 27 February 2024, 120213.
108. Danni Sun, Songlin Wu, Xiaohui Li, Baosheng Ge, Chengxu Zhou, Xiaojun Yan, **Roger Ruan**, Pengfei Cheng. 2024. The Structure, Functions and Potential Medicinal Effects of Chlorophylls Derived from Microalgae. *Marine Drugs*, 2024, 22(2), 65; <https://doi.org/10.3390/md22020065>
109. Qiuhao Wu, Wanhao Huang, Anqi Dai, Linyao Ke, Letian Zhang, Qi Zhang, Xian Cui, Liangliang Fan, Chuangxin Xu, Krik Cobb, Rongge Zou, Xiangwen Pan, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2023. Two-step fast pyrolysis of torrefied corncobs and waste cooking oil under different atmosphere for hydrocarbons production. *Energy*, Volume 286, 1 January 2024, 129535
110. Linyao Ke, Qiuhao Wu, Nan Zhou, Hui Li, Qi Zhang, Xian Cui, Liangliang Fan, Yuhuan Liu, Kirk Cobb, **Roger Ruan**, Yunpu Wang. 2024. Polyethylene upcycling to aromatics by pulse pressurized catalytic pyrolysis. *Journal of Hazardous Materials*, Volume 461, 5 January 2024, 132672.
111. Dong Shu, Jian Zhang, **Roger Ruan**, Hanwu Lei, Yunpu Wang, Qian Moriko, Rongge Zou, Erguang Huo, Dengle Duan, Lu Gan, Dan Zhou, Yunfeng Zhao, Leilei Dai. Insights into Preparation Methods and Functions of Carbon-Based Solid Acids. *Molecules*, 2024, 29(1): 247.
112. Liu, J., Yao, Y., Cheng, Y., Hua, W., Zhu, X., Miao, Q., Huang G., Mi, S., **Ruan, R.** 2023. Acute Oral Toxicity Evaluation of Almond Hull Powders in BALB/c Mice. *Foods* 2023, 12(22), 4111; <https://doi.org/10.3390/foods12224111>.
113. Raíssa Aparecida da Silveira Rossi, Leilei Dai, Marcos Antonio de Souza Barrozo, Luiz Gustavo Martins Vieira, Carla Eponina Hori, Kirk Cobb, Paul Chen, **Roger Ruan**. 2023. Bio-fuel production from catalytic microwave-assisted pyrolysis of the microalgae *Schizochytrium limacinum* in a tandem catalytic bed. *Chemical Engineering Journal*, Volume 478, 15 December 2023, 147223. <https://doi.org/10.1016/j.cej.2023.147223>.
114. Shengzhou Shan, Shanshan Wang, Xi Yan, Kang Chen, Li Liang, Xiaohui Li, Chengxu Zhou, Xiaojun Yan, **Roger Ruan**, Pengfei Cheng. 2023. Mixotrophic culture of *Chaetoceros* sp. and the synergistic carbon and energy metabolism. *Bioresource Technology*, Volume 390, December 2023, 129912. <https://doi.org/10.1016/j.biortech.2023.129912>.
115. Longfei Zhang, Qi Zhang, Yunpu Wang, Xian Cui, Yuhuan Liu, **Roger Ruan**, Xiaodan Wu, Leipeng Cao, Lantian Zhao, Hongli Zheng. 2023. Preparation and application of metal-modified biochar in the purification of micro-polystyrene polluted aqueous environment. *Journal of Environmental Management*, Volume 347, 1 December 2023, 119158.

116. Yuancai Lyu, Ling Chen, Nan Zhou, Leilei Dai, Yanling Cheng, Yiwei Ma, Juer Liu, Kirk Cobb, Paul Chen, **Roger Ruan**. 2023. Continuous Production of High-Concentration Nitrated Water with Catalytic Concentrated High-Intensity Electric Field Process at Ambient Conditions. *Plasma Chemistry and Plasma Processing*. November, 2023, <https://doi.org/10.1007/s11090-023-10423-x>
117. Qi Yang, Qiuhaio Wu, Nan Zhou, Linyao Ke, Liangliang Fan, Yuan Zeng, Chuangxin Xu, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2023. Continuous catalytic pyrolysis of waste oil to aromatics: Exploring the structure-performance relations of ZSM-5 based on different scale-up forms. *Chemical Engineering Journal*, Volume 475, 1 November 2023, 146259.
118. Hongqing Shi, Yunlei Cui, Yaning Zhang, Wenke Zhao, Wei Liu, **Roger Ruan**. 2023. Gases production from microwave-assisted pyrolysis of polypropylene plastic. *Journal of Environmental Chemical Engineering*, Volume 11, Issue 5, October 2023, 110851. <https://doi.org/10.1016/j.jece.2023.110851>
119. Xuan Luo, Yuhuan Liu, Xiqing Wang, Luyao Lei, Jiali Shen, Qi Zhang, Yunpu Wang, **Roger Ruan**, Xian Cui. 2023. A co-ensiling strategy of food wastes: Peanut shell as an additive to distillers' grains to improve efficiency of energy conversion. *Journal of Cleaner Production*, Volume 423, 15 October 2023, 138710
120. Rongge Zou, Chenxi Wang, Moriko Qian, Ryan Lei, Yunfeng Zhao, Qingfa Zhang, Erguang Huo, Xiao Kong, Xiaona Lin, Lu Wang, Xuesong Zhang, Austin Gluth, Budi Harahap, Yunpu Wang, Leilei Dai, Jikai Zhao, **Roger Ruan**, Hanwu Lei. 2023. Catalytic fast co-pyrolysis of Douglas Fir and low-density polyethylene with nanocellulose-derived carbon catalyst for enhancing selectivity of hydrogen in syngas and mono-aromatic hydrocarbon in bio-oil products. *Chemical Engineering Journal*, Volume 474, 15 October 2023, 145640
121. Yanting Jiang, Zhendong Yu, Yuancai Lv, Xiaojuan Li, Chunxiang Lin, Xiaoxia Ye, Guifang Yang, Yifan Liu, Leilei Dai, Minghua Liu, **Roger Ruan**. 2023. Insights to PFOS elimination with peroxydisulfate activation mediated by boron modified Fe/C catalysts: Enhancing mechanism of boron and PFOS degradation pathway. *Journal of Colloid and Interface Science*, Volume 652, Part B, 15 December 2023, Pages 1743-1755.
122. Zhu, Y.; Luan, Y.; Zhao, Y.; Liu, J.; Duan, Z.; **Ruan, R.** 2023. Current Technologies and Uses for Fruit and Vegetable Wastes in a Sustainable System: A Review. *Foods* 2023, 12(10), 1949. <https://doi.org/10.3390/foods12101949>
123. Yi Fang, Xian Li, Simon Ascher, Yize Li, Leilei Dai, **Roger Ruan**, Siming You. 2023. Life cycle assessment and cost benefit analysis of concentrated solar thermal gasification of biomass for continuous electricity generation. *Energy*, Volume 284, 1 December 2023, 128709.
124. Leilei Dai, Hailong Zhao, Nan Zhou, Kirk Cobb, Paul Chen, Yanling Cheng, Hanwu Lei, Rongge Zou, Yunpu Wang, **Roger Ruan**. 2023. Catalytic microwave-assisted pyrolysis of plastic waste to produce naphtha for a circular economy. *Resources, Conservation and*

Recycling, Volume 198, November 2023, 107154.
<https://doi.org/10.1016/j.resconrec.2023.107154>

125. Jianyun Xiong, Shumei Zhang, Liangliang Fan, Qi Zhang, Xian Cui, Linyao Ke, Yuan Zeng, Qiuhao Wu, Kirk Cobb, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2023. Production of bio-oil from waste cooking oil via microwave-assisted pyrolysis in the presence of waste eggshell CaO and HZSM-5: Process optimization and catalyst lifetime exploration. *Energy*, Volume 283, 15 November 2023, 128416
126. Yuanyuan Wang, Yuan Zeng, Liangliang Fan, Qiuhao Wu, Letian Zhang, Jianyun Xiong, Jiahui Zhang, Rui Liao, Kirk Cobb, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2023. Pyrolysis of different types of waste cooking oil in the presence/absence HZSM-5 catalyst: Influence of feedstock characteristics on aromatic formation. *Fuel*, Volume 351, 1 November 2023, 128937. <https://doi.org/10.1016/j.fuel.2023.128937>
127. Jiamin Xu, Xiaojie Tian, Wanhao Huang, Linyao Ke, Liangliang Fan, Qi Zhang, Xian Cui, Qiuhao Wu, Yuan Zeng, Kirk Cobb, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2023. Production of C5-C12 olefins by catalytic pyrolysis of low-density polyethylene with MCM-41 in CO₂/N₂. *Science of The Total Environment*, Volume 899, 15 November 2023, 165597.
128. Xuan Luo, Yuhuan Liu, Luyao Lei, Jiali Shen, Qi Zhang, Yunpu Wang, **Roger Ruan**, Xian Cui. 2023. Co-ensiling of rice straw and distillers grains to increase methane production and maximize energy output. *Bioresource Technology*, Volume 386, October 2023, 129496.
129. Yujie Peng, Xiaofei Wang, Liangliang Fan, Qi Zhang, Xian Cui, Xiaojie Tian, Qiuhao Wu, Kirk Cobb, **Roger Ruan**, Heng Tu, Jing Yang, Yunpu Wang. 2023. Conversion of low-density polyethylene into monocyclic aromatic hydrocarbons through continuous microwave pyrolysis with ex-situ dual-catalyst beds. *Journal of Cleaner Production*, Volume 418, 15 September 2023, 138039.
130. Haixia Wang, Chun Wang, Baosheng Ge, Xuezhi Zhang, Chengxu Zhou, Xiaojun Yan, **Roger Ruan**, Pengfei Cheng. 2023. Effect of heavy metals in aquaculture water on the growth of microalgae and their migration mechanism in algae-shellfish system. *Chemical Engineering Journal*. Volume 473, 1 October 2023, 145274.
<https://doi.org/10.1016/j.cej.2023.145274>
131. Zihan Li, Ting Zhou, Qi Zhang, Tongying Liu, Jiangling Lai, Canbo Wang, Leipeng Cao, Yuhuan Liu, **Roger Ruan**, Mingxiong Xue, Yunpu Wang, Xian Cui, Cuixia Liu, Yan Ren. 2023. Influence of cold atmospheric pressure plasma treatment of *Spirulina platensis* slurry over biomass characteristics. *Bioresource Technology*, Volume 386, October 2023, 129480
132. Leilei Dai, Ozlem Karakas, Suman Lata, Kirk Cobb, Hanwu Lei, Chao He, Yanling Cheng, Paul Chen, **Roger Ruan**. 2023. Holistic utilization of waste plastics through a tandem process. *Journal of Environmental Chemical Engineering*, Available online 8 July 2023, 110547, <https://doi.org/10.1016/j.jece.2023.110547>

133. Hongbin Yan, Qi Zhang, Yunpu Wang, Xian Cui, Yuhuan Liu, Zhigang Yu, Shuming Xu, **Roger Ruan**. 2023. Rice straw as microalgal biofilm bio-carrier: Effects of indigenous microorganisms on rice straw and microalgal biomass production. *Journal of Environmental Management*, Volume 341, 1 September 2023, 118075
134. Hongyu Chen, Shengzhou Shan, Chun Wang, Zorigto Namsaraev, Ivan Dubovskiy, Chengxu Zhou, **Roger Ruan**, Xiaojun Yan, Pengfei Cheng. 2023. Mixotrophic culture of *Chaetoceros* sp. and its response to circadian rhythm. *Algal Research*, Volume 73, June 2023, 103119.
135. Lei Liu, Liangliang Fan, Kuangli Jin, Jun Qian, Pei Huang, Hongyu Peng, Wenguang Zhou, Paul Chen, **Roger Ruan**. 2023. One-pot synthesis of lignin biochar supported Ni for catalytic pyrolysis of *Chlorella vulgaris* and its model compounds: The formation mechanism of aromatic hydrocarbons. *Fuel*, Volume 341, June 2023, 127558.
136. Zheng Gao, Kun Gao, Linqing Li, Mengting Yang, Pengfei Cheng, Qilin Zheng, Meng Zhang, Ruoxu Ning, Qiaoqiao Liu, **Roger Ruan**, Xiangyuan Deng. 2023. Feasibility of growing microalgae on wastewaters collected from a vinegar plant for, concurrently, nutrient removal and biomass production. *Algal Research*, Available online 28 June 2023, 103188.
137. Jianyun Xiong, Shumei Zhang, Linyao Ke, Qiuhao Wu, Qi Zhang, Xian Cui, Anqi Dai, Chuangxin Xu, Kirk Cobb, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2023. Research progress on pyrolysis of nitrogen-containing biomass for fuels, materials, and chemicals production. *Science of The Total Environment*, Volume 872, May 2023, 162214.
138. Yuan Zeng, Yuanyuan Wang, Qiuhao Wu, Qi Zhang, Xian Cui, Linyao Ke, Xiaojie Tian, Jiamin Xu, Rongge Zou, Krik Bob, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2023. Microwave-assisted catalytic co-pyrolysis of waste edible oil and low-density polyethylene: Synergistic enhancement of co-melt feeding. *Chemical Engineering Journal*, Volume 459, March 2023, 141567.
139. Xixiang Shuai, Taotao Dai, David Julian McClements, **Roger Ruan**, Liqing Du, Yuhuan Liu, Jun Chen. 2023. Hypolipidemic effects of macadamia oil are related to AMPK activation and oxidative stress relief: In vitro and in vivo studies. *Food Research International*, Volume 168, June 2023, 112772.
140. Xixiang Shuai, Taotao Dai, **Roger Ruan**, Yuhuan Liu, Chengmei Liu, Ming Zhang, Jun Chen. 2023. Novel high energy media mill produced macadamia butter: Effect on the physicochemical properties, rheology, nutrient retention and application. *LWT*, Volume 178, 15 March 2023, 114606.
141. Qiuhao Wu, Letian Zhang, Linyao Ke, Qi Zhang, Xian Cui, Liangliang Fan, Anqi Dai, Chuangxin Xu, Qihang Zhang, Krik Cobb, Rongge Zou, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2023. Co-torrefaction of corncob and waste cooking oil coupled with fast co-pyrolysis for bio-oil production. *Bioresource Technology*, Volume 370, February 2023, 128529.

142. Leilei Dai, Ozlem Karakas, Yanling Cheng, Kirk Cobb, Paul Chen, **Roger Ruan**. 2023. A review on carbon materials production from plastic wastes. *Chemical Engineering Journal*, [Volume 453, Part 2](#), 1 February 2023, 139725. <https://doi.org/10.1016/j.cej.2022.139725>
143. Dengle Duan, Yongchuan Zhang, Juncheng Li, Liyin Huang, Zhimin Xu, Yayun Zhang, Weimin Sun, Qin Wang, **Roger Ruan**. 2023. Synthesis of nanocrystalline cellulose induced hierarchical porous ZSM-5 for catalytic conversion of low-density polyethylene. *Fuel* Volume 331, Part 1, January 2023, 125757.
144. Yahui Bo, Ruirui Chu, Danni Sun, Xiangyuan Deng, Chengxu Zhou, Xiaojun Yan, **Roger Ruan**, Pengfei Cheng. 2023. Mixotrophic culture of bait microalgae for biomass and nutrients accumulation and their synergistic carbon metabolism. *Bioresource Technology*, Volume 367, January 2023, 128301.
145. Qiuhao Wu, Letian Zhang, Linyao Ke, Qi Zhang, Xian Cui, Qi Yang, Yuanyuan Wang, Anqi Dai, Chuangxin Xu, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2022. Microwave-assisted pyrolysis of waste cooking oil for bio-based hydrocarbons over Chem-CaO@SiC catalyst. *Energy*, Volume 263, Part B, January 2023, 125683.
146. Juer Liu, Li Huang, Jun An, Yiwei Ma, Yanling Cheng, Renchuan Zhang, Peng Peng, Yuanpu Wang, Min Addy, Paul Chen, Chi Chen, Yuhuan Liu, Guangwei Huan, **Roger Ruan**. 2023. Application of high-pressure homogenization to improve physicochemical and antioxidant properties of almond hulls. *J. of Food Processing Engineering*, December 2022, <https://doi.org/10.1111/jfpe.14235>.
147. Badr A. Mohamed, **Roger Ruan**, Muhammad Bilal, Nadeem A. Khan, Mukesh Kumar Awasthi, Mariam A. Amer, Lijian Leng, Mohamed A. Hamouda, Dai-Viet Nguyen Vo, Jian Li. 2022. Co-pyrolysis of sewage sludge and biomass for stabilizing heavy metals and reducing biochar toxicity: A review. *Environmental Chemistry Letters*, November, 2022, <https://doi.org/10.1007/s10311-022-01542>.
148. Junhui Chen, Leilei Dai, Dmitri Mataya, Kirk Cobb, Paul Chen, **Roger Ruan**. 2022. Enhanced sustainable integration of CO₂ utilization and wastewater treatment using microalgae in circular economy concept. *Bioresource Technology*, [Volume 366](#), December 2022, 128188. <https://doi.org/10.1016/j.biortech.2022.128188>
149. Xuan Luo, Yuhuan Liu, Atif Muhmood, Qi Zhang, Jingjing Wang, **Roger Ruan**, Yunpu Wang, Xian Cui. 2022. Effect of time and temperature of pretreatment and anaerobic co-digestion of rice straw and swine wastewater by domesticated paddy soil microbes. *Journal of Environmental Management*, Volume 323, December 2022, 116218.
150. Leilei Dai, Nan Zhou, Yuancai Lv, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Paul Chen, Hanwu Lei, **Roger Ruan**. 2022. Pyrolysis technology for plastic waste

recycling: A state-of-the-art review. *Progress in Energy and Combustion Science*, Volume 93, November 2022, 101021. <https://doi.org/10.1016/j.pecs.2022.101021>

151. Rumeng Lu, Hongbin Yan, Yuhuan Liu, Yunpu Wang, Xian Cui, Xiaodan Wu, Zhigang Yu, **Roger Ruan**, Qi Zhang. 2022. Enhancement of nutrients recovery and cell metabolism in piggery anaerobic digestate by the co-cultivation of indigenous microalgae and bacteria. *Journal of Cleaner Production*, Volume 375, November 2022, 134193.
152. Wenkui Li, Yali Zhang, Yue Hu, Shanshan Luo, Xiaodan Wu, Yuhuan Liu, Andy Min, **Roger Ruan**. 2022. Harvesting *Chlorella vulgaris* by electro-flotation with stainless steel cathode and non-sacrificial anode. *Bioresource Technology*, Volume 363, November 2022, 127961. <https://doi.org/10.1016/j.biortech.2022.127961>
153. Yihui Cai, Ligong Zhai, Kangping Wu, Zihan Li, Zhiqiang Gu, Yunpu Wang, Xian Cui, Ting Zhou, **Roger Ruan**, Tongying Liu, Yuhuan Liu, Qi Zhang. 2022. Mechanisms of promotion in the heterotrophic growth of *Chlorella vulgaris* by the combination of sodium acetate and hydrolysate of broken rice. *Bioresource Technology*, Volume 364, November 2022, 127965.
154. Rongge Zou, Chenxi Wang, Moriko Qian, Erguang Huo, Xiao Kong, Yunpu Wang, Leilei Dai, Lu Wang, Xuesong Zhang, Wendy C. Mateo, **Roger Ruan**, Hanwu Lei. 2022. Catalytic co-pyrolysis of solid wastes (low-density polyethylene and lignocellulosic biomass) over microwave assisted biochar for bio-oil upgrading and hydrogen production. *Journal of Cleaner Production*, Volume 374, November 2022, 133971.
155. Leilei Dai, **Roger Ruan**, Siming You, Hanwu Lei. 2022. Paths to sustainable plastic waste recycling. *Science*, 377 (6609):934, DOI: 10.1126/science.ade2221
156. Yujie Peng, Leilei Dai, Anqi Dai, Qiu hao Wu, Rongge Zou, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2022. Catalytic process toward green recycling of polyvinyl chloride: A study on thermodynamic, kinetic and pyrolysis characteristics. *Journal of Analytical and Applied Pyrolysis*, Volume 168, November 2022, 105719
157. Leilei Dai, Nan Zhou, Kirk Cobb, Paul Chen, Yunpu Wang, Yuhuan Liu, Rongge Zou, Hanwu Lei, Badr A. Mohamed, Yanling Cheng, **Roger Ruan**. 2022. Insights into structure–performance relationship in the catalytic cracking of high density polyethylene. *Applied Catalysis B: Environmental*, Available online August 2022, 121835. <https://doi.org/10.1016/j.apcatb.2022.121835>
158. Qiaozhi Zhang, Shuguang Xu, Yang Cao, **Roger Ruan**, James H. Clark, Changwei Hu and Daniel C. W. Tsang. 2022. Sustainable Production of Gluconic Acid and Glucuronic Acid via Microwave-Assisted Glucose Oxidation over Low-Cost Cu-Biochar Catalyst. *Green Chemistry*, 2022, 24, 6657 – 6670.
159. Wu, K.; Fang, Y.; Hong, B.; Cai, Y.; Xie, H.; Wang, Y.; Cui, X.; Yu, Z.; Liu, Y.; **Ruan, R.**; Zhang, Q. 2022. Enhancement of Carbon Conversion and Value-Added Compound

Production in Heterotrophic *Chlorella vulgaris* Using Sweet Sorghum Extract. *Foods* 2022, 11, 2579. <https://doi.org/10.3390/foods11172579>

160. Mingjing He, Yang Cao, Zibo Xu, Siming You, **Roger Ruan**, Bin Gao, Ka-Hing Wong, Daniel C.W.Tsang. 2022. Process water recirculation for catalytic hydrothermal carbonization of anaerobic digestate: Water-Energy-Nutrient Nexus. *Bioresource Technology*. Available online July 2022, 127694.
161. Yanzhang Feng, Haoqing Zhang, Xiaotong Song, Tida Ge, Jianwei Zhu, Chengxu Zhou, Kirk Cobb, Xiaojun Yan, **Roger Ruan**, Pengfei Cheng. 2022. Microalgae as a potential conditioner for continuous cropping obstacles for taro (*Colocasia esculenta* L. Schott) production. *Journal of Cleaner Production*, Available online August 2022, 133356. <https://doi.org/10.1016/j.jclepro.2022.133356>
162. Hongli Zheng, Fengru Ge, Kunyan Song, Zixiang Yang, Jinmeng Li, Feng Yan, Xiaodan Wu, Qi Zhang, Yuhuan Liu, **Roger Ruan**. 2022. Docosaheptaenoic acid production of the marine microalga *Isochrysis galbana* cultivated on renewable substrates from food processing waste under CO₂ enrichment. *Science of The Total Environment*, Volume 848, November 2022, 157654.
163. Siming You, Christian Sonne, **Roger Ruan**, Peng Jiang. 2022. Science letter: Minimize food loss and waste to prevent crises. *Science*, 276 (6600):1390. DOI: 10.1126/science.add2008
164. Kaili Gao, Tongying Liu, Leipeng Cao, Yuhuan Liu, Qi Zhang, **Roger Ruan**, Shuoru Feng, Xiaodan Wu. 2022. Feasibility of pomelo peel dietary fiber as natural functional emulsifier for preparation of Pickering-type emulsion. *Journal of the Science of Food and Agriculture*, Volume102, Issue11, August 2022, Pages 4491-4499.
165. Leilei Dai, Nan Zhou, Yuancai Lv, Kirk Cobb, Paul Chen, Yunpu Wang, Yuhuan Liu, Rongge Zou, Hanwu Lei, Badr A. Mohamed, **Roger Ruan**, Yanling Cheng. 2022. Catalytic reforming of polyethylene pyrolysis vapors to naphtha range hydrocarbons with low aromatic content over a high silica ZSM-5 zeolite. *Science of The Total Environment*, Available online 28 July 2022, 157658. <https://doi.org/10.1016/j.scitotenv.2022.157658>
166. Jia Wang, Jianchun Jiang, Dongxian Li, Xianzhi Meng, Guowu Zhan, Yunpu Wang, Aihua Zhang, Yunjuan Sun, **Roger Ruan**, Arthur J. Ragauskas. 2022. Creating values from wastes: Producing biofuels from waste cooking oil via a tandem vapor-phase hydrotreating process. *Applied Energy*, Volume 323, October 2022, 119629.
167. Haiwen Dong, Wei Liu, Hao Zhang, Xuebo Zheng, Huijie Duan, Lixiu Zhou, Tongtong Xu, **Roger Ruan**. 2022. Improvement of phosphate solubilizing bacteria *Paenibacillus xylanexedens* on the growth of *Chlorella pyrenoidosa* and wastewater treatment in attached cultivation. *Chemosphere*, Available online July 2022, 135604, <https://doi.org/10.1016/j.chemosphere.2022.135604>

168. Xiaotong Song, Yahui Bo, Yanzhang Feng, Yinghong Tan, Chengxu Zhou, Xiaojun Yan, **Roger Ruan**, Qingshan Xu, Pengfei Cheng. 2022. Potential applications for multifunctional microalgae in soil improvement. *Front. Environ. Sci.*, October 2022, Sec. Soil Processes, <https://doi.org/10.3389/fenvs.2022.1035332>
169. Zihan Li, Yuhuan Liu, Leipeng Cao, Yihui Cai, Yunpu Wang, Xian Cui, Hongbin Yan, Ting Zhou, **Roger Ruan**, Qi Zhang. 2022. Effects of culture conditions on the performance of *Arthrospira platensis* and its production of exopolysaccharides. *Foods*, 2022, 11, 2020. <https://doi.org/10.3390/foods11142020>.
170. Kaili Gao, Yuhuan Liu, Tongying Liu, Xiaoxiao Song, **Roger Ruan**, Shuoru Feng, Xiqing Wang, Xian Cui. 2022. OSA improved the stability and applicability of emulsions prepared with enzymatically hydrolyzed pomelo peel insoluble fiber. *Food Hydrocolloids*. Volume 132, November 2022, 107806.
171. Pengfei Cheng, Ting Chang, Chun Wang, Changhong Yao, Chengxu Zhou, Tianzhong Liu, Guangce Wang, Xiaojun Yan, **Roger Ruan**. 2022. High cobalt exposure facilitates bioactive exopolysaccharides production with a novel molecular structure in *Botryococcus braunii*. *Chemical Engineering Journal*, Volume 442, Part 2, August 2022, 136294. <https://doi.org/10.1016/j.cej.2022.136294>
172. Linyao Ke, Qiuha Wu, Nan Zhou, Jianyun Xiong, Qi Yang, Letian Zhang, Yuanyuan Wang, Leilei Dai, Rongge Zou, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2022. Lignocellulosic biomass pyrolysis for aromatic hydrocarbons production: Pre and in-process enhancement methods. *Renewable and Sustainable Energy Reviews*, Volume 165, September 2022, 112607.
173. Xiefei Zhu, Mingjing He, Zibo Xu, Zejun Luo, Bin Gao, **Roger Ruan**, Chi-Hwa Wang, Ka-Hing Wong, Daniel C.W.Tsang. 2022. Combined acid pretreatment and co-hydrothermal carbonization to enhance energy recovery from food waste digestate. *Energy Conversion and Management* Volume 266, August 2022, 115855.
174. Nan Zhou, Leilei Dai, Yunpu Wang, Hui Li, Kirk Cobb, Paul Chen, Hanwu Lei, **Roger Ruan**. 2022. A structured catalyst of ZSM-5/SiC foam for chemical recycling of waste plastics via catalytic pyrolysis. *Chemical Engineering Journal*, Volume 440, July 2022, 135836. <https://doi.org/10.1016/j.cej.2022.135836>
175. Qiaoyun Huang, Hongbin Yan, Yuhuan Liu, Xian Cui, Yunpu Wang, Zhigang Yu, **Roger Ruan**, Qi Zhang. 2022. Effects of microalgae-bacteria inoculation ratio on biogas slurry treatment and microorganism interactions in the symbiosis. *Journal of Cleaner Production*, [Volume 362](#), August 2022, 132271
176. Rongge Zou, Moriko Qian, Chenxi Wang, Wendy Mateo, Yunpu Wang, Leilei Dai, Xiaona Lin, Yunfeng Zhao, Erguang Huo, Lu Wang, Xuesong Zhang, Xiao Kong, **Roger Ruan**, Hanwu Lei. 2022. Biochar: From by-products of agro-industrial lignocellulosic waste to tailored carbon-based catalysts for biomass thermochemical conversions. *Chemical Engineering Journal*, Volume 441, August 2022, 135972

177. Wu, X.; Hong, N.; Cen, Q.; Lu, J.; Wan, H.; Liu, W.; Zheng, H.; **Ruan, R.**; Cobb, K.; Liu, Y. 2022. Application of Phosphate Materials as Constructed Wetland Fillers for Efficient Removal of Heavy Metals from Wastewater. *Int. J. Environ. Res. Public Health* 2022, 19, 5344. <https://doi.org/10.3390/ijerph19095344>
178. Xiaojie Tian, Zihong Zeng, Zhihao Liu, Leilei Dai, Jiamin Xu, Xiuhua Yang, Linqing Yue, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2022. Conversion of low-density polyethylene into monocyclic aromatic hydrocarbons by catalytic pyrolysis: Comparison of HZSM-5, H β , HY and MCM-41. *Journal of Cleaner Production*, Volume 358, July 2022, 131989
179. Chenxi Wang, Rongge Zou, Moriko Qian, Xiao Kong, Erguang Huo, Xiaona Lin, Lu Wang, Xuesong Zhang, **Roger Ruan**, Hanwu Lei. 2022. Improvement of the carbon yield from biomass carbonization through sulfuric acid pre-dehydration at room temperature. *Bioresource Technology*, Volume 355, July 2022, 127251.
180. Kaili Gao, Tongying Liu, Leipeng Cao, Yuhuan Liu, Qi Zhang, **Roger Ruan**, Shuoru Feng, Xiaodan Wu. 2022. Feasibility of pomelo peel dietary fiber as natural functional emulsifier for preparation of Pickering-type emulsion. *J. of the Science of Food and Agriculture*. First published: 04 February 2022. <https://doi.org/10.1002/jsfa.11804>
181. Hongbin Yan, Rumeng Lu, Yuhuan Liu, Xian Cui, Yunpu Wang, Zhigang Yu, **Roger Ruan**, Qi Zhang. 2022. Development of microalgae-bacteria symbiosis system for enhanced treatment of biogas slurry. *Bioresource Technology*, Volume 354, June 2022, 127187.
182. Shumei Zhang, Jianyun Xiong, Jiabin Lu, Nan Zhou, Hui Li, Xian Cui, Qi Zhang, Yuhuan Liu, **Roger Ruan**, Yunpu Wang. 2022. Synthesis of CaO from waste shells for microwave-assisted catalytic pyrolysis of waste cooking oil to produce aromatic-rich bio-oil. *Science of The Total Environment*, Volume 827, June 2022, 154186.
183. Xiaojie Tian, Yunpu Wang, Zihong Zeng, Leilei Dai, Jiamin Xu, Kirk Cobb, Linyao Ke, Rongge Zou, Yuhuan Liu and **Roger Ruan**. 2022. Research progress on the role of common metal catalysts in biomass pyrolysis: a state-of-the-art review. *Green Chem.*, 2022, 24, 3922.
184. Wei Liu, Fangong Kong, Jing Zhang, Qin Wu, Shuhao Huo, Pengfei Cheng, Qing Li, Qingfeng Chen, Kirk Cobb, **Roger Ruan**. 2022. Modification of Haematococcus pluvialis algal residue by ionic liquid for improved extraction of astaxanthin followed by removal of acid red dye in water. *Algal Research*, [Volume 64](https://doi.org/10.1016/j.algal.2022.102656), May 2022, 102656. <https://doi.org/10.1016/j.algal.2022.102656>
185. Ting Zhou, Xuan Li, Qi Zhang, Shiman Dong, Huan Liu, Yuhuan Liu, Alex V. Chaves, Peter J. Ralph, **Roger Ruan**, Qilin Wang. 2022. Ecotoxicological response of *Spirulina platensis* to coexisted copper and zinc in anaerobic digestion effluent. *Science of The Total Environment*, Available online May 2022, 155874

186. Qiuhao Wu, Linyao Ke, Yunpu Wang, Nan Zhou, Hui Li, Qi Yang, Jiamin Xu, Leilei Dai, Rongge Zou, Yuhuan Liu, **Roger Ruan**. 2022. Pulse pyrolysis of waste cooking oil over CaO: Exploration of catalyst deactivation pathway based on feedstock characteristics. *Applied Catalysis B: Environmental* Volume 304, May 2022, 120968.
187. Pengfei Cheng, Jianke Huang, Xiaotong Song, Ting Yao, Jingshun Jiang, Chengxu Zhou, Xiaojun Yan, **Roger Ruan**. 2022. Heterotrophic and mixotrophic cultivation of microalgae to simultaneously achieve furfural wastewater treatment and lipid production. *Bioresource Technology*, Volume 349, April 2022, 126888.
<https://doi.org/10.1016/j.biortech.2022.126888>
188. Wang, C.; Qi, M.; Guo, J.; Zhou, C.; Yan, X.; **Ruan, R.**; Cheng, P. The Active Phytohormone in Microalgae: The Characteristics, Efficient Detection, and Their Adversity Resistance Applications. *Molecules* 2022, 27, 46.
189. Pengfei Cheng, Yantao Li, Chun Wang, Jiameng Guo, Chengxu Zhou, Renchuan Zhang, Yiwei Ma, Xiaochen Ma, Lu Wang, Yanling Cheng, Xiaojun Yan, **Roger Ruan**. 2022. Integrated marine microalgae biorefineries for improved bioactive compounds: A review. *Science of The Total Environment*, Volume 817, April 2022, 152895.
<https://doi.org/10.1016/j.scitotenv.2021.152895>
190. Chenxi Wang, Rongge Zou, Hanwu Lei, Moriko Qian, Xiaona Lin, Wendy Mateo, Lu Wang, Xuesong Zhang, **Roger Ruan**. 2022. Biochar-advanced thermocatalytic salvaging of the waste disposable mask with the production of hydrogen and mono-aromatic hydrocarbons. *Journal of Hazardous Materials*, Volume 426, March 2022, 128080
191. Dingle Duan, Zhiqiang Feng, Yongchuan Zhang, Tengyue Zhou, Zhimin Xu, Qin Wang, Yunfeng Zhao, Chenguang Wang, **Roger Ruan**. 2022. Corn cob pyrolysis: Improvement in hydrocarbon group type distribution of biooil from co-catalysis over HZSM-5 and activated carbon. *Waste Management*, Volume 141, March 2022, Pages 8-15.
192. Linyao Ke, Yunpu Wang, Qiuhao Wu, Nan Zhou, Leilei Dai, Xiaojie Tian, Wanhao Huang, Yujie Peng, Jiaming Xu, Rongge Zou, Yuhuan Liu, Roger Ruan. 2022. Pressurized ex-situ catalytic co-pyrolysis of polyethylene and lignin: Efficient BTEX production and process mechanism analysis. *Chemical Engineering Journal*, Volume 431, Part 2, March 2022, 134122.
193. Chen Yan, Yuhuan Liu, Xian Cui, Leipeng Cao, Jianghua Xiong, Qi Zhang, Yunpu Wang, **Roger Ruan**. 2022. Improving the efficiency of anaerobic digestion: Domesticated paddy soil microbes enhance the hydrolytic acidification of rice straw and pig manure. *Bioresource Technology*, Volume 345, February 2022, 126570
194. Yuan Zeng, Yunpu Wang, Yuhuan Liu, Leilei Dai, Qiuhao Wu, Meiling Xia, Shumei Zhang, Linyao Ke, Rongge Zou, **Roger Ruan**. 2022. Microwave catalytic co-pyrolysis of waste cooking oil and low-density polyethylene to produce monocyclic aromatic

hydrocarbons: Effect of different catalysts and pyrolysis parameters. *Science of The Total Environment* Volume 809, February 2022, 152182

195. Shuyu Xiang, Yuhuan Liu, Feihu Lu, Qi Zhang, Yunpu Wang, Jianghua Xiong, Zhenxia Huang, Zhigang Yu, **Roger Ruan**, Xian Cui. 2022. The combination of aerobic and microaerobic promote hydrolysis and acidification of rice straw and pig manure: Balance of insoluble and soluble substrate. *Bioresource Technology*, Available online February 2022, 126880
196. Yujie Peng, Yunpu Wang, Linyao Ke, Leilei Dai, Qiuha Wu, Kirk Cobb, Yuan Zeng, Rongge Zou, Yuhuan Liu, **Roger Ruan**. 2022. A review on catalytic pyrolysis of plastic wastes to high-value products. *Energy Conversion and Management*, Volume 254, February 2022, 115243
197. Xia M, Wang Y, Wu Q, Zeng Y, Zhang S, Dai L, Zou R, Liu Y and **Ruan R**. 2022. Microwave-Assisted Camellia oleifera Abel Shell Biochar Catalyzed Fast Pyrolysis of Waste Vegetable Oil to Produce Aromatic Rich Bio-Oil. *Front. Energy Res.* February 2022. 10:837875.
198. Yongsheng Jia, Yingjie Wang, Qi Zhang, Hongwei Rong, Yuhuan Liu, Bo Xiao, Dabin Guo, Mahmood Laghari, **Roger Ruan**. 2022. Gas-carrying enhances the combustion temperature of the biomass particles. *Energy*, Volume 239, Part A, January 2022, 121956
199. Xuesong Zhang, Ruolan Xu, Quan Liu, Ge Kong, Hanwu Lei, **Roger Ruan**, Lujia Han. 2022. Enhancing the activity of Zn, Fe, and Ni-embedded microporous biocarbon: Towards efficiently catalytic fast co-pyrolysis/gasification of lignocellulosic and plastic wastes. *Energy Conversion and Management: X*, Volume 13, January 2022, 100176
200. Xianhui Zhao, Matthew Korey, Kai Li, Katie Copenhaver, Halil Tekinalp, Serdar Celik, Kyriaki Kalaitzidou, **Roger Ruan**, Arthur J. Ragauskas, Soydan Ozcan. 2022. Plastic waste upcycling toward a circular economy. *Chemical Engineering Journal*. Volume 428, January 2022, 131928
201. Ruirui Chu, Jingxue Ma, Chengxu Zhou, Defu Liu, Guangce Wang, **Roger Ruan**, Yandu Lu, Xiaojun Yan, Pengfei Cheng. 2022. Improved growth of bait microalgae Isochrysis and aquacultural wastewater treatment with mixotrophic culture. *Bioprocess Biosyst Eng.* Jan., 2022. PMID: 34994848. doi: 10.1007/s00449-021-02681-w
202. Leilei Dai, Nan Zhou, Yuancai Lv, Kirk Cobb, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Paul Chen, Rongge Zou, Hanwu Lei, **Roger Ruan**. 2021. Pyrolysis-catalysis for waste polyolefin conversion into low aromatic naphtha. *Energy Conversion and Management* 245 (2021) 114578. <https://doi.org/10.1016/j.enconman.2021.114578>
203. Wu, S.; Liu, Y.; Cui, X.; Zhang, Q.; Wang, Y.; Cao, L.; Luo, X.; Xiong, J.; **Ruan, R**. 2021. Assessment of Potential Nitrite Safety Risk of Leafy Vegetables after Domestic Cooking. *Foods* 2021, 10, 2953. <https://www.mdpi.com/2304-8158/10/12/2953>

204. Kai You, Fengru Ge, Xiaodan Wu, Kunyang Song, Zixiang Yang, Qi Zhang, Yuhuan Liu, **Roger Ruan**, Hongli Zheng. 2021. Nutrients recovery from piggery wastewater and starch wastewater via microalgae-bacteria consortia. *Algal Research*, Volume 60, December 2021, 102551.
205. Qiu hao Wu, Lin Jiang, Yunpu Wang, Leilei Dai, Yuhuan Liu, Rongge Zou, Xiaojie Tian, Linyao Ke, Xiuhua Yang, **Roger Ruan**. 2021. Pyrolysis of soybean soapstock for hydrocarbon bio-oil over a microwave-responsive catalyst in a series microwave system. *Bioresource Technology* Volume 341, December 2021, 125800
206. Myung-Woo Kang, Dongjie Chen, **Roger Ruan**, Zata M. Vickers. 2021. The effect of intense pulsed light on the sensory properties of nonfat dry milk. *J. of Food Science*. First published: August 2021 <https://doi.org/10.1111/1750-3841.15865>
207. Zihong Zeng, Xiaojie Tian, Yunpu Wang, Xian Cui, Qi Zhang, Leilei Dai, Yuhuan Liu, Rongge Zou, Jun Chen, Jiyan Liu, **Roger Ruan**. 2021. Microwave-assisted catalytic pyrolysis of corn cobs with Fe-modified *Choerospondias axillaris* seed-based biochar catalyst for phenol-rich bio-oil. *Journal of Analytical and Applied Pyrolysis*, Volume 159, October 2021, 105306
208. Baoyu Xu, Yahui Bo, Xiao Sun, Haixia Wang, He Guo, Chengxu Zhou, **Roger Ruan**, Xiaojun Yan, Pengfei Cheng. 2021. Review of the effect of polyamines in microalgae when ingested by shellfish. *Algal Research* Volume 58, October 2021, 102409. <https://doi.org/10.1016/j.algal.2021.102409>
209. Quan Liu, Ruolan Xu, Cuiqiang Yan, Lujia Han, Hanwu Lei, **Roger Ruan**, Xuesong Zhang. 2021. Fast hydrothermal co-liquefaction of corn stover and cow manure for biocrude and hydrochar production. *Bioresource Technology*, Volume 340, November 2021, 125630.
210. Kun Li, Qiang Liu, Fan Fang, Ruihuan Luo, Qian Lu, Wenguang Zhou, Shuhao Huo, Pengfei Cheng, Junzhi Liu, Min Addy, Paul Chen, Dongjie Chen, **Roger Ruan**. 2021. Microalgae-based wastewater treatment for nutrients recovery. *Atlas of Science - another view on science*. May, 2021. <https://atlasofscience.org/microalgae-based-wastewater-treatment-for-nutrients-recovery/>
211. Jessica Coburn, M. Scott Wells, Craig C. Sheaffer, **Roger Ruan**, Deborah A. Samac. 2021. Comparison of plant feedstocks and methods to recover leaf proteins from wet fractionation of alfalfa for potential use in aquaculture, poultry, and livestock feeds. *Agrosyst Geosci Environ*. 2021;4:e20184
212. Dengle Duan, Danhong Chen, Liyin Huang, Yongchuan Zhang, Yayun Zhang, Qin Wang, Gengsheng Xiao, Weili Zhang, Hanwu Lei, **Roger Ruan**. 2021. Activated carbon from lignocellulosic biomass as catalyst: A review of the applications in fast pyrolysis process. *Journal of Analytical and Applied Pyrolysis*, Available online June 2021, 105246. <https://doi.org/10.1016/j.jaap.2021.105246>

213. Jia Wang, Jianchun Jiang, Jinhua Ding, Xiaobo Wang, Yunjuan Sun, **Roger Ruan**, Arthur J. Ragauskas, Yong Sik Ok, Daniel C.W. Tsang. 2021. Promoting Diels-Alder reactions to produce bio-BTX: Co-aromatization of textile waste and plastic waste over USY zeolite. *Journal of Cleaner Production*, Volume 314, September 2021, 127966
214. Wei Zhou, Yun Zhang, Ruyi Li, Shengfeng Peng, **Roger Ruan**, Jihua Li, Wei Liu. 2021. Fabrication of Caseinate Stabilized Thymol Nanosuspensions Via the pH-Driven Method: Enhancement in Water Solubility of Thymol. *Foods*, 2021, 10, 1074, 1196016
215. Dengle Duan, Zhiqiang Feng, Xiaoyong Dong, Xiaoru Chen, Yayun Zhang, Kun Wan, Yunpu Wang, Qin Wang, Gengsheng Xiao, Huifan Liu, **Roger Ruan**. 2021. Improving bio-oil quality from low-density polyethylene pyrolysis: Effects of varying activation and pyrolysis parameters. *Energy*, Volume 232, October 2021, 121090
216. Chenxi Wang, Hanwu Lei, Rongge Zou, Moriko Qian, Wendy Mateo, Xiaona Lin, **Roger Ruan**. 2021. Biochar-driven simplification of the compositions of cellulose-pyrolysis-derived biocrude oil coupled with the promotion of hydrogen generation. *Bioresource Technology*, Volume 334, August 2021, 125251
217. Leilei Dai, Nan Zhou, Yuancai Lv, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Paul Chen, Hanwu Lei, **Roger Ruan**. 2021. Chemical upcycling of waste polyolefinic plastics to low-carbon synthetic naphtha for closing the plastic use loop. *Science of The Total Environment*, Volume 782, August 2021, 146897
<https://doi.org/10.1016/j.scitotenv.2021.146897>.
218. Dengle Duan, Xiaoyong Dong, Qin Wang, Yayun Zhang, **Roger Ruan**, Yunpu Wang, Hanwu Lei. 2021. Production of renewable phenols from corn cob using catalytic pyrolysis over self-derived activated carbons prepared with torrefaction pretreatment and chemical activation. *Colloids and Surfaces A: Physicochemical and Engineering Aspects* Volume 623, August 2021, 126507.
219. Pengfei Cheng and **Roger Ruan**. 2021. Botryococcus braunii – A potential source of high value chemicals. *Atlas of Science - another view on science*. March, 2021.
<https://atlasofscience.org/botryococcus-braunii-a-potential-source-of-high-value-chemicals/>
220. Leilei Dai, Nan Zhou, Hui Li, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Yanling Cheng, Hanwu Lei, Paul Chen, **Roger Ruan**. 2021. Catalytic fast pyrolysis of low density polyethylene into naphtha with high selectivity by dual-catalyst tandem catalysis. *Science of The Total Environment*. Volume 771, June 2021, 144995.
<https://doi.org/10.1016/j.scitotenv.2021.144995>.
221. Wei Zhou, Ce Cheng, Li Ma, Liqiang Zou, Wei Liu, Ruyi Li, Yupo Cao, Yuhuan Liu, **Roger Ruan**, and Jihua Li. 2021. The Formation of Chitosan-Coated Rhamnolipid Liposomes Containing Curcumin: Stability and In Vitro Digestion. *Molecules* 2021, 26(3), 560.

222. Jingjing Wang, Leipeng Cao, Yuhuan Liu, Qi Zhang, **Roger Ruan**, Xuan Luo. 2021. Effect of acclimatized paddy soil microorganisms using swine wastewater on degradation of rice straw. *Bioresource Technology*, Volume 332, July 2021, 125039.
223. Jianke Huang, Ruirui Chu, Ting Chang, Pengfei Cheng, Jingshun Jiang, Ting Yao, Chengxu Zhou, Tianzhong Liu, **Roger Ruan**. 2021. Modeling and improving arrayed microalgal biofilm attached culture system. *Bioresource Technology*, Volume 331, July 2021, 124931 <https://doi.org/10.1016/j.biortech.2021.124931>.
224. Ting Zhou, Leipeng Cao, Qi Zhang, Yuhuan Liu, Shuyu Xiang, Tongying Liu, **Roger Ruan**. 2021. Effect of chlortetracycline on the growth and intracellular components of *Spirulina platensis* and its biodegradation pathway, *Journal of Hazardous Materials*, Volume 413, July 2021, 125310
225. Hui Li, Yangyang Wang, Nan Zhou, Leilei Dai, Wenyi Deng, Chenhui Liu, Yanling Cheng, Yuhuan Liu, Kirk Cobb, Paul Chen, **Roger Ruan**. 2021. Applications of calcium oxide-based catalysts in biomass pyrolysis/gasification - A review. *Journal of Cleaner Production*. Volume 291, April 2021, 125826. <https://doi.org/10.1016/j.jclepro.2021.125826>
226. Dabin Guo, Baihui Cui, Zhihua Chen, Wangwang Yan, Bin Ji, Qi Zhang, Yuhuan Liu, Shiyi Luo, Mian Hu, **Roger Ruan**. 2021. Biomass enhances the reduction of oxidized pellets with carbon monoxide, *Bioresource Technology*, Volume 331, July 2021, 124973
227. Qingqing Mao, Juer Liu, Justin R. Wiertzema, Dongjie Chen, Paul Chen, David J. Baumler, **Roger Ruan**, and Chi Chen. 2021. Identification of Quinone Degradation as a Triggering Event for Intense Pulsed Light-Elicited Metabolic Changes in *Escherichia coli* by Metabolomic Fingerprinting. *Metabolites* 2021, 11, 102. <https://doi.org/10.3390/metabo11020102>
228. Yihui Cai, Yuhuan Liu, Tongying Liu, Kaili Gao, Qi Zhang, Leipeng Cao, Yunpu Wang, Xiaodan Wu, Hongli Zheng, Hong Peng, **Roger Ruan**. 2021. Heterotrophic cultivation of *Chlorella vulgaris* using broken rice hydrolysate as carbon source for biomass and pigment production. *Bioresource Technology*. Volume 323, March 2021, 124607.
229. Lingqin Liu, Yaji Huang, Jianhua Cao, Huajun Hu, Lu Dong, Jianrui Zha, Yinhai Su, **Roger Ruan**, Shengnian Tao. 2021. Qualitative and relative distribution of Pb²⁺ adsorption mechanisms by biochar produced from a fluidized bed pyrolysis system under mild air oxidization conditions. *Journal of Molecular Liquids*. Volume 323, February 2021, 114600. <https://doi.org/10.1016/j.molliq.2020.114600>
230. Chenxi Wang, Hanwu Lei, Yunfeng Zhao, Moriko Qian, Xiao Kong, Wendy Mateo, Rongge Zou, **Roger Ruan**. 2021. Integrated harvest of phenolic monomers and hydrogen through catalytic pyrolysis of biomass over nanocellulose derived biochar catalyst. *Bioresource Technology*. Volume 320, Part A, January 2021, 124352.

231. Dongjie Chen, Shuhao Huo, Pengfei Cheng, Yanling Cheng, Nan Zhou, Paul Chen, Yunpu Wang, Kun Li, Peng Peng, **Roger Ruan**. 2021. Treatment and nutrient recovery from acetophenone based wastewater by an integrated catalytic intense pulsed light and *Tribonema* sp. cultivation. *Chemical Engineering and Processing - Process Intensification*. Volume 160, March 2021, 108276. <https://doi.org/10.1016/j.cep.2020.108276>
232. Leipeng Cao, Zhenghua Huang, Daishe Wu, **Roger Ruan**, Yuhuan Liu. 2021. Rapid and nondestructive determination of qualities in vacuum-packaged catfish (*Clarias leather*) fillets during slurry ice storage. *Journal of Food Processing and Preservation*. Volume 45, Issue 3, March 2021, e15262.
233. Zhou, W., Cheng, C., Ma, L., Zou, L., Liu, W., Li, R., Cao, Y., Liu, Y., **Ruan, R.**, Li, J. 2021. The Formation of Chitosan-Coated Rhamnolipid Liposomes Containing Curcumin: Stability and In Vitro Digestion. *Molecules* 2021, 26, 560.
234. Wei Zhou, Yunxia He, Fei Liu, Liangkun Liao, Xiaobing Huang, Ruyi Li, Ying Zou, Lei Zhou, Liqiang Zou, Yuhuan Liu, **Roger Ruan**, Jihua Li. 2021. Carboxymethyl chitosan-pullulan edible films enriched with galangal essential oil: Characterization and application in mango preservation. *Carbohydrate Polymers*, Volume 256, March 2021, 117579
235. Shuhao Huo, David Necas, Feifei Zhu, Dongjie Chen, Jun An, Nan Zhou, Wei Liu, Lu Wang, Yanling Cheng, Yuhuan Liu, **Roger Ruan**. 2020. Anaerobic digestion wastewater decolorization by H₂O₂-enhanced electro-Fenton coagulation following nutrients recovery via acid tolerant and protein-rich *Chlorella* production. *Chemical Engineering Journal*. Volume 406, February 2021, 127160. <https://doi.org/10.1016/j.cej.2020.127160>
236. Xiaojie Tian, Yunpu Wang, Zihong Zeng, Leilei Dai, Yujie Peng, Lin Jiang, Xiuhua Yang, Linqing Yue, Yuhuan Liu, **Roger Ruan**. 2021. Study on the mechanism of co-catalyzed pyrolysis of biomass by potassium and calcium. *Bioresource Technology*, Volume 320, Part B, January 2021, 124415.
237. Yunpu Wang, Qi Yang, Linyao Ke, Yujie Peng, Yuhuan Liu, Qihao Wu, Xiaojie Tian, Leilei Dai, **Roger Ruan**, Li Jiang. 2021. Review on the catalytic pyrolysis of waste oil for the production of renewable hydrocarbon fuels. *Fuel*. Volume 283, January 2021, 119170 <https://doi.org/10.1016/j.fuel.2020.119170>
238. Jinjia Du, Lei Gao, Yong Yang, Guo Chen, Shenghui Guo, Mamdouh Omran, Jin Chen, **Roger Ruan**. 2021. Study on thermochemical characteristics properties and pyrolysis kinetics of the mixtures of waste corn stalk and pyrolusite. *Bioresource Technology*. Volume 324, March 2021, 124660
239. Dongjie Chen, Wes Mosher, Justin Wiertzema, Peng Peng, Min Min, Yanling Cheng, Jun An, Yiwei Ma, Xuotong Fan, Brendan A. Niemira, David J. Baumler, Chi Chen, Paul Chen, and **Roger Ruan**. 2021. Effects of intense pulsed light and gamma irradiation on *Bacillus cereus* spores in mesquite pod flour. *Food Chemistry*. Volume 344, May 2021, 128675. <https://doi.org/10.1016/j.foodchem.2020.128675>

240. Pengfei Cheng, Ruirui Chu, Xuezhi Zhang, Lirong Song, Dongjie Chen, Chengxu Zhou, Xiaojun Yan, Jay J. Cheng, **Roger Ruan**. 2020. Screening of the dominant *Chlorella pyrenoidosa* for biofilm attached culture and feed production while treating swine wastewater. *Bioresource Technology*. Volume 318, December 2020, 124054. <https://doi.org/10.1016/j.biortech.2020.124054>
241. Charles Schiappacasse, Peng Peng, Nan Zhou, Xiaoying Liu, Jie Zhai, Yanling Cheng, J. Shao, V. Verma, N. Singh, P. Chen, K. A. Janni, , Y. Liang, S. Noll, **R. R. Ruan**. 2020. Inactivation of Aerosolized Newcastle Disease Virus with Non-thermal Plasma. *Applied Engineering in Agriculture*. 36(1): 55-60. (doi: 10.13031/aea.13699).
242. Hao Zhou, Muhammad AsifAkhtar, Yiling Wan, Kuan Ding, **Roger Ruan**, Hong Zhang, Shu Zhang. 2020. Catalytic ketonization of levoglucosan over nano-CeO₂ for production of hydrocarbon precursors. *Journal of Analytical and Applied Pyrolysis*. Volume 152, November 2020, 104973.
243. Lu Wang, Min Addy, Kirk Cobb, Hongpeng Ma, Renchuan Zhang, Dongjie Chen, Paul Chen, Hualing Wang, Yuhuan Liu, **Roger Ruan**. 2020. Interaction of *Chlorella vulgaris* and Bacteria when co-cultivated in Anaerobically Digested Swine Manure. *Bioresource Technology*. Available online October 2020, 124250. <https://doi.org/10.1016/j.biortech.2020.124250>
244. Feiqiang Guo, Yichen Dong, Beile Tian, Shilin Du, Shuang Liang, Nan Zhou, Yunpu Wang, Paul Chen and **Roger Ruan**. 2020. Applications of microwave energy on gas production and tar removal during biomass gasification. *Sustainable Energy & Fuels*, 2020, DOI: 10.1039/D0SE01024C.
245. Nan Zhou, Junwen Zhou, Leilei Dai, Feiqiang Guo, Yunpu Wang, Hui Li, Wenyi Deng, Hanwu Lei, Paul Chen, Yuhuan Liu, **Roger Ruan**. 2020. Syngas production from biomass pyrolysis in a continuous microwave assisted pyrolysis system. *Bioresource Technology*, Volume 314, October 2020, 123756. <https://doi.org/10.1016/j.biortech.2020.123756>
246. Li Huang, Juer Liu, Min Addy, Bo Ding, Yanling Cheng, Peng Peng, Yunpu Wang, Yuhuan Liu, Paul Chen, **Roger Ruan**. 2020. Physicochemical and emulsifying properties of orange fibers stabilized oil-in-water emulsions. *LWT*, Volume 133, November 2020, 110054. <https://doi.org/10.1016/j.lwt.2020.110054>
247. Pengfei Cheng, Chengxu Zhou, Ruirui Chu, Ting Chang, Jilin Xu, **Roger Ruan**, Paul Chen, Xiaojun Yan. 2020. Effect of microalgae diet and culture system on the rearing of bivalve mollusks: Nutritional properties and potential cost improvements. *Algal Research*, Volume 51, October 2020, 102076, <https://doi.org/10.1016/j.algal.2020.102076>
248. Xiang, S., Liu, Y., Zhang, G., **Ruan, R.**, Wang, Y., Wu, X., Zheng, H., Zhang, Q., Cao, L. 2020. New progress of ammonia recovery during ammonia nitrogen removal from various wastewaters. *World J Microbiol Biotechnol* 36, 144 (2020).

249. Qingfa Zhang, Hongzhen Cai, Weiming Yi, Hanwu Lei, Haolu Liu, Weihong Wang, and **Roger Ruan**. 2020. Biocomposites from Organic Solid Wastes Derived Biochars: A Review. *Materials* 2020, 13, 3923; doi:10.3390/ma13183923.
250. Pengfei Cheng, Ruirui Chu, Xuezhi Zhang, Lirong Song, Dongjie Chen, Chengxu Zhou, Xiaojun Yan, Jay J.Cheng, **Roger Ruan**. 2020. Screening of the dominant *Chlorella pyrenoidosa* for biofilm attached culture and feed production while treating swine wastewater. *Bioresource Technology*, Volume 318, December 2020, 124054. <https://doi.org/10.1016/j.biortech.2020.124054>
251. Leilei Dai, Yunpu Wang, Yuhuan Liu, Chao He, **Roger Ruan**, Zhenting Yu, Lin Jiang, Zihong Zeng, Qiuha Wu. 2020. A review on selective production of value-added chemicals via catalytic pyrolysis of lignocellulosic biomass. *Science of The Total Environment* Volume 749, December 2020, 142386.
252. Dongjie Chen, Justin R. Wiertzema, Peng Peng, Yanling Cheng, Yunpu Wang, Juer Liu, Yiwei Ma, Wes Mosher, Myungwoo Kang, Min, Paul Chen, David J. Baumler, Chi Chen, Laurence Lee, Zata Vickers, Joellen Feirtag, **Roger Ruan**. 2020. Catalytic intense pulse light inactivation of *Cronobacter sakazakii* and other pathogens in non-fat dry milk and wheat flour. *Food Chemistry*, Volume 332, December 2020, 127420. <https://doi.org/10.1016/j.foodchem.2020.127420>
253. Wei Liu, Yunqian Cui, Pengfei Cheng, Shuhao Huo, Xiaochen Ma, Qingfeng Chen, Kirk Cobb, Paul Chen, Junjian Ma, Xinguo Gao, **Roger Ruan**. 2020. Microwave assisted flocculation for harvesting of *Chlorella vulgaris*. *Bioresource Technology*, Available online July 2020, 123770. <https://doi.org/10.1016/j.biortech.2020.123770>
254. Shuhao Huo, Junzhi Liu, Feifei Zhu, Sajid Basheer, David Necas, Renchuan Zhang, Kun Li, Dongjie Chen, Pengfei Cheng, Krik Cobb, Paul Chen, Bailey Brandel, **Roger Ruan**. 2020. Post treatment of swine anaerobic effluent by weak electric field following intermittent vacuum assisted adjustment of N:P ratio for oil-rich filamentous microalgae production. *Bioresource Technology*, Available online June 2020, 123718 <https://doi.org/10.1016/j.biortech.2020.123718>
255. Xiye Chen, Li Liu, Linyao Zhang, Yan Zhao, Penghua Qiu, and **Roger Ruan**. 2020. A Review on the Properties of Copyrolysis Char from Coal Blended with Biomass. *Energy & Fuels* 2020 34 (4), 3996-4005. DOI: 10.1021/acs.energyfuels.0c00014
256. Leilei Dai, Zihong Zeng, Qi Yang, Sha Yang, Yunpu Wang, Yuhuan Liu, **Roger Ruan**, Chao He, Zhenting Yu, Lin Jiang. 2020. Synthesis of iron nanoparticles-based hydrochar catalyst for ex-situ catalytic microwave-assisted pyrolysis of lignocellulosic biomass to renewable phenols. *Fuel*, Volume 279, November 2020, 118532.
257. Chenxi Wang, Hanwu Lei, Moriko Qian, Erguang Huo, Yunfeng Zhao, Qingfa Zhang, Wendy Mateo, Xiaona Lin, Xiao Kong, Rongge Zou, **Roger Ruan**. 2020. Application of

highly stable biochar catalysts for efficient pyrolysis of plastics: A readily accessible potential solution to a global waste crisis. *Sustainable Energy & Fuels* 4(9). DOI: 10.1039/D0SE00652A

258. Dongjie Chen, Yanling Cheng, Nan Zhou, Paul Chen, Yunpu Wang, Kun Li, Shuhao Huo, Pengfei Cheng, Peng Peng, Renchuang Zhang, Lu Wang, Hui Liu, Yuhuan Liu, **Roger Ruan**. 2020. Photocatalytic degradation of organic pollutants using TiO₂-based photocatalysts: A review. *Journal of Cleaner Production*, Volume 268, September 2020, 121725. <https://doi.org/10.1016/j.jclepro.2020.121725>
259. Xiao Kong, Yifeng Zhu, Hanwu Lei, Chenxi Wang, Yunfeng Zhao, Erguang Huo, Xiaona Lin, Qingfa Zhang, Moriko Qian, Wendy Mateo, Rongge Zou, Zhen Fang, **Roger Ruan**. 2020. Synthesis of graphene-like carbon from biomass pyrolysis and its applications. *Chemical Engineering Journal*, Volume 399, November 2020, 125808
260. Leilei Dai, Nan Zhou, Hui Li, Wenyi Deng, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Hanwu Lei, Paul Chen, **Roger Ruan**. 2020. Recent advances in improving lignocellulosic biomass-based bio-oil production. *Journal of Analytical and Applied Pyrolysis*. Available online May 2020, 104845. <https://doi.org/10.1016/j.jaap.2020.104845>
261. Qiu hao Wu, Yunpu Wang, Yujie Peng, Linyao Ke, Qi Yang, Lin Jiang, Leilei Dai, Yuhuan Liu, **Roger Ruan**, Donghua Xia, Li Jiang. 2020. Microwave-assisted pyrolysis of waste cooking oil for hydrocarbon bio-oil over metal oxides and HZSM-5 catalysts. *Energy Conversion and Management*, Volume 220, September 2020, 113124
262. Hui Li, Nan Zhou, Leilei Dai, Yanling Cheng, Kirk Cobb, Paul Chen, **Roger Ruan**. 2020. Effect of lime mud on the reaction kinetics and thermodynamics of biomass pyrolysis. *Bioresource Technology*, Available online May 2020, 123475. <https://doi.org/10.1016/j.biortech.2020.123475>.
263. Yunpu Wang, Linyao Ke, Yujie Peng, Qi Yang, Zhenyi Du, Leilei Dai, Nan Zhou, Yuhuan Liu, Guiming Fu, **Roger Ruan**, Donghua Xia, Li Jiang. 2020. Characteristics of the catalytic fast pyrolysis of vegetable oil soapstock for hydrocarbon-rich fuel. *Energy Conversion and Management* Volume 213, June 2020, 112860. <https://doi.org/10.1016/j.enconman.2020.112860>
264. Yunfeng Zhao, Hanwu Lei, Yuhuan Liu, **Roger Ruan**, Moriko Qian, Erguang Huo, Qingfa Zhang, Zhiyang Huang, Xiaona Lin, Chenxi Wang, Wendy Mateo, Elmar M. Villota. 2020. Microwave-assisted synthesis of bifunctional magnetic solid acid for hydrolyzing cellulose to prepare nanocellulose, *Science of The Total Environment*. Volume 731, August 2020, 138751.
265. Erguang Huo, Hanwu Lei, Chao Liu, Yayun Zhang, Liyong Xin, Yunfeng Zhao, Moriko Qian, Qingfa Zhang, Xiaona Lin, Chenxi Wang, Wendy Mateo, Elmar M. Villota, **Roger Ruan**. 2020. Jet fuel and hydrogen produced from waste plastics catalytic pyrolysis with activated carbon and MgO. *Science of The Total Environment*, 727, July 2020, 138411.

266. Shuyu Xiang, Huifang Zou, Yuhuan Liu, and **Roger Ruan**. 2020. Effects of microwave heating on the protein structure, digestion properties and Maillard products of gluten. *J Food Sci Technol*. 2020 Jun; 57(6): 2139–2149.
267. Pengfei Cheng, Dongjie Chen, Wei Liu, Kirk Cobb, Nan Zhou, Yuhuan Liu, Hui Liu, Qin Wang, Paul Chen, Chengxu Zhou, **Roger Ruan**. 2020. Auto-flocculation microalgae species *Tribonema* sp. and *Synechocystis* sp. with T-IPL pretreatment to improve swine wastewater nutrient removal. *Science of The Total Environment*, Available online April 2020, 138263. <https://doi.org/10.1016/j.scitotenv.2020.138263>
268. Erguang Huo, Dengle Duan, Hanwu Lei, Chao Liu, Yayun Zhang, Jie Wu, Yunfeng Zhao, Zhiyang Huang, Moriko Qian, Qingfa Zhang, Xiaona Lin, Chenxi Wang, Wendy Mateo, Elmar M.Villota, **Roger Ruan**. 2020. Phenols production from Douglas fir catalytic pyrolysis with MgO and biomass-derived activated carbon catalysts. *Energy*, Volume 199, May 2020, 117459.
269. Wenyi Deng, Cong Tao, Kirk Cobb, Hongfeng Zhou, Yaxin Su, **Roger Ruan**. 2020. Catalytic oxidation of NO at ambient temperature over the chars from pyrolysis of sewage sludge. *Chemosphere*, Available online March 2020, 126429
270. Shuhao Huo, Xiu Chen, Feifei Zhu, Wanqin Zhang, Dongjie Chen, Nana Jin, Kirk Cobb, Yanling Cheng, Lu Wang, **Roger Ruan**. 2020. Magnetic field intervention on growth of the filamentous microalgae *Tribonema* sp. in starch wastewater for algal biomass production and nutrients removal: influence of ambient temperature and operational strategy. *Bioresource Technology*. Available online January 2020, 122884. <https://doi.org/10.1016/j.biortech.2020.122884>
271. Guyue Zou, Yuhuan Liu, Qi Zhang, Ting Zhou, Shuyu Xiang, Zhiqiang Gu, Qiaoyun Huang, Hongbin Yan, Hongli Zheng, Xiaodan Wu, Yunpu Wang, **Roger Ruan**, and Mingzhi Liu. 2020, Cultivation of *Chlorella vulgaris* in a Light-Receiving-Plate (LRP)-Enhanced Raceway Pond for Ammonium and Phosphorus Removal from Pretreated Pig Urine. *Energies* 2020, 13(7):1644.
272. Wei Zhou, Yunxia He, Xianlu Lei, Liangkun Liao, Tiaokun Fu, Yuan Yuan, Xiaobing Huang, Liqiang Zou, Yuhuan Liu, **Roger Ruan**, Jihua Li. 2020. Chemical composition and evaluation of antioxidant activities, antimicrobial, and anti-melanogenesis effect of the essential oils extracted from *Dalbergia pinnata* (Lour.) Prain. *Journal of Ethnopharmacology* Volume 254, May 2020, 112731
273. Liangliang Fan, **Roger Ruan**, Jun Li, Longlong Ma, Chenguang Wang, Wenguang Zhou. 2020. Aromatics production from fast co-pyrolysis of lignin and waste cooking oil catalyzed by HZSM-5 zeolite. *Applied Energy*. Volume 263, April 2020, 114629
274. Kun Li, Qiang Liu, Fan Fang, Xiongwei Wu, Jiaqi Xin, Shengjin Sun, Yuansong Wei, **Roger Ruan**, Paul Chen, Yunpu Wang, Min Addy. 2020. Influence of nanofiltration

concentrate recirculation on performance and economic feasibility of a pilot-scale membrane bioreactor-nanofiltration hybrid process for textile wastewater treatment with high water recovery. *Journal of Cleaner Production*, Available online March 2020, 121067

275. Lin Jiang, Yunpu Wang, Leilei Dai, Zhenting Yu, Qiu hao Wu, Yunfeng Zhao, Yuhuan Liu, **Roger Ruan**, Linyao Ke, Yujie Peng, Donghua Xia, Li Jiang. 2020. Integrating pyrolysis and ex-situ catalytic reforming by microwave heating to produce hydrocarbon-rich bio-oil from soybean soapstock. *Bioresource Technology*. Volume 302, April 2020, 122843
276. Yaning Zhang, Yunlei Cui, Shiyu Liu, Liangliang Fan, Nan Zhou, Peng Peng, Yunpu Wang, Feiqiang Guo, Min Min, Yanling Cheng, Yuhuan Liu, Hanwu Lei, Paul Chen, Bingxi Li, **Roger Ruan**. 2020. Fast microwave-assisted pyrolysis of wastes for biofuels production - A review. *Bioresource Technology*. Volume 297, February 2020, 122480.
<https://doi.org/10.1016/j.biortech.2019.122480>
277. Jia Wang, Jianchun Jiang, Xiaobo Wang, Ruizhen Wang, Kui Wang, Shusheng Pang, Zhaoping Zhong, Yunjuan Sun, **Roger Ruan**, Arthur J. Ragauskas. 2020. Converting polycarbonate and polystyrene plastic wastes into aromatic hydrocarbons via catalytic fast co-pyrolysis. *Journal of Hazardous Materials* Volume 386, March 2020, 121970
278. Juanxue Kang, Lei Gao, Mingyuan Zhang, Jing Pu, Lin He, **Rongsheng Ruan**, Mamdouh Omran, Jinhui Peng, Guo Chen. 2020. Synthesis of rutile TiO₂ powder by microwave-enhanced roasting followed by hydrochloric acid leaching. *Advanced Powder Technology*, Volume 31, Issue 3, March 2020, Pages 1140-1147.
279. Zhenting Yu, Lin Jiang, Yunpu Wang, Yanzhi Li, Linyao Ke, Qi Yang, Yujie Peng, Jiamin Xu, Leilei Dai, Qiu hao Wu, Yuhuan Liu, **Roger Ruan**, Donghua Xia, Li Jiang. 2020. Catalytic pyrolysis of woody oil over SiC foam-MCM41 catalyst for aromatic-rich bio-oil production in a dual microwave system. *Journal of Cleaner Production*. Volume 255, May 2020, 120179.
280. Jing Pu, Lei Gao, Zhi Yang, Juanxue Kang, Mingyuan Zhang, **Rongsheng Ruan**, Jinhui Peng, Guo Chen. 2020. The application of microwave irradiation technology on the preparation of V₂O₅ from ammonium polyvanadate (APV). *Journal of the Taiwan Institute of Chemical Engineers*, Volume 109, April 2020, Pages 1-7.
281. Qi Zhang, Zhigang Yu, Shiping Jin, Cuixia Liu, Yubiao Li, Dabin Guo, Mian Hu, **Roger Ruan**, Yuhuan Liu. 2020. Role of surface roughness in the algal short-term cell adhesion and long-term biofilm cultivation under dynamic flow condition. *Algal Research*. Volume 46, March 2020, 101787
282. Xiaojie Tian, Leilei Dai, Yunpu Wang, Zihong Zeng, Shumei Zhang, Lin Jiang, Xiuhua Yang, Linqing Yue, Yuhuan Liu, **Roger Ruan**. 2020. Influence of torrefaction pretreatment on corncobs: A study on fundamental characteristics, thermal behavior, and kinetic. *Bioresource Technology*. Volume 297, February 2020, 122490

283. Pengfei Cheng, Koenraad Muylaert, Jay J. Cheng, Hui Liu, Paul Chen, Min Addy, Chengxu Zhou, Xiaojun Yan, **Roger Ruan**. 2020. Cobalt enrichment enhances the tolerance of *Botryococcus braunii* to high concentration of CO₂. *Bioresource Technology* Volume 297, February 2020, 122385. <https://doi.org/10.1016/j.biortech.2019.122385>
284. Shuyu Xiang, Songheng Wu, Qi Zhang, Yuhuan Liu, and **Roger Ruan**. 2020. A nitrogen dynamic hydroponic culture on performance and quality of water spinach (*Ipomoea aquatica*). *Journal of Plant Nutrition*, Volume 43, 2020 - Issue 6: pp773-783. Received 26 Jun 2019, Accepted 20 Sep 2019, Published online: 14 Jan 2020.
285. Feiqiang Guo, Xiaopeng Jia, Shuang Liang, Nan Zhou, Paul Chen, **Roger Ruan**. 2020. Development of biochar-based nanocatalysts for tar cracking/reforming during biomass pyrolysis and gasification. *Bioresource Technology*, Volume 298, February 2020, 122263 <https://doi.org/10.1016/j.biortech.2019.122263>
286. Peng, Peng; Schiappacasse, Charles; Zhou, Nan; Addy, Min; Cheng, Yanling; Zhang, Yaning; Anderson, Erik; Chen, Dongjie; Wang, Yunpu; Liu, Yuhuan; Chen, Paul; **Ruan, Roger**. 2019. Plasma in situ gas-liquid nitrogen fixation using concentrated high-intensity electric field. *Journal of Physics D: Applied Physics*. 52 (2019) 494001 (8pp) <https://doi.org/10.1088/1361-6463/ab3ea6>
287. Shuhao Huo, Junzhi Liu, Min Addy, Paul Chen, David Necas, Pengfei Cheng, Kun Li, Hope Chai, Yuhuan Liu, **Roger Ruan**. 2019. The influence of microalgae on vegetable production and nutrient removal in greenhouse hydroponics. *Journal of Cleaner Production*. Volume 243, January 2020, 118563. <https://doi.org/10.1016/j.jclepro.2019.118563>
288. Jia Wang, Jianchun Jiang, Yunjuan Sun, Zhaoping Zhong, Xiaobo Wang, Haihong Xia, Guanghua Liu, Shusheng Pang, Kui Wang, Mi Li, Junming Xu, **Roger Ruan**, Arthur J. Ragauskas. 2019. Recycling benzene and ethylbenzene from in-situ catalytic fast pyrolysis of plastic wastes. *Energy Conversion and Management*. Volume 200, November 2019, 112088.
289. Qi Zhang, Zhigang Yu, Shiping Jin, Liandong Zhu, Cuixia Liu, Hongli Zheng, Ting Zhou, Yuhuan Liu, **Roger Ruan**. 2019. Lignocellulosic residue as bio-carrier for algal biofilm growth: effects of carrier physicochemical proprieties and toxicity on algal biomass production and composition. *Bioresource Technology*, [Volume 293](#), December 2019, 122091.
290. Liangliang Fan, Hanwu Song, Qian Lu, Lijian Leng, Kun Li, Yuhuan Liu, Yunpu Wang, Paul Chen, **Roger Ruan**, Wenguang Zhou. 2019. Screening microwave susceptors for microwave-assisted pyrolysis of lignin: Comparison of product yield and chemical profile. *Journal of Analytical and Applied Pyrolysis*, Volume 142, September 2019, 104623
291. Pengfei Cheng, Shigeru Okad, Chengxu Zhou, Paul Chen, Shuhao Huo, Kun Li, Min Addy, Xiaojun Yan, **Roger Ruan**. 2019. High-value chemicals from *Botryococcus braunii*

- and their current applications – A review. *Bioresource Technology*, Volume 291, November 2019, 121911. <https://doi.org/10.1016/j.biortech.2019.121911>
292. Yiwei Ma, Wenguang Zhou, Paul Chen, Pedro E. Urriola, Gerald C. Shurson, **Roger Ruan**, Chi Chen. 2019. Metabolomic Evaluation of *Scenedesmus* sp. as a Feed Ingredient Revealed Dose-Dependent Effects on Redox Balance, Intermediary and Microbial Metabolism in a Mouse Model. *Nutrients* 2019, 11, 1971; doi:10.3390/nu11091971.
 293. Kun Li, Qiang Liu, Fan Fang, Ruihuan Luo, Qian Lu, Wenguang Zhou, Shuhao Huo, Pengfei Cheng, Junzhi Liu, Min Addy, Paul Chen, Dongjie Chen, **Roger Ruan**. 2019. Microalgae-based wastewater treatment for nutrients recovery: a review. *Bioresource Technology*, Volume 291, November 2019, 121934. <https://doi.org/10.1016/j.biortech.2019.121934>
 294. Xiaodan Wu, Cen Qingjing, Min Addy, Hongli Zheng, Shanshan Luo, Yuhuan Liu, Yanling Cheng, Wenguang Zhou, Paul Chen, **Roger Ruan**. 2019. A novel algal biofilm photobioreactor for efficient hog manure wastewater utilization and treatment. *Bioresource Technology* Volume 292, November 2019, 121925. <https://doi.org/10.1016/j.biortech.2019.121925>
 295. Peng Peng, Charles Schiappacasse, Nan Zhou, Min Addy, Yanling Cheng, Yaning Zhang, Kuan Ding, Yunpu Wang, Paul Chen, and **Roger Ruan**. 2019. Sustainable Non-Thermal Plasma-Assisted Nitrogen Fixation—Synergistic Catalysis. *ChemSusChem* 2019, 12, 1–12. <https://doi.org/10.1002/cssc.201901211>
 296. Jie Liu, Youxi Zhao, Mengjie Diao, Wanqing Wang, Wei Hua, Shuang Wu, Paul Chen, **Roger Ruan**, and Yanling Cheng. 2019. Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) Production by *Rhodospirillum rubrum* Using a Two-Step Culture Strategy. *Journal of Chemistry*. Volume 2019, Article ID 8369179.
 297. Jun-Zhi Liu, Ya-Ming Ge, Jing-Ya Sun, Paul Chen, Min Addy, Shu-Hao Huo, Kun Li, Peng-Fei Cheng, **Roger Ruan**. 2019. Exogenic glucose as an electron donor for algal hydrogenases to promote hydrogen photoproduction by *Chlorella pyrenoidosa*. *Bioresource Technology*. Volume 289, October 2019, 121762. <https://doi.org/10.1016/j.biortech.2019.121762>
 298. Kuan Ding, Shasha Liu, Yong Huang, Shiyu Liu, Nan Zhou, Peng Peng, Yunpu Wang, Paul Chen, **Roger Ruan**. 2019. Catalytic microwave-assisted pyrolysis of plastic waste over NiO and HY for gasoline-range hydrocarbons production. *Energy Conversion and Management* Volume 196, September 2019, Pages 1316-1325. <https://doi.org/10.1016/j.enconman.2019.07.001>
 299. J. Wu, X. Lin, S. Lin, P. Chen, G. Huang, P. Peng, Y. Cheng, Y. Ma, Y. Liu, **R. Ruan**. 2019. California almond shelf life: Changes in moisture content and textural quality during storage. *Transactions of ASABE*. Vol. 62(3): 661-671. <https://doi.org/10.13031/trans.12709>

300. Jie Liu, Youxi Zhao, Wanqing Wang, Wei Hua, Shuang Wu, Paul Chen, **Roger Ruan**, Yanling Cheng and Mengjie Diao. 2019. Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) production by *Rhodospirillum rubrum* using a two-step culture strategy. *Journal of Chemistry*. Volume 2019, Article ID 8369179.
301. Rongge Zou, Yunpu Wang, Lin Jiang, Zhenting Yu, Yunfeng Zhao, Qiu hao Wu, Leilei Dai, Linyao Ke, Yuhuan Liu, **Roger Ruan**. 2019. Microwave-assisted co-pyrolysis of lignin and waste oil catalyzed by hierarchical ZSM-5/MCM-41 catalyst to produce aromatic hydrocarbons. *Bioresource Technology*, Volume 289, October 2019, 121609
302. Dongjie Chen, Yanling Cheng, Peng Peng, Juer Liu, Yunpu Wang, Yiwei Ma, Erik Anderson, Chi Chen, Paul Chen, **Roger Ruan**. 2019. Effects of intense pulsed light on *Cronobacter sakazakii* and *Salmonella* Surrogate *Enterococcus faecium* inoculated in different powdered foods. *Food Chemistry*, Volume 296, October 2019, Pages 23-28. DOI: 10.1016/j.foodchem.2019.05.180
303. Dengle Duan, Hanwu Lei, Yunpu Wang, **Roger Ruan**, Yuhuan Liu, Lijun Ding, Yayun Zhang, Lang Liu. 2019. Renewable phenol production from lignin with acid pretreatment and ex-situ catalytic pyrolysis. *Journal of Cleaner Production*, Volume 231, September 2019, Pages 331-340.
304. Yayun Zhang, Dengle Duan, Hanwu Lei, Elmar Villota, **Roger Ruan**. 2019. Jet fuel production from waste plastics via catalytic pyrolysis with activated carbons. *Applied Energy*, Volume 251, October 2019, 113337.
305. Chen, D., Peng, P., Zhou, N., Cheng, Y., Min, M., Ma, Y., Mao, Q., Chen, P., Chen, C., **Ruan, R.** 2019. Evaluation of *Cronobacter sakazakii* inactivation and physicochemical property changes of non-fat dry milk powder by cold atmospheric plasma, *Food Chemistry*, Volume 290, 30 August 2019, Pages 270-276.
<https://doi.org/10.1016/j.foodchem.2019.03.149>
306. Leipeng Cao, Zihan Li, Shuyu Xiang, Zhenghua Huang, **Roger Ruan**, Yuhuan Liu. 2019. Preparation and characteristics of bentonite-zeolite adsorbent and its application in swine wastewater. *Bioresource Technology*, 284(2019):448-455. Available online April 2019.
307. Ming Luo, Yan-Hong Li, Ya Lu, Yan Yuan, **Rongsheng Ruan**, Yong-Ming Chuan, Kai Tian, and Xiang-Zhong Huang. 2019. Noroleanane-type triterpenoids from *Dolichos trilobus* L. and their anti- α -glucosidase activities. *Natural Product Research*. 2019 Mar 31:1-7.
308. Shanshan Luo, Xiaodan Wu, Haobin Jiang, Mengling Yu, Yuhuan Liu, Andy Min, Wenkui Li, **Roger Ruan**. 2019. Edible fungi-assisted harvesting system for efficient microalgae bio-flocculation. *Bioresource Technology*, Volume 282, June 2019, Pages 325-330. <https://doi.org/10.1016/j.biortech.2019.03.033>

309. Cunfeng Ke, Yaning Zhang, Yanan Gao, Yaoyu Pan, Bingxi Li, Yunpu Wang, **Roger Ruan**. 2019. Syngas production from microwave-assisted air gasification of biomass: Part 1 model development. *Renewable Energy*, Volume 140, September 2019, Pages 772-778. <https://doi.org/10.1016/j.renene.2019.03.025>
310. Yaning Zhang, Cunfeng Ke, Yanan Gao, Shiyu Liu, Yaoyu Pan, Nan Zhou, Yunpu Wang, Liangliang Fan, Peng Peng, Bingxi Li, **Roger Ruan**. 2019. Syngas production from microwave-assisted air gasification of biomass: Part 2 model validation. *Renewable Energy*, Volume 140, September 2019, Pages 625-632. <https://doi.org/10.1016/j.renene.2019.03.024>
311. Dingle Duan, Yayun Zhang, Hanwu Lei, Elmar Villota, **Roger Ruan**. 2019. Renewable jet-fuel range hydrocarbons production from co-pyrolysis of lignin and soapstock with the activated carbon catalyst. *Waste Management*, Volume 88, April 2019, Pages 1-9.
312. Yunpu Wang, Xiaojie Tian, Zihong Zeng, Leilei Dai, Shumei Zhang, Lin Jiang, Qiuha Wu, Xiuhua Yang, Yuhuan Liu, Bo Zhang, Zhenting Yu, Pingwei Wen, Guiming Fu, **Roger Ruan**. 2019. Catalytic co-pyrolysis of Alternanthera philoxeroides and peanut soapstock via a new continuous fast microwave pyrolysis system. *Waste Management*, Volume 88, April 2019, Pages 102-109
313. Lu Wang, Min Addy, Qian Lu, Kirk Cobb, Paul Chen, Xiurong Chen, Yuhuan Liu, Hualin Wang, **Roger Ruan**. 2019. Cultivation of Chlorella vulgaris in sludge extracts: Nutrient removal and algal utilization. *Bioresource Technology*, Volume 280, May 2019, Pages 505-510. <https://doi.org/10.1016/j.biortech.2019.02.017>
314. Leilei Dai, Yunpu Wang, Yuhuan Liu, **Roger Ruan**, Chao He, Zhenting Yu, Lin Jiang, Zihong Zeng, Xiaojie Tian. 2019. Integrated process of lignocellulosic biomass torrefaction and pyrolysis for upgrading bio-oil production: A state-of-the-art review. *Renewable and Sustainable Energy Reviews*, Volume 107, June 2019, Pages 20-36.
315. Lu Wang, Min Addy, Jie Liu, Caitlyn Nekich, Renchuan Zhang, Peng Peng, Yanling Cheng, Kirk Cobb, Yuhuan Liu, Hualing Wang, **Roger Ruan**. 2019. Integrated process for anaerobically digested swine manure treatment. *Bioresource Technology*, Volume 273, February 2019, Pages 506-514.
316. Peng, P., Chen, P., Addy, M., Cheng, Y., Anderson, E., Zhou, N., Schiappacasse, C., Zhang, Y., Chen, D., Hatzenbeller, R., Liu, Y., **Ruan, R.** 2019. Atmospheric plasma-assisted ammonia synthesis enhanced via synergistic catalytic absorption. *ACS Sustainable Chemistry and Engineering*, 2019, 7 (1), pp 100–104. DOI: 10.1021/acssuschemeng.8b03887
317. Pengfei Zhao, Chenhui Liu, Wenwen Qu, Zhixiu He, Jiyun Gao, Lijuan Jia, Siping Ji, and **Roger Ruan**. 2019. Effect of Temperature and Microwave Power Levels on Microwave Drying Kinetics of Zhaotong Lignite. *Processes* 2019, 7(2), 74; <https://doi.org/10.3390/pr7020074>

318. Lin Jiang, Yunpu Wang, Leilei Dai, Zhenting Yu, Qi Yang, Sha Yang, Deyu Jiang, Zhiyun Ma, Qiu hao Wu, Bo Zhang, Yuhuan Liu, **Roger Ruan**. 2019. Co-pyrolysis of biomass and soapstock in a downdraft reactor using a novel ZSM-5/SiC composite catalyst. *Bioresource Technology*, Volume 279, May 2019, Pages 202-208.
319. Shoujie Ren, Hanwu Lei, Yayun Zhang, Lu Wang, Quan Bu, Yi Wei, **Roger Ruan**. 2019. Furfural production from microwave catalytic torrefaction of Douglas fir sawdust. *Journal of Analytical and Applied Pyrolysis*, Volume 138, March 2019, Pages 188-195.
320. Dongjie Chen, Paul Chen, Yanling Cheng, Peng Peng, Juer Liu, Yiwei Ma, Yuhuan Liu, **Roger Ruan**. 2019. Deoxynivalenol Decontamination in Raw and Germinating Barley Treated by Plasma-Activated Water and Intense Pulsed Light. *Journal Food and Bioprocess Technology*, 12(2), 246-254. DOI:10.1007/s11947-018-2206-2.
321. Lu Wang, Min Addy, Jie Liu, Caitlyn Nekich, Renchuan Zhang, Peng Peng, Yanling Cheng, Kirk Cobb, Yuhuan Liu, Hualing Wang, **Roger Ruan**. 2019. Integrated Process for Anaerobically Digested Swine Manure Treatment. *Bioresource Technology*. 273:506-514. Available online November 2018.
322. Jia Wang, Zhaoping Zhong, Kuan Ding, Mi Li, Naijia Hao, Xianzhi Meng, **Roger Ruan**, Arthur J. Ragausk. 2019. Catalytic fast co-pyrolysis of bamboo sawdust and waste tire using a tandem reactor with cascade bubbling fluidized bed and fixed bed system. *Energy Conversion and Management*, Volume 180, January 2019, Pages 60-71. <https://doi.org/10.1016/j.enconman.2018.10.056>
323. Leipeng Cao, Jingjing Wang, Shuyu Xiang, Zhenghua Huang, **Roger Ruan**, Yuhuan Liu. 2019. Nutrient removal from digested swine wastewater by combining ammonia stripping with struvite precipitation. *Environ Sci Pollut Res Int*. 2019 Mar; 26(7):6725-6734.
324. Leilei Dai, Yunpu Wang, Yuhuan Liu, **Roger Ruan**, Chao He, Dengle Duan, Yunfeng Zhao, Zhenting Yu, Lin Jiang, Qiu hao Wu. 2019. Bridging the relationship between hydrothermal pretreatment and co-pyrolysis: Effect of hydrothermal pretreatment on aromatic production. *Energy Conversion and Management*. Volume 180, January 2019, Pages 36-43. <https://doi.org/10.1016/j.enconman.2018.10.079>
325. Leilei Dai, Yunpu Wang, Yuhuan Liu, **Roger Ruan**, Dengle Duan, Yunfeng Zhao, Zhenting Yu, Lin Jiang. 2019. Catalytic fast pyrolysis of torrefied corn cob to aromatic hydrocarbons over Ni-modified hierarchical ZSM-5 catalyst. *Bioresource Technology*. Volume 272, January 2019, Pages 407-414. Available online 26 October 2018. <https://doi.org/10.1016/j.biortech.2018.10.062>
326. Renchuan Zhang, Erik Anderson, Paul Chen, Min Addy, Yanling Cheng, Lu Wang, Yuhuan Liu, **Roger Ruan**. 2019. Intermittent vacuum assisted thermophilic co-digestion of corn stover and liquid swine manure: Salinity inhibition. *Bioresource Technology*, Volume 271, January 2019, Pages 16-23.

327. Leilei Dai, Yunpu Wang, Yuhuan Liu, **Roger Ruan**, Zhenting Yu, Lin Jiang. 2019. Comparative study on characteristics of the bio-oil from microwave-assisted pyrolysis of lignocellulose and triacylglycerol. *Science of The Total Environment*, 659: 95-100.
328. Hongli Zheng, Xiaodan Wu, Guyue Zou, Ting Zhou, Yuhuan Liu, **Roger Ruan**. 2019. Cultivation of *Chlorella vulgaris* in manure-free piggery wastewater with high-strength ammonium for nutrients removal and biomass production: Effect of ammonium concentration, carbon/nitrogen ratio and pH. *Bioresource Technology*. Volume 273, February 2019, Pages 203-211. <https://doi.org/10.1016/j.biortech.2018.11.019>.
329. LeiPeng Cao, Zihan Li, Ting Zhou, JingJing Wang, **Roger Ruan** and YuHuan Liu. 2018. The Evaluation of Air-stripping Recovery System for NH₃-N from Swine Wastewater with Assistant of Anion Exchange Resin. 2018 International Conference on Advanced Chemical Engineering and Environmental Sustainability (ICACEES 2018) ISBN: 978-1-60595-571-1(15).
330. Bo Zhang, Zhaoping Zhong, Jing Zhang, **Roger Ruan**. 2018. Catalytic fast co-pyrolysis of biomass and fusel alcohol to enhance aromatic hydrocarbon production over ZSM-5 catalyst in a fluidized bed reactor. *Journal of Analytical and Applied Pyrolysis*, 133: 147-153.
331. Anderson, Erik; Zhou, Junwen; Fan, Liangliang; Liu, Shiyu; Zhou, Nan; Peng, Peng; Cheng, Yanling; Chen, Paul; **Ruan, Roger**. 2018. Microwave-Assisted Pyrolysis as an Alternative to Vacuum Distillation for Methyl Ester Recovery from Biodiesel Vacuum Distillation Bottoms. *ACS Sustainable Chemistry & Engineering*. 11:14348-14355. DOI: 10.1021/acssuschemeng.8b03018
332. Zhenting Yu, Yunpu Wang, Lin Jiang, Leilei Dai, Yuhuan Liu, **Roger Ruan**, Dengle Duan, Yue Zhou, Liangliang Fan, Yunfeng Zhao, Rongge Zou. 2018. Microwave-assisted catalytic pyrolysis of Chinese tallow kernel oil for aromatic production in a downdraft reactor. *Journal of Analytical and Applied Pyrolysis*, 133: 16-21.
333. Leipeng Cao, Jingjing Wang, Ting Zhou, Zihan Li, Shuyu Xiang, Fuqing Xu, **Roger Ruan**, Yuhuan Liu. 2019. Evaluation of ammonia recovery from swine wastewater via an innovative spraying technology. *Bioresource Technology*, Volume 272, January 2019, Pages 235-240.
334. Yayun Zhang, Hanwu Lei, Zixu Yang, Dengle Duan, Elmar Villota, **Roger Ruan**. 2018. From glucose-based carbohydrates to phenol-rich bio-oils integrated with syngas production via catalytic pyrolysis over an activated carbon catalyst. *Green Chemistry*, 20: 3346-3358.
335. Bo Zhang, Zhaoping Zhong, Tong Li, Zeyu Xue, **Roger Ruan**. 2018. Bio-oil production from sequential two-step microwave-assisted catalytic fast pyrolysis of water hyacinth using Ce-doped γ -Al₂O₃/ZrO₂ composite mesoporous catalyst. *Journal of Analytical and Applied Pyrolysis*, 132: 143-150.

336. Bo Zhang, Zhaoping Zhong, Tong Li, Zeyu Xue, Xiaojia Wang, **Roger Ruan**. 2018. Biofuel production from distillers dried grains with solubles (DDGS) co-fed with waste agricultural plastic mulching films via microwave-assisted catalytic fast pyrolysis using microwave absorbent and hierarchical ZSM-5/MCM-41 catalyst. *Journal of Analytical and Applied Pyrolysis*, 130: 1-7.
337. Yunpu Wang, Zihong Zeng, Xiaojie Tian, Leilei Dai, Ling Jiang, Shumei Zhang, Qiuhaowu, Pingwei Wen, Guiming Fu, Yuhuan Liu, Roger Ruan. 2018. Production of bio-oil from agricultural waste by using a continuous fast microwave pyrolysis system. *Bioresource Technology*. Volume 269, December 2018, Pages 162-168. <https://doi.org/10.1016/j.biortech.2018.08.067>.
338. Jia-Meng Dai, Yan-Hong Li, Xiao-Yun Pu, Cui Yang, Jing-Xian Sun, **Roger Ruan**, Xiao-Nian Li, Kai Tian & Xiang-Zhong Huang. 2018. Chemical constituents from the whole herb of *Hemiphragma heterophyllum*. *Journal of Asian Natural Products Research*. Received 15 Apr 2018, Accepted 19 Jul 2018, Published online: Nov 2018.
339. Kuan Ding, Aoxi He, Daoxu Zhong, Liangliang Fan, Shiyu Liu, Yunpu Wang, Yuhuan Liu, Paul Chen, Hanwu Lei, **Roger Ruan**. 2018. Improving hydrocarbon yield via catalytic fast co-pyrolysis of biomass and plastic over ceria and HZSM-5: an analytical pyrolyzer analysis. *Bioresource Technology*, 268:1-8. <https://doi.org/10.1016/j.biortech.2018.07.108>
340. Leipeng Cao, Jingjing Wang, Ting Zhou, **Roger Ruan**, Yuhuan Liu. 2018. Bamboo (*Phyllostachys pubescens*) as a Natural Support for Neutral Protease Immobilization. *Applied Biochemistry and Biotechnology*, 186: 109-121.
341. Ting Zhou, Jingjing Wang, Hongli Zheng, Xiaodan Wu, Yunpu Wang, Mingzhi Liu, Shuyu Xiang, Leipeng Cao, **Roger Ruan**, Yuhuan Liu. 2018. Characterization of additional zinc ions on the growth, biochemical composition and photosynthetic performance from *Spirulina platensis*. *Bioresource technology*, 269: 285-291.
342. Yunpu Wang, Lin Jiang, Leilei Dai, Zhenting Yu, Yuhuan Liu, Roger Ruan, Guiming Fu, Yue Zhou, Liangliang Fan, Dengle Duan, Yunfeng Zhao. 2018. Microwave-assisted catalytic co-pyrolysis of soybean straw and soapstock for bio-oil production using SiC ceramic foam catalyst. *Journal of Analytical and Applied Pyrolysis*, 133: 76-81.
343. Qinglong Xie, Shaoyuan Zhuge, Xiaofang Song, Meizhen Lu, **Roger Ruan**, Yong Nie, Jianbing Ji. 2018. Hydrogenation of plasma-excited nitrogen over an alumina catalyst for ammonia synthesis. *International Journal of Hydrogen Energy*, Volume 43, Issue 32, August 2018, Pages 14885-14891. <https://doi.org/10.1016/j.ijhydene.2018.06.051>
344. Jia Wang, Zhaoping Zhong, Kuan Ding, Aidong Deng, Naijia Hao, Xianzhi Meng, Haoxi Ben, **Roger Ruan**, Arthur J. Ragauskas. 2018. Catalytic fast pyrolysis of bamboo sawdust via a two-step bench scale bubbling fluidized bed/fixed bed reactor: Study on synergistic effect of alkali metal oxides and HZSM-5. *Energy Conversion and Management*, 176: 287-298.

345. Paul Chen, Erik Anderson, Min Addy, Renchuan Zhang, Yanling Cheng, Peng Peng, Yiwei Ma, Liangliang Fan, Yaning Zhang, Qian Lu, Shiyu Liu, Nan Zhou, Xiangyuan Deng, Wenguang Zhou, Muhammad Omar, Richard Griffith, Faryal Kabir, Hanwu Lei, Yunpu Wang, Yuhuan Liu, **Roger Ruan**. 2018. Breakthrough Technologies for the Biorefining of Organic Solid and Liquid Wastes. *Engineering*. Volume 4, Issue 4, August 2018, Pages 574-580. <https://doi.org/10.1016/j.eng.2018.07.004>
346. Nan Zhou, Shiyu Liu, Yaning Zhang, Liangliang Fan, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Paul Chen, **Roger Ruan**. 2018. Silicon Carbide Foam Supported ZSM-5 Composite Catalyst for Microwave-assisted Pyrolysis of Biomass. *Bioresource Technology*. 267: 257-264. <https://doi.org/10.1016/j.biortech.2018.07.007>
347. Shoujie Ren, Hanwu Lei, Yayun Zhang, Lu Wang, Quan Bu, Yi Wei, **Roger Ruan**. 2018. Furfural production from microwave catalytic torrefaction of Douglas fir sawdust. *Journal of Analytical and Applied Pyrolysis*. <https://doi.org/10.1016/j.jaap.2018.12.023>.
348. Dongjie Chen, Justin Wiertzema, Peng Peng, Juer Liu, Qingqing Mao, Yiwei Ma, Erik Anderson, Paul Chen, David Baumler, Chi Chen, Zata Vickers, Joellen Feirtag, Laurence Lee, **Roger Ruan**. 2018. Effects of intense pulsed light on *Cronobacter sakazakii* inoculated in non-fat dry milk. *J. of Food Engineering*. Volume 238, December 2018, Pages 178-187. <https://doi.org/10.1016/j.jfoodeng.2018.06.022>
349. Leipeng Cao, Ting Zhou, Zihan Li, Jingjing Wang, Juan Tang, **Roger Ruan**, Yuhuan Liu. 2018. Effect of combining adsorption-stripping treatment with acidification on the growth of *Chlorella vulgaris* and nutrient removal from swine wastewater. *Bioresource technology*, 263: 10-16.
350. Kuan Ding, Zhaoping Zhong, Jia Wang, Bo Zhang, Liangliang Fan, Shiyu Liu, Yunpu Wang, Yuhuan Liu, Daoxu Zhong, Paul Chen, **Roger Ruan**. 2018. Improving hydrocarbon yield from catalytic fast co-pyrolysis of hemicellulose and plastic in the dual-catalyst bed of CaO and HZSM-5. *Bioresource Technology*. Available online April 2018. Volume 261, August 2018, Pages 86-92. <https://doi.org/10.1016/j.biortech.2018.03.138>
351. Zhang, Yayun; Lei, Hanwu; Duan, Dingle; Villota, Elmar; Liu, Chao; **Ruan, Roger**. 2018. New Insight into Mechanism of Hydrogen Evolution Reaction on MoP (001) from First Principles. *ACS Applied Materials & Interfaces*. 2018, 10 (24), pp 20429–20439 DOI: 10.1021/acsami.8b03976
352. Yunpu Wang, Qiuhaowu, Dingle Duan, Yayun Zhang, **Roger Ruan**, Yuhuan Liu, Guiming Fu, Shumei Zhang, Yunfeng Zhao, Leilei Dai, Liangliang Fan. 2018. Co-pyrolysis of microwave-assisted acid pretreated bamboo sawdust and soapstock. *Bioresource Technology*, Volume 265, October 2018, Pages 33-38. <https://doi.org/10.1016/j.biortech.2018.05.095>

353. Xiangyuan Deng, Kun Gao, Min Addy, Paul Chen, Da Li, Renchuan Zhang, Qian Lu, Yiwei Ma, Yanling Cheng, Yuhuan Liu, and **Roger Ruan**. 2018. Growing *Chlorella vulgaris* on mixed wastewaters for biodiesel feedstock production and nutrient removal. *J Chem Technol Biotechnol*. Volume 93, Issue 9, September 2018. Pages 2748-2757. DOI 10.1002/jctb.5634
354. Yunpu Wang, Qiuhaowu, Dengle Duan, **Roger Ruan**, Yuhuan Liu, Leilei Dai, Yue Zhou, Yunfeng Zhao, Shumei Zhang, Zihong Zeng, Lin Jiang, Zhenting Yu. 2018. Ex-situ catalytic upgrading of vapors from fast microwave-assisted co-pyrolysis of *Chromolaena odorata* and soybean soapstock. *Bioresource Technology*. Volume 261, August 2018, Pages 306-312. <https://doi.org/10.1016/j.biortech.2018.04.042>
355. Lu Wang, Hualin Wang, Xiurong Chen, Yan Xu, Tianjun Zhou, Xiaoxiao Wang, Qian Lu, **Roger Ruan**. 2018. Using *Chlorella vulgaris* to treat toxic excess sludge extract, and identification of its response mechanism by proteomics approach. *Bioresource technology*, 253: 188-196.
356. Hervan Marion Morgan Jr, Wei Xie, Jianghui Liang, Hanping Mao, Hanwu Lei, **Roger Ruan**, Quan Bu. 2018. A techno-economic evaluation of anaerobic biogas producing systems in developing countries. *Bioresource Technology*. Volume 250, February 2018, Pages 910-921.
357. Chunhua Xin, Min M. Addy, Jinyu Zhao, Yanling Cheng, Yiwei Ma, Shiyu Liu, Dongyan Mu, Yuhuan Liu, Paul Chen, **Roger Ruan**. 2018. Waste-to-biofuel integrated system and its comprehensive techno-economic assessment in wastewater treatment plants. *Bioresource technology*, 250: 523-531.
358. Peng Peng, Paul Chen, Min Addy, Yanling Cheng, Yaning Zhang, Erik Anderson, Nan Zhou, Charles Schiappacasse, Raymond Hatzenbeller, Liangliang Fan, Shiyu Liu, Dongjie Chen, Juer Liu, Yuhuan Liu and **Roger Ruan**. 2018. In situ plasma-assisted atmospheric nitrogen fixation using water and spray-type jet plasma. *Chemical Communications*, 2018, **54**, 2886 – 2889. DOI: 10.1039/c8cc00697k. Correction: *Chemical Communications*, 2018, **54**, 12658.
359. Erik Anderson, Min Addy, Paul Chen, and **Roger Ruan**. 2018. Development and operation of innovative scum to biodiesel pilot-system for the treatment of floatable wastewater scum. *Biores. Tech.* 249(2018):1066-1068. <https://doi.org/10.1016/j.biortech.2017.10.075>
360. Yunpu Wang, Qiuhaowu, Leilei Dai, Zihong Zeng, Yuhuan Liu, **Roger Ruan**, Guiming Fu, Zhenting Yu, Lin Jiang. 2018. Co-pyrolysis of wet torrefied bamboo sawdust and soapstock. *Journal of Analytical and Applied Pyrolysis*. Volume 132, June 2018, Pages 211-216.

361. Hong Peng, Lin Yuan, Jinsheng Zhang, Xiaodan Wu, Yang Liu, Yuhuan Liu, **Roger Ruan**. 2018. Adsorption of AgNO₃ onto bamboo hemicelluloses in aqueous medium. *Carbohydrate polymers*, 188: 8-16.
362. Peng Peng, Paul Chen, Charles Schiappacasse, Nan Zhou, Erik Anderson, Dongjie Chen, Juer Liu, Yanling Cheng, Raymond Hatzenbeller, Min Addy, Yaning Zhang Yuhuan Liu, **Roger Ruan**. 2018. A review on the non-thermal plasma-assisted ammonia synthesis technologies. *Journal of Cleaner Production*. 177:597-609.
<https://doi.org/10.1016/j.jclepro.2017.12.229>
363. Leipeng Cao, Ting Zhou, Zihan Li, Jingjing Wang, Juan Tang, **Roger Ruan**, Yuhuan Liu. 2018. Effect of combining adsorption-stripping treatment with acidification on the growth of *Chlorella vulgaris* and nutrient removal from swine wastewater. *Bioresour Technol*. 2018 Sep; 263:10-16.
364. J. Chen. , L.J. Leng., C.S. Ye., Q. Lu., M. Addy, J.H. Wang., J. Liu, P. Chen, W.G. Zhou, **R. Ruan**. 2018. A comparative study between fungal pellet- and spore-assisted microalgae harvesting methods. *Bioresource Technology*. Volume 259, July 2018, Pages 181-190. <https://doi.org/10.1016/j.biortech.2018.03.040>
365. Dengle Duan, **Roger Ruan**, Hanwu Lei, Yuhuan Liu, Yunpu Wang, Yayun Zhang, Yunfeng Zhao, Leilei Dai, Qiu hao Wu, Shumei Zhang. 2018. Microwave-assisted co-pyrolysis of pretreated lignin and soapstock for upgrading liquid oil: Effect of pretreatment parameters on pyrolysis behavior. *Bioresource technology*, 258: 98-104.
366. Yaning Zhang, Liangliang Fan, Shiyu Liu, Nan Zhou, Kuan Ding, Peng Peng, Erik Anderson, Min Addy, Yanling Cheng, Yuhuan Liu, Bingxi Li, John Snyder, Paul Chen, **Roger Ruan**. 2018. Microwave-assisted co-pyrolysis of brown coal and corn stover for oil production. Volume 259, July 2018, Pages 461-464.
<https://doi.org/10.1016/j.biortech.2018.03.078>
367. Yunpu Wang, Dengle Duan, Yuhuan Liu, **Roger Ruan**, Guiming Fu, Leilei Dai, Yue Zhou, Zhenting Yu, Qiu hao Wu, Zihong Zeng. 2018. Properties and pyrolysis behavior of moso bamboo sawdust after microwave-assisted acid pretreatment. *Journal of Analytical and Applied Pyrolysis* 129:86-92. 10.1016/j.jaap.2017.11.024.
368. Junwen Zhou, Shiyu Liu, Nan Zhou, Liangliang Fan, Yaning Zhang, Peng Peng, Erik Anderson, Kuan Ding, Yunpu Wang, Yuhuan Liu, Paul Chen, **Roger Ruan**. 2018. Development and application of a continuous fast microwave pyrolysis system for sewage sludge utilization. *Bioresource Technology* 256(2018):295-301.
369. Dengle Duan, **Roger Ruan**, Yunpu Wang, Yuhuan Liu, Leilei Dai, Yunfeng Zhao, Yue Zhou, Qiu hao Wu. 2018. Microwave-assisted acid pretreatment of alkali lignin: Effect on characteristics and pyrolysis behavior. *Bioresource Technology*. Volume 251, Pages 57–62.

370. Leilei Dai, Chao He, Yunpu Wang, Yuhuan Liu, **Roger Ruan**, Zhenting Yu, Yue Zhou, Dengle Duan, Liangliang Fan, Yunfeng Zhao. 2018. Hydrothermal pretreatment of bamboo sawdust using microwave irradiation. *Bioresource Technology*. 247(2018): 234-241.
371. Yunfeng Zhao, Yunpu Wang, Dengle Duan, **Roger Ruan**, Liangliang Fan, Yue Zhou, Leilei Dai, Jiaqian Lv, Yuhuan Liu. 2018. Fast microwave-assisted ex-catalytic co-pyrolysis of bamboo and polypropylene for bio-oil production. *Bioresource Technology*. 249 (2018): 69-75.
372. Xiangyuan Deng, Kun Gao, Min Addy, Da Li, Ren-Chuan Zhang, Qian Lu, Yi-Wei Ma, Yan-Ling Cheng, Paul Chen, Yu-Huan Liu, **Roger Ruan**. 2018. Cultivation of *Chlorella vulgaris* on anaerobically digested swine manure with daily recycling of the post-harvest culture broth. *Bioresource Technology* 247(2018):716-723.
<https://doi.org/10.1016/j.biortech.2017.09.171>
373. Bo Zhang, Jing Zhang, Zhaoping Zhong, Yichi Zhang, Min Song, Xiaojia Wang, Kuan Ding, **Roger Ruan**. 2018. Conversion of poultry litter into bio-oil by microwave-assisted catalytic fast pyrolysis using microwave absorbent and hierarchical ZSM-5/MCM-41 catalyst. *Journal of Analytical and Applied Pyrolysis*, 130: 233-240.
374. Yaning Zhang, Shiyu Liu, Liangliang Fan, Nan Zhou, Muhammad Mubashar Omar, Peng Peng, Erik Anderson, Min Addy, Yanling Cheng, Yuhuan Liu, Bingxi Li, John Snyder, Paul Chen, **Roger Ruan**. 2018. Oil production from microwave-assisted pyrolysis of a low rank American brown coal. *Energy Conversion and Management* 159(2018):76–84.
375. Jun-jie Xing, Yan-ling Cheng, Paul Chen, Lei Shan, **Roger Ruan**, Dong Li, Li-jun Wang. 2018. Effect of high-pressure homogenization on the extraction of sulforaphane from broccoli (*Brassica oleracea*) seeds. *Powder Technology*, 2018.
<https://doi.org/10.1016/j.powtec.2018.12.010>
376. Zheng, H., Liu, M., Lu, Q., Wu, X., Ma, Y., Cheng, Y., Addy, M., Liu, Y., **Ruan, R.** 2018. Balancing carbon/nitrogen ratio to improve nutrients removal and algal biomass production in piggery and brewery wastewaters. *Bioresource Technology*, 249, 479-486.
DOI: 10.1016/j.biortech.2017.10.057
377. Qian Lu, Paul Chen, Min Addy, Renchuan Zhang, Xiangyuan Deng, Yiwei Ma, Yanling Cheng, Fida Hussain, Chi Chen, Yuhuan Liu, **Roger Ruan**. 2018. Carbon-dependent alleviation of ammonia toxicity for algae cultivation and associated mechanisms exploration. *Bioresource Technology* 249 (2018): 99–107.
378. Aoxi He, Guo Chen, Jin Chen, Jinhui Peng, C. Srinivasakannan, **Rongsheng Ruan**. 2018. A novel method of synthesis and investigation on transformation of synthetic rutile powders from Panzhihua sulphate titanium slag using microwave heating. *Powder Technology*. 2018(323): 115-119

379. Ashok Pandey, Duu Jong Lee, S. Venkata Mohan, **Roger Ruan**. 2018. International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability (BIORESTEC). *Renewable Energy*, 129: 677-677.
380. Peng, P.; Chen, P.; Addy, M.; Cheng, Y.; Zhang, Y.; Anderson, E.; Zhou, N.; Schiappacasse, C.; Hatzenbeller, R.; Fan, L.; Liu, S.; Chen, D.; Liu, J.; Liu, Y.; and **Ruan, R.** 2018. In situ plasma-assisted atmospheric nitrogen fixation using water and spray-type jet plasma. *Chemical Communications* 54 (23), 2886-2889. DOI: 10.1039/c8cc00697k.
381. Marion Morgan Hervan, Xie Wei, Liang Jianghui, Mao Hanping, Lei Hanwu, **Ruan, Roger** and Bu Quan. 2018. A Techno-economic Evaluation of Anaerobic Biogas Producing Systems in Developing Countries. *Bioresource Technology*. 10.1016/j.biortech.2017.12.013.
382. Liangliang Fan, Paul Chen, Nan Zhou, Shiyu Liu, Yaning Zhang, Yuhuan Liu, Yunpu Wang, Muhammad Mubashar Omar, Peng Peng, Min Addy, Yanling Cheng, **Roger Ruan**. 2018. In-situ and ex-situ catalytic upgrading of vapors from microwave-assisted pyrolysis of lignin. *Bioresource Technology* 247(2018): 851-858.
383. Chunhua Xin, Jinyu Zhao, **Roger Ruan**, Min Addy, Shiyu Liu, Dongyan Mu. 2017. Economic feasibility of bio-oil production from sewage sludge through Pyrolysis. *Thermal Science*, 22, 459-467. <https://doi.org/10.2298/TSCI170921258X>
384. Wenguang Zhou, Jinghan Wang, Paul Chen, Chengcheng Ji, Qiuyun Kang, Bei Lu, Kun Li, Jin Liu, **Roger Ruan**. 2017. Bio-mitigation of carbon dioxide using microalgal systems: Advances and perspectives. *Renewable and Sustainable Energy Reviews*. Volume 76, September 2017, Pages 1163-1175.
385. Dengle Duan, Yunfeng Zhao, Liangliang Fan, Leilei Dai, Jiaqian Lv, **Roger Ruan**, Yunpu Want, and Yuhuan Liu. 2017. Low-Power Microwave Radiation-assisted Depolymerization of Ethanol Organosolv Lignin in Ethanol/Formic Acid Mixtures. *BioResources* 12(3): 5308-5320.
386. Tingting Li, Yanhong Li, Jinhui Peng, Qinglong Xie, **Roger Ruan**, Xiangzhong Huang. 2017. Microwave puffing assisted extraction of polysaccharides from *Dendrobium devonianum*. *J Food Process Preserv.* 2017; e13490. <https://doi.org/10.1111/jfpp.13490>
387. Min Addy, Faryal Kabir, Renchuan Zhang, Qian Lu, Xiangyuan Deng, Dean Current, Richard Griffith, Yiwei Ma, Wenguang Zhou, Paul Chen, **Roger Ruan**. 2017. Co-Cultivation of Microalgae in Aquaponic Systems. *Bioresource Technology*. 245, Part A, (2017): 27-34.
388. Leipeng Cao, Dengle Duan, Zihan Li, Mingxiong Xue, **Rongsheng Ruan**, Yuhuan Liu. 2017. Effect of Growth Factors on the Culture of *Spirulina platensis*. *Chin. J. Process Eng.*, 2017, 17(3): 433-439.

389. Liangliang Fan, Paul Chen, Yaning Zhang, Shiyu Liu, Yuhuan Liu, Yunpu Wang, Leilei Dai, **Roger Ruan**. 2017. Fast microwave-assisted catalytic co-pyrolysis of lignin and low-density polyethylene with HZSM-5 and MgO for improved bio-oil yield and quality. *Bioresource Technology* Volume 225, February 2017, Pages 199-205. (top 1% of its academic field based on a highly cited threshold for the field and publication year).
390. Dengle Duan, Yunpu Wang, **Roger Ruan**, Maimaitiaili Tayier, Leilei Dai, Yunfeng Zhao, Yue Zhou, Yuhuan Liu. 2017. Comparative study on various alcohols solvolysis of organosolv lignin using microwave energy: Physicochemical and morphological properties. *Chemical Engineering and Processing: Process Intensification*. Volume 126, April 2018, Pages 38-44. <https://doi.org/10.1016/j.cep.2017.10.023>
391. Hongyan Ren, Jinhua Tuo, Min M. Addy, Renchuan Zhang, Qian Lu, Erik Anderson, Paul Chen, **Roger Ruan**. 2017. Cultivation of *Chlorella vulgaris* in a pilot-scale photobioreactor using real centrate wastewater with waste glycerol for improving microalgae biomass production and wastewater nutrients removal. *Bioresource Technology*. 245 Part A (2017) pp. 1130-1138.
392. Renchuan Zhang, Erik Anderson, Min Addy, Xiangyuan Deng, Fayal Kabir, Qian Lu, Yiwei Ma, Yanling Cheng, Yuhuan Liu, Paul Chen, **Roger Ruan**. 2017. An innovative intermittent vacuum assisted thermophilic anaerobic digestion process for effective animal manure utilization and treatment. *Bioresource Technology*. Volume 244, Part 1, November 2017, Pages 1073-1080.
393. Liangliang Fan, Yaning Zhang, Shiyu Liu, Nan Zhou, Paul Chen, Yuhuan Liu, Yunpu Wang, Peng Peng, Yanling Cheng, Min Addy, Hanwu Lei, **Roger Ruan**. 2017. Ex-situ catalytic upgrading of vapors from microwave-assisted pyrolysis of low-density polyethylene with MgO. *Energy Conversion and Management*. 149(2017):432-441.
394. Xuesong Zhang, Kishore Rajagopalan, Hanwu Lei, **Roger Ruan** and Brajendra K. Sharma. 2017. An overview of a novel concept in biomass pyrolysis: microwave irradiation. *Sustainable Energy & Fuels* 2017(1):1664-1699.
395. Liangliang Fan, Yaning Zhang, Shiyu Liu, Nan Zhou, Paul Chen, Yanling Cheng, Min Addy, Qian Lu, Muhammad Mubashar Omar, Yuhuan Liu, Yunpu Wang, Leilei Dai, Erik Anderson, Peng Peng, Hanwu Lei, **Roger Ruan**. 2017. Bio-oil from fast pyrolysis of lignin: Effects of process and upgrading parameters. *Bioresource Technology*. 241(2017):1118-1126. DOI: 10.1016/j.biortech.2017.05.129
396. Peng Peng, Yanling Cheng, Raymond Hatzenbeller, Min Addy, Nan Zhou, Dongjie Chen, Yaning Zhang, Erik Anderson, Yuhuan Liu, Paul Chen, and **Roger Ruan**. 2017. Ru-based multifunctional mesoporous catalyst for low-pressure and non-thermal plasma synthesis of ammonia. *J. of Hydrogen Energy*. 42(30):19056-19066. <https://doi.org/10.1016/j.ijhydene.2017.06.118>
397. Xiang-Yuan Deng, Kun Gao, Ren-Chuan Zhang, Min Addy, Qian Lu, Hong-Yan Ren, Paul Chen, Yu-Huan Liu, **Roger Ruan**. 2017. Growing *Chlorella vulgaris* on thermophilic

- anaerobic digestion swine manure for nutrient removal and biomass production. *Bioresource Technology*. 243(2017):417-425. <https://doi.org/10.1016/j.biortech.2017.06.141>
398. Shanshan Luo, Richard Griffith, Wenkui Li, Peng Peng, Yanling Cheng, Paul Chen, Min M. Addy, Yuhuan Liu, **Roger Ruan**. 2017. A continuous flocculants-free electrolytic flotation system for microalgae harvesting. *Bioresource Technology* 238(2017):439-449, <https://doi.org/10.1016/j.biortech.2017.04.061>
 399. B.W. Hanson, Z.K. Zeng, G.C. Shurson, **R. Ruan**, C. Chen, and P. E. Urriola. 2017. In vitro dry matter digestibility of multiple sources of microalgae and microalgae products for growing pigs. *J. Animal Science* Vol. 95 No. supplement 2, p. 188.
 400. Hui Liu, Qian Lu, Qin Wang, Wen Liu, Qian Wei, Hongyan Ren, Caibing Ming, Min Min, Paul Chen, **Roger Ruan**. 2017. Isolation of a bacterial strain, *Acinetobacter* sp. from centrate wastewater and study of its cooperation with algae in nutrients removal. *Bioresour Technol.* <http://dx.doi.org/10.1016/j.biortech.2017.03.111> Volume 235, Pages 59-69.
 401. Wenguang Zhou, Jinghan Wang, Paul Chen, Chengcheng Ji, Qiuyun Kang, Bei Lu, Kun Li, Jin Liu, **Roger Ruan**. 2017. Bio-mitigation of Carbon Dioxide Using Microalgal Systems: Advances and Perspectives. *Renewable & Sustainable Energy Reviews* 76: 1163–1175.
 402. Mu, D., **Ruan, R.**, Addy, M., Mack, S., Chen, P., Zhou, Y. 2017. Life cycle assessment and nutrient analysis of various processing pathways in algal biofuel production. *Bioresource Technology*, 230, 33-42.
 403. Xiaodan Wu, Chi Yan, Hongli Zheng, Shanshan Luo, Yuhuan Liu, Wen Li, Yanling Cheng, Min Addy, Wenguang Zhou, Paul Chen, and **Roger Ruan**. 2017. Fixing CO₂ and Treating Wastewater from Beer Brewery Using Microalgae. *Journal of Biobased Materials and Bioenergy* Vol. 11, 1–5, 2017.
 404. Shiyu Liu, Yaning Zhang, Liangliang Fan, Nan Zhou, Gaoyou Tian, Xindi Zhu, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Paul Chen, **Roger Ruan**. 2017. Bio-oil production from sequential two-step catalytic fast microwave-assisted biomass pyrolysis. *Fuel*. 196: 261–268.
 405. H. M. Morgan, Q. Bu; J. Liang; Y.J. Liu, H. Mao, A.P. Shi; H. Lei, **R. Ruan**. 2017. A review of catalytic microwave pyrolysis of lignocellulosic biomass for value-added fuel and chemicals. *Bioresource Technology*, 230: 112–121.
 406. Yaning Zhang, Paul Chen, Shiyu Liu, Peng Peng, Min Addy, Yanling Cheng, Erik Anderson, Nan Zhou, Liangliang Fan, Chenghui Liu, Guo Chen, Yuhuan Liu, Hanwu Lei, Bingxi Li, **Roger Ruan**. 2017. Effects of feedstock characteristics on microwave-assisted pyrolysis – A review. *Bioresource Technology*, 230: 143–151. <http://dx.doi.org/10.1016/j.biortech.2017.01.046>

407. Guiwei Tan, Yinggang Tian, Min Addy, Yanling Cheng, Qinglong Xie, Bo Zhang, Yuhuan Liu, Paul Chen, **Roger Ruan**. 2017. Structural analysis of phosphatidylcholine using a thin layer chromatography-based method. *European Journal of Lipid Science and Technology*. 119(7), [1600282]. DOI: 10.1002/ejlt.201600282 (Front Page Article.)
408. Xu Wangqiong, Li Qiling, Guo Junming, Bai Hongli, Su Changwei, **Rongsheng Ruan**, Jinhui Peng. 2016. Electrochemical evaluation of $\text{LiZn}_x\text{Mn}_{2-x}\text{O}_4$ ($x \leq 0.10$) cathode material synthesized by solution combustion method. *Ceramics International*. Volume 42, Issue 5, April 2016, Pages 5693-5698.
409. Dai, L.; Fan, L.; Liu, Y.; **Ruan, R.**; Wang, Y.; Zhou, Y.; Zhao, Y.; Yu, Z. 2017. Production of bio-oil and biochar from soapstock via microwave-assisted co-catalytic fast pyrolysis. *Bioresource Technology*, 1 February 2017, Vol.225, pp.1-8.
410. Chen, Y., Hu, W., Chen, P., **Ruan, R.** 2017. Household biogas CDM project development in rural China. *Renewable and Sustainable Energy Reviews*, 1 January 2017, Vol.67, pp.184-191.
411. Xiangyang, L., Siqi, L., Yiping, L., Nanhui, Y., Jia, W., and **Ruan, R.** 2016. Dynamic model in salting process of duck egg with ultrasonic pretreatment. *International Agricultural Engineering Journal*, 25(2), 114-120.
412. Erik Anderson, Min Addy, Huan Ma, Paul Chen, **Roger Ruan**. 2016. Economic screening of renewable energy technologies: Incineration, anaerobic digestion, and biodiesel as applied to wastewater scum. *Bioresource Technology*, <http://dx.doi.org/10.1016/j.biortech.2016.09.076> 0960-8524/© 2016 Published by Elsevier Ltd. 1 December 2016, Vol.222, pp.202-209.
413. Cheng, Y., Wang, W., Hua, W., Liu, W., Chen, P., & **Ruan, R.** 2016. Bioremoval and recovery of metal ions by growing microalgae and via microwave assisted pyrolysis. *International Agricultural Engineering Journal*, 25(2), 193-204.
414. Peng Peng, Hao Song, Tingting Zhang, Min Addy, Yaning Zhang, Yanling Cheng, Raymond Hatzenbeller, Xindi Zhu, Shiyu Liu, Yuhuan Liu, Xiangzhong Huang, Xiangyang Lin, Paul Chen, **Roger Ruan**. 2017. Concentrated high intensity electric field (CHIEF) system for non-thermal pasteurization of liquid foods: Modeling and simulation of fluid mechanics, electric analysis, and heat transfer. *Computers and Chemical Engineering* 97 (2017): 183–193. <https://doi.org/10.1016/j.compchemeng.2016.11.044>
415. Chen Xiaoyan, Lin Xiangyang, Wang Jing, Shen Ying, **Ruan Rongsheng**, Liu Minghua. 2016. CSF Flocculation for Microalgae Harvesting. *Journal of Chinese Institute of Food Science and Technology* 16(9):151-156.
416. Shiyu Liu, Qinglong Xie, Bo Zhang, Yanling Cheng, Yuhuan Liu, Paul Chen, **Roger Ruan**. 2016. Fast microwave-assisted catalytic co-pyrolysis of corn stover and scum for bio-

- oil production with CaO and HZSM-5 as the catalyst. *Bioresource Technology* 204 (2016): 164–170.
417. Aoxi He, Guo Chen, Kanglu Feng, Yiheng Li, **Rongsheng Ruan**. 2016. Investigation on synthesis of rutile TiO₂ by sodium salt roasting method. *Theory and practice of advanced materials*. 2016(1): 362-363.
 418. Ma, X., Zheng, H., Addy, M., Anderson, E., Liu, Y., Chen, P., and **Ruan, R.** 2016. Cultivation of *Chlorella vulgaris* in wastewater with waste glycerol: Strategies for improving nutrients removal and enhancing lipid production. *Bioresource Technology* 207, 252-261.
 419. Peng Peng, Yanling Cheng, Hao Song, Tingting Zhang,| Shaobo Deng, Erik Anderson, Min Addy, Xindi Zhu, Shiyu Liu, Raymond Hatzenbeller, Yun Li, Xiangyang Lin, Yuhuan Liu, Xiangzhong Huang, Paul Chen, **Roger Ruan**. 2016. Bacterial inactivation of liquid food and water using highintensity alternate electric field. *J. of Food Processing Engineering*. DOI 10.1111/jfpe.12504.
 420. Ma, X., H. Zheng, W. Zhou, Y. Liu, P. Chen, **R. Ruan**. 2016. Enhanced Harvesting of *Chlorella vulgaris* using Combined Flocculants. *Applied Biochemistry and Biotechnology*. 1-14. DOI: 10.1007/s12010-016-2133-5.
 421. Xindi Zhu, Yanling Cheng, Paul Chen, Peng Peng, Shiyu Liu, Dong Li, **Roger Ruan**. 2016. Effect of alkaline and high-pressure homogenization on the extraction of phenolic acids from potato peels. *Innovative Food Science & Emerging Technologies*. Volume 37, Part A, Pages 91-97.
 422. Hong Peng, Yang Liu, Wenyi Peng, Jinsheng Zhang, and **Roger Ruan**. 2016. Green Synthesis and Stability Evaluation of Ag Nanoparticles Using Bamboo Hemicellulose. *BioResources* 11(1):385-399.
 423. Yunpu Wang, Leilei Dai, Shaoqi Shan, Qin Zeng, Liangliang Fan, Yuhuan Liu, **Roger Ruan**, Yunfeng Zhao, Yue Zhou. 2016. Effect of unsaturation degree on microwave-assisted pyrolysis of fatty acid salts. *Journal of Analytical and Applied Pyrolysis* 120(2016):247-251. doi:10.1016/j.jaap.2016.05.012
 424. Liu Junying, Song Yunmeng, Liu Yuhuan, and **Ruan Roger**. 2016. Yeast as a Bioremediation Nanoparticle Agent in Piggery-Digested Wastewater Treatment. *Environmental Engineering Science*. May 2016, 33(5): 317-323. doi:10.1089/ees.2015.0376.
 425. Ma, H., M. Addy, E. Anderson, W. Liu, Y. Liu, Y. Nie, L. Chen, Y. Cheng, H. Lei, **R. Ruan**. 2016. A novel process for low-sulfur biodiesel production from scum waste. *Bioresource Technology*. 214:826-835.
 426. Liu, M; Wang, Yp; Liu, Yh; **Ruan, R.** 2016. Bioactive peptides derived from traditional Chinese medicine and traditional Chinese food: A review. *Food Research International*, 2016 Nov, Vol.89, pp.63-73.

427. Jia Wang, Bo Zhang, Zhaoping Zhong, Kuan Ding, Qinglong Xie, **Roger Ruan**. 2016. Catalytic fast co-pyrolysis of mushroom waste and waste oil to promote the formation of aromatics. *Clean Techn Environ Policy*. 18(8):2701–2708. DOI 10.1007/s10098-016-1162-7
428. Chunhua Xin, Min Addy, Jinyu Zhaoc, Yanling Cheng, Sibao Cheng, Dongyan Mu, Yuhuan Liu, Rijia Ding, Paul Chen, **Roger Ruan**. 2016. Comprehensive techno-economic analysis of wastewater-based algal biofuel production: A case study. *Bioresource Technology*. Volume 211, July 2016, Pages 584–593.
429. Wu, X., J. Zhang, E. Xu, Y. Liu, Y. Cheng, M. Addy, W. Zhou, R. Griffins, P. Chen, and **R. Ruan**. 2016. Microbial hydrolysis and fermentation of rice straw for ethanol production. *Fuel*. doi:10.1016/j.fuel.2016.04.087. Volume 180, Pages 679-686.
430. Dongyan Mu; Min Addy; Erik Anderson; Paul Chen; **Roger Ruan**. 2016. A Life Cycle Assessment and Economic Analysis of the Scum-to-Biodiesel Technology in Wastewater Treatment Plants. *Bioresource Technology*. Volume 204, March 2016, Pages 89–97.
431. Peng, P., Y. Li, Y. Cheng, P. Chen, **R. Ruan**. 2016. Atmospheric Pressure Ammonia Synthesis using Non-thermal Plasma Assisted Catalysis. *Plasma Chemistry and Plasma Processing*. 36(5):1201–1210. DOI 10.1007/s11090-016-9713-6.
432. Luo Denglai, Fan Yunxia, Lai Zhibin, **Roger Ruan**, Liu Yuhuan, Lin Xiangyan. 2016. Activated Carbon preparation from Caragana Korshinskii Kom using Chemical Method. *ACTA ENERGIAE SOLARIS SINICA*. 37(9):2243-2250.
433. Xiaochen Ma, Hongli Zheng, Min Addy, Erik Anderson, Yuhuan Liu, Paul Chen, **Roger Ruan**. 2016. Cultivation of Chlorella vulgaris in wastewater with waste glycerol: Strategies for improving nutrients removal and enhancing lipid production. *Bioresource Technology*. 207(2016):252-261. DOI: 10.1016/j.biortech.2016.02.013
434. Chen, P., Q. Xie, M. Addy, W. Zhou, Y. Cheng, Y. Liu, Y. Wang, Y. Wan, Q. Lee, H. Lei, **R. Ruan**. 2016. Utilization of municipal solid and liquid wastes for bioenergy and bioproducts production. *Bioresource Technology*. doi:10.1016/j.biortech.2016.02.094. Vol.215, pp.163-172.
435. Liu S, Xie Q, Zhang B, Cheng Y, Liu Y, Chen P, **Ruan R**. 2016. Fast microwave-assisted catalytic co-pyrolysis of corn stover and scum for bio-oil production with CaO and HZSM-5 as the catalyst. *Bioresource Technology*. Volume 204, March 2016, Pages 164–170.
436. Jinghan Wang, Wenguang Zhou, Haizhen Yang, **Roger Ruan**. 2016. Application of nitrogen sufficiency conversion strategy for microalgae-based ammonium-rich wastewater treatment. *Environmental Technology*. 17.03.2016, p. 1-11. DOI:10.1080/09593330.2016.1158744

437. WANG Yunpua, DAI Leileia, FAN Lianglianga, SHAN Shaoqia, LIU Yuhuan, **RUAN Roger**. 2016. Review of microwave-assisted lignin conversion for renewable fuels and chemicals. *Journal of Analytical and Applied Pyrolysis*. Volume 119, May 2016, Pages 104–113. doi:10.1016/j.jaap.2016.03.011.
438. Zhang B, Zhong Z, Chen P, **Ruan R**. 2016. Microwave-assisted catalytic fast pyrolysis of biomass for bio-oil production using chemical vapor deposition modified HZSM-5 catalyst. *Bioresour Technol*. 197:79-84. doi: 10.1016/j.biortech.2015.08.063. Epub 2015 Aug 21.
439. Yunpu Wang, Leilei Daia, Riping Wang, Liangliang Fan, Yuhuan Liu, Qinglong Xie, **Roger Ruan**. 2016. Hydrocarbon fuel production from soapstone through fast microwave-assisted pyrolysis using microwave absorbent. *Journal of Analytical and Applied Pyrolysis* Volume 119, May 2016, Pages 251–258. doi:10.1016/j.jaap.2016.01.008.
440. Erik Anderson, Min Addy, Qinglong Xie, Huan Ma, Yuhuan Liu, Yanling Cheng, Nonso Onuma, Paul Chen, **Roger Ruan**. 2016. Glycerin esterification of scum derived free fatty acids to acyl-glycerols for biodiesel production. *Bioresource Technology*, Vol. 200, 01.01.2016, p. 153-160.
441. Yunpu Wang, Yuhuan Liu, **Roger Ruan**, Shi Tao Liu, Ping Wei Wen, Yi Qin Wan. 2016. Preparation and characterization of ZrO₂ polycrystalline ceramic foam catalyst for biodiesel production. *Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry*, 46(10):1506-1512. DOI: 10.1080/15533174.2015.1137014.
442. Qian Lu, Wenguang Zhou, Min Min, Xiaochen Ma, Yiwei Ma, Paul Chen, Hongli Zheng, Yen T.T. Doan, Hui Liu, Chi Chen, Pedro E. Urriola, Gerald C. Shurson, **Roger Ruan**. 2016. Mitigating ammonia nitrogen deficiency in dairy wastewaters for algae cultivation. 2015. *Bioresource technology* 201:33-40.
443. Yanling Cheng, Liang Li, Paul Chen, **Roger Ruan**. 2016. Synthesis and characterization of starch-based cationic flocculants for microalgae harvesting. *International Journal of Agricultural and Biological Engineering* 9(3): 139–145.
444. Fan, L., **R. Ruan**, Y. Liu, Y. Wang, C. Tu. 2015. Effects of extraction conditions on the characteristics of ethanol organosolv lignin from bamboo (*phyllostachys pubescens* Mazel). 2015. *BioResources* 10(4): 7998-8013.
445. Bo Zhang, Zhaoping Zhong, Zuwei Song, Kuan Ding, Paul Chen, **Roger Ruan**. 2015. Optimizing anti-coking abilities of zeolites by ethylene diamine tetraacetic acid modification on catalytic fast pyrolysis of corn stalk. *Journal of Power Sources* 300 (2015):87-94.
446. Junying Liu, Yunmeng Song, **Roger Ruan**, Yuhuan Liu. 2015. Removal of humic acid from composted hog waste by the white-rot fungus, *Phanerochaete chrysosporium*. *Water Science & Technology* 06/2015; 72(1):92-98. DOI:10.2166/wst.2015.166.

447. Zhang, B.; Zhong, Z.; Min, M.; Ding, K.; Xie, Q.; **Ruan, R.** 2015. Catalytic fast co-pyrolysis of biomass and food waste to produce aromatics: Analytical Py-GC/MS study. *Bioresource Technology*, August 01, 2015, Vol.189, pp.30-35.
448. Qian Lu, Wenguang Zhou, Min Min, Xiaochen Ma, Ceria Chandra, Yen T T Doan, Yiwei Ma, Hongli Zheng, Sibao Cheng, Richard Griffith, Paul Chen, Chi Chen, Pedro E Urriola, Gerald C Shurson, Hans R Gislerød, **Roger Ruan.** 2015. Growing *Chlorella* sp. on meat processing wastewater for nutrient removal and biomass production. *Bioresource Technology* 09/2015; 198:189-197. DOI:10.1016/j.biortech.2015.08.133.
449. Zhang, B.; Zhong, Z.; Chen, P.; **Ruan, R.** 2015. Microwave-assisted catalytic fast pyrolysis of biomass for bio-oil production using chemical vapor deposition modified HZSM-5 catalyst. *Bioresource Technology*, December 01, 2015, Vol.197, pp.79-84.
450. Wang JH., Zhou, W.G, Yang HZ., Wang F., **Ruan R.** 2015. Trophic mode conversion and nitrogen deprivation of microalgae for high ammonium removal from synthetic wastewater. *Bioresource Technology* 198:668-676.
451. Xie, Q., Addy, M., Liu, S., Zhang, B., Cheng, Y., Wan, Y., Li, Y., Liu, Y., Lin, X., Chen, P., **Ruan, R.**, 2015. Fast microwave-assisted catalytic co-pyrolysis of microalgae and scum for bio-oil production. *Fuel*. 160, 577–582.
452. Gulati, T, Datta, AK, Doona, CJ, **Ruan, RR** & Feeherry, FE. 2015. Modeling moisture migration in a multi-domain food system: Application to storage of a sandwich system. *Food Research International.*, 76, Part 3, Pages 427-438. 10.1016/k.foodres.2015.06022
453. Ma, Yw ; Zhou, Wg ; Chen, P ; Urriola, P ; Gislerod, H ; Shurson, G ; **Ruan, R** ; Chen, C. 2015. Effects of Algae Feeding on Mouse Metabolome. *Faseb Journal*, 2015 Apr, Vol.29 Suppl 1.
454. Bi, C.H., Min M., Y. Nie, Q. Xie, Q. Lu, X. Deng, E. Anderson, D. Li, P. Chen, and **R. Ruan.** 2015. Process development for scum to biodiesel conversion. *Bioresour Technol* 185:185-193.
455. Xie, Q., Chen, P., Peng, P., Liu, S., Peng, P., Zhang, B., Cheng, Y., Wan, Y., Liu, Y., **Ruan, R.** 2015. Single-step synthesis of DME from syngas on CuZnAl/zeolite bifunctional catalyst: the influence of zeolite type. *RSC Advances*. 5, 26301–26307.
456. Hongli Zheng, Xiaochen Ma, Zhen Gao, Yiqing Wan, Min Min, Wenguang Zhou, Yun Li, Yuhuan Liu, He Huang, Paul Chen, **Roger Ruan.** 2015. Lipid Production of Heterotrophic *Chlorella* sp. from Hydrolysate Mixtures of Lipid-Extracted Microalgal Biomass Residues and Molasses. *Applied Biochemistry and Biotechnology* 177: 662-674.

457. Bo Zhang, Zhaoping Zhong, Min Min, Kuan Ding, Qinglong Xie, **Roger Ruan**. 2015. Catalytic fast co-pyrolysis of biomass and food waste to produce aromatics: Analytical Py–GC/MS study. *Bioresource Technology* 189 (2015) 30–35.
458. Yunpu Wang, Yuhuan Liu, Liu Yang, **Roger Ruan**, Pingwei Wen, Yiqin Wan. 2015. Syntheses of 5-Hydroxymethylfurfural through Glucose Dehydration in Diphasic Solvent System on ZrO₂ and SO₄²⁻/TiO₂-SiO₂ Catalyst. *Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry*, 46(2):177-184. DOI: 10.1080/15533174.2014.963237.
459. Liu Junying, Song Yunmeng, Liu Yuhuan, **Ruan Roger**. 2015. Fungal pretreatment of effluent from poultry anaerobic digestion by *Phaerochate Chrysosporium*. *CLEAN – Soil, Air, Water* DOI: 10.1002/clen.201400561. 1 August 2015, Vol.43(8), pp.1190-1196.
460. Cheng, Y., Y. Wang, P. Chen, S. Deng, and **R. Ruan**. 2014. Nonthermal plasma assisted polymer surface modification and synthesis: A review. *International Journal of Agricultural and Biological Engineering* 7(2):1-9.
461. Li, Y, Lin, X, Ye, N, Wu, J & **Ruan, R**. 2014. Using the low-field NMR to study the formation of gluten network structure of kelp dough. *Journal of Chinese Institute of Food Science and Technology*, vol 14, no. 12, pp. 39-48.
462. Cheng Yanling, Wang Yingkuan, Paul Chen, Shaobo Deng, **Roger Ruan**. 2014. Nonthermal plasma assisted polymer surface modification and synthesis: A review. *International Journal of Agricultural and Biological Engineering* Vol 7, No 2:1-9.
463. Qinglong Xie, Peng Peng, Shiyu Liu, Min Min, Yanling Cheng, Yiqin Wan, Yun Li, Xiangyang Lin, Yuhuan Liu, Paul Chen, and **Roger Ruan**. 2014. Fast microwave-assisted catalytic pyrolysis of sewage sludge for bio-oil production. *Bioresource Technology*. 09/2014; 172C:162-168. DOI: 10.1016/j.biortech.2014.09.006
464. Dongyan Mu, Min Min, Brian Krohn, Kimberley A. Mullins, **Roger Ruan**, and Jason Hill. 2014. Life cycle environmental impacts of wastewater-based algal biofuels. *Environmental Science & Technology*. 2014, 48(19):11696–11704.
465. Xiaodan Wu, **Rongsheng Ruan**, Hui Wang, Shanshan Luo, Panpan Wu, Yuhuan Liu. 2014. Current Status and Prospect of Sewage Purification with the Algal-Microbe Symbiotic System. *Environmental Engineering* 32(189): 34-37.
466. Xiaochen Ma, Hongli Zheng, He Huang, Yuhuan Liu, **Roger Ruan**. 2014. Effects of Temperature and Substrate Concentration on Lipid Production by *Chlorella vulgaris* from Enzymatic Hydrolysates of Lipid-Extracted Microalgal Biomass Residues (LMBRs). *Applied Biochemistry and Biotechnology*. 08/2014; DOI: 10.1007/s12010-014-1134-5. October 2014, Volume 174, Issue 4, pp 1631-1650.
467. Xiaodan Wu, Zhang Shan-shan, Ye Xinshun, Li Zihan, Huan Yang, Panpan Wu, Shanshan Luo, Enguang Jian, **Rongsheng Ruan**, Yuhuan Liu. 2014. Research on the

- optimum aeration value for cultivating *Chlorella vulgaris* in biogas slurry. *Environmental Engineering* 32(197):45-48.
468. Ma, X.C., Zhou, W.G., Fu, Z.Q., Cheng, Y.L., Min M., Liu Y.H., Chen, P., **Ruan, R.** 2014. Effect of Wastewater-borne Bacteria on Algal Growth and Nutrients Removal in Wastewater-based Algae Cultivation System. *Bioresour Technol.* 167: 8-13.
 469. Xiaodan Wu, Wei Liu, **Rongsheng Ruan**, Yunpu Wang, Yiqin Wan, Beijuan Hu, Jinsheng Zhang, Hong Peng, Hongli Zheng, Yuhuan Liu. 2014. Impacts of different pretreatment methods on microalgae cultivation in biogas slurry. *Environmental Pollution & Control* 36(1): 9-12.
 470. Yuhuan Liu, Xiaojie Shi, Xiaodan Wu, **Rongsheng Ruan**, Hui Wang, Beijuan Hu, Yunpu Wang, Yiqin Wan. 2014. Brewery wastewater treatment by *Spirulina platensis* fungi-algae symbiosis system. *Chinese Journal of Environmental Engineering* 8 (1):82-86.
 471. Fernanda Cabral Borges, Qinglong Xie, Min Min, Luis Antônio Rezende Muniz, Marcelo Farenzena, Jorge Otávio Trierweiler, Paul Chen, **Roger Ruan**. 2014. Fast microwave-assisted pyrolysis of microalgae using microwave absorbent and HZSM-5 catalyst. *Bioresource Technology* 166 (2014):518–526.
 472. Hong Peng, Qiang Luo, **Roger Ruan**, Jinsheng Zhang, Yuhuan Liu. 2014. Structural features of lignin and lignin-carbohydrate complexes from bamboo (*Phyllostachys pubescens* Mazel). *BioResources* 9(1): 1276-1289.
 473. Liu Yuhuan, Wang Yingkuan, Wang Yunpu, Yang Huan, Wu Xiaodan, **Ruan Roger**. 2014. Current Situation and Development Trend of Downstream Processing Technology for Microalgae Biofuel. *Transactions of the Chinese Society for Agricultural Machinery* 45(3):158-167.
 474. Wenguang Zhou, Paul Chen, Min Min, Xiaochen Ma, Jinghan Wang, Zongqiang Fu, Richard Griffith, Fida Hussain, Pu Peng, Qinglong Xie, Yun Li, Jian Shi, **Roger Ruan**. 2014. Environment-enhancing Algal Biofuel Production Using Wastewaters. *Renewable and Sustainable Energy Reviews* 36 (2014): 256–269.
 475. Fernanda Cabral Borges, Zhenyi Du, Qinglong Xie, Jorge Otávio Trierweiler, Yanling Cheng, Yiqin Wan, Yuhuan Liu, Rongbi Zhu, Xiangyang Lin, Paul Chen, **Roger Ruan**. 2014. Fast microwave assisted pyrolysis of biomass using microwave absorbent. *Bioresource Technology* 156: 267-274.
 476. Wang Yunpu, Liu Yuhuan, **Ruan Rongsheng**, Wen Pingwei, Wan Yiqin, Zhang Jinsheng. 2014. Investigation of hydrocarbon generation mechanism by polarizing the carboxy group of fatty acid salt with microwave radiation. *Asian J. Chem.* 26(2): 369-375.
 477. Qinglong Xie, Fernanda Cabral Borges, Yanling Cheng, Yiqin Wan, Yun Li, Xiangyang Lin, Yuhuan Liu, Fida Hussain, Paul Chen, **Roger Ruan**. 2014. Fast microwave-assisted

catalytic gasification of biomass for syngas production and tar removal. *Bioresource Technology* 156:291-296.

478. Hong, P., Luo, Q., **Ruan, R.**, Zhang, J., and Liu, Y. 2014. "Structural features of lignin and lignin-carbohydrate complexes from bamboo (*Phyllostachys pubescens* Mazel)," *BioRes.* 9(1):1276-1289.
479. Zhou, W, and **Ruan, R.** 2014. Biological mitigation of carbon dioxide via microalgae: recent development and future direction. *Scientia Sinica Chimica.* 44(1): 63-78.
480. Min M, Hu B. Fu ZQ, Michael M, Jiang, YC, Sun, Y., Chen P, and Zhou W, **R. Ruan.** 2014. Swine manure-based pilot scale algal biomass production system for fuel and wastewater treatment – A case study. *Appl Biochem Biotechnol* (2014) 172:1390–1406 DOI 10.1007/s12010-013-0603-6
481. Luo, S., Dong, Z., Wu, X., Liu, Y., **Ruan, R.** 2013. Pelletization Behavior of Fungal *Chlorella* Sp Symbiosis System. *Research Journal of Biotechnology* 2013, 8:56-59.
482. Liu Yuhuan, Liu Yinyu, Wang Yuanpu, **Ruan, Rongsheng**, Wen Pingwwi, Wan Yiqin, and Cheng Fangyuan. 2013. Review of pyrolysis of oils for renewable biofuel production. *Chemical Industry and Engineering Progress (China)*11:2588-2592.
483. Chen, P., Li, Y., Cui, T., and **Ruan, R.** 2013. Nanoparticles based sensors for rapid detection of foodborne pathogens. *International Journal of Agricultural & Biological Engineering.* 6(1):1-7.
484. **Ruan Roger**, Jian Enguang, Wu Xiaodan, Liu Wei, Shi Xiaojie, Xu Chang, Chen Xiangyuan, Liu Yuhuan. 2013. Treatment of biogas from pig industry using chlorella. *Modern Chemical Industry* 8(33): 62-64, 66.
485. Wang Z, Ma, X, Zhou W, Min M, Shi J. Wang Q. Chen P, and **R. Ruan.** 2013. Oil Crop Biomass Residues-based Medium for Enhanced Algal Lipid and protein Production. *Appl. Biochem. Biotechnol.*171:689-703.
486. **Ruan Roger**, Cheng Fangyuan, Wang Yunpu, Liu Yuhuan, Wen Pingwei, Wan Yiqin, Liu Yingyu. 2013. Latest progress on highly efficient biomass refining of green chemicals. *Chemical Industry and Engineering Progress* 9(33): 27-31.
487. Zhenyi Du, Xiaochen Ma, Yun Li, Paul Chen, Yuhuan Liu, Xiangyang Lin, Hanwu Lei, **Roger Ruan.** 2013. Production of aromatic hydrocarbons by catalytic pyrolysis of microalgae with zeolites: Catalyst screening in a pyroprobe. *Bioresource Technology* 139:397-401.
488. Wang Yunpu, Liu Yuhuan, **Ruan Rongsheng**, Wen Pingwei, Wan Yiqin, Zhang Jingsheng, 2013. Design and application of pyrolysis system with controllable energy output of microwave reactant per mass unit. *Modern Chemical Industry* 9(33):118-121.

489. Wenguang Zhou, Min Min, Bing Hu, Xiaochen Ma, Yuhuan Liu, Qin Wang, Jian Shi, Paul Chen, **Roger Ruan**. 2013. Filamentous fungi assisted bio-flocculation: A novel alternative technique for harvesting heterotrophic and autotrophic microalgal cells. *Separation and Purification Technology* 107 (2013) 158–165.
490. Liu Yuhuan, Ma Wen, Wang Yunpu, **Ruan Rongsheng**, Wen Pingwei, Wan Yiqin, 2013. Production of renewable hydrocarbon fuels from microwave decarboxylation of tallow oil potassium soap. *Chemical Industry and Engineering Progress* 10: 2361-2365.
491. Zhen Wang, Xiaochen Ma, Wenguang Zhou, Min Min, Yanling Cheng, Paul Chen, Jian Shi, Qin Wang, Yuhuan Liu, **Roger Ruan**. 2013. Oil Crop Biomass Residue-Based Media for Enhanced Algal Lipid Production Oil Crop Biomass Residue-Based Media for Enhanced Algal Lipid Production. *Appl Biochem Biotechnol* (2013) 171:689–703. DOI: 10.1007/s12010-013-0387-8
492. Shi, A., Z. Du, X. Ma, Y. Cheng. M. Min, S. Deng, P. Chen. D. Li, **R. Ruan**. 2013. Production and evaluation of biodiesel and bioethanol from high oil corn using three processing routes. *Bioresource Technology* 128:100-106.
493. **Ruan Roger**, Yao Yuan, Wang Yunpu, Wen Pingwei, Wan Yiqin, Liu Yuhuan, 2013. Furfural and acetic acid refining from rice husk by microwave assisted oriented pyrolysis. *Modern Chemical Industry* 5:66-68, 70.
494. Bing Hu, Wenguang Zhou, Min Min, Zhenyi Du, Paul Chen, Xiaochen Ma, Yuhuan Liu, Hanwu Lei, Jian Shi, **Roger Ruan**. 2013. Development of an effective acidogenically digested swine manure-based algal system for improved wastewater treatment and biofuel and feed production. *Applied Energy* 107(2013):255-263.
495. Liu Shitao, Liu Yuhuan, **Ruan Rongsheng**, Peng Hong, Zhang Jingsheng, Wan Yiqin, 2013. Review of biodiesel production using solid based catalysts. *Modern Chemical Industry* 7:30-33, 35.
496. Cheng Yixin, Zhang Jiangsheng, Wang Zhaolong, Liu Yuhuan, **Ruan Rongsheng**, 2013. Low field NMR study on changes of water holding capacity of resistant starch in yogurt during storage. *Science and Technology of Food Industry* 10: 93-96.
497. Wang Ying, Zhang Jingsheng, Cheng Xin, Liu Yuhuan, **Ruan Rongsheng**, Wen Pingwei, 2013. NMR studies on the impact of different rinsing processes on grass carp surimi. *Science and Technology of Food Industry* 11: 255-258.
498. Chen Xiangyuan, Liu Yuhuan, **Ruan Rongsheng**, Li Yun, Shi Xiaojie, Wang Hui, Wu Xiaodan, Wang Yunpu, Wan Yiqin, 2013. Development ideas on China green agriculture from biogas development perspective. *Chinese Agricultural Science Bulletin* 8: 147-153.

499. Yu Ziping, Peng Hong, Lin Dan, Hu Zhengrong, Wang Na, **Ruan Rongsheng**, Liu Yuhuan, Zhang Jingsheng, 2013. Alkali fractionation of bamboo hemicellulose and structural characterization. *Journal of Northeast Forestry University* 2: 80-85.
500. Peng, H; Zhou, My; Yu, Zp; Zhang, Js; **Ruan, R**; Wan, Yq; Liu, Yh. 2013. Fractionation and characterization of hemicelluloses from young bamboo (*Phyllostachys pubescens* Mazel) leaves. *Carbohydrate Polymers*, 2013 May 5, Vol.95(1), pp.262-271.
501. Ma, W., Y. Liu, **R. Ruan**, X. Jiang, Y. Wang, Y. Wan, X. Wu, Y. Li. 2013. *Sapium sebiferum* (Chinese Tallow) – a promising energy plant for diesel (hydrocarbon fuel). *Advanced Materials Research* 608-609(2013):453-457.
502. Ren, S., H. Lei, L. Wang, Q. Bu, S. Chen; J. Wu; J. Julson; **R. Ruan**. 2013. The effects of torrefaction on compositions of bio-oil and syngas from biomass pyrolysis by microwave heating. *Bioresource Technology* 2012; DOI:10.1016/j.biortech.2012.06.091. 2013 May, Vol.135, pp.659-664.
503. Ma, W., Y. Liu, **R. Ruan**, X. Jiang, Y. Wang, Y. Wan, X. Wu, Y. Li. 2013. Aqueous extraction of Chinese tallow seeds oil. *Advanced Materials Research* 608-609(2013):328-332.
504. Wang, B., Y. Cheng, Y. Liu, P. Chen, D. Li, **R. Ruan**. 2013. Properties of rigid polyurethane foams prepared from recycled aircraft deicing agent with hexamethylene diisocyanate. *J. APPL. POLYM. SCI.* 2012, DOI: 10.1002/APP.37525. 2013 Feb 5, Vol.127(3), pp.1458-1465.
505. Zhenyi Du, Bing Hu, Xiaochen Ma, Yanling Cheng, Yuhuan Liu, Xiangyang Lin, Yiqin Wan, Hanwu Lei, Paul Chen, and **Roger Ruan**. 2013. Catalytic pyrolysis of microalgae and their three major components: carbohydrates, proteins, and lipids. *Bioresource Technology* 130(2013):777-782.
506. Ren, Shoujie; Lei, Hanwu; Wang, Lu; Bu, Quan; Wei, Yi; Liang, Jing; Liu, Yupeng; Julson, James; Chen, Shulin; Wu, Joan; **Ruan, Roger**. 2012. Microwave torrefaction of Douglas fir sawdust pellet. *Energy & Fuels* 26(9):5936-5943.
507. Wang, Y., Y. Liu, **R. Ruan**, Y. Wan, J. Zhang, H. Peng. 2012. Mechanism of Hydrocarbon Generation from Sodium Stearate Decarboxylation by Microwave Assisted Pyrolysis. *Acta Chimica Sinica*, 70(2), pp 114-120.
508. Liu, Yuhuan; Wang, Yunpu; Wang, Yingkuan; Wan, Yiqin; Zhang, Jinsheng; **Ruan, Rongsheng**. 2012. Microwave-assisted pyrolysis of *Swida wilsoniana* fruit oil soap for preparing renewable hydrocarbon fuel via selective decarboxylation. *Transactions of the Chinese Society of Agricultural Machinery*.
509. Bu, Q ; Lei, Hw ; Zacher, Ah ; Wang, L ; Ren, SJ ; Liang, J ; Wei, Y ; Liu, Yp ; Tang, J ; Zhang, Q ; **Ruan, R**. 2012. A review of catalytic hydrodeoxygenation of lignin-derived phenols from biomass pyrolysis. *Bioresource Technology*, 2012 Nov, Vol.124, pp.470-477.

510. Yuhuan Liu; Yingkuan Wang; **Roger Ruan**; Ziling Li; Xiangyang Lin; Chengmei Liu. 2012. Optimization of processing parameters for rapid liquefaction of corn stover under atmospheric pressure. *Transactions of the Chinese Society of Agricultural Machinery*. 2012;43(8):110-115.
511. Wang, Y.P.; Liu, Y.H.; **Ruan, R.S.**; Wan, Y.Q.; Zhang, J.S.; Peng, H. 2012. Production of High Heat Value Fuels by Microwave Pyrolysis of Microalgae Oil Soap under Nitrogen Environments. *Advanced Materials Research*; 347-353; 2545-2550.
512. Zhang, J., Y. Liu, N. Wang, and **R. Ruan**. 2012. NMR Technique Application in Evaluating the Quality of Navel Orange During Storage. *Procedia Engineering*. 37(2012): 234-239.
513. Du, Z., B. Hu, A. Shi, X. Ma, Y. Cheng, P. Chen, Y. Liu, X. Lin, and **R. Ruan**. 2012. Cultivation of a microalga *Chlorella vulgaris* using recycled aqueous phase nutrients from hydrothermal carbonization process. *Bioresource Technology* 126(2012):354-357.
514. Liu, Y. Y. Wang, **R. Ruan**, Z. Li, X. Lin, C. Liu. 2012. Optimized process parameters for fast atmospheric liquefaction of corn stover. *Transactions of Agricultural Mechanization* 8: 110-115, 2012
515. Liu, S., Y. Liu, **R. Ruan**, J. Zhang, H. Peng, Y. Wan, X. Wu. 2012. Food essence structure and flavor characteristics and potential harmfulness. *Food Industry Scientific* 9:426-430, 2012.
516. Shi, X. Y. Liu, **R. Ruan**, J. Zhang, H. Peng, Y. Wan, X. Wu. 2012. Review of neoformed contaminants in foods and their health effects. *Food Sciences* 13:324-328, 2012.
517. Liu, Y., Y. Liu, **R. Ruan**. 2012. Rapid determination of 5-hydroxymethylfurfural by ultraviolet spectrophotometry in glucose diphasic hydrolysate. International Conference on Energy, Environment and Sustainable Development (ICEESD 2011), 10/21-23/2011, pp 1713-1717, Shanghai, China.
518. Chang Xu, Hui Wang, Yu Huan Liu, **Roger Ruan**, Yun Li. 2012. Research on Edible Fungi and Algae as Feed Supplement. *Advanced Materials Research*, 518-523, 608.
519. Yun Pu Wang, Yu Huan Liu, **Rongsheng Ruan**, Yi Qin Wan, Jin Sheng Zhang, Hong Peng. 2011. Production of High Heat Value Fuels by Microwave Pyrolysis of Microalgae Oil Soap under Nitrogen Environments. *Advanced Materials Research*, 347-353, 2545.
520. Wang, Y., Y. Liu, **R. Ruan**, Y. Wan, J. Zhang, H. Peng. 2012. Production of high heating value fuels by microwave pyrolysis of microalgae oil soap under nitrogen environments. *International Conference on Energy, Environment and Sustainable Development (ICEESD 2011)*, 10/21-23/2011, pp 2545-2550, Shanghai, China.

521. Lin, T., H. Peng, **R. Ruan**, Z. Yu, Y. Liu. 2012. Ionic liquids application in extraction of bamboo hemicellulose. *Modern Industry* 2:41-43+55, 2012.
522. Lin, T, H. Peng, **R. Ruan**, Z. Yu, Y. Liu. 2012. Fast determination of glucuronic acid in bamboo hemicellulose. *Modern Industry. China Paper Making* 3:16-19, 2012.
523. Hu, B; Min, M; Zhou, Wg; Du, Zy; Mohr, M; Chen, P; Zhu, J; Cheng, Yl; Liu, Yh; **Ruan, R**. 2012. Enhanced mixotrophic growth of microalga *Chlorella* sp on pretreated swine manure for simultaneous biofuel feedstock production and nutrient removal. *Bioresource Technology*, 2012 Dec, Vol.126, pp.71-79.
524. Ma, W., Y. Liu, **R. Ruan**, J. Zhang. X. Wu, H. Peng. 2012. Review of food polyphenolics. *China Brewing* 4:11-14, 2012.
525. Wu, X., N. Xu, Y. Liu, **R. Ruan**. 2012. Study of *Trichoderma viride* for lignin digestion. *Food Industry Scientific* 7:165-169, 2012.
526. X. Wu, Y. Liu, **R. Ruan**, Y. Wan, J. Zhang, H. Peng. 2012. Prospect of the coupling waste biomass treatment and microalgae biofuel production. *SREE Workshop on Applied Mechanics and Civil Engineering (AMCE)*, 12/17-18/2011, pp 269-274, Macau, CHINA,
527. Luo, Q., Peng, H., Zhou, M., Lin, D., **Ruan, R.**, Wan, Y., Zhang, J., and Liu, Y. 2012. Alkali extraction and physicochemical characterization of hemicelluloses from young bamboo (*Phyllostachys pubescens* Mazel). *BioResources* 7(4), 5817-5828.
528. Peng, H., J. Zhang, Y. Liu, D. Liu, Z. Yu, Y. Wan, and **R. Ruan**. 2012. Structural characterization of hemicellulosic polysaccharides isolated from bamboo. *Current Organic Chemistry* 2012(16):1855-1862.
529. Hu, B., M. Min, W. Zhou, Y. Li, M. Mohr. Y. Cheng, H. Lei, Y. Liu, X. Lin, P. Chen, and **R. Ruan**. 2012. Influence of exogenous CO₂ on biomass and lipid accumulation of microalgae *Auxenochlorella protothecoides* cultivated in concentrated municipal wastewater. *Applied Biochemistry and Biotechnology* 166(7):1661-1673.
530. Hong Peng, Na Wang, Zhengrong Hu, Ziping Yu, Yuhuan Liu, Jinsheng Zhang, **Roger Ruan**. 2012. Physicochemical characterization of hemicelluloses from bamboo (*Phyllostachys pubescens* Mazel) stem. *Industrial Crops and Products*. 37(1): 41–50.
531. Lu Wang; Hanwu Lei; Shoujie Ren; Quan Bu; Jing Liang; Yi Wei; Yupeng Liu; Guo-Shuh J. Lee; Shulin Chen; Juming Tang; Qin Zhang; **Roger Ruan**. 2012. Aromatics and phenols from catalytic pyrolysis of Douglas fir pellets in microwave with ZSM-5 as a catalyst. *Journal of Analytical and Applied Pyrolysis* 98:194-200.
532. Zhang, J., Y. Liu, Z. Jin, and **R. Ruan**. 2012. Studies of wheat resistant starch by NMR technique. *Advanced Materials Research* 550-553(2012):1357-1363.

533. Wang Yunpu; Liu Yuhuan; **Ruan Rongsheng**. 2012. Mechanism of Hydrocarbon Generation from Sodium Stearate Decarboxylation by Microwave Assisted Pyrolysis. *ACTA CHIMICA SINICA*, (2) :114-120.
534. Peng, Hong; Zhang, Jinsheng; Liu, Yuhuan; Liu, Detao; Yu, Ziping; Wan, Yiqin; **Ruan, Roger**. 2012. Structural Characterization of Hemicellulosic Polysaccharides Isolated from Bamboo (*Phyllostachys pubescens* Mazel). *Current Organic Chemistry*, 16(16): 1855-1862(8).
535. Wu, X., **Ruan, R.**, Du, Z., Liu, Y. 2012. Current Status and Prospects of Biodiesel Production from Microalgae. *Energies* 2012(5)8: 2667-2682.
536. Du, Z., M. Mohr, X. Ma, Y. Cheng, X. Lin, Y. Liu, W. Zhou, P. Chen, and **R. Ruan**. 2012. Hydrothermal pretreatment of microalgae for production of pyrolytic bio-oil with a low nitrogen content. *Bioresource Technology* 120:13-18.
537. Zhou, W., Y. Li, M. Min, B. Hu, H. Zhang, X. Ma, L. Li, Y. Cheng, P. Chen, and **R. Ruan**. 2012. Growing Wastewater-born Microalga *Auxenochlorella protothecoides* UMN280 on Concentrated Municipal Wastewater for Simultaneous Nutrient Removal and Energy Feedstock Production. *Applied Energy* 98(2012):433-440.
538. Wang, X, W. Morrison, Z. Du, Y. Wan, X. Lin, P. Chen, and **R. Ruan**. 2012. Biomass temperature profile development and its implications under the microwave-assisted pyrolysis condition. *Applied Energy* 99(2012):386-392.
539. Zhou, W., B. Hu, Y. Li, M. Min, M. Mohr. Z. Du, P. Chen, and **R. Ruan**. 2012. Mass Cultivation of Microalgae on Animal Wastewater: A Sequential Two-stage Cultivation Process for Energy Crop and Omega-3 Rich Animal Feed Production. *Applied Biochemistry and Biotechnology* 168: 348-363.
540. Lin, X., J. Wu, R. Zhu, P. Chen, G. Huang, Y. Li, N. Ye, B. Huang, Y. Lai, H. Zhang, W. Lin, J. Lin, Z. Wang, H. Zhang, and **R. Ruan**. 2012. California Almond Shelf Life: Lipid Deterioration During Storage. *J. Food Science*. 77(6):583-593.
541. Xu, C., H. Wang, Y. Liu, **R. Ruan**, Y. Li. 2012. Edible fungi and algae as feed supplement. *Advanced Materials Research* 518-523(2012): 608-613.
542. Li Y, Zhou WG, Hu B, Min M, Chen P, **Ruan R** 2012. Effect of light intensity on algal biomass accumulation and biodiesel production for mixotrophic strains *Chlorella kessleri* and *Chlorella protothecoide* cultivated in highly concentrated municipal wastewater. *Biotechnol Bioeng*. 109(9):2222-2229.
543. Zhou WG, Li Y, Min M, Hu B, Zhang H, Ma X, Cheng Y, Chen P, **Ruan R**. 2012. Growing Wastewater-born Microalga *Auxenochlorella protothecoides* UMN280 on Concentrated Municipal Wastewater for Simultaneous Nutrient Removal and Energy Feedstock Production. *Appl Energ*. 98:43-440.

544. Zhou WG, Cheng Y, Li Y, Wan Y, Liu Y, Lin X, **Ruan R**. 2012. Novel Fungal Pelletization Assisted Technology for Algae Harvesting and Wastewater Treatment. *Appl. Biochem. Biotechnol.* 167(2):214-228.
545. Zhou WG, Min M, Hu B, Ma X, Cheng Y, Liu Y, Chen P, **Ruan, R**. 2012. A hetero-photoautotrophic two-stage cultivation process to improve wastewater nutrient removal and enhance algal lipid accumulation. *Bioresour Technol.* 110: 448-455.
546. Peng, H., Hu, Z., Yu, Z., Zhang, J., Liu, Y., Wan, Y., and **Ruan, R**. 2012. Fractionation and thermal characterization of hemicelluloses from bamboo (*Phyllostachys pubescens* Mazel) culm, *BioRes.* 7(1), 374-390.
547. Min, M., B. Hu, W. Zhou, Y. Li, P. Chen, and **R. Ruan**. 2012. Mutual influence of light and CO₂ on carbon sequestration via cultivating mixotrophic alga *Auxenochlorella protothecoides* UMN280 in an organic carbon-rich wastewater. *Journal of Applied Phycology* 24(5):1099-1105.
548. Bu, Q., H. Lei, S. Ren, L. Wang, Q. Zhang, J. Tang, and **R. Ruan**. 2012. Production of phenols and biofuels by catalytic microwave pyrolysis of lignocellulosic biomass. *Bioresource Technology* 2012: 108:274-279.
549. Ren, R., H. Lei, L. Wang, Q. Bu, S. Chen, J. Wu, J. Julson, and **R. Ruan**. 2011. Biofuel production and kinetics analysis of microwave pyrolysis for Douglas fir sawdust pellet. *J. Analytic and Applied Pyrolysis.* 2012:94163-169.
550. Bu, Q., H. Lei, S. Ren, L. Wang, J. Holladay, Q. Zhang, J. Tang, and **R. Ruan**. 2011. Phenol and phenolics from lignocellulosic biomass by catalytic microwave pyrolysis. *Bioresource Technology.* 102: 7004–7007. doi:10.1016/j.biortech.2011.04.025.
551. Hanwu Lei; Shoujie Ren; James Julson; Lu Wang; Quan Bu; **Roger Ruan**. 2011. Microwave torrefaction of corn stover and tech-economic analysis. Peer-reviewed *Proceedings of the ASME.* MSEC 2011:1685-1692.
552. Yecong Li, Wenguang Zhou, Bing Hu, Min Min, Paul Chen, **Roger Ruan**. 2011. Integration of Algae Cultivation as Biodiesel Production Feedstock with Municipal Wastewater Treatment: Strains Screening and Significance Evaluation of Environmental Factors. *Bioresour Technol.* 102(23):10861-10867.
553. Zhou, W., Y. Li, M. Min, B. Hu, P. Chen, **R. Ruan**. 2011. Local Bioprospecting for High-lipid Producing Microalgal Strains to be Grown on Concentrated Municipal Wastewater for Biofuel Production. *Bioresour Technol.* 102(13):6909-6919.
554. Min M., L. Wang, Y. Li, M. Mohr, B. Hu, W. Zhou, P. Chen, **R. Ruan**. 2011. Cultivating *Chlorella* sp. in pilot scale photobioreactor using centrate wastewater for microalgae biomass production and wastewater nutrients removal. *Appl Biochem Biotechnol.* 165(1): 123-137.

555. Gao, Y., W.W. Chen, H. Lei, Y. Liu, X. Lin, **R. Ruan**. 2011. Optimization of Transesterification Conditions for the Production of Fatty Acid Methyl Ester (FAME) from Chinese Tallow Kernel Oil with a Nano-Scale Magnetic Catalyst. *Transactions of ASABE* 54(3):1169-1174.
556. Guo, Mf ; Petrofsky, K ; Zhang, Ly ; Chen, P ; Hohn, A ; Youn, M ; Gallaher, D ; Liu, RH ; Faubion, J ; Bunzel, M ; Marquart, L ; **Ruan, R**. 2011. Improving the functionality and bioactivity in wheat bran. *Faseb Journal*, 2011 Apr, Vol.25.
557. Lei, H., S. Ren, L. Wang, Q. Bu, J. Judson, J. Holladay, and **R. Ruan**. 2011. Microwave pyrolysis of distillers dried grain with solubles (DDGS) for Biofuel Production. *Bioresource Technology*. 2011 May;102(10):6208-6213. Epub 2011 Feb 15.
558. Liu, W., W.L. Liu, C.M. Liu, J.H. Liu, S.B. Yang, H.J. Zheng, H.W. Lei, **R. Ruan**, T. Li, Z.C. Tu, X.Y. Song. 2011. Medium-chain fatty acid nanoliposomes for easy energy supply. *Nutrition*, 27:700-706.
559. Wang, Y., Y. Liu, **R. Ruan**, Y. Wan, J. Zhang, H. Peng. 2011. Production of renewable hydrocarbon fuels - Thermochemical behavior of fatty acid soap decarboxylation during microwave-assisted pyrolysis. *Materials for Renewable Energy & Environment (ICMREE), 2011 International Conference on*, 350-355.
560. Na, R., Y. Liu, **R. Ruan**, X. Jiang, J. Zhang, H. Peng, Y. Wan. 2011. Using tubular reactor for continuous biodiesel production. *Transactions of Nanchang University* 35(4):376-379.
561. Yu, Z., H. Peng, T. Lin, **R. Ruan**, N. Wang, Z. Hu, Y. Liu, J. Zhang. 2011. Research progress on plant hemi-cellulose structure. *Macromolecular News*, 2011, 6:48-54.
562. Wang, Y., Y. Liu, **R. Ruan**, W. Zeng, L. Yang, C. Liu, H. Peng, 2011. Thermal and non-thermal processing technologies for food safety. *Food Industry Science and Technology* 32(7):463-466.
563. Wang, Y., Y. Liu, **R. Ruan**, Y. Wang, L. Yang, C. Liu, H. Peng, 2011. Millard reaction effect of food safety. *Food Industry Science and Technology* 32(7):447-450,454.
564. Wang. Z. J. Zhang, F. Qian, Y. Liu, H. Peng, **R. Ruan**, Q. Zhao, T. Chen. 2011. NMR study of resistant corn starch on sausage quality. *Food Science Journal* 32(7):38-42.
565. Chen, T., J. Zhang, F. Qian, Y. Liu, H. Peng, **R. Ruan**, Q. Zhao, Z. Wang. 2011. NMR comparison of ground meat water holding capacity with normal and resistant corn starch *Food Science Journal* 32(7):21-24.
566. Liu, J., Y. Liu, **R. Ruan**, X. Liu, J. Zhang, H. Peng. D. Wu. 2011. Cultivation of *Chlorella vulgaris* from municipal wastewater for biodiesel production. *Bioprocessing Process* 09(1):10-14.

567. Lin, T., H. Peng, Z. Yu, **R. Ruan**, Z. Hu, N. Wang, Y. Liu, J. Zhang. 2011. Separation and purification of hemi-cellulose. *China Paper Making*, 30(1):60-64.
568. Heredia-Arroyoa, T., W. Wei, **R. Ruan**, B. Hu. 2011. Mixotrophic Cultivation of *Chlorella vulgaris* and its Potential Application for the Oil Accumulation from Non-sugar Materials. *Biomass and Bioenergy*. 35(5):2245-2253.
569. Li, YC, Chen YF, Min M, Chen P, Martinez B, Zhu J, **R. Ruan**. 2011. Characterization of a microalgae *Chlorella sp.* well adapted to highly concentrated municipal wastewater for nutrient removal and biodiesel production. *Bioresource Technology*. 102 (2011):5138-5144.
570. Lin, X., L. Zhang, H. Lei, H. Zhang, Y. Cheng, R. Zhu, **R. Ruan**. 2010. Effect of drying technologies on quality of green tea. *International Agricultural Engineering Journal* 19(3):30-37.
571. Chen, P., Y. Cheng, S. Deng, X. Lin, G. Huang, **R. Ruan**. 2010. Utilization of almond residues. *Int J Agric & Biol Eng*. 3(4):1-18.
572. Lin, X., J. Zhang, H. Lei, Z. Jin, P. Chen, **R. Ruan**. 2010. Evaluation of effects of adding different resistant starches on firmness and stickiness of dough by NMR during proofing. *International Agricultural Engineering Journal* 19(4):23-30.
573. Du, Z., Y. Wan, Y. Li, Q. Chen, X. Lin, P. Chen, **R. Ruan**. 2010. Microwave-assisted pyrolysis of microalgae for biofuel production. *Bioresource Technology*. 102, 4890-4896.
574. Gao, Ll; Liu, Yh; Lei, Hw; Peng, H; **Ruan, R**. 2010. Preparation of Semirigid Polyurethane Foam with Liquefied Bamboo Residues. *Journal Of Applied Polymer Science*, 2010 May 5, Vol.116(3), pp.1694-1699.
575. Yu, F., P. H. Steele, and **R. Ruan**. 2010. Microwave pyrolysis of corn cob and characteristics of the pyrolytic chars. *Energy Sources, Part A*, 32:475-484.
576. Wang L, Min M, Li Y, Chen P, Chen Y, Liu Y, Wang Y, **Ruan R**. 2010. Cultivation of green algae *Chlorella sp.* in different wastewaters from municipal wastewater treatment plant. *Appl Biochem Biotechnol*. 2010 Oct;162(4):1174-86. Epub 2009 Nov 24. PubMed PMID: 19937154.
577. Wang, L., Y. Wang, P. Chen, and **R. Ruan**. 2010. Semi-continuous Cultivation of *Chlorella vulgaris* for Treating Undigested and Digested Dairy Manures. *Applied Biochemistry and Biotechnology* 2010 Dec;162(8):2324-2332. Epub 2010 Jun 22.
578. Ding, H., Y. Gao, H. Lei, L. Luo, H. Chao, and **R. Ruan**. 2010. The in vitro Antioxidant Effects of Flavonoids of Sweet Potato Vines. *International Journal of Food Properties*. 13(2):360-368.
579. Chen, P., M. Min, Y. Chen, L. Wang, Y. Li, Q. Chen, C. Wang, Y. Wan, X. Wang, Y. Cheng, S. Deng, K. Hennessy, X. Lin, Y. Liu, Y. Wang, B. Martinez, **R. Ruan**. 2010.

Review of biological and engineering aspects of algae to fuel approach. *International Journal of Agricultural and Biological Engineering* 2(4):1-30.

580. Wang, L., M. Min, Y. Chen, Y. Li, **R. Ruan**. 2010. Digested dairy manure as a nutrient supplement for cultivation of oil-rich green microalgae *Chlorella* sp. *Bioresource Technology* 101 (2010): 2623–2628.
581. Moen, J., C. Yang, B. Zhang, H. Lei, K. Hennessy, Y. Wan, Z. Le, Y. Liu, P. Chen, **R. Ruan**. 2010. Catalytic microwave assisted pyrolysis of aspen. *International Journal of Agricultural and Biological Engineering* 2(4):70-75.
582. Zhang, B., C. Yang, J. Moen, Z. Le, K. Hennessy, Y. Wan, Y. Liu, H. Lei, P. Chen and **R. Ruan**. 2010. Catalytic conversion of microwave-assisted pyrolysis vapors. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, 32: 18, 1756 – 1762.
583. Kong, QX, Li L, Martinez B, Chen P, **Ruan R**. 2010. Culture of microalgae *Chlamydomonas reinhardtii* in wastewater for biomass feedstock production. *Appl Biochem Biotechnol*. 2010 Jan;160(1):9-18. Epub 2009 Jun 9. PubMed PMID: 19507059.
584. Cao, X.L., K. Petrofsky, R. Hong, **R. Ruan**. 2009. The impact of processing on the antioxidant phenolics in wheat bran. *Annals of Nutrition and Metabolism* 55:511-511.
585. Wan, Y., J. Wu, Y. Qian, H. Lei, F. Yu, P. Chen, X. Lin, Y. Liu, **R. Ruan**. 2009. Liquefaction of corn stover using industrial biodiesel glycerol. *International Journal of Agricultural and Biological Engineering* 2(2): 32-40.
586. Yu, F., **R. Ruan**, P. Steele. 2009. Microwave pyrolysis of corn stover. *Transactions of the ASABE*. 52(5):1595-1601.
587. Cheng, Y., S. Deng, P. Chen, and **R. Ruan**. 2009. Polylactic acid (PLA) synthesis and modifications: a review. *Front. Chem. China* 4(3):259-264.
588. **Ruan, R.**, K. Pestrosky, and L. Marquart. 2009. Engineering Healthier and More Functional Grain Ingredients. *Resources* September 2009:16-18.
589. Wan, Y., P Chen, B. Zhang, C. Yang, Y. Liu, X. Lin, and **R. Ruan**. 2009. Microwave assisted pyrolysis of corn stover pellets with catalysts for bio-oil production. *Journal of Analytical and Applied Pyrolysis* 86(1):161-167.
590. Zhu, J., Y. Li, X. Wu, C. Miller, P. Chen, and **R. Ruan**. 2009. Swine manure fermentation for hydrogen production. *Bioresource Technology* 100: 5472–5477.
591. Wu, J., Y. Wang, Y. Wan, H. Kei, F. Yu, Y. Liu, P. Chen, L. Yang, **R. Ruan**. 2009. Processing and properties of rigid polyurethane foams based on bio-oils from microwave-assisted pyrolysis of corn stover. *International Journal of Agricultural and Biological Engineering* 2(1): 40-50.

592. Gao, Y., W. Chen, H. Lei, Y. Liu, X. Lin, **R. Ruan**. 2009. Optimization of esterification conditions for the production of biodiesel from Chinese tallow kernel oil with surfactant-coated lipase using surface response methodology. *Biomass and Bioenergy* 33(2):277-282.
593. Wan, Y., X. Lin, Y. Liu, C. Yang, B. Zhang, P. Chen, H. Lei, and **R. Ruan**. 2009. Microwave assisted pyrolysis of corn stover pellets with catalysts for bio-oil production. *Transaction of CSAE* 25(4):190-195.
594. Yu, F., Z. Le, P. Chen, Y. Liu, X. Lin, **R. Ruan**. 2008. Atmospheric pressure liquefaction of dried distillers' grains (DDG) and making polyurethane foams from liquefied DDG. *Applied Biochemistry and Biotechnology* 148(1-3):235-243.
595. Yu, F., Y., **R. Ruan**, P. Steele. 2008. Consecutive reaction model for the pyrolysis of corn cob. *Transactions of ASABE* 51(3): 1023-1028.
596. Y. Liu, L. Gao, A. Luo, **R. Ruan**, C. Liu. 2008. Polyurethane foams made from combined liquefaction mixtures of bamboo residues and starch. *Acta Polymerica Sinica* 8(6):544-549. DOI:10.3724/SP.J.1105.2008.00544
597. Lei, H. **R. Ruan**, R. Fulcher, and B. van Lengerich. 2008. Color development in an extrusion-cooked model system. *International Journal of Agricultural and Biological Engineering* 1(2): 55-63.
598. Zhang J., X. Lin, **R. Ruan**, P. Chen. 2008. Effects of NMR state transition on Maillard reaction rate in model food storage systems. *Transactions of the CSAE* 24 (2): 214-220.
599. Zhang, J., N. Wang, X. Lin, **R. Ruan**. 2008. Nuclear magnetic resonance technique application in evaluating the quality of navel orange during storage, *Food Research and Development* 29 (06):126-129.
600. **Ruan, R.**, P. Chen, R. Hemmingsen, V. Morey, and D. Tiffany. 2008. Size Matters: Small Distributed Biomass Energy Production Systems for Economic Viability. *International Journal of Agricultural and Biological Engineering* 1(1): 64-68.
601. Liu, Y., **R. Ruan**. 2008. Application of biotechnology in brown rice processing. *Food Science* 2008(8):640-642.
602. Qian, F., J. Zhang, Z. Jin, Y. Liu, X. Lin, **R. Ruan**. 2008. Study of glass transition process in foods by NMR. *Food Science* 2008(8):666-669
603. Jin, Z, J. Zhang, Y. Liu, X. Lin, **R. Ruan**, N. Wang. 2008. Study of aging process of egg using NMR and MRI, *Science and Technology of Food Industry* 2008(8):112-114
604. Wang, J., X. Lin, **R. Ruan**, Y. Liu, C. Xu. 2008. Preservation of fresh-cut cauliflower using high concentration ozonated water. *Food Science* 2008(8):607-611

605. Jin, Z., J. Zhang, F. Qian, Y. Liu, X. Lin, **R. Ruan**. 2008. Study of changes in grains during storage using NMR. *Food Science* 2008(9):66-69.
606. Zhou, H., Y. Liu, R. Li, D. Han, F. Qian, S. Jiao, **R. Ruan**. 2008. Study of Alkylresorcinols in Wheat and Rye Brans. *Food Science* 2008(8):680-684.
607. Liu, Y., Y. Wan., H. Lei, **R. Ruan**, C. Liu, X. Lin, M. Xie, H. Peng, D. Zheng. 2008. Starch based polyester type water resistant wood adhesive. *Transactions of CSAE*, 24(9): 309-312.
608. Li, Y. K., Szlachetke, P. Chen, X. Lin, **R. Ruan**. 2008. Ingredient characterization and hardening of high-protein food bars: an NMR state diagram approach. *Cereal Chemistry* 85(6):780-786.
609. Mok, C., J. Qi, P. Chen, and **R. Ruan**. 2008. NMR relaxometry of water in set yogurt during fermentation. *Food Science and Biotechnology* 17(5):895-898.
610. Zhu, J., Wu, X., Miller, C., Yu, F., Chen, P., **R. Ruan**. 2007. Biohydrogen production through fermentation using liquid swine manure as substrate. *Journal of Environmental Science and Health - Part B Pesticides, Food Contaminants, and Agricultural Wastes* 42(4):393 – 401.
611. Lei, H., R. Fulcher, **R. Ruan**, B. van Lengerich. 2007. Empirical modeling of mean residence time in a co-rotating twin-screw extruder with rice flour. *Cereal Chemistry* 85(2):230-237.
612. Yu, F., S. Deng, P. Chen, Y. Liu, Y. Wang, A. Olsen, D. Kittelson, **R. Ruan**. 2007. Physical and chemical properties of bio-oils from microwave pyrolysis of corn stoves. *Applied Biochemistry and Biotechnology* 136-140:957-970.
613. Luo, A., Y. Chen, Y. Liu, L. Gao, **R. Ruan**, X. Lin. 2007. Study on clarification of persimmon wine. *Food Science* 28(10):304-308.
614. **Roger Ruan**, Young Jin Choi, Myong Soo Chung. 2007. Caking in food powders. *Food Science and Biotechnology* 16(3): 329-336.
615. Yu, F., **R. Ruan**, P. Chen, S. Deng, Y. Liu, X. Lin. 2007. Liquefaction of Corn Cobs with Supercritical Water Treatment. *Transactions of ASABE* 50(1):175-180.
616. Li, C., Y. Liu, **R. Ruan**. 2007. Refined salad oil from *Cornus wilsoniana* wanger. *Grain and Oilseed Processing* 11:76-78.
617. Wang, N., X. Lin, **R. Ruan**, J. Zhang, W. Chen, Z. Jin. 2007. Study on Navel orange processing with NMR. *Food Science* 22(2):237-239, 222.

618. Lei, H., R. Fulcher, **R. Ruan**, B. van Lengerich. 2007. Assessment of color development due to twin-screw extrusion of rice-glucose-lysine blend using image analysis. *J. of Food Science and Technology (L.W.T.)* 40(7):1224-1231.
619. Luo, J., Y. Liu, A. Luo, L. Gao, **R. Ruan**. 2007. Effect of lipids of sapium sebiferum Roxb on growth of lentinula edodes (Berk.) Pegler. *Food Science* 28(9):422-429.
620. Jin, Z., J. Zhang, X. Lin, **R. Ruan**, N. Wang, W. Chen. 2007. Study on the spoilage of strawberry by NMR and MRI. *Food Science* 28(8):108-111.
621. Liu, Y., **R. Ruan**, H. Ouyang, L. Chen, Y. Wan, A. Luo, Y. Gao, C. Liu. 2007. Study on the basic oil supply for the commercial biodiesel manufacturing. *Renewable Energy Resources* 25 (2):26-29.
622. Deng, S., **R. Ruan**, C. Mok, G. Huang, X. Lin, P. Chen. 2007. Inactivation of Escherichia coli on almonds using nonthermal plasma. *J. Food Science*. 72(2):M62-M66.
623. Lin, X., **R. Ruan**, R. Zhu, S. Deng, L. Chen, and P. Rao. 2006. Development of nonthermal plasma technology for nonthermal pasteurization of liquid foods. *Food Science* 27(2):57-61.
624. Lin, X., **R. Ruan**, P. Chen, M. Chung, X. Ye, T. Yang, C. Doona, and T. Wagner. 2006. NMR State Diagram Concept. *J. of Food Science*. 71(9):R136-R145.
625. Chen, W., Y. Gao, X. Lin, D. Xia, **R. Ruan**, S. Bai. 2006. Development of biodiesel byproduct glycerol refining technology. *China Oils and Fats* 31(5):62-64.
626. Ye, X., S. Wang, **R. Ruan**, J. Qi, C. Doona. 2006. Water mobility and mold susceptibility engineered wood products. *Transactions of ASABE* 49(4): 1159-1165.
627. Wang, N., W. Chen, X. Lin, C. He, **R. Ruan**, and J. Zhang. 2006. Applications of basic NMR/MRI pulse sequences in food research. *Academic Periodical of Farm Products Processing* 67:11-14, 22.
628. Chen, W., X. Lin, **R. Ruan**, X. He, R. Zhu, Y. Liu. 2006. Nondestructive evaluation of water in foods using NMR techniques. *Food Research and Development* 27(4):125-127.
629. Ouyang, H., X. Lin, **R. Ruan**, W. Chen, Q. Jiang, S. Bai, C. Li. 2006. Research progress in microemulsion of fuel oil. *Renewable Energy* 127:55-59.
630. Jiang, Q., Y. Liu, Z. Li, **R. Ruan**, A. Luo, X. Lin. 2006. Taxus bark atmospheric pressure rapid liquefaction process optimization using uniform design. *J. Fujian Forestry Science and Technology* 33(1):80-82.

631. Tu, Z., W. Ren, **R. Ruan**, C. Liu, M. Li. 2006. Effect of instantaneous high-pressure treatment on physical properties of rice starch. *Food Industry Science and Technology* 27(5):103-105.
632. Tu, Z., J. Chen, C. Liu, W. Ren, **R. Ruan**. 2006. Rheological properties of homogenized carrot juice. *Food Science* 27(3):52-55.
633. Wang, J., C. Liu, H. Xiong, **R. Ruan**. 2006. Extraction of alkali-insoluble beta-glucans from yeast. *Academic Periodical of Farm Products Processing* 58:24-26.
634. Li, C. **R. Ruan**, X. Lin, W. Chen, A. Luo, J. Chen. 2006. Properties and applications of rhodotorula. *Academic Periodical of Farm Products Processing* 64:20-22, 25.
635. Li, D., C. Liu, W. Liu, **R. Ruan**. 2006. Use of cellular level pulverizing in Chinese medicine processing. *Academic Periodical of Farm Products Processing* 58:46-48.
636. Lin, X. C. He, W. Chen, **R. Ruan**, J. Zhang. 2006. Study of effect of sucrose on molecular mobility of dough using NMR techniques. *J. Chinese Institute of Food Science and Technology* 6(1):30-34.
637. Tu, Z., Q. Wang, **R. Ruan**, M. Li. 2006. Effect of instantaneous high-pressure treatment on the functional characteristics of soy protein. *Science and Technology of Food Industry* 2006(1):66-67.
638. Chen, C., J. Zhang, **R. Ruan**, C. He, X. Lin. 2006. Application of MRI in pork quality evaluation. *Meat Industry* 297:11-14.
639. Tu, Z., J. Li, **R. Ruan**, C. Liu, H. Wang, X. Zhang. 2006. Development of high bioavailable dietary fiber from soybean meals. *Food Science* 27(7):144-147.
640. Ouyang, H. **R. Ruan**, X. Lin, Y. Liu, W. Chen., Q. Jiang. 2006. Review of the use of GI and RAG in healthy food evaluation. *Modern Food Science and Technology* 22(2):237-239, 222.
641. Mok, C. K. Song, Y. Park, **R. Ruan**, P. Chen. 2006. High hydrostatic pressure pasteurization of red wine. *J. of Food Science* 71(8):265-269.
642. Liu, C., Y. Zhong, W. Liu, **R. Ruan**, Y. Peng. 2006. RSM model development on effort of instantaneous high pressure on subtilis spore inactivation. *Food Science* 27(7):96-99.
643. **Ruan, R.** S. Bai, X. Lin, Y. Liu, S. Li, and Y. Gao. 2006. Effect of waste restaurant oil properties on biodiesel production and quality. *China Oils and Fats* 31(4):65-68.
644. Yu, F., Y. Liu, X. Pan, X. Lin, C. Liu, P. Chen, and **R. Ruan**. 2006. Liquefaction of corn stover and preparation of polyester from liquefied polyol. *Applied Biochemistry and Biotechnology* 129-132:574-585.

645. Yu, F., **R. Ruan**, X. Lin, Y. Liu, R. Fu, Y. Li, P. Chen, and Y. Gao. 2006. Reaction kinetics of stover liquefaction in recycled stover polyol. *Applied Biochemistry and Biotechnology* 129-132:563-573.
646. Luo, A., Y. Liu, Q. Jiang, **R. Ruan**, X. Lin, C. Liu. 2006. Progress on water-resistant soy-based wood adhesive development. *Academic Periodical of Farm Products Processing* 67:15-18, 22.
647. Liu, Y., Q. Jiang, A. Luo, **R. Ruan**, C. Liu, D. Zhen, X. Lin. 2006. Effect of soy protein modification on the properties of the soy protein-based adhesive. *Forestry Science and Technology* 31(4):48-51.
648. Liu, Y., Q. Jiang, **R. Ruan**, A. Luo, C. Liu, Z. Tu, X. Lin. 2006. Development of a two-step procedure for making water-resistant soy-based wood adhesive. *Soybean Science* 25(3):259-264.
649. Jiang, Q., Y. Liu, D. Zhen, **R. Ruan**, X. Lin, W. Chen, and H. Ou Yang. 2006. Antiseptic research and development for wood and wood adhesive. *J. of Fujian Forestry Science and Technology* 33(2):164-168.
650. Lei, H., R.G. Fulcher, **R. Ruan**, B. van Lengerich. 2005. Empirical modeling of die pressure, shaft torque, SME, and product temperature of rice flour in a co-rotating twin-screw extruder. *Cereal Chemistry*. 82(5):582-587.
651. Liu, Y., **Ruan, R.**, X. Lin, F. Yu, P. Chen, S. Deng, Y. Li, V. Morey and T. Yang. 2005. Preparation of Biopolymers from Liquefied Corn Stover. *Transactions of CSAE* 21(12):116-120. (**2005 CSAE Superior Paper Award.**)
652. Lin, X., J. Chen, D. Zhen, C. He., and **R. Ruan**. 2005. Applications of pulse high pressure technology in food pasteurization. *J. of Agricultural Products Processing* 30(1):9-12.
653. Li, Y., **R. Ruan**, J. Li, Q Yu, X. Lin, P L. Chen, S. Deng, B. Grounli. 2005. Development of an automatic milk standards packaging system. *Applied Engineering in Agriculture* 21(2):253-257.
654. Lin, X., **R. Ruan**, C. He, J. Zhang, R. Zhu, Y. Liu. 2005. Application of NMR and MRI techniques in the study of food polymer glass transition process. *Food Science* 26(3):269-271.
655. Lin, X., **R. Ruan**, C. He, J. Zhang, R. Zhu, S. Bai, Y. Liu. 2005. Application of NMR and MRI techniques in the study of ohmic heating process. *Food Science* 26(6):272-275.

656. He, C., X. Lin, **R. Ruan**, D. Zheng, J. Zhang. 2005. Application of low field pulse magnetic resonance imaging technology in foods. *Food Research and Development* 26(4):89-92.
657. Bai, S., X. Lin, **R. Ruan**, D. Zheng, Y. Liu, C. He. 2005. A new process for γ -ABA production. *Modern Food Science and Technology* 21(2):202-205.
658. Lei, H., R.G. Fulcher, **R. Ruan**, B. van Lengerich. 2005. SME-Arrhenius model for WSI of rice flour in a twin-screw extruder. *Cereal Chemistry* 82(5):574-581.
659. Liu, Y., D. Zhen, Y. Gao, X. Lin, **R. Ruan**. 2005. Drying oil resources, properties, and utilization. *Forestry Chemical Engineering News* 39(3):42-47.
660. Zhen, D., Y. Liu, X. Lin, S. Bei, **R. Ruan**. 2005. Bamboo waste utilization. *Fujian Forestry Science and Technology* 32(2):153-157.
661. Liu, Y., D. Zhen, X. Lin, C. Liu, **R. Ruan**. 2005. Current status of thermochemical liquefaction of cellulosic biomass for catalytic hydrogen production. *Renewable Energy* 121(3):76-78.
662. Lin, X., **R. Ruan**, S. Bai, C. He, R. Zhu, J. Zhang, P. Rao. 2005. Application of nonthermal pasteurization technology in foods – Part I. *J. of Agricultural Products Processing* 30(2):9-12.
663. Lin, X., **R. Ruan**, S. Bai, C. He, R. Zhu, J. Zhang, P. Rao. 2005. Application of nonthermal pasteurization technology in foods – Part II. *J. of Agricultural Products Processing* 30(2):12-16.
664. Li, Z., C. Liu, X. Lin, Y. Liu, **R. Ruan**. 2005. Development and issues of fast atmospheric pressure biomass liquefaction technology. *J. of Agricultural Products Processing* 30(2): 25-27, 30.
665. Zhen, D., **R. Ruan**, Y. Liu, X. Lin, S. Bai. 2005. Catalytic assisted thermochemical liquefaction of cellulosic biomass. *J. of Agricultural Products Processing* 30(2):17-21.
666. Liu, Y., X. Lin, **R. Ruan**, D. Zhen, S. Bai, C. He. 2005. Effect of extrusion process on food nutrition and composition. *J. of Agricultural Products Processing* 30(1):30-33, 36.
667. Zhang, J. X. Lin, **R. Ruan**, X. He, M. Li, L. Wei. 2005. MRI application in pork quality evaluations. *Food Science* 26(9):36-38.
668. He, C., X. Lin, D. Zhen, **R. Ruan**, Y. Liu, S. Bai. 2005. Effect of starch and gluten on dough rheological properties. *J. of Agricultural Products Processing* 30(4):21-23.
669. Zhang, J. X. Lin, **R. Ruan**, X. He, W. Chen, J. Nie. 2005. MRI application in food quality evaluations. *J. of Agricultural Products Processing* 30(5):11-13.

670. Lin, X., C. He, **R. Ruan**, J. Zhang, W. Chen, R. Zhu. 2005. Study of moisture migration in steam bread during microwave heating using MRI. *Food Science* 26(8):82-86.
671. Lin, X., C. He, Y. Gao, Y. Liu, **R. Ruan**. 2005. Meat nutrition and human health. *Meat Industry* 285(1):42-45.
672. Liu, C., W. Liu, **R. Ruan**. 2005. Study of soymeal fiber property improvement with instantaneous high-pressure treatment. *Food Science* 26(9):112-115.
673. Liu, C., W. Liu, **R. Ruan**. 2005. Effects of instantaneous high-pressure treatment on solubility of dietary fiber. *Food Science* 26(8):110-112.
674. Peng, Y., C. Liu, **R. Ruan**. 2005. Inactivation of bacteria with instantaneous high-pressure technology. *Grain and Food Processing* 2005(3):32-35.
675. Wang, J., C. Liu, **R. Ruan**. 2005. Optimization of wheat bran dietary fiber extraction process conditions. *Jiangxi Food Industry* 2005(3):36-37.
676. Liu, C., W. Liu, **R. Ruan**, Xiangyang Lin. 2005. Effects of instantaneous high-pressure treatment on *E. coli* reductions. *Food Science* 26(2):87-90.
677. Liu, C., G. Fu, Z. Tu, H. You, P. Chen, **R. Ruan**. 2005. Functional polysaccharides from lilies. *Transactions of ASAE* 48(1):257-261.
678. Xiong, H., X. Lin, C. Liu, **R. Ruan**, Y. Liu, Y. Gao. 2004. A new type of low-fat sausage research and development. *Meat Industry* 284(12):22-24.
679. Lin, X., **R. Ruan**, J. Zhang, C. Liu, Y. Gao, and Y. Liu. 2004. The study of caking phenomenon of food powders by NMR system. *Food Science* 25(11):106-108.
680. Gao, Y., X. He, M. Liu, Q. Chen, Q. Wei, C. Chen, and **R. Ruan**. 2004. Studies on the relations between phase transition and can-breaking of CTCBE. *Food Science* 25(11):84-88.
681. Li, Y., **R. Ruan**, P. Chen, Z. Liu, X. Pan, X. Lin, Y. Liu, C.K. Mok, T. Yang. 2004. Enzymatic hydrolysis of corn stover pretreated by combined dilute alkaline treatment and homogenization. *Transactions of ASABE* 47(3): 821-825. (**2005 ASABE Honorable Mention Paper Award.**)
682. Lin, X., **R. Ruan**, P. Chen, R. Zhu, M. Chung, C. Liu. 2004. NMR state diagram concept for food products. *Food Science* 25(10):91-94. (**2005 CIFT Superior Paper Award, Third Prize**)
683. Gao, Y., C. Xiong, X. He, Q. Wei, C. Chen, **R. Ruan**. 2004. The effects of Lecithin in the tempering of CTCBE. *Food Science* 25(10):195-199.

684. Gao, Y., X. He, C. Xiong, M. Liu, Q. Chen, C. Chen, X. Lin, and **R. Ruan**. 2004. Studies on the crystallization behavior of CTCBE and its chocolate products (II). *Food Science* 25(9):39-43.
685. He, X., Y. Gao, M. Liu, Q. Chen, C. Chen, X. Lin, and **R. Ruan**. 2004. Studies on the crystallization behavior of CTCBE and its chocolate products (I). *Food Science* 25(8):83-87.
686. Gao, Y., W. Chen, **R. Ruan**, X. Lin, and C. Chen. 2004. Progress in biodiesel research and development. *Renewable Energy* 2004(3):6-10.
687. **Ruan, R.**, H. Lei, P. Chen, S. Deng, X. Lin, Y.H. Li, W. Wilcke, G. Fulcher. 2004. Ozone-Aided Corn Steeping Process. *Cereal Chemistry* 81(2):182-187. (2005 CIFT Superior Paper Award, Second Prize)
688. Liu, C., W. Liu, Y. Gao, **R. Ruan**, X. Lin, and G. Chen. 2004. Analysis of fluid dynamic behavior in high velocity jet homogenizer. *Food Science*. 25(4):58-62.
689. Liu, C., W. Liu, X. Lin, **R. Ruan**. 2004. Effect of microfluidizer treatment on physical properties of dietary fiber solution. *Food Science*. 25(2):72-75.
690. Li, J., C. Liu, **R. Ruan**, X. Lin, S. Li, M. Li, Y. Pen. 2004. Study of alkaline catalyst method for production of biodiesel from restaurant waste oil. *Jiangxi Food Industry* 61(2):30-31.
691. Ye, X., **R. Ruan**, P. Chen, and C. Doona. 2004. Simulation and verification of ohmic heating in static heater using MRI temperature mapping. *J. of Food Science and Technology (L.W.T.)* 37(1):49-58.
692. Liu, C., W. Liu, X. Lin, **R. Ruan**. 2004. Particle size distribution analysis of microfluidizer treated dietary fiber. *Food Science*. 25(1):52-55.
693. Li, Y., Y. Gao, C. Xiong, and **R. Ruan**. 2003. Relationship of structure characteristics and stability of tallow cocoa butter. *Transactions of China Grain and Oils*. 2003(6): .
694. Chen, W., Y. Gao., Y. Liu, X. Lin, and **R. Ruan**. 2003. Biomass conversion and utilization. *Renewable Energy*. 2004(6):48-49.
695. Ye, X., **R. Ruan**, P. Chen, C. Doona, and I. Taub. 2003. Determination of the liquid-particulate heat transfer coefficient in an ohmically-heated food system using MRI temperature mapping. *J. of Food Science* 68(4):1341-1346.
696. Gao, Y., X. Lin, Y. Liu, Q. Chen, and **R. Ruan**. 2003. Meat consumption and human health. *Food Science and Technology* 2003(7):14-17.
697. Gao, Y., Y. Liu, X. Lin, Q. Chen, and **R. Ruan**. 2003. Modernization of animal husbandry and meat processing. *Food Science nad Technology* 2003(7):21-23.

698. Chung, M., **R. Ruan**, P. Chen, J. Kim, T. Ahn, and C. Baik. 2003. Predicting caking behaviors in powdered foods using a low field nuclear magnetic resonance (NMR) technique. *J. of Food Science and Technology (L.W.T.)* 36(8):751-761.
699. Liu, W., C. Liu, X. Lin, and **R. Ruan**. 2003. Study of pressure and energy in high pressure homogenization processing. *Food Science*. 2003(7):162-164.
700. Li, Y., J. Li, Z. Liu, **R. Ruan**, Z. Mao. 2003. Vacuum coating of heat sensitive liquid ingredient into feed pellets. *Transactions of the ASAE* 46(2):383-387.
701. Li, Y., Y. Gao, **R. Ruan**. 2003. Methods of using of tallow cocoa butter as antioxidant. *China Oils and Fats*. 28(10):31-34.
702. Ye, X., **R. Ruan**, P. Chen, K. Chang, K. Ning, I. Taub, and C. Doona. 2003. Accurate and fast temperature mapping during ohmic heating using proton resonance frequency shift MRI thermometry. *J. of Food Engineering* 59(2003):143-150.
703. Liu, W., C. Liu, X. Lin, and **R. Ruan**. 2003. Present situation and prospect of dietary fiber research. *Cereal and Food Industry* 2003(4):25-27.
704. Chung, M. and **R. Ruan**. 2002. Relationship between caking characteristics obtained by NMR techniques and chemical compositions of food powders. *Food Science and Biotechnology* 11(5):561-565.
705. Chung, M. and **R. Ruan**. 2002. Storage temperature dependence on caking of powdered foods. *Food Science and Biotechnology* 11(5):565-569.
706. **Ruan, R.**, Y. Li, X. Lin, and P. Chen. 2002. Non-destructive determine of deoxynivalenol (Don) levels using near-infrared spectroscopy. *Applied Engineering in Agriculture* 18(5):549-553.
707. Ma, M., **R. Ruan**, X. Lin, S. Deng, X. Ye, Y. Liu, and P. Chen. 2002. Nonthermal pasteurization of liquid foods using non-thermal plasma. *Transactions of the CSAE* 18(5): 155-159.
708. Montenegro, J., **R. Ruan**, H. Ma, P. Chen. 2002. Inactivation of E. coli O157: H7 using a pulsed non-thermal plasma system. *J. of Food Science* 67(2):646-648.
709. Ma, H., P. Chen, M. Zhang, X. Lin, **R. Ruan**. 2002. Study of SO₂ removal using non-thermal plasma induced by dielectric barrier discharge (DBD). *Plasma Chemistry and Plasma Processing* 22(2):239-254.
710. Gu, L., **R. Ruan**, P. Chen, W. Wilcke, and P. Addis. 2001. Structure-function relationships of highly refined cellulose. *Transactions of the ASABE* 44(6):1707-1712.

711. Doona, C., I.A. Taub, S. Kandlikar, **R. Ruan**, X. Ye, F. Feeherry, E. Ross. 2001. Temperature distribution with ohmic heating. *Activities report of the R & D Associates* 54(1/2): 337-342.
712. Chung, M., **R. Ruan**, P. Chen, Y. Lee, T. Ahn, and C. Baik. 2001. Formulation of caking-resistant powdered soups based on NMR study. *J. of Food Science*. 66(8): 1147-1151.
713. **Ruan, R.**, S. Ning, L. Luo, X. Chen, P. Chen, R. Jones, W. Wilcke, and R.V. Morey. 2001. Estimation of weight percentage of scabby wheat kernels using an automatic machine vision and neural network-based system. *Transactions of the ASAE* 44(4): 983-988.
714. Katsanidis, E., D. Meyer, R. Epley, E. Addis, and **R. Ruan**. 2001. Highly refined cellulose and dehydrated potato extract in crooked, low-fat, comminuted beef. *J. of Food Science*. 66(5): 758-761.
715. Ma, H., P. Chen, and **R. Ruan**. 2001. H₂S and NH₃ removal by silent discharge plasma and ozone combo system. *Plasma Chemistry and Plasma Processing* 21(4):611-624.
716. Chung, M., **R. Ruan**, P. Chen, S. Chung, T. Ahn, and K. Lee. 2000. Study of caking in powdered foods using nuclear magnetic resonance spectroscopy. *J. of Food Science* 65(1):134-138.
717. **Ruan, R.** and L. Chen. 2000. Nuclear magnetic resonance techniques in cereal chemistry research. *Research Trends* 2(1999):1-9.
718. **Ruan, R.**, W. Han, A. Ning, S. Deng, P. Chen, and P. Goodrich. 1999. Effects of design parameters of planar silent discharge plasma reactors on gaseous ammonia reduction. *Transactions of the ASABE* 42(6):1841-1845.
719. **Ruan, R.**, P. Chen, K. Chang, H.-J. Kim, and I. A. Taub. 1999. Rapid food particle temperature mapping in ohmic heating using FLASH MRI. *J. of Food Science* 64(6):1024-1026.
720. **Ruan, R.**, W. Han, A. Ning, P. Chen, P. Goodrich, and R. Zhang. 1999. Treatment of odorous and hazardous gases using non-thermal plasma. *J. Advanced Oxidation Technologies* 4(3):328-332.
721. **Ruan, R.** and L. Chen. 1999. Measurement of state transition temperature using NMR and MRI. *Leatherhead Food RA (Research Association) Food Industry Journal* 2(3):238-250.
722. **Ruan, R.**, Z. Long, P. Chen, V. Huang, and S. Almaer. 1999. Pulse NMR study of glass transition in maltodextrins. *J. of Food Science* 64(1):6-9. (Hypothesis Paper, feature article and high-lighted on the cover of the issue.)

723. Chung, M., **R. Ruan**, P. Chen, and X. Wang. 1999. Physical and chemical properties of caramel systems. *J. of Food Science and Technology (L.W.T.)* 32(3):162-166.
724. **Ruan, R.**, P. Chen, and S. Almaer. 1999. Non-destructive analysis of sweet corn maturity using NMR. *HortScience* 34(2):319-321.
725. **Ruan, R.** and S. Deng. 1999. An automatic ozonated water generation system for sanitizing foods and food processing facilities. *Food & Machinery* 73(5):13.
726. **Ruan, R.**, X. Wang, P. Chen, R.G. Fulcher, P. Pesheck, and S. Chakrabarti. 1999. Study of water in dough using NMR. *Cereal Chemistry* 76(2):231-235.
727. **Ruan, R.**, Z. Long, K. Chang, P. Chen, and I. Taub. 1999. Glass transition temperature mapping using magnetic resonance imaging. *Transactions of the ASAE* 42(4):1055-1059. (2000 ASABE Superior Paper Award.)
728. **Ruan, R.**, Z. Long, A. Song, and P. Chen. 1998. Determination of the glass transition temperature of food polymers using low field NMR. *J. of Food Science and Technology (L.W.T.)* 31(6):516-521.
729. Jang, G. C. and **R. Ruan**. 1998. Determination of bulk density and internal structure of red ginseng using NMR. *Journal of Ginseng Research* 22(2): 96-101.
730. McEntyre, E., **R. Ruan**, and R. G. Fulcher. 1998. A comparison of water absorption patterns in two barley cultivars using magnetic resonance imaging. *Cereal Chemistry* 75(6):792-795. (Our paper was the featured paper on the Internet for this issue of the journal.)
731. Perniel, M., **R. Ruan**, and B. Martinez. 1998. Nutrient removal from a stormwater detention pond using duckweed. *Applied Engineering in Agriculture* 14(6):611-617.
732. **Ruan, R.**, S. Ning, A. Song, A. Ning, R. Jones, and P. Chen. 1998. Estimation of *Fusarium* scab in wheat using machine vision and a neural network. *Cereal Chemistry* 75(4): 455-459.
733. **Ruan, R.**, K. Chang, L. Chen, and A. Ning. 1998. Simultaneous heat and moisture transfer in cheddar cheese during cooling. Part I. MRI temperature mapping. *Drying Technology* 16(7): 1447-1458.
734. Chang, K., **R. Ruan**, and L. Chen. 1998. Simultaneous heat and moisture transfer in cheddar cheese during cooling. Part II. Numerical simulation. *Drying Technology* 16(7): 1459-1470.
735. **Ruan, R.**, K. Chang, P. Chen, R. Fulcher, and E. Bastian. 1998. A magnetic resonance imaging technique for quantitative mapping of moisture and fat in a cheese block. *Journal of Dairy Science* 80: 9-15.

736. **Ruan, R.**, L. Xu, and P. Chen. 1998. Water vapor permeability and tensile strength of cellulose based composite edible films. *Applied Engineering in Agriculture* 14(4): 411-413.
737. **Ruan, R.**, J.Z. Xu, C. Zhang, C.M. Chi, and W.S. Hu. 1997. Classification of plant somatic embryos using neural network classifiers. *Biotechnology Progress* 13: 741-746.
738. Barbosa-Canovas, G., G. Mittal, **R. Ruan**, H. Zhang, and D. Quass. 1997. Pulsed electric field processing in the food industry - A status report on PEF. *EPRI Publication* CR-109742.
739. **Ruan, R.**, J. Han, L. Chen, and B. Martinez. 1997. Study of temperature sensitive hydrogel using pulsed NMR. *Biotechnology Techniques* 11(4): 257-260.
740. **Ruan, R.**, S. Almaer, C. Zou, and P. Chen. 1997. Spectrum analysis of mixing power curves for neural network prediction of dough rheological properties. *Transactions of the ASAE* 40(3): 677-681.
741. Chen, L., Z. Long, **R. Ruan**, T. Labuza. 1997. Nuclear magnetic resonance studies of water mobility in bread during storage. *J. of Food Science and Technology (L.W.T.)* 30(2): 178-183.
742. **Ruan, R.**, C. Zou, C. Wadhawan, B. Martinez, P. Chen, and P. Addis. 1997. Studies of water mobility and shelf-life quality of precooked wild rice using pulsed NMR. *J. of Food Processing & Preservation* 21(2): 91-104.
743. **Ruan, R.**, S. Almaer, V. Huang, P. Perkins, L. Chen, and R. Fulcher. 1996. Relationship between firming and water mobility in starch-based food systems during storage. *Cereal Chemistry* 73(3): 328-332.
744. **Ruan, R.**, Y. Lun, J. Zhang, P. Addis, and L. Chen. 1996. Structure-function relationships of highly refined cellulose made from agricultural fibrous residues. *Applied Engineering in Agriculture* 12(4): 465-468.
745. Han, J., B. Martinez, and **R. Ruan**. 1996. Immobilization of *Celeus blumei* in temperature-sensitive hydrogel. *Biotechnology Techniques* 10(5): 359-362.
746. Zeng, X., **R. Ruan**, R. Fulcher, and L. Chen. 1996. Evaluation of soybean seedcoat cracking during drying. Part I. Using drying tests. *Drying Technology* 14(7&8): 1575-1593.
747. Zeng, X., **R. Ruan**, R. Fulcher, and L. Chen. 1996. Evaluation of soybean seedcoat cracking during drying. Part II. Using MRI. *Drying Technology* 14(7&8): 1595-1623.
748. Han, J., **R. Ruan**, and C.H. Park. 1995. Prediction of hydrogel pore size by pulse NMR and neural networks. *Biotechnology Techniques* 9(9): 637-642.
749. **Ruan, R.**, S. Almaer, and J. Zhang. 1995. Prediction of dough rheological properties using neural networks. *Cereal Chemistry* 72(3): 308-311.

750. Han, J., C.H. Park, and **R. Ruan**. 1995. Concentrating alkaline serine protease subtilisin using a temperature-sensitive hydrogel. *Biotechnology Letters* 17(8): 851-852.
751. Fulcher, R.G., J.M. Faubion, **R. Ruan**, and S.S. Miller. 1994. Quantitative microscopy in carbohydrate analysis. *Carbohydrate Polymers* 25: 285-293.
752. **Ruan, R.**, J.B. Litchfield, and S.R. Eckhoff. 1992. Simultaneous and nondestructive measurement of transient moisture profiles and structural changes in corn kernels during steeping using microscopic NMR imaging. *Cereal Chemistry* 69(6): 600-606.
753. **Ruan, R.** and J. Bruce Litchfield. 1992. Determination of water distribution and mobility inside corn kernels during steeping using magnetic resonance microscopy. *Cereal Chemistry* 69(1): 13-17.
754. **Ruan, R.**, S. Schmidt, A. Schmidt and J.B. Litchfield. 1991. Nondestructive measurement of transient moisture profiles and the moisture diffusion coefficient in potato during drying and absorption by NMR imaging. *J. of Food Process Engineering* 14: 297-313.
755. **Ruan, R.** and G.H. Brusewitz. 1989. Development of a low-cost sound pressure grain moisture transducer. *Transactions of ASABE* 32(1): 316-320. (**1990 ASABE Superior Paper Award.**)
756. **Ruan, R.**, Z. Jiang, Z. Hou, and X. Wang. 1986. An investigation on the storage of apple by plastic film packaging under atmospheric temperature after hypnotizing. *J. of Beijing Ag. Engr. University* No. 4.
757. **Ruan, R.**, Z. Jiang, and Z. Hou. 1986. A study on storage of apple by controlling atmosphere and packaging in plastic film bag under atmospheric temperature. *Transaction of Chinese Society of Ag. Engr.* No. 3.
758. **Ruan, R.** 1985. Apple preservation. *J. of Agricultural Engineering*, Vol. 59.
759. **Ruan, R.**, and X. Wang. 1985. The mechanization of fruits production. *J. of Agricultural Engineering*, Vol. 58.
760. **Ruan, R.** 1984. An approach to the management orientation and methods of farm machinery station. *J. of Shandon Ag. Mechanization*, Vol. 13.

Patents

761. **Ruan, R.**, P. Chen, L. Dai, Y. Lyu. 2023. Fixation of nitrogen from atmosphere using nonthermal plasma. US Patent Application No.: 63/436,794. January 3, 2023.
762. **Ruan, R.** and Erik Anderson. 2024. Distillation system and method using microwave-assisted pyrolysis. US Patent No: 12,006,472 B2. Issue date: June 11, 2024.

763. **Ruan, R.**, Y. Cheng, N. Zhou, D. Chen, P. Peng, Y. Wang, R. Zhang, C. Schiappacasse, L. Chen. 2020. Disinfection materials with intense pulsed light and catalytic microwave-assisted decontamination. US Patent No: 11,890,386. Issue date: Feb. 6, 2024.
764. **Ruan, R.** and Erik Anderson. 2023. Distillation system and method using microwave-assisted pyrolysis. US Patent No: 11,591,523. Issue date: February 28, 2023.
765. **Ruan, R.** and Erik Anderson. 2021. Distillation system and method using microwave-assisted pyrolysis. US Patent No: 11,142,700. Issue date: October 12, 2021.
766. **Ruan, R.**, M. Addy, Y. Nie, E. Anderson, C. Bi, D. Li, and L. Chen. 2017. Production of Biodiesel from Scum. US Patent No: 9,745,530. Issue date: August 29, 2017
767. Addis, P, **R. Ruan**, J. Keenan, and D. Geleva. 2015. Medical and nutritional applications of high refined cellulose. US Patent No: 8,969,321 B2. Issue date: March 3, 2015.
768. **Ruan, R.** S. Deng, Z. Le, Y. Cheng. X. Lin, P. Chen. 2014. Non-thermal Plasma Synthesis with Carbon Component. US Patent No: 8,641,872. Issue Date: February 4, 2014.
769. Addis, P., **R. Ruan**, J. Keenan, and D. Geleva. 2014. Medical and Nutritional application of highly refined cellulose. US Patent No: 8,623,841. Issue date: January 7, 2014.
770. **Ruan, R.**, M. Min, Q. Kong, Y. Cheng, X. Ma, Y. Li, Y. Liu, P. Chen. 2013. Photobioreactor, systems and methods of use. US Patent Application NO. 61/829,575.
771. Zhou, W., J. Zhang, B. Hu, and **R. Ruan**. 2013. Microalgae culture and harvest. US PCT Patent Application PCT/US2012/059707.
772. **Ruan, R.**, S. Deng, P. Chen, X. Lin, and L. Metzger. 2011. Dielectric barrier reactor having concentrated electric field. US Patent No: 7,931,811. Issue date: April 26, 2011.
773. Addis, P., **R. Ruan**, J. Keenan, J. Oins, and D. Geleva. 2011. Medical and nutritional applications of highly refined cellulose. US Patent No: 8,026,226. Issue date: September 27, 2011.
774. **Ruan, R.**, L. Gu, B. Lundberg, L. Chen, J. Johnson, and P. Addis. 2009. Cellulose fiber-based compositions and their method of manufacture. US Patent No: 7,582,213. Issue date: September 1, 2009.
775. **Ruan, R.**, B. Lundberg, L. Gu, L. Chen, J. Johnson, and P. Addis. 2006. Cellulose fiber compositions and films and their method of manufacture. US Patent No: 7,074,300. Issue date: July 11, 2006.

776. **Ruan, R.**, H. Ma, P. Chen, S. Deng, X. Lin, D. Oyen, R. Bowman. 2006. Non-thermal disinfection of biological fluids using non-thermal plasma. US Patent No: 7,011,790. Issue date: March 14, 2006.
777. **Ruan, R.**, H. Ma, P. Chen, S. Deng, and X. Lin. 2005. Method and apparatus for non-thermal pasteurization of living-mammal-instillable liquids. US Patent No: 6,911,225. Issue date: June 28, 2005.
778. **Ruan, R.**, H. Ma, M. Zhang, P. Chen, D. Oyen. 2003. Method and apparatus for non-thermal pasteurization. US Patent No: 6,562,386. Issued date: May 13, 2003.
779. **Ruan, R.**, P. Chen, A. Ning, S. Deng, H. Ma, D. Robinson, and R. Boogard. 2003. Dielectric barrier discharge system and method for decomposing hazardous compounds in fluids. US Patent No: 6,565,716. Issued date: May 20, 2003.
780. **Ruan, R.**, B. Lundberg, L. Gu, L. Chen, P. Addis, and J. Johnson. 2003. Cellulose fiber-based compositions and their method of manufacture (new process). US Patent No: 6,506,435. Issued date: January 14, 2003.
781. **Ruan, R.** H. Ma, L. Chen, P. Goodrich, S. Deng, and Y. Wang. 2002. Odor removal system and method having ozone and non-thermal plasma treatment. US Patent No: 6,451,252. Issue date: September 17, 2002.
782. **Ruan, R.**, P. Chen, A. Ning, S. Deng, H. Ma, D. Robinson, and R. Boogard. 2000. Dielectric barrier discharge system and method for decomposing hazardous compounds in fluids. US Patent No: 6,146,599. Issue date: November 14, 2000.
783. **Ruan, R.**, L. Xu, L. Yi, L. Chen, J. Johnson, and P. Addis. 2000. Cellulose fiber compositions and films. US Patent No: 6,083,582. Issue date: July 4, 2000.
784. **Ruan, R.**, L. Xu, L. Yi, L. Chen, J. Johnson, and P. Addis. 1998. Cellulose fiber compositions and film and the process for their manufacture. US Patent No: 5,817,381. Issue date: October 6, 1998.

Selected Invited Conference, Symposium and Company Presentations and Seminars

1. **Roger Ruan**, Junhui Chen, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Shan Liu, Yanling Cheng, Erik Anderson, Kirk Cobb, Lu Wang, Juer Liu. 2026. Sustainable Waste Treatment via Algal Cultivation, Oil Recovery, and Thermochemical Conversion. 2026 *Symposium on Biomaterials, Fuels, and Chemicals*, Invited Speaker. New Orleans, LA. May 5, 2026.
2. **Roger Ruan**, Nan Zhou, Leilei Dai. 2026. Advancing Processes and Systems for Sustainable Circular Food Production and Processing. *Bush Brothers & Company Visiting Scholars Program* invited speaker. University of Tennessee, Knoxville, TN. March 31, 2026.

3. **Roger Ruan**, Erik Anderson, Nan Zhou, Min Addy. 2026. Integrated Conversion of Waste Oils to Biofuels While Treating Wastewater. Chevron Studio, Innovation and Entrepreneurship Center, National Laboratory of the Rockies (NLR). Webinar. March 16, 2026.
4. **Roger Ruan**. 2026. Nonthermal Plasma Technology for Sustainable Food Systems, Environmental, and Nitrogen Fixation. Shandong University of Technology seminar. Zibo, Shandong. January 13, 2026.
5. **Roger Ruan**. 2026. From Waste to Resource: Circular Economy Pathways for Municipal solid Waste. *The First International Forum on Sustainable Carbon Materials and Environmental Energy*. Keynote Presentation, Nanjing, January 11, 2026.
6. **Roger Ruan**. 2026. Nonthermal Plasma: Advancing Food Systems, Environmental Protection, and Nitrogen Fixation. School of Energy and Environment seminar, Southeast University. Nanjing, January 10, 2026.
7. **Roger Ruan**, Leilei Dai, Nan Zhou, Yanling Cheng, Yuting Li, Xiangyang Lin, Kirk Cobb, Juer Liu, Hanwu Lei. 2025. Catalytic Microwave-Assisted Pyrolysis Technology for Sustainable Solid Waste Utilization. *International Symposium on the Sustainable Processing of Carbon Waste: New-generation technologies and advanced catalysis for carbon waste valorization*. Plenary Speaker, Clayton, Australia. December 5, 2025.
8. **Roger Ruan**. 2025. Nonthermal processing technologies development and applications in food pasteurization and waste remediation. Shanghai Ocean University. Oct. 22, 2025.
9. **Roger Ruan**., Junhui Chen, Ana Lobe-Moreira, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Shan Liu, Xuesong Zhang, Kirk Cobb, Lu Wang, Juer Liu, William Lazarus 2025. Sustainable solid and liquid waste treatment and utilization. Shandong Agricultural Engineering University. October 18, 2025.
10. **Roger Ruan**. 2025. Practical innovations for sustainable circular economy development. Shandong University of Technology. October 17, 2025.
11. **Roger Ruan**, Junhui Chen, Ana Lobe-Moreira, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Shan Liu, Xuesong Zhang, Kirk Cobb, Lu Wang, Juer Liu, William Lazarus. 2025. Systems approach towards sustainable municipal solid and liquid waste management. *2025 Great Cycle International Symposium*. Beijing. October 15, 2025.
12. **Roger Ruan**. 2025. Driving practical innovation toward a sustainable circular economy. China Agricultural University. October 15, 2025.
13. **Roger Ruan**, Junhui Chen, Ana Lobo-Moreira, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Shan Liu, Kirk Cobb, Lu Wang, Juer Liu, William Lazarus. 2025. Systems Approaches Towards Sustainable Landfill Waste Management. Keynote Presentation. 2025 Institute of Biological Engineering (IBE) Annual Conference – Advancing Biology-Inspired

Engineering - Celebrating the 30th Anniversary of IBE. Salt Lake City, UT. September 12, 2025.

14. **Roger Ruan**, Leilei Dai, Nan Zhou, Yanling Cheng, Yuting Li, Kirk Cobb, Juer Liu, Hanwu Lei. 2025. Plastic Wastes Upcycling through Catalytic Microwave-Assisted Pyrolysis. Invited College of Engineering Seminar, Utah State University. Logan, Utah. September 11, 2025.
15. **Roger Ruan**. 2025. Advancing CMAP Technology with Fluidized Bed Catalysis Process Development and CMAP Reactor Innovation. Resynergi Meeting. Rohnert Park, CA. August 15, 2025.
16. **Roger Ruan**. 2025. Microwave-Assisted Catalytic Conversion of Dairy Waste Lactose into 5-Hydroxymethylfurfural (5-HMF). 2025 MDFRC Annual Meeting, Roseville, MN. July 31, 2025.
17. **Roger Ruan**, Junhui chen, Ana Lobo-Moreira, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Shan Liu, Kirk Cobb, Lu Wang, Juer Liu, William Lazarus. 2025. Intervention Technologies Towards Sustainable Landfill Waste Management. The Fourth International Conference on Energy and Environment. ChuXiong, Yunan. July 17, 2025.
18. **Roger Ruan**, Leilei Dai, Nan Zhou, Yuting Li, Kirk Cobb, Juer Liu, Hanwu Lei. 2025. Advancing circular Economy through Catalytic Microwave-Assisted Pyrolysis of Solid Waste. 12th World Congress of Chemical Engineering and 21st Asian Pacific Confederation of Chemical Engineering Congress 2025 (WCCE 12 & APCCChE 2025) – Session 32: Engineering Thermochemistry and Low Carbon Chemical Engineering. Beijing. July 15, 2025.
19. **Roger Ruan**. 2025. USDA S1075 2025 Minnesota Station. USDA S1075 Annual Committee Meeting. Fargo, ND. July 10, 2025.
20. **Roger Ruan**, Nan Zhou, Leilei Dai, Yanling Cheng, Yuting Li, Kirk Cobb, Juer Liu, Hanwu Lei. 2025. Deconstructing and Upcycling of Plastic Wastes by Catalytic Microwave-Assisted Pyrolysis Technology. 7500 York Cooperative. Edina, MN. June 24, 2025.
21. **Roger Ruan**, Junhui Chen, Ana Lobo-Moreira, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Shan Liu, Kirk Cobb, Lu Wang, Juer Liu, William Lazarus. 2025. Intervention Technologies for Sustainable Landfill Management. Bridgewater Township County Commissioners Meeting. Bridgewater Town Hall, Dundas, MN. June 18, 2025.
22. **Roger Ruan**, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Kirk Cobb, Juer Liu, Yunpu Wang, Hui Li, Yaning Zhang, Xuesong Zhang, Yayun Zhang, Yunfeng Zhao, Hanwu Lei. 2025. Advanced Waste Valorization Technologies Towards Sustainable Waste Treatment and Utilization. *East China University of Technology College of Chemical Engineering seminar*, Shanghai, May 14, 2025.

23. **Roger Ruan**, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Kirk Cobb, Juer Liu, Yunpu Wang, Hui Li, Yaning Zhang, Xuesong Zhang, Yayun Zhang, Yunfeng Zhao, Hanwu Lei. 2025. Advanced Thermochemical Conversion Towards Sustainable Solid Waste Treatment and Utilization. *China Agricultural University College of Engineering seminar*. Beijing, May 13, 2025.
24. **Roger Ruan**, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Kirk Cobb, Juer Liu, Yunpu Wang, Hui Li, Yaning Zhang, Xuesong Zhang, Yayun Zhang, Yunfeng Zhao, Hanwu Lei. 2025. Catalytic Microwave-Assisted Pyrolysis Towards Sustainable Solid Waste Treatment and Utilization. *2025 Organic Solid Waste Treatment and Utilization Conference*. Xian, May 11, 2025.
25. **Roger Ruan**, Junhui Chen, Ana Lobo-Moreira, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Shan Liu, Kirk Cobb, Lu Wang, Juer Liu. 2025. Advancing Sustainable Wastewater Treatment and Utilization in a Circular Economy, *Global Perspectives on Digital/Smart Agriculture Webinar Series - Circular Bioeconomy in Agriculture*, organized by University of Illinois at Urbana-Champaign) and National Taiwan University.
26. **Roger Ruan**, Leilei Dai, Nan Zhou, Yuting Li, Yuxi Chen, Kirk Cobb, Juer Liu, Hanwu Lei. 2025. Catalytic Microwave-Assisted Pyrolysis Technology for Sustainable Circular Economy in Solid Waste Utilization. Seminar at the CAS Nanjing Forestry Research Institute. Nanjing.
27. **Roger Ruan**, Leilei Dai, Junhui Chen, Ana Lobo-Moreira, Nan Zhou, Yuting Li, Yuxi Chen, Shan Liu, Kirk Cobb, Lu Wang, Juer Liu. 2025. Waste Valorization for Circular Economy Development. Seminar at Dongnan University. Nanjing.
28. **Roger Ruan**. 2024. Waste Valorization for Sustainable Circular Economy Development. Keynote Address, Advanced Bioprocessing Technologies for Biomass Conversion – Sustainability & Bioresource Management (IBA-IFIBiop XI), Hong Kong & Dongguan. December 1-6, 2024.
29. **Roger Ruan**. 2024. Integrated approaches for the removal and destruction of PFAS in landfill leachate. UMN Southeast Regional Sustainable Development Partnership and Bridgewater Township project meeting and site visit. St. Paul, MN. November 26, 2024.
30. Brian Bauer and **Roger Ruan**. 2024. Catalytic Microwave Assisted Pyrolysis Technology. *19th Annual California Bioresources Alliance Symposium* – Refining California’s Future: Innovating Together for a Thriving Circular Bio-Economy. University of California, Davis, CA. November 19, 2024.
31. **Roger Ruan**. 2024. Opening remark to celebrate the establishment of the Bio-Hydrogen Specialized Committee, as one of the initiators and representative of the International Waste-to-Hydrogen Conversion and Utilization Alliance. *Inaugural meeting of the Bio-Hydrogen Committee of the International Alliance for Hydrogen Energy Conversion and Utilization of Waste*. November 14, 2024.

32. **Roger Ruan**, Leilei Dai, Suman Lata, Yuchuan Wang, Yuxi Chen, Ana Lobo-Moreira, Junhui Chen, Xiangyang Lin, Yunpu Wang, Hui Li, Yuhuan Liu, Kirk Cobb, Hanwu Lei. Innovative Catalytic Microwave-Assisted Pyrolysis Technology for Sustainable Solid Waste Utilization. *State University of Goiás seminar*. Anápolis, Brazil. November 13, 2024.
33. **Roger Ruan**, Junhui Chen, Suman Lata, Leilei Dai, Ana Lobo-Moreira, Charles Ayers, Yuting Li, Yuxi Chen, Shan Liu, Archer Anderson, Kirk Cobb, Lu Wang, Juer Liu, Jiwei Zhang. 2024. Sustainable technologies for wastewater treatment towards circular economy development. *State University of Goiás seminar*. Anápolis, Brazil. November 11, 2024.
34. **Roger Ruan**. 2024. Integrated intervention technologies for wastewater treatment towards sustainable circular economy development. *Yangzhou University seminar*. October 29, 2024.
35. **Roger Ruan**. 2024. Catalytic microwave-assisted pyrolysis technology for sustainable circular economy in solid waste utilization. *Nanjing University of Science and Technology seminar*. October 28, 2024.
36. **Roger Ruan**. 2024. Nonthermal Technologies for Value-Added Processing and Food Safety. NC1023 station report. *Annual USDA Multistate NC1023 Food Engineering Committee Meeting*. Honolulu, HI. October 22, 2024.
37. **Roger Ruan**. 2024. Advanced Intervention Technologies for Sustainable Circular Economy Development in Animal Production. *Animal Science Department Fall Seminar*, UMN, October 17, 2024.
38. **Roger Ruan**. 2024. Development of Catalytic Microwave-Assisted Pyrolysis Technology for Solid Waste Utilization. *2024 IMPI fall webinar series*. October 15, 2024.
39. **Roger Ruan**, Suman Lata, Junhui Chen, Leilei Dai, Charles Ayers, Yuting Li, Yuxi Chen, Shan Liu, Archer Anderson, Kirk Cobb, Lu Wang, Juer Liu, Jiwei Zhang. 2024. PFAS Remediation from Leachate and Other Wastewater. *2024 IonE Annual Meeting*. Minneapolis, MN, September 27, 2024.
40. **Roger Ruan**. 2024. Sustainable Wastewater Utilization for Circular Economy Development. *2024 Great Cycle-International Symposium*. September 10, 2024.
41. **Roger Ruan**. 2024. Research Towards Sustainable Circular Economy Development in Agriculture, Food, Energy, and Environment. *BBE 8001 Graduate Seminar*. September 9, 2024.
42. **Roger Ruan**, Leilei Dai, Junhui Chen, Kirk Cobb, Suman Lata, Yuxi Chen, Haotian Fei, Lu Wang, Juer Liu, Paul Chen, Hanwu Lei. 2024. Waste Valorization for Food System Circularity. *Conference of Food Engineering 2024*. Seattle, WA. August 27, 2024.

43. **Roger Ruan.** 2024. Non-thermal Plasma Generated by Concentrated High Intensity Electric Field (CHIEF) for Nitrogen Reduction Fixation. *IHI Site Visit Meeting*. St. Paul, MN. August 22, 2024.
44. **Roger Ruan,** Junhui Chen, Leilei Dai, Yuchuan Wang, Jianfei Guo, Juer Liu, Shan Liu, Yuxi Chen, Suman Lata, Yanling Cheng, Lu Wang, Nan Zhou, Yunpu Wang, Yunfei Zhao, Yuhuan Liu, Hanwu Lei, Xiangyang Lin, Paul Chen, and Kirk Cobb. Innovative sustainable circular economy technologies development. *Huafeng Group Meeting*. Putian, Fujian. August 13, 2024.
45. **Roger Ruan,** Leilei Dai, Suman Lata, Yuchuan Wang, Yuxi Chen, Yunpu Wang, Hui Li, Nan Zhou, Xiangyang Lin, Yuhuan Liu, Kirk Cobb, and Hanwu Lei. 2024. Catalytic Microwave-assisted Pyrolysis for PFAS Remediation and Waste Plastics Utilization. Plenary Presentation. *IMPACIE 2024*. Qingdao, Shandong. August 10, 2024.
46. **Roger Ruan,** Junhui Chen, Leilei Dai, Yuchuan Wang, Jianfei Guo, Juer Liu, Yuxi Chen, Lu Wang, Nan Zhou, Yunpu Wang, Yunfei Zhao, Yuhuan Liu, Xiangyang Lin, Paul Chen, and Kirk Cobb. 2024. Advanced Intervention Technologies Towards Sustainable Circular Economy Development. *Shandong University of Technology seminar*. Zibo, Shandong. August 9, 2024.
47. **Roger Ruan,** Leilei Dai, Suman Lata, Nan Zhou, Haotian Fei, Yuchuan Wang, Yuxi Chen, Cassiano Oliveira, Ana Lobo-Moreira, Yunpu Wang, Hui Li, Yunfeng Zhao, Xiangyang Lin, Yuhuan Liu, and Kirk Cobb. 2024. Catalytic Microwave-assisted Pyrolysis of Solid Wastes for Energy and Fuels Production. *Shandong Jianzhu University seminar*. Jinan, Shandong. August 8, 2024.
48. **Roger Ruan,** Leilei Dai, Junhui Chen, Shan Liu, Lu Wang, Yuxi Chen, Kirk Cobb, Nan Zhou, Hanwu Lei. 2024. Solid and Liquid Waste Utilization for Sustainable Circular Economy Development. *China Agricultural University seminar*. Beijing. August 4, 2024.
49. **Roger Ruan,** Leilei Dai, Yuchuan Wang, Suman Lata, Juer Liu, Yanling Cheng, Xiangyang Lin, and Hanwu Lei. 2024. Microwave Technology for Solid Waste Treatment and Aerosol Disinfection. *IMPI's 58th Annual Microwave Power Symposium (IMPI 58)*, invited Plenary Session speaker. Washington, DC. May 30, 2024.
50. **Roger Ruan.** 2024. Catalytic Microwave-assisted Pyrolysis Technology for Recycling/Upcycling Waste Plastic Packaging Materials and Mixed Packaging Wastes. *Circular Processing, Packaging, and Food Loss & Waste Workshop* organized by the American Society of Agricultural and Biological Engineers (ASABE) Circular Bioeconomy Systems Institute (CBSI). Chicago, IL. April 24, 2024.
51. **Roger Ruan.** 2024. Advancing Technologies for A Sustainable Circular Economy. *3M Tech Form Climate Chapter Meeting* feature speaker. Maplewood, MN. April 22, 2024.

52. **Roger Ruan.** 2024. Intervention technologies towards sustainable circular animal and food production. *Tai Kun (Tycoon) Group Meeting*, Chang Ji, Xinjiang, March 27, 2024.
53. **Roger Ruan,** Leilei Dai, Suman Lata, Haotian Fei, Yuxi Chen, Cassiano Oliveira, Yanling Cheng, Xiangyang Lin, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Hanwu Lei. 2024. Catalytic microwave-assisted pyrolysis for sustainable PFAS remediation and waste plastics utilization. Invited speaker of the Division of Catalysis Science and Technology's session on Catalyst Development and Process Integration for Biomass and Waste Derived Fuels and Chemicals at the *ACS Spring Meeting*, New Orleans, LA. March 19, 2024.
54. **Roger Ruan,** Leilei Dai, Suman Lata, Haotian Fei, Yuchuan Wang, Yuxi Chen, Cassiano Oliveira, Ana Lobo-Moreira, Junhui Chen, Yanling Cheng, Xiangyang Lin, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Fei Yu, Hanwu Lei. 2024. Thermochemical Conversion – Pyrolysis and Gasification - Catalytic microwave-assisted pyrolysis of solid wastes for circular economy development. Guest lecture to *BBE 4713/5713*. March 15, 2024.
55. **Roger Ruan.** Sustainable Dairy and Food Production Technologies and Systems. *Yili and Cargill visit meeting*. St. Paul, Minnesota. March 8, 2024.
56. **Roger Ruan,** Leilei Dai, Suman Lata, Haotian Fei, Yuchuan Wang, Yuxi Chen, Cassiano Oliveira, Ana Lobo-Moreira, Junhui Chen, Yanling Cheng, Xiangyang Lin, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Hanwu Lei. 2024. Catalytic microwave-assisted pyrolysis of solid waste for circular economy development. *Pennsylvania State University Chemical Engineering Department seminar*. State College, PA, February 22, 2024.
57. **Roger Ruan,** Jianfei Guo, Yuchuan Wang, Kirk Cobb, Juer Liu, Yanling Cheng, Yuancai Lyu, Peng Peng, Xiangyang Lin. 2024. Catalytic Nitrogen Fixation using Concentrated High Intensity Electric Field (CHIEF) Generated Non-thermal Plasma (NTP). *IHI Americas Visit meeting*. Minneapolis, Minnesota. February 8, 2024.
58. **Roger Ruan.** 2024. Systematic Intervention for Sustainable Circular Animal and Food Production. *Yuexiu Swine Production Company seminar*. Guangzhou. January 12, 2024
59. **Roger Ruan.** 2024. Nonthermal processing technologies development and applications in food pasteurization. *Nanchang University College of Food Science and Engineering seminar*. Jiangxi. January 11, 2024.
60. **Roger Ruan.** 2024. Innovative Technologies for Sustainable Circular Economy Development. *Putian College seminar*. Fujian. January 8, 2024.
61. **Roger Ruan.** 2023. Systematic Intervention Technologies Towards Sustainable Circular Animal and Food Production. *2023 International Symposium on Animal Diseases and Food Safety*. Wuhan, Hubei. November 4, 2023.
62. **Roger Ruan,** Leilei Dai, Junhui Chen, Juer Liu, Dongjie Chen, Yuchuan Wang, Suman Lata, Jianfei Guo, Frank Liu, Kirk Cobb, Mark Gino Galang, Lu Wang, Ana Beatriz,

- Cassiano Oliveira, Yanling Cheng, Min Addy, Paul Chen, Hanwu Lei. 2023. Nonthermal Technologies for Gas, Liquid and Solid Wastes Utilization for Sustainable Animal and Food Production and Circular Economy Development. Session 1: Nonthermal Food and Bioprocessing for Circular Economy, *2023 IFT-EFFoST Nonthermal Processing Workshop and Short Course*. Minneapolis, MN. October 16, 2023.
63. **Roger Ruan**. 2023. Catalytic intense pulsed light (cIPL) and catalytic low temperature microwave (cMW) technologies for Food Safety Assurance and Quality Improvement. Pre-workshop Short Course. *2023 IFT-EFFoST Nonthermal Processing Workshop and Short Course*. Minneapolis, MN. October 15, 2023.
 64. **Roger Ruan**. 2023. Liquid and Solid Wastes Utilization for Biofuels Production and Sustainable Circular Economy Development. *SUST 3003 Sustainable People, Sustainable Planet - Sustainability of Modern Technologies*, Guest Lecture. October 4, 2023.
 65. **Roger Ruan**, Junhui Chen, Mark Gino Galang, Pengfei Cheng, and Kirk Cobb. 2023. Current Status and Trends in Microalgal Industry and Related Standards and Regulations. World Ocean Science and Technology Conference – *Marine Biomedicine Development Forum and International Symposium on Microalgae Standards*. Qingdao, Shandong, September 18, 2023.
 66. **Roger Ruan**, Leilei Dai, Nan Zhou, Suman Lata, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Paul Chen, Hanwu Lei. 2023. Microwave-assisted Chemical Upcycling of Plastic Wastes for Circular Economy Development. Invited speaker of the Symposium on "Chemical Deconstruction and Upcycling of Polymer Waste," at the *266th ACS National Meeting*, San Francisco, CA. August 13, 2023.
 67. **Roger Ruan**, Juer Liu, Yanling Cheng, Jun An, Yiwei Ma, Paul Chen, Chi Chen, Guangwei Huang. 2023. Clean Label Food and Nutraceutical Ingredients from Almond Hulls. *First Precision Nutrition and Health Innovation Conference*. Shihezi University. August 1, 2023.
 68. **Roger Ruan**, Leilei Dai, Nan Zhou, Suman Lata, Yuchuan Wang, Yanling Cheng, Xiangyang Lin, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Paul Chen, Hanwu Lei. 2023. Sustainable Solid Waste Utilization for Circular Economy Development. *The 3rd International Conference on Sustainable Solid Waste Treatments and Management*. Yangling, China. July 29, 2023.
 69. **Roger Ruan**, Leilei Dai, Nan Zhou, Suman Lata, Yuchuan Wang, Yanling Cheng, Xiangyang Lin, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Paul Chen, Hanwu Lei. 2023. Catalytic Microwave-Assisted Pyrolysis/Gasification of Organic Solid Wastes for Fuels and Energy Production. Plenary Speaker of the *Global Experts Conference on Renewable and Sustainable Energy*, Osaka, Japan. July 27, 2023.
 70. **Roger Ruan**. 2023. IFT Food Engineering Division Annual Report. *IFT FIRST Professional Networking/Four Division Social Event (Food Engineering, Nonthermal Processing, Packaging, and Sustainability divisions)*. Chicago, IL. July 17, 2023.

71. **Roger Ruan.** 2023. S1075 Station Report - Sustainable Circular Economy Development Technologies. *Annual USDA S1075 Biobased Economy Committee Meeting*. Omaha, NE. July 13, 2023.
72. **Roger Ruan,** Junhui Chen, Dmitri Mataya, Lu Wang, Leilei Dai, Kirk Cobb, Yanling Cheng, Paul Chen, Frank Liu. 2023. Sustainable Safe Animal Production Technologies. 2023 ASABE Annual International Meeting, Omaha, NE. 227 *Climate Smart Agrifood Production - Potential Impact on Developing Economies, E-2050-Global Engagement Guest Speaker Session*. July 11, 2023, Pm.
73. **Roger Ruan,** Leilei Dai, Nan Zhou, Suman Lata, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Paul Chen, Hanwu Lei. 2023. Catalytic Microwave Assisted Pyrolysis of Organic Solid Waste for Energy, Fuels, Chemicals, and Materials Production. 2023 ASABE Annual International Meeting, Omaha, NE. 205 *Recent Advancement in Renewable Energy Resources and Technologies, ES-Energy Systems Guest Speaker Session*. July 11, 2023, Am.
74. **Roger Ruan,** Leilei Dai, Nan Zhou, Suman Lata, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Paul Chen, Hanwu Lei. 2023. Organic Solid Waste for Energy, Fuels, Chemicals, and Materials Production. 2023 *Green Development International Symposium – Energy Transition and Innovation for Carbon Neutrality*. Chongqing. June 10, 2023.
75. **Roger Ruan,** Leilei Dai, Dmitri Mataya, Junhui Chen, Suman Lata, Nan Zhou, Renchuan Zhang, Lu Wang, Yanling Cheng, Min Addy, Yunpu Wang, Yuhuan Liu, Ozlem Jarakas, Raissa Rossi, Kirk Cobb, Paul Chen, Hanwu Lei. 2023. Research Progress in Sustainable Solid and Liquid Waste Utilization for Circular Economy Development. *Shihezi University seminar*. June 6, 2023.
76. **Roger Ruan,** Leilei Dai, Dmitri Mataya, Junhui Chen, Suman Lata, Nan Zhou, Renchuan Zhang, Lu Wang, Yanling Cheng, Min Addy, Yunpu Wang, Yuhuan Liu, Ozlem Jarakas, Raissa Rossi, Kirk Cobb, Paul Chen, Hanwu Lei. 2023. Sustainable Solid and Liquid Waste Utilization for Circular Economy Development. *Huadong University of Technology seminar*. June 5, 2023.
77. **Roger Ruan.** 2023. Research Progress in Solid and Liquid Waste Utilization and Food Engineering. *Zhongkai Agricultural Engineering University seminar*. June 4, 2023.
78. **Roger Ruan,** Leilei Dai, Nan Zhou, Suman Lata, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Paul Chen, Hanwu Lei. 2023. Catalytic microwave assisted pyrolysis of organic solid waste for fuels, chemicals, and materials production. *International Conference on Solid Waste 2023: Waste Management in Circular Economy and Climate Resilience (ICSWHK2023)*, Plenary Speaker. Hong Kong, China. May 31, 2023.
79. **Roger Ruan.** 2023. Environmental Engineering and Biotechnology for a Sustainable Circular Economy Development. Opening speech at the 2023 *International Joint Conference*

on Environmental Engineering and Biotechnology (CoEEB 2023). Malmo, Sweden. May 20, 2023.

80. **Roger Ruan**, Leilei Dai, Dmitri Mataya, Junhui Chen, Kirk Cobb, Nan Zhou, Renchuan Zhang, Lu Wang, Yanling Cheng, Min Addy, Paul Chen, Hanwu Lei. 2023. Innovative Solid and Liquid Waste Utilization for Sustainable and Circular Economy Development. Plenary Speaker at the *2023 International Joint Conference on Environmental Engineering and Biotechnology (CoEEB 2023)*. Malmo, Sweden. May 20, 2023.
81. **Roger Ruan**. 2023. Complete utilization of plastic waste for materials, chemicals, and hydrogen production for sustainable circular plastic economy development. *Minneapolis South Rotary Club meeting*. Minneapolis, MN. May 9, 2023.
82. Junhui Chen, Leilei Dai, Dmitri Mataya, Kirk Cobb, Paul Chen, **Roger Ruan (speaker)**. 2023. Enhanced treatment of anaerobic digestion effluent through efficient nutrient utilization using stepwise microalgal cultivation. *The State of Water: 2023 Water Network Virtual Poster Symposium*. University of Minnesota. April 19, 2023.
83. **Roger Ruan**, Junhui Chen, Dmitri Mataya, Lu Wang, Leilei Dai, Kirk Cobb, Yanling Cheng, Paul Chen, Frank Liu. 2023. Intervention Technologies to Ensure Pork Supply Chain Food Safety. *Walmart Pork Supply Chain Food Safety Project Meeting*. April 7, 2023.
84. **Roger Ruan**, Leilei Dai, Dmitri Mataya, Junhui Chen, Kirk Cobb, Nan Zhou, Renchuan Zhang, Lu Wang, Yanling Cheng, Min Addy, Xiangyang Lin, Paul Chen, Hanwu Lei. 2023. Solid and Liquid Waste Treatment through Utilization for Circular and Sustainable Economy Development. *Department of Agricultural Engineering Seminar, Northeast Agricultural University*, Harbin, March 20, 2023.
85. **Roger Ruan**, Leilei Dai, Leilei Dai, Dmitri Mataya, Kirk Cobb, Paul Chen, Yanling Cheng, Xiangyang Lin. 2023. Novel Refining Systems and Processes for Biomass and Solid Waste to Energy Conversion. *2023 Biomass Refining Technology Forum*, Zhenzhou, March 18, 2023.
86. **Roger Ruan**, Leilei Dai, Leilei Dai, Dmitri Mataya, Kirk Cobb, Paul Chen, Yanling Cheng, and Xiangyang Lin. 2023. Novel Systems and Processes for Waste to Energy Conversion. *Global Energy Meet (GEM-2023)* - Converting non-recyclable waste into Advanced Biofuels. Plenary Presentation, March 6, 2023.
87. **Roger Ruan**, Leilei Dai, Nan Zhou, Paul Chen, Yanling Cheng, Hanwu Lei. 2022. Catalytic microwave-assisted pyrolysis and gasification of biomass and waste plastics for green hydrogen production. *International Conference on Green Hydrogen Production (ICGHP-2022)*, Invited Speaker, December 19, 2022.
88. **Roger Ruan**, Leilei Dai, Dmitri Mataya, Junhui Chen, Kirk Cobb, Nan Zhou, Renchuan Zhang, Lu Wang, Yanling Cheng, Min Addy, Paul Chen, Hanwu Lei. 2022. Sustainable Solid and Liquid Waste Utilization for Circular and Sustainable Economy Development.

International Symposium on Biomass Utilization in Agriculture and Forestry (BUAF2022).
Plenary Lecture, December 14, 2022.

89. **Roger Ruan.** 2022. Catalytic microwave-assisted pyrolysis and gasification of biomass and plastic waste for materials, chemicals and hydrogen production. *International Industry-University-Research-Application Cooperation Conference*, Kunming University of Science and Technology, Invited Speaker, December 10, 2022.
90. **Roger Ruan,** Leilei Dai, Dmitri Mataya, Junhui Chen, Kirk Cobb, Nan Zhou, Renchuan Zhang, Lu Wang, Juer Liu, Yanling Cheng, Min Addy, Paul Chen, Hanwu Lei. 2022. Complete solid, liquid and gas waste utilization for circular economy development. *International Conference on Biotechnology for Sustainable Bioresources and Bioeconomy (BSBB-2022).* Indian Institute of Technology, Guwahati, India, Invited Lecture, December 8, 2022.
91. **Roger Ruan.** 2022. Innovative Liquid and Solid Wastes Utilization Technologies for Sustainable Circular Economy Development, *Strait Green Economy Forum*, Putian University. Invited Lecture, November 24, 2022.
92. **Roger Ruan,** Junhui Zhang, Dmitri Maytag, Lu Wang. 2022. Microalgae as promising biofactory for high value bioproducts and biofuels Production. *The 8th Industry-University-Research Conference of Microalgae Branch of China Algae Industry Association and Algae Nutrition and Medicine Summit.* Invited Lecture, November 23, 2022.
93. **Roger Ruan.** 2022. Nitrogen Fixation from Atmosphere Using Nonthermal Plasma for Green Nitrogen Fertilizer Production. *Ningbo University seminar.* November 18, 2022.
94. **Roger Ruan.** 2022. Catalytic Microwave-assisted Pyrolysis and Gasification of Biomass and Plastic waste for Chemicals and Materials and Hydrogen Production. *Zhoushan Ocean University seminar.* November 17, 2022.
95. **Roger Ruan.** 2022. NMR/MRI Analysis of Polymer States and Properties. *Niumag Corporation meeting.* October 30, 2022.
96. **Roger Ruan,** Dmitri Mataya, Junhui Chen, Lu Wang, Kirk Cobb, Leilei Dai, Nan Zhou, Renchuan Zhang, Yanling Cheng, Min Addy, Paul Chen. 2022. Demonstrate an integrated process and system for animal wastewater treatment through utilization. *International Forum on Industrial Bioprocess (IBA-IFIBiop) and X International Forum on Industrial Bioprocesses.* National Kaohsiung University of Science and Technology. October 29, 2022.
97. **Roger Ruan.** 2022. Innovative fiber processing for value-added product development, and Innovative technologies for a sustainable swine industry. *Innovhope joint project discussion meeting.* October 18, 2022.

98. **Roger Ruan.** 2022. NMR/MRI, Nonthermal pasteurization and value-added processing progress. NC1023 station report. *Annual USDA Multistate NC1023 Food Engineering Committee Meeting*. Urbana-Champaign, IL. October 17, 2022.
99. **Roger Ruan,** Leilei Dai, Dmitri Mataya, Junhui Chen, Kirk Cobb, Nan Zhou, Renchuan Zhang, Lu Wang, Yanling Cheng, Min Addy, Paul Chen, Hanwu Lei. 2022. Complete gas, liquid, and solid waste utilization for sustainable development. *2nd International Conference on Environmental Pollution and Governance (ICEPG 2022)*. Keynote Speaker. September 24, 2022.
100. **Roger Ruan,** Leilei Dai, Dmitri Mataya, Junhui Chen, Kirk Cobb, Nan Zhou, Renchuan Zhang, Lu Wang, Yanling Cheng, Min Addy, Paul Chen, Hanwu Lei. 2022. Systems and Processes for Liquid and Solid Wastes Utilization for Sustainable Circular Economy Development. Invited Sustainability Session, *Conference of Food Engineering 2022*. Raleigh, NC. September 20, 2022.
101. **Roger Ruan.** 2022. Research for Sustainable Circular Economy Development in Agriculture, Food, Energy, and Environment. *BBE 8001 Graduate Seminar*. September 12, 2022.
102. **Roger Ruan.** 2022. Complete Utilization of Food Waste through an Integrated Approach. *1st International Conference on Food Waste to Food Sustainability (FWFS2022)*. Keynote Speaker. August 24, 2022.
103. **Roger Ruan,** Paul Chen. 2022. Reduce raw milk microbial contamination on using non-chemical-based technique, accepted pre-proposal, *Midwest Dairy Foods Research Center Annual Meeting*. St. Paul, MN. July 27, 2022.
104. **Roger Ruan,** Leilei Dai, Dmitri Mataya, Junhui Chen, Kirk Cobb, Nan Zhou, Renchuan Zhang, Lu Wang, Yanling Cheng, Min Addy, Paul Chen, Hanwu Lei. 2022. Complete waste resource utilization for renewable energy production and sustainable development. Recent Advancement in Renewable Energy Resources and Technologies – Invited Guest Speaker Session, *ASABE Annual International Meeting*, Houston, TX. July 19, 2022.
105. **Roger Ruan.** 2022. Catalyst Development for Catalytic Microwave Assisted Pyrolysis. S1075 Station Report. *Annual USDA S1075 Biobased Economy Committee Meeting*. Houston, TX. July 15, 2022.
106. **Roger Ruan,** Leilei Dai, Nan Zhou, Paul Chen, Yanling Cheng, Hanwu Lei. 2022. Catalytic microwave-assisted pyrolysis/gasification of biomass and waste plastics for chemicals, materials, and hydrogen production. Plenary Presentation, *International Symposium on Emerging Trends in role and production of Bioenergy for Sustainable Development (ETBSD-2022)*, A Flagship event of WtH Consortium (C-WtHub), UK, India, Republic of Korea, China & USA, Seoul, South Korea, July 4, 2022.

107. **Roger Ruan**, Leilei Dai, Nan Zhou, Paul Chen, Yanling Cheng, Hanwu Lei. 2022. Catalytic microwave-assisted pyrolysis/gasification of biomass and waste plastics for chemicals and hydrogen production. *Waste-to-Hydrogen Utilization and Betterment Consortium (C-WtHub) Academic Seminar*. June 7, 2022.
108. **Roger Ruan**, Leilei Dai, Dmitri Mataya, Junhui Chen, Kirk Cobb, Nan Zhou, Renchuan Zhang, Lu Wang, Yanling Cheng, Min Addy, Paul Chen, Hanwu Lei. 2022. Complete solid and liquid waste utilization for circular economy development. *Sixth International Symposium on Circular Economy & Urban Mining*. Capri, Italy. May 18, 2022.
109. **Roger Ruan**, Paul Chen, Leilei Dai, Kirk Cobb, Dmitri Mataya, Juer Liu. 2022. Catalytic microwave-assisted pyrolysis/gasification for hydrogen production. *C-WtHub series: Virtual Lab Visit (VLV)*. May 4th, 2022.
110. **Roger Ruan** and Xingmin Li. 2022. Intervention technologies for improving food safety in the pork supply chain. *Walmart Improving food safety of pork supply chain in China Project Annual Progress Report Meeting*. April 20th, 2022.
111. **Roger Ruan**. 2022. Zero Waste Approach to Circular Economy Development: Complete Solid and Liquid Waste Utilization. *IFT Webinar on Food Security and Sustainable Development*. April 6th, 2022.
112. **Roger Ruan**, Paul Chen, Frank Liu, Leilei Dai, Renchuan Zhang, Nan Zhou, Yanling Cheng, Juer Liu, Lu Wang, Dmitri Mataya, Yuancai Lyu, Abigail Chiaokhiao, Hanwu Lei, and Kirk Cobb. 2022. Innovative Technologies for A Sustainable Swine Industry. *Walmart Foundation Webinar*. March 15, 2022.
113. **Roger Ruan**, Leilei Dai, Nan Zhou, Yanling Cheng, Paul Chen, Hanwu Lei, Yunpu Wang, Yuhuan Liu. 2022. Catalytic Microwave-assisted Pyrolysis of Waste Plastics for Chemicals, Materials, and Hydrogen Production. *Composite Materials Congress, New Horizon in Nanomaterials & Nanotechnology Session*. March 5, 2022.
114. **Roger Ruan**. 2022. Innovative Non-thermal Technologies for Management of Small Grain Diseases. *Departmental Seminar, Department of Plant Pathology, University of Minnesota*. January 7, 2022.
115. **Roger Ruan**. 2021. Final Project Report: Development of a Novel Gasification Technology for Distributed Power Generation from Solid Wastes. *Xcel Energy Renewable Development Fund Advisory Committee meeting*. December 29, 2021.
116. **Roger Ruan**, Paul Chen, Renchuan Zhang, Nan Zhou, Leilei Dai, Yanling Cheng, Juer Liu, Lu Wang, Dmitri Mataya, Yuancai Lyu, Abigail Chiaokhiao, Frank Liu, and Kirk Cobb. 2021. Innovative Technologies for Greenhouse Gas Reduction and Circular Economy and Sustainable Development. *International Symposium on Biomass Refining*, December 15, 2021

117. **Roger Ruan**, Paul Chen, Renchuan Zhang, Nan Zhou, Leilei Dai, Yanling Cheng, Juer Liu, Lu Wang, Dmitri Mataya, Yuancai Lyu, Abigail Chiaokhiao, Frank Liu, and Kirk Cobb. 2021. Waste Treatment through Complete Utilization for Circular Economy and Sustainable Development. *BESS Conference on Zero Waste and Circular Economy*. December 14, 2021
118. **Roger Ruan**, Paul Chen, Renchuan Zhang, Nan Zhou, Leilei Dai, Yanling Cheng, Juer Liu, Lu Wang, Dmitri Mataya, Yuancai Lyu, Abigail Chiaokhiao, Frank Liu, and Kirk Cobb. 2021. Novel Processes and Systems for Sustainable Development. *The Fifth Conference on Health and Environment*. December 11, 2021
119. **Roger Ruan**, Paul Chen, Renchuan Zhang, Nan Zhou, Leilei Dai, Yanling Cheng, Juer Liu, Lu Wang, Dmitri Mataya, Yuancai Lyu, Abigail Chiaokhiao, Frank Liu, and Kirk Cobb. 2021. Novel Technologies for Circular Economy and Sustainable Development. *Minnesota Environmental Science and Economic Review Board (MESERB) Fall Conference*. Brainerd, MN. November 4, 2021.
120. **Roger Ruan**, Paul Chen, Nan Zhou, Renchuan Zhang, Yanling Cheng, Juer Liu, Lu Wang, Leilei Dai, Dmitri Mataya, Yuancai Lyu, Abigail Chiaokhiao, Frank Liu, and Kirk Cobb. 2021. Novel intervention strategies and technologies for food safety assurance in pork supply chain - A vision and technology for a sustainable smart pork production system. *International Pork Safety Forum - Improving food safety of pork supply chain in China*. October 20, 2021.
121. **Roger Ruan**, Paul Chen, Nan Zhou, Renchuan Zhang, Yanling Cheng, Juer Liu, Lu Wang, Leilei Dai, Dmitri Mataya, Yuancai Lyu, Abigail Chiaokhiao, Frank Liu, Kirk Cobb. 2021. Novel intervention strategies and technologies for food safety assurance in pork supply chain. *Walmart Foundation Food Safety in Pork Supply Chain Meeting* with New Hope Group. September 16, 2021.
122. **Roger Ruan**. 2021. Conversion of Waste Polyolefinic Plastics to Value-added Chemicals and Materials by Pyrolysis. *BASF Company Presentation*. September 7, 2021.
123. **Roger Ruan**. 2021. Wastewater utilization for methane, algae and hydroponics plants production and microwave-assisted catalytic pyrolysis of solid wastes for chemicals, fuels, and materials production. *2021 S-1075 Virtual Annual Committee Meeting*. July 22, 2021.
124. **Roger Ruan**. 2021. Innovative waste plastics to naphtha chemicals and materials conversion by microwave assisted pyrolysis. *Mitsui Company Presentation*. June 24, 2021.
125. **Roger Ruan**, Nan Zhou, Leilei Dai, Yanling Cheng, Paul Chen. 2021. Catalytic microwave assisted pyrolysis of solid waste for fuels, energy and chemicals production. *Second International Conference on Sustainable Solid Waste Treatments and Managements (SWTM-2021)*.

126. **Roger Ruan**, Renchuan Zhang, Lu Wang, Nan Zhou, Leilei Dai, Yanling Cheng, Yiwei Ma, Peng Peng, Yunpu Wang, Feiqiang Guo, Pengfei Cheng, Xiaochen Ma, Lingqin Liu, Yiqin Wan, Xiaodan Wu, Dengle Duan, Shuhao Huo, Kun Li, Junzhi Liu, Xiye Chen, Kirk Cobb, Min Addy, Paul Chen, Yuhuan Liu, Hanwu Lei. 2021. Sustainable solid and liquid waste treatment through utilization for circular economy development. Keynote Speaker in the 2021 International Conference on Environmental Pollution and Governance (ICEPG 2021).
127. **Roger Ruan**, Nan Zhou, Leilei Dai, Yayun Zhang, Dengle Duan, Chenxi Wang, Yunfeng Zhao, Yanling Cheng, Lu Wang, Renchuan Zhang, Kirk Cobb, Paul Chen, Hanwu Lei. 2021. Biochar produced from microwave-assisted pyrolysis and its applications in catalysis and wastewater treatment. Invited Plenary Speaker in the 5th Asia Pacific Biochar Conference (APBC2021).
128. **Roger Ruan**, Juer Liu, Yanling Cheng, Jun An, Yiwei Ma, Paul Chen, Chi Chen, Guangwei Huang. 2021. Non-thermal Processes for Making Clean Label Food and Nutraceutical Ingredients from Almond Hull. USDA Food Loss and Waste Innovation Fair.
129. **Roger Ruan**, Leilei Dai, Nan Zhou, Yanling Cheng, Yuancai Lyu, Kirk Cobb, Paul Chen, Hanwu Lei. 2021. Complete utilization of plastic wastes through catalytic microwave assisted pyrolysis for upcycling chemicals, fuels and materials production. An invited keynote presentation for Fellow of Vebleo's Webinar on Energy Materials and Technologies.
130. **Roger Ruan**, Nan Zhou, Leilei Dai, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Paul Chen, Hanwu Lei. 2021. Catalytic Microwave Assisted Pyrolysis of Solid Wastes for Fuels, Energy and Chemicals Production. 2021. Plenary Session Keynote Presentation. 2nd International Symposium on Environmental Protection and Chemical Engineering (ISEPCE 2021), and 2021 International Conference on Energy Engineering, New Energy Materials and Devices (NEMD 2021).
131. **Roger Ruan**, Jianhan Lin, Paul Chen, Yuanjie Liu, Yanbin Li. 2021. Rapid Detection and Novel Intervention Strategies and Technologies. Walmart Foundation Food Safety in Pork Supply Chain Meeting with Industry. January 25, 2021
132. **Roger Ruan**, Nan Zhou, Leilei Dai, Yanling Cheng, Yunpu Wang, Yuhuan Liu, Paul Chen. 2020. Catalytic Microwave-Assisted Pyrolysis for Chemical Recycling of Plastic Wastes. IAAM Award Lecture 2020 in the Advanced Materials Lecture Series. *Vid. Proc. Adv. Mater.*, 1(1), 20082382020. DOI:10.5185/vpoam.2020.08138.
133. **Roger Ruan**. 2020. Catalytic IPL system and process development. USDA AFRI CAP Project [2016-68003-24850] Final Review Meeting. St. Paul, MN.

134. **Roger Ruan.** 2020. Introduction to the CAP project and catalytic IPL system and process development. Virtual international workshop on Development of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. St. Paul, MN.
135. **Roger Ruan.** 2020. Catalytic IPL and low temperature microwave technology for non-thermal pasteurization of pet foods. AFB International virtual meeting organized by UMN OTC. Minneapolis, MN.
136. **Roger Ruan,** Dongjie Chen, Yuancai Lyu, Peng Peng, Yanling Cheng, Nan Zhou, Leilei Dai, Yunpu Wang, Yuhuan Liu, Kirk Cobb, Mike Reese, Paul Chen. 2020. Deep Dive: On-Farm Nitrogen Fertilizer Production. *UMN Technology Commercialization Business Advisory Virtual Meeting.* Minneapolis, MN.
137. **Roger Ruan.** 2020. Microwave-assisted catalytic pyrolysis of solid wastes for chemicals, fuels, and materials production. 2020 S-1075 Virtual Annual Committee Meeting.
138. **Roger Ruan.** 2020. Nonthermal plasma-induced nitrogen fixation. Kennedy Research LLC and Lorentzen Investments virtual meeting organized by UMN OTC. Minneapolis, MN.
139. **Roger Ruan.** 2020. Microwave-assisted catalytic fast pyrolysis/gasification and syngas fermentation for complete solid wastes utilization. Municipal organic wastes gasification and syngas fermentation forum. A Tianjin Industrial Biotechnology Research Institute, CAS virtual conference.
140. **Roger Ruan,** Nan Zhou, Renchuan Zhang, Peng Peng, Yunpu Wang, Feiqiang Guo, Lingqin Liu, Leilei Dai, Shiyu Liu, Yiqin Wan, Erik Anderson, Xiaodan Wu, Dingle Duan, Shuhao Huo, Kun Li, Pengfei Cheng, Junzhi Liu, Xiye Chen, Yanling Cheng, Yuhuan Liu, Min Addy, Wenguang Zhou, Kirk Cobb, and Paul Chen. 2019. Sustainable circular economy technologies development and applications. NHBT-2019, Trivandrum, India.
141. **Roger Ruan,** Juer Liu, Jun An, Dongjie Chen, Peng Peng, Justin Wiertzema, Qingqing Mao, Yiwei Ma, Yanling Cheng, Paul Chen, David Baumler, Chi Chen, Joellen Freitag, Zata Vicker, Laurence Lee. 2019. Non-thermal Processes for Making Clean Label Food and Nutraceutical Ingredients from Agricultural Byproducts and Innovative catalytic intense pulsed light (cIPL) and catalytic microwave (cMW) technologies for non-thermal pasteurization of particulate and powdered foods. Beijing Gongshan University. Beijing.
142. **Roger Ruan,** Peng Peng, Paul Chen, Yanling Cheng, Charles Schiappacasse, Nan Zhou, Renchuan Zhang, Yunpu Wang, Kirk Cobb, and Yuhuan Liu. 2019. Novel non-thermal plasma-based technologies for sustainable development and applications. *The 4th International Conference on Health and Environment.* Beijing Union University. Beijing.
143. **Roger Ruan.** 2019. Innovative catalytic intense pulsed light (cIPL) and catalytic microwave (cMW) technologies for non-thermal pasteurization of particulate and powdered foods and Non-thermal Processes for Making Clean Label Food and Nutraceutical Ingredients from Agricultural Byproducts. Zhejiang Gongshan University. Hanzhou.

144. **Roger Ruan**, Paul Chen, Chi Chen, Kumar Mallikarjunan. 2019. NC1023 Station Report. Annual NC-1023 Food Engineering Committee Meeting. Las Cruces, NM.
145. **Roger Ruan**, Nan Zhou, Shiyu Liu, Paul Chen, Min Addy, Yunpu Wang, Feiqiang Guo, Yanling Cheng, Yuhuan Liu, Yingdan Zhu, Xiye Chen, Kirk Cobb. 2019. Microwave-assisted catalytic fast pyrolysis process and system for renewable energy production from solid wastes. *Biofuels & Bioenergy and Green Energy & Expo 2019*. Rome, Italy
146. **Roger Ruan**, Renchuan Zhang, Nan Zhou, Peng Peng, Yunpu Wang, Feiqiang Guo, Lingqin Liu, Leilei Dai, Shiyu Liu, Liangliang Fan, Erik Anderson, Yiqin Wan, Hongli Zheng, Xiaodan Wu, Dengle Duan, Shuhao Huo, Kun Li, Pengfei Cheng, Junzhi Liu, Qian Lu, Xiye Chen, Yanling Cheng, Hui Liu, Qing Wang, Yuhuan Liu, Min Addy, Wenguang Zhou, Kirk Cobb, and Paul Chen. 2019. Development of sustainable circular economy technologies. *The 10th Asian-Pacific Conference on Algal Biotechnology (10th APCAB)*. Nanchang, Jiangxi.
147. **Roger Ruan**, Renchuan Zhang, Nan Zhou, Peng Peng, Yunpu Wang, Feiqiang Guo, Lingqin Liu, Leilei Dai, Shiyu Liu, Kuan Ding, Bo Zhang, Liangliang Fan, Erik Anderson, Yiqin Wan, Hongli Zheng, Xiaodan Wu, Dengle Duan, Shuhao Huo, Kun Li, Pengfei Cheng, Junzhi Liu, Qian Lu, Xiye Chen, Yanling Cheng, Yuhuan Liu, Min Addy, Wenguang Zhou, Kirk Cobb, and Paul Chen. 2019. Sustainable Technologies Development and Applications in Complete Solid and Liquid Waste Utilization and Treatment. 2019. Southeast University, Nanjing, Jiangsu.
148. **Roger Ruan**. 2019. Biorefining Technologies Development and Applications in Complete Solid and Liquid Waste Utilization and Treatment. 2019. Nanjing Forestry University, Nanjing, Jiangsu.
149. **Roger Ruan**, Nan Zhou, Yunpu Wang, Feiqiang Guo, Kuan Ding, Yaning Zhang, Bo Zhang, Shiyu Liu, Junwen Zhou, Yanling Cheng, Peng Peng, Min Addy, Paul Chen, Yuhuan Liu, and Kirk Cobb. 2019. Catalytic fast microwave-assisted thermochemical conversion of solid wastes for energy and fuel production. *The 1st International Conference on Energy and Environment (1st ICEE)*, Nanjing, Jiangsu
150. **Roger Ruan**. 2019. Innovative Technologies Development and Applications in Complete Solid and Liquid Waste Utilization and Treatment. Nanjing Research Institute for Agricultural Mechanization, Ministry of Agriculture and Rural Affairs. Nanjing, Jiangsu
151. **Roger Ruan**. 2019. Catalytic intense pulsed light (cIPL) and catalytic microwave (cMW) technologies for non-thermal pasteurization of wheat kernels and wheat flours. VP Research, Quality, and Tech Services Meeting, Ardent Mills. St. Paul, MN.
152. **Roger Ruan**. 2019. Catalytic intense pulsed light (cIPL) and catalytic microwave (cMW) technologies for non-thermal pasteurization of particulate and powdered foods. General Mills Flour Disinfection Meeting. Golden Valley, MN.

153. **Roger Ruan** and David Baulmer. 2019. Intense pulsed light (IPL) R&D program at UMN for non-thermal pasteurization of powdered foods. McCormick & Company, Inc., Hunt Valley, MD.
154. **Roger Ruan**, N. Zhou, D. Chen, P. Peng, Y. Cheng, Y. Wang, C. Schiappacasse, R. Zhang, P. Chen. 2019. Development of catalytic intense pulsed light and microwave technologies for non-thermal pasteurization of particulate and powdered foods. *UMN Technology Commercialization Business Advisory Meeting*. McNamara Alumni Center, Minneapolis Campus.
155. **Ruan, R.** 2019. Prediction of Mixing Kinetics and Formulation of Dairy Powder Using Non-invasive NMR Techniques. *2019 MDFRC Annual Meeting*, Continuing Education & Conference Center, UMN St. Paul Campus.
156. **Ruan, R.**, N. Zhou, R. Zhang, Y. Wang, F. Guo, L. Liu, S. Huo, K. Li, P. Cheng, J. Liu, Y. Ma, S. Liu, P. Peng, Y. Cheng, M. Addy, K. Cobb, P. Chen. 2019. New solid and liquid waste utilization process and systems. *USDA S1075 Biobased Economy Committee Meeting*. DOE National Renewable Energy Laboratory, Denver, CO.
157. **Ruan, R.** 2019. Safety Assessment of Almond Hull as a Novel Food Source. *Biomass Work Group Meeting*, ABC Offices, Modesto, CA.
158. **Ruan, R.**, D. Baumler, C. Chen, P. Chen, Z. Vickers, J. Feirtag, L. Lee, Y. Cheng, P. Peng, Q. Mao, Y. Ma, J. Wiertzema, D. Chen, J. Liu, N. Zhou, C. Schiappacasse, C. Borchardt. 2019. CAP [2015- 08046] Development of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. USDA NIFA 2019 Project Directors Meeting for enhancing food safety through improved processing technologies, and 2019 IAFP Annual Meeting, Kentucky International Convention Center in Louisville, KY.
159. **Roger Ruan**, Peng Peng, Paul Chen, Yanling Cheng, Charles Schiappacasse, Nan Zhou, Renchuan Zhang, Yunpu Wang, Kirk Cobb, and Yuhuan Liu. 2019. Nonthermal plasma-based technologies for sustainable development and applications. The 3rd International Conference on Bamboo Utilization – Green Circular Economy and Technology, Fuzhou, Fujian.
160. **Roger Ruan**. 2019. Development of intensive pulse light technology for powdered foods disinfection. *IFT Symposium on Intensive Pulse Light Technology Development and Application*. 2019 IFT International Annual Meeting, New Orleans, LA.
161. **Roger Ruan**, Paul Chen, Min Addy, Yanling Cheng, Renchuan Zhang, Lu Wang, Peng Peng, Yiwei Ma, Kirk Cobb, Kuan Ding, Aoxi He, Jie Liu, Yaning Zhang, Richard Griffith, Shiyu Liu, Nan Zhou, Xiangyuan Deng, Hunwen Zhou, Hanwu Lei, Yunpu Wang, Yuhuan Liu. 2019. Microwave-assisted catalytic fast pyrolysis process and system for complete solid wastes utilization, *International Conference on Sustainable Solid Waste Treatments and Managements*, Yangling, Shangxi.

162. **Roger Ruan.** 2019. Innovative Biorefining Technologies for Complete Solid and Liquid Waste Utilization and Treatment. In Symposium on Biofuels and Sustainable Development, International conference on Biofuels and Bioenergy, Theme: Water, Food, and Energy, April 29 - May 01, 2019, San Francisco, California.
163. **Roger Ruan,** Peng Peng, Paul Chen, Charles Schiappacasse, Nan Zhou, and Yanling Cheng. 2019. Development of non-thermal plasma (NTP) for sustainable agricultural applications. *Mechanical Engineering Department Seminar*, University of Minnesota. Minneapolis, MN.
164. **Roger Ruan.** 2019. Sustainable Food Production/Processing and Circular Economy Technologies. Agricultural Research Organization – Volcani Center, Institute of Soil, Water and Environmental Science, Newe Ya'ar Research Center, Israel.
165. **Roger Ruan,** Peng Peng, Paul Chen, Charles Schiappacasse, Nan Zhou, Yanling Cheng, and Min Addy. 2019. Non-Thermal Plasma (NTP) Ammonia Synthesis and Nitrogen Fixation. *Lorentzen Investments – U of MN Ammonia Research Meeting*, Minneapolis Campus.
166. **Roger Ruan** and Brian Bauer. 2019. Biomass to Energy Conversion Technologies. *Forest Stewardship Campaign Initial Summit*, Santa Rosa, CA.
167. **Roger Ruan.** 2018. Development of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods – an overview. Minnesota Session of IAFP Fall Meeting. Summit Brewing Company, St. Paul, MN.
168. **Roger Ruan,** Paul Chen, Renchuan Zhang, Yanling Cheng, Wei Hua, Jun Wei, Lu Wang, Peng Peng, Yiwei Ma, Xiaochen Ma, Min Addy, Kuan Ding, Li Huang, Aoxi He, Yaning Zhang, Richard Griffith, Shiyu Liu, Nan Zhou, Yunpu Wang, Xiangyuan Deng, Hunwen Zhou, Kirk Cobb, Wenguang Zhou, Guangwei Huang, Hanwu Lei, Yuhuan Liu. 2018. Sustainable Food Production/Processing and our Health and Environment. The 3rd International Conference on Health and Environment. Beijing Union University. Beijing.
169. **Roger Ruan.** 2018. Microwave assisted fast catalytic pyrolysis and gasification of solid wastes for biofuels and bioenergy production. Seminar at Department of Physics. Hamline University. St. Paul, MN.
170. **Roger Ruan.** 2018. Microwave assisted fast catalytic pyrolysis and gasification of biomass for biofuels and bioenergy production. *Biomass/Biomass feed stocks for renewable energy generation/Biomass technologies session. 13th International Congress on Biofuels and Bioenergy* (2427th of Conference Series LLC Ltd). October 18-20, 2018. Ottawa, Ontario, Canada.
171. **Roger Ruan,** 2018. Non-thermal processes for food safety, health benefits, and added value. USDA/NC-1023 Committee Meeting. Orono, Maine.

172. **Roger Ruan.** 2018. Complete solid and liquid waste utilization technologies. *UMN Energy Club General Meeting*. Minneapolis, MN.
173. **Roger Ruan.** 2018. Thermochemical Conversion of Biomass for Energy and Chemicals Production. Alliance for Pulp & Paper Technology Innovation. St. Paul, MN.
174. **Roger Ruan,** Kuan Ding, Yaning Zhang, Shiyu Liu, Nan Zhou, Aoxi He, Renchuan Zhang, Erik Anderson, Hunwen Zhou, Hanwu Lei, Yunpu Wang, Yuhuan Liu, Yanling Cheng, Peng Peng, Xiaodan Wu, Kirk Cobb, Paul Chen. 2018. Innovative Lignocellulosic Biomass Deconstruction technologies. *Session IA: Biomass Fractionation – Pretreatment. Invited Speaker. Processes and Technologies 2nd International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability*. Sitges, Spain
175. **Roger Ruan,** Paul Chen, Erik Anderson, Min Addy, Renchuan Zhang, Yanling Cheng, Lu Wang, Peng Peng, Yiwei Ma, Kirk Cobb, Kuan Ding, Aoxi He, Jie Liu, Yaning Zhang, Richard Griffith, Shiyu Liu, Nan Zhou, Xiangyuan Deng, Hunwen Zhou, Wenguang Zhou, Hanwu Lei, Yunpu Wang, Yuhuan Liu. 2018. Enhance the Sustainability of Food Production through Complete Waste Utilization. *Waste management and utilization session*. Conference of Food Engineering 2018. Minneapolis, MN.
176. **Roger Ruan.** 2018. Development of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. USDA NIFA Food Processing & Manufacturing Technology Project Director's Meeting. Natick, MA.
177. **Roger Ruan.** 2018. Biorefining processes and systems for complete liquid and solid waste utilization and treatment. College of Bioresource and Environment seminar, Fuzhou University, Fuzhou.
178. **Roger Ruan.** 2018. Innovative processes and systems for complete liquid and solid waste utilization and treatment. Institute of Tropical Agriculture and Forestry seminar, Hainan University, Hainan.
179. **Roger Ruan.** 2018. Microwave-assisted Gasification of Solid Wastes for Electricity Generation. In *Current Achievements and New R&D Trends in Renewable Energy Resources and Technologies – INVITED SPEAKERS session*. 2018 ASABE Annual International Meeting. Detroit, Michigan.
180. **Roger Ruan,** Erik Anderson, Min Addy, Renchuan Zhang, Yanling Cheng, Lu Wang, Peng Peng, Yiwei Ma, Xiaochen Ma, Liangliang Fan, Kuan Ding, Aoxi He, Yaning Zhang, Chunhua Xin, Shiyu Liu, Nan Zhou, Xiangyuan Deng, Hunwen Zhou, Wenguang Zhou, Muhammad Omar, Richard Griffith, Faryal Kabir, Hanwu Lei, Yunpu Wang, Yuhuan Liu, Paul Chen. 2018. Innovative biorefining processes and systems for complete liquid and solid waste utilization and treatment. Keynote Forum, *BioEnergy 2018*, Berlin.

181. **Roger Ruan** and Paul Chen. 2018. Bioenergy: A great promise for our economy, environment, and society. Opening Ceremony speech, *BioEnergy 2018*, Berlin.
182. **Roger Ruan**, Paul Chen, Juer Liu, Li Huang, Yanling Cheng, Yiwei Ma, Chi Chen, Guangwei Huang. 2018. Non-thermal Processes for Making Clean Label Food and Nutraceutical Ingredients from Almond Hull. *20th Annual Almond Quality & Food Safety Symposium*. Modesto, CA.
183. **Roger Ruan**. 2018. CAP [2015 - 08046]: Development of a continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. USDA Mid-Year CAP Project Review Video Conference. St. Paul, MN.
184. **Roger Ruan**, Erik Anderson, Min Addy, Renchuan Zhang, Yanling Cheng, Lu Wang, Peng Peng, Yiwei Ma, Xiaochen Ma, Liangliang Fan, Kuan Ding, Aoxi He, Yaning Zhang, Richard Griffith, Shiyu Liu, Nan Zhou, Xiangyuan Deng, Hunwen Zhou, Chunhua Xin, Wenguang Zhou, Muhammad Omar, Richard Griffith, Faryal Kabir, Paul Chen, Hanwu Lei, Yunpu Wang, Yuhuan Liu. 2018. Innovative processes and systems for solid waste utilization and treatment: model, technology and economic analysis. Beijing University of Mining, Beijing.
185. **Roger Ruan**, Erik Anderson, Min Addy, Renchuan Zhang, Yanling Cheng, Lu Wang, Peng Peng, Yiwei Ma, Xiaochen Ma, Liangliang Fan, Kuan Ding, Aoxi He, Yaning Zhang, Chunhua Xin, Richard Griffith, Shiyu Liu, Nan Zhou, Xiangyuan Deng, Hunwen Zhou, Wenguang Zhou, Muhammad Omar, Richard Griffith, Faryal Kabir, Paul Chen, Hanwu Lei, Yunpu Wang, Yuhuan Liu. 2018. Innovative processes and systems for liquid waste utilization and treatment: model, technology and economic analysis. Beijing University of Mining, Beijing.
186. **Roger Ruan**. 2018. Development of a continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. USDA CAP Project Advisory Council Meeting. St. Paul, MN.
187. **Roger Ruan**, Paul Chen, Erik Anderson, Min Addy, Renchuan Zhang, Yanling Cheng, Lu Wang, Peng Peng, Yiwei Ma, Xiaochen Ma, Liangliang Fan, Kuan Ding, Aoxi He, Yaning Zhang, Richard Griffith, Shiyu Liu, Nan Zhou, Xiangyuan Deng, Hunwen Zhou, Wenguang Zhou, Muhammad Omar, Richard Griffith, Faryal Kabir, Hanwu Lei, Yunpu Wang, Yuhuan Liu. 2018. Innovative Biorefining Processes and Systems for Complete Waste Utilization and Treatment. *The 1st Forum on the Test Area Construction (Jiangxi) of National Ecological Civilization & Promotion Conference on Ecological Civilization Construction Technologies*. Nanchang, Jiangxi.
188. **Roger Ruan**. 2018. Microwave assisted catalytic conversion of waste plastics for fuels and energy production. Resynergi Industrial Waste Plastics Utilization Meeting. Twin Cities.

189. **Roger Ruan.** 2017. Innovative biorefining technologies for complete waste utilization and treatment. First International Industry, Research and Education Open Innovation Cooperation Forum. Beijing Union University. Beijing.
190. **Roger Ruan.** 2017. Conference of Food Engineering (CoFE) 2018. NC-1023 Committee Meeting, Washington State University. Pullman, WA.
191. **Roger Ruan.** 2017. Intensive pulsed light technology for non-thermal pasteurization of powdered foods. NC-1023 Committee Meeting, Washington State University. Pullman, WA.
192. **Roger Ruan.** 2017. Sustainable and complete chicken waste utilization and treatment. Forsman Farms (one of the largest egg producers in the world). Howard Lake, Minnesota.
193. **Roger Ruan.** 2017. Shiyu Liu, Yaning Zhang, Liangliang Fan, Nan Zhou, Erik Anderson, Peng Peng, Yanling Cheng, Min Addy, Kuan Ding, Hanwu Lei, Yunpu Wang, Yuhuan Liu, Paul Chen. Microwave Assisted Fast Catalytic Pyrolysis and Gasification for Solid Wastes Conversion and Utilization. *AICHE Annual Meeting*, Minneapolis, Minnesota.
194. **Roger Ruan,** Paul Chen, Erik Anderson, Min Addy, Renchuan Zhang, Yanling Cheng, Peng Peng, Yiwei Ma, Liangliang Fan, Yaning Zhang, Qian Lu, Shiyu Liu, Nan Zhou, Xiangyuan Deng, Wenguang Zhou, Muhammad Omar, Richard Griffith, Faryal Kabir, Hanwu Lei, Yunpu Wang, Yuhuan Liu. 2017. A biorefining approach to treatment and utilization of solid and liquid wastes. CAE International High-level Conference on Green Industrial Process. Jieshou, Anhui.
195. **Ruan R.,** Paul Chen, Erik Anderson, Min Addy, Renchuan Zhang, Yanling Cheng, Peng Peng, Yiwei Ma, Liangliang Fan, Yaning Zhang, Qian Lu, Shiyu Liu, Nan Zhou, Xiangyuan Deng, Wenguang Zhou, Muhammad Omar, Richard Griffith, Faryal Kabir, Hanwu Lei, Yunpu Wang, Yuhuan Liu. 2017. Innovative Biorefining Processes and Systems for Complete Waste Utilization and Treatment.
196. **Ruan, R.,** S. Liu, Y. Zhang, L. Fan, N. Zhou, P. Peng, Y. Cheng, M. Omar, E. Anderson, P. Chen, Y. Wang, Y. Liu. 2017. Innovative Fast Microwave Assisted Catalytic Pyrolysis of Biomass for Energy, Fuels, Chemicals and Materials Production. HIT Summer School on Energy 2017. Harbin, Heilongjiang.
197. **Ruan, R.** 2017. Thermochemical Conversion of Biomass for Energy, Fuels, Chemicals and Materials Production. HIT Summer School on Energy 2017. Harbin, Heilongjiang.
198. **Ruan, R.,** Peng Peng, Yanling Cheng, Nan Zhou, Charles Schiappacasse, Yiwei Ma, and Paul Chen. 2017. Nonthermal Plasma Technology Application and Industrial Implementation. *IAFP 2017 Symposium on Non-Thermal Plasma Technology for Improving Food Safety and Quality*. Tampa, FL.
199. **Ruan, R.,** D. Baumler, C. Chen, P. Chen, Z. Vickers, J. Feirtag, L. Lee, Y. Cheng, P. Peng, Q. Mao, Y. Ma, J. Wiertzema, D. Chen, J. Liu, N. Zhou, C. Schiappacasse, C. Borchardt.

2017. CAP [2015- 08046] Development of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. USDA NIFA 2017 Project Directors Meeting FOR ENHANCING FOOD SAFETY THROUGH IMPROVED PROCESSING TECHNOLOGIES, Tampa Convention Center, July 8, 2017, Tampa, FL.
200. **Ruan, R.** 2017. Fast Microwave Assisted Catalytic Conversion of Biomass for Biofuels and Biochemicals Production. *British Petroleum (BP) Executives R&D Visit Meeting*. Minneapolis, MN.
201. **Ruan, R.,** Min Addy, Renchuan Zhang, Qian Lu, Yanling Cheng, Shanshan Luo, Wenkui Li, Hongyan Ren, Erik Anderson, Wenguang Zhou, Yiwei Ma, Richard Griiffith, Yuhuan Liu, Hanwu Lei, Dean Current, Petrona Lee, Paul Chen. 2017. Innovative Processes and Systems for Complete Waste Utilization and Treatment. Keynote Address. *International Conference on Biological Waste as Resource*. The Hong Kong Polytechnic University. Hung Hom, Kowloon, Hong Kong.
202. **Ruan, R.,** P. Chen, S. Liu, N. Zhou, Y. Zhang, L. Fan, E. Anderson, P. Peng, Y. Cheng, M. Addy, Y. Wang, Y. Liu. 2017. Fast Microwave Assisted Catalytic Conversion of Biomass for Biofuels and Biochemicals Production. *International Biomass Conference & Expo*. Minneapolis Convention Center, Minneapolis, Minnesota, USA
203. **Ruan, R.** 2017. Development of a continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. *USDA CAP Project Advisory Council Meeting*. St. Paul, MN.
204. **Ruan, R.** 2017. CAP [2015 - 08046] Development of a continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. *USDA Mid-Year CAP Project Review Video Conference*. St. Paul, MN.
205. **Ruan, R.,** P. Peng, Y. Cheng, P. Chen, M. Reese. 2017. Ammonia Production – Nonthermal plasma catalysis. *University of Minnesota Sustainable Ammonia Technology Showcase*. Minneapolis, MN.
206. **Ruan, R.** M. Addy, R. Zhang, Q. Lu, Y. Cheng, S. Luo, W. Li, H. Ren, E. Anderson, W. Zhou, R. Griffith, Y. Liu D. Current, P. Lee, P. Chen. 2016. Innovative processes and systems for complete waste utilization and treatment. 2016. 4th Bioprocessing India Conference (BPI-2016), Mohali, India.
207. **Ruan, R.,** S. Liu, Y. Zhang, L. Fan, E. Anderson, P. Peng, Y. Cheng, N. Zhou, Y. Wan, Y. Wang, Y. Liu, X. Lin, J. Zhou, G. Chen, P. Chen. 2016. Innovative fast catalytic pyrolysis and gasification of solid wastes. International Conference on Strategies for Environmental Protection and Management (ICSEPM 2016), New Delhi, India
208. **Ruan, R.,** M. Addy, R. Zhang, Q. Lu, Y. Cheng, S. Luo, W. Li, H. Ren, E. Anderson, W. Zhou, R. Griffith, Y. Liu, D. Current, P. Lee, P. Chen. 2016. Environment-enhancing biofuel

and biobased product production through innovative waste-to-algae technologies.
International Conference on Current Trends in Biotechnology (ICCB-2016), Chennai, India,

209. **Ruan, R.**, M. Addy, R. Zhang, Q. Lu, P. Chen, Y. Cheng, W. Zhou, Y. Liu, D. Current, P. Lee, D. Abazs, C. Yang, L. Vang. 2016. A system approach to utilization and treatment of organic solid and liquid wastes. ASIA-Pacific Conference on Biotechnology for Waste Conversion (BioWC-2016), Hong Kong
210. **Ruan, R.** 2016. Non-thermal technology for food safety. *Biowastes utilization and bioavailability and function food conference*, Beijing Union University, Beijing
211. **Ruan, R.**, S. Liu, L. Fan, N. Zhou, E. Anderson, P. Peng, Y. Cheng, Y. Wang, Y. Liu, Y. Wan, J. Zhou, G. Chen, P. Chen. 2016. Distributed fast microwave assisted conversion of solid wastes for materials, chemicals, and energy production. *2016 International Seminar on Advanced Materials Research*. Kunming University of Science & Technology, Kunming.
212. **Roger Ruan**, 2016. Innovative pretreatment methods for complete utilization of biomass for fuels, chemicals, and materials production, *1st International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability*. Sitges, Spain.
213. **Ruan, R.**, P. Peng, Y. Cheng, S. Song, J. Liu, M. Addy, S. Deng, P. Chen. 2016. Nonthermal processing technologies for low moisture and liquid foods pasteurization. *Conference of Food Engineering (COFE) 2016*, Columbus, OH.
214. **Ruan, R.**, M. Addy, R. Zhang, E. Anderson, Y. Ma, X. Ma, C. Xin, Q. Lu, S. Luo, H. Ren, H. Liu, W. Li, S. Liu, Y. Zhang, L. Fan, G. Tian, P. Peng, Y. Cheng, R. Griffins, R. Hatzenbeller, Y. Wan, Y. Wang, Y. Liu, X. Lin, P. Chen. 2016. Sustainable Bioeconomy for Rural Social and Economic Development. Conference Opening Speech. *International Conference on Biomass Energy and Sustainable Economy*. Nanchang.
215. **Ruan, R.**, 2016. Innovative Microwave Assisted Catalytic Conversion of BioWastes for Renewable Energy and Chemicals Production. *The 4th International Conference on Environmental-Enhancing Energy*, Beijing.
216. **Ruan, R.** 2016. Systematic waste utilization process and system. *Bioenergy Seminar*, China University of Mining and Technology, Beijing.
217. **Ruan, R.** 2016. Innovative Thermochemical Conversion of BioWastes for Renewable Energy and Chemicals Production. *International Symposium on Energy Economics and Management*. Beijing.
218. **Ruan, R.**, D. Baumler, C. Chen, P. Chen, Z. Vickers, J. Feirtag, L. Lee, Y. Cheng, P. Peng, Q. Mao, J. Wiertzema. 2016. CAP [2015- 08046] Development of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. USDA NIFA CAP Project PD's meeting. July 19, 2016. Chicago, IL.

219. **Ruan, R.** X. Lin, J. Wu, P. Chen, and G. Huang. 2016. Quality Preservation of Nuts and Seeds – Shelf Life of Almond Products. China Nuts and Roasted Seeds Conference. Almond Board of California, Hefei.
220. **Ruan, R.** 2016. Sustainable Bioeconomy for Rural Social and Economic Development. MOST Biomass Utilization Conference. Nankai University, Tianjin.
221. **Ruan, R.**, P. Chen, M. Addy, Y. Cheng, X. Ma, Y. Ma, S. Liu, Y. Liu, Y. Wang, H. Zheng, X. We, X. Lin, R. Griffins. 2016. Systems approach to bioeconomy and eco-economy. *Frontier Biotechnology Forum*, Beijing, China
222. **Roger Ruan**, Xiangyang Lin, Jia Wu, Paul Chen, and Guangwei Huang. 2015. Shelf-life study of raw and roasted almonds. *The Almond Conference*. Sacramento, CA.
223. **Ruan, R.** 2015. Innovative technologies for waste utilization and renewable energy and chemicals production. *International Conference on New Horizons in Biotechnology (NHBT-2015)*. November 22-25, 2015, Trivandrum, India.
224. **Ruan, R.** 2015. Wastewater-to-Algae Technologies for Biofuels and Biochemicals Production and Wastewater Treatment. *Advances in Algal Biotechnology Workshop*. IIT Bombay, Mumbai, India.
225. **Ruan, R.** 2015. Innovative Algal Process and System for Sustainable Biofuels and Biochemicals Production. Advances in Algae Based Biorefineries - Algae Biomass Cultivation, Harvesting and Characterization. *2015 AIChE Annual Meeting*, Salt Lake City, UT.
226. **Ruan, R.** 2015. Energy and Chemical Extraction from Various Solid Wastes. *Waste Not TAG Meeting*, St. Paul, MN.
227. **Ruan, R.** 2015. Innovative microwave-assisted fast gasification of biomass and solid wastes for biofuels and biochemicals production. *2015 International Conference for Bioeconomy - Green Biological Manufacturing*. Tianjin, China.
228. **Ruan, R.** 2015. Innovative rural eco-township-a truly sustainable development model. *TIB Distinguished Lecture Series*. Chinese Academy of Sciences. Tianjin, China.
229. **R. Ruan**, Q. Xie, Y. Cheng, S. Liu, P. Peng, B. Zhang, P. Chen, L. Baker, P. Urriola, G. Shurson. 2015. Energy and chemical extraction from waste organics. The Future of Organic Wastes in Minnesota Conference. Continuing Education and Conference Center, Saint Paul, Minnesota.
230. **Ruan, R.**, E. Anderson, M. Addy, Y. Nie, C. Bi, N. Onuma, X. Ma, H. Zheng, P. Chen, D. Li. 2015. Conversion of scum to biodiesel. LCCMR and MCES Demonstration and Site Visit. St. Paul, MN.

231. **Ruan, R.** 2015. Innovative Thermochemical Conversion Technologies for Waste Utilization and Renewable Energy and Chemicals Production. Track 4. Advanced Biofuels and Biochemicals. *International Biomass Conference & Expo*. Minneapolis Convention Center, Minneapolis, MN.
232. **Ruan, R.** 2015. Shelf-life study of raw and roasted almonds for Chinese market - A report to the Almond Board of California, ABC *Almond Quality & Food Safety Committee Meeting*. Modesto, CA.
233. **Ruan, R.,** P. Chen, Q. Xie, P. Peng, S. Liu, B. Zhang, E. Anderson, Y. Cheng, Y. Liu, K. Muthukumarappan. 2015. Distributed production of DME based fuels using microwave technology and direct catalytic synthesis. *2015 North Central Regional Sun Grant Center Annual Meeting*, Bloomington, MN.
234. **Ruan, R.,** P. Chen, Q. Xie, S. Liu, B. Zhang, P. Peng, E. Anderson, Y. Cheng, Y. Liu, Min Min, Nonso Onuma. 2015. Development of Novel Fast Pyrolysis and Gasification Processes. *2015 North Central Regional Sun Grant Center Annual Meeting*, Bloomington, MN.
235. **Ruan, R.,** M. Min, E. Anderson, P. Chen. 2015. Biorefining scum for energy, metals and nonmetals reduction, and algae growth. Metro Council Environmental Service St. Paul Wastewater Treatment Plant, St. Paul, MN.
236. **Ruan, R.** 2015. Innovative thermochemical and biological technologies for waste utilization and renewable energy and chemicals production. Taiyuan University of Technology, Shangxi, China.
237. **Ruan, R.** 2015. Development and application of concentrated electric field technology for non-thermal pasteurization of liquid foods. Emerging Food Technology Workshop, Seoul, South Korea.
238. **Ruan, R.** 2015. Innovative dynamic high pressure nonthermal extraction and pasteurization technology for bioavailability improvement and safety assurance. Emerging Food Technology Workshop, Seoul, South Korea.
239. **Ruan, R.** 2015. Development and application of fast microwave assisted gasification technology for biomass utilization. Sinopec Star Petroleum Co., Ltd. Beijing, China
240. **Ruan, R.,** P. Chen, Y. Liu, M. Ruan, X. Ma, Y. Ma, P. Peng, Q. Xie, S. Cheng, Y. Cheng, X. Lin, W. Zhou, M. Min, Y. Li. 2015. Development of innovative distributed eco-townships. Tianjin Forum. Tianjin, China.
241. **Ruan, R.** 2014. Innovative thermochemical and biological technologies for waste utilization and renewable energy and chemicals production. Shandon University, Jinan, China.

242. **Ruan, R.** 2014. Solid, liquid, and gas waste utilization and control technologies. Nantong Qingbo Environmental Science and Technology Company, Nantong, China.
243. **Ruan, R.** 2014. Innovative Technologies for Solid Waste Utilization and Renewable Energy and Chemicals Production. A plenary speech at the *International Workshop on Bioenergy and Environment*. Tianjin University, Tianjin, China.
244. **Ruan, R.** 2014. Innovative Production and Waste Utilization Systems for Healthy Ecosystem and Sustainable Economic Development. International Ecoenvironment and Resource Recycling Forum, 14th Annual Conference of Fujian Association of Science and Technology. Fuzhou, China.
245. **Ruan, R.** 2014. Innovative Technologies for Waste Utilization and Renewable Energy and Chemicals Production. College of Environmental Science and Engineering and Tianjin Municipal Solid Waste Resources Technology and Engineering Center, NanKai University. Tianjin, China.
246. **Ruan, R.** and P. Chen. 2014. Innovative Waste Utilization Technologies. LCCMR Site Visit. St. Paul and Rosemount, MN.
247. **Ruan, R.** 2014. Innovative Bio-renewable Energy and Chemicals Production Research. MOST International Cooperation Program Planning and Discussion Meeting. Tianjin, China.
248. **Ruan, R.** 2014. Innovative Technologies for Waste Utilization and Renewable Energy and Chemicals Production. Tianjin Bohai PetroChem Company. Tianjin, China.
249. **Roger Ruan**, Shaobo Deng, Yanling Cheng, Xiaochen Ma, Yiwei Ma, Xiangyang Lin, Sibao Cheng, Yuhuan Liu, Paul Chen, Lloyd Metzge. 2014. Concentrated High Intensity Electric Field (CHIEF) nonthermal pasteurization technology, Symposium on Nonthermal Technology for Food Safety Assurance, IFT International Annual Meeting, New Orleans, LA.
250. **Ruan, R.** 2014. Improving and Maintaining Bioavailability of Phytochemicals and Solubilized Fibers in Plant Materials. 16th Annual Meeting of China Association for Science and Technology. Kunming, China.
251. **Ruan, R.** 2014. Renewable energy and biobased economy research and development. Minnesota Bipartisan Issues Group, Minneapolis, MN.
252. **Ruan, R.** 2014. fMAP and fMAG for brewery byproducts utilization. Luzhou Laojiao Liquor Company, Sichuan, China.
253. **Ruan, R.** 2014. Fast microwave pyrolysis and gasification technology for solid waste utilization. Fujian Institute of Research on the Structure of Matter, CAS, Fuzhou, China

254. **Ruan, R.** 2014. Innovative distributed technologies for renewable energy production. 11th Tactical Power Sources Submit. Washington, DC.
255. **Ruan, R.** 2014. Improving bioavailability of phytochemicals and solubilized fibers in plant materials. Seminar at Yunnan Minzu University. Kunming, China.
256. **Ruan, R.** 2013. Microwave Assisted Conversion and Algae for Biofuels and Biochemicals Production and Wastewater Treatment. Seminar at Beijing University of Science and Technology. Beijing, China
257. **Ruan, R.** 2013. Algae for Biofuels and Biochemicals Production and Wastewater Treatment. International Conference on Beneficial Uses of Algal Biomass. Hong Kong
258. **Ruan, R.** Q. Xie, X. Ma, Y. Li, Y. Cheng, Y. Nie, M. Mohr, R. Griffith, Y. Liu, Y. Wan, R. Zhu, Y. Wang, X. Lin, P. Peng, M. Min, W. Zhou, Q. Wang, J. Shi, Y. Sun, Y. Jiang, Z. Fu, P. Chen. 2013. Microwave Assisted Fast Catalytic Pyrolysis and Gasification of Solid Wastes. TAPPI 2013 International Bioenergy and Bioproducts Conference, Green Bay, WI.
259. **Ruan, R.**, P. Chen, A. Shi, M. Guo, K. Petrofsky, I. Zhang, M. Youn, A. Hohn, Y. Li, Y. Ma, D. Gallaher, R. Liu, G. Fulcher, J. Faubion, L. Marquart. 2013. Improving the Functionality and Bioactivity in Wheat Bran. *Innovations in Food Science for Human Well-Being*. 2013 Korean Society of Food Science and Technology Annual Meeting. Cheonan Arts Center, Huracle Resort, South Keora.
260. **Ruan, R.** 2013. Innovative Waste Utilization Technologies for Renewable Energy Production and Waste Treatment. Biomass Energy Engineering Research Centre Seminar, Shanghai Jiao Tong University, Shanghai, China
261. **Ruan, R.** 2013. Advanced wastewater-based algae technologies for water recycling, improved nutrient removal and enhanced algal lipid accumulation for low-cost biofuel feedstock production. *NSF Symposium on Metabolic pathways in microorganisms for biofuels*. Davis, CA.
262. **Ruan, R.**, M. Min, W. Zhou, X. Ma, Y. Li, Q. Xie, M. Mohr, R. Griffith, Y. Cheng, Y. Liu, Y. Wan, R. Zhu, X. Lin, Q. Wang, J. Shi, Y. Sun, Y. Jiang, Z. Fu, P. Chen. 2013. Wastewater-to-algae Technologies for Biofuels and Biochemicals Production and Wastewater Treatment. In *Conversion Technologies (Deconstruction or Synthesis): Microbial Science and Technology II – Algae of the 35th Symposium on Biotechnology for Fuels and Chemicals*. Portland, OR.
263. **Ruan, R.** 2013. Innovative Technologies for Sustainable Energy, Environment, and Economy. *USDA 2013 Cochran Program for Ukraine on BioFuels*. Organized by *Mid-America Consultants International*. St. Paul, MN.

264. **Ruan, R.** 2013. Wastewater-to-algae technologies for biofuels and biochemicals production and wastewater treatment. *Waste to Value: Connecting the North American Community of Researchers and Industry Innovators*. Vancouver, Canada.
265. **Ruan, R.** 2013. Innovative Technologies for Sustainable Energy, Environment, and Economy. *Bioproducts and Biosystems Engineering Departmental Seminar Series*. St. Paul, MN.
266. **Ruan, R.** 2013. Catalytic Microwave Assisted Fast Thermochemical Conversion of Biomass and Solid Wastes for Energy Production. Tactical Power Source Submit. Washington, DC.
267. **Ruan, R.** 2012. Catalytic Microwave Assisted Fast Thermochemical Conversion and Wastewater Algae Production. Fushun Research Institute of Petroleum and Petrochemicals (FRIPP), SINOPEC. Fushun, Liaoning.
268. **Ruan, R.** 2012. Catalytic Microwave Assisted Fast Thermochemical Conversion of Biomass for Biofuels Production. Ninth National Microwave Chemistry and Sample Preparation Conference. Kunming, Yunan.
269. **Ruan, R.** 2012. Catalytic Microwave Assisted Fast Thermochemical Conversion and Wastewater Algae Production. Qingdao Institute of Bioenergy and Bioprocess Technology (QIBEBT), Chinese Academy of Sciences (CAS). Qingdao, Shandong.
270. **Ruan, R.,** P. Chen, A. Shi, M. Guo, K. Petrofsky, I. Zhang, M. Youn, A. Hohn, Y. Li, D. Gallaher, R. Liu, G. Fulcher, J. Faubion, L. Marquart. 2012. Improving the Functionality and Bioactivity in Wheat Bran. In *Enzymes in Cereal Science: From improving dough & product quality to improving bioavailability of functional compounds – Symposium*. Hollywood, FL.
271. **Ruan, R.** 2012. Algae for wastewater treatment and feed and biofuel production. Haid Feed Group. Guangzhou, China.
272. **Ruan, R.** 2012. Improving functionality and bioactivity of wheat bran. Agricultural Product Processing Conference, CSAE, Nanchang, China.
273. **Ruan, R.** 2012. Producing Bio-oil and Chemicals through In-situ Microwave Assisted Catalytic Pyrolysis. Southeast Biofuels and Renewable Energy Conference. Jackson, MS.
274. **Ruan, R.** 2012. Trends in Thermochemical Conversion of Biomass. S-1041 Bioeconomy Symposium. Washington, DC.
275. **Ruan, R.** 2012. Catalytic microwave-assisted pyrolysis of biomass for distributed biofuels and chemicals production. *National Science Foundation Workshop on Lignocellulosic Biofuels using Thermochemical Conversion*. Auburn, AL.

276. **Ruan, R.** 2012. Innovative waste treatment and renewable energy production. Elite forum of China Environmental Protection. Fuzhou, China.
277. **Ruan, R.** 2012. Coupling wastewater treatment and biofuel production. Chinese Academy of Agricultural Mechanization Science. Beijing, China.
278. **Ruan, R.,** P. Chen., L. Schmidt, D. Kittelson, D. Tiffany, D. Raynie, W. Gibbons, K. Muthukumarappan. 2012. Develop Sustainable Renewable Energy Systems for Practical Utilization of Bulky Biomass. Sun Grant Annual Meeting. Indianapolis, IN.
279. **Ruan, R.,** P. Chen, W. Zhou, M. Min, Y. Li, B. Hu, M. Mohr, Y. Cheng, X. Ma, L. Li, Y. Zhao, B. Wang, Z. Du, Y. Li, A. Shi, H. Lei, S. Deng, Y. Wan, Y. Liu, X. Lin, B. Martinez 2011. Mass Culture of Mixotrophic Algae for Biofuels Production and Wastewater Treatment. The 7th International Conference on Environmental Anaerobic Technologies and Bioenergy. Tianjin, China.
280. **Ruan, R.,** P. Chen, W. Zhou, M. Min, Y. Li, B. Hu, M. Mohr, Y. Cheng, X. Ma, L. Li, Y. Zhao, B. Wang, Z. Du, Y. Li, A. Shi, H. Lei, S. Deng, Y. Wan, Y. Liu, X. Lin, B. Martinez. 2011. Mass Culture of Mixotrophic Algae for Biofuels Production and Wastewater Treatment in Northern Climates. Algae Biomass Submit. Minneapolis, MN.
281. **Ruan, R.** 2011. Biofuels Research Renewable Energy and Bio-based Products Innovation. University Health and Safety Retreat. Minneapolis, MN.
282. **Ruan, R.,** P. Chen, K. Petrofsky, I. Zhang, M. Guo, Y. Li, A. Shi, and A. Hohn. 2011. Improving the Functionality and Bioactivity in Wheat Bran – An Overview. AACCI Workshop, Palm Springs, CA.
283. **Ruan, R.** 2011. Distributed ammonia production using catalytic non-thermal plasma assisted synthesis technology. Minnesota Department of Commerce Commissioner Michael Rothman's visit. Minneapolis, MN.
284. **Ruan, R.** 2011. Innovative Wastewater Treatment and Algal Biomass Production and Conversion Systems. Minnesota Water Technology Export Roundtable. Organized by Minnesota Department of employment and Economic Development, Minnesota Trade Office. St. Paul, MN.
285. **Ruan, R.** 2011. Innovative Wastewater Biomass Production and Conversion Systems. Seminar on Application and Industrialization of Municipal Water Treatment Equipment and Technology. The Six International Conference on China Urban Water Development and Expo of New Technologies and Facilities. Jinan, Shandong, China.
286. **Ruan, R.,** P. Chen, W. Zhou, M. Min, Q. Chen, Y. Li, B. Hu, Y. Cheng, X. Ma, L. Li, Y. Zhao, H. Lei, Z. Du, S. Deng, Y. Wan, Y. Liu, X. Lin, B. Martinez, R. Polta and A. Sealock. 2011. Mass Culture of Algae for Biofuel Production and Wastewater Treatment. Section 8: Industrial Biotechnology. BioEco 2011. Tianjin, China.

287. **Ruan, R.**, S. Deng, Y. Cheng, X. Lin, P. Chen, and L. Metzger. 2011. CHIEF/electric field technology – A unique nonthermal processing system. Dairy Foods Symposium. ADSA-ADAS 2011 Joint Annual Meeting, New Orleans, LA.
288. **Ruan, R.**, P. Chen, W. Zhou, M. Min, Q. Chen, Y. Li, B. Hu, Y. Cheng, X. Ma, L. Li, Y. Zhao, H. Lei, Z. Du, S. Deng, Y. Wan, Y. Liu, X. Lin, B. Martinez, R. Polta and A. Sealock. 2011. Mass Culture of Algae for Biofuel Production and Wastewater Treatment in Northern Climates. 4th Congress of the International Society for Applied Phycology, Halifax, NS, Canada.
289. **Ruan, R.**, W. Zhou, M. Min, Y. Li, B. Hu, M. Mohr, Y. Chen, X. Ma, L. Li, Y. Liu, Y. Wan, X. Lin, B. Martinez, P. Chen. 2011. Local Bioprospecting for High lipid Producing Microalgal Strains to be Grown in Concentrated Municipal Wastewater for Biofuel Production. 4th Congress of the International Society for Applied Phycology, Halifax, NS, Canada.
290. **Ruan, R.** 2011. Distributed biomass production, conversion and utilization. 2011 International Conference on Agricultural Engineering New Technology & Taishan Forum. Zibo, China.
291. **Ruan, R.** 2011. Distributed energy crop production and conversion. IDGA's 9th Tactical Power Sources Summit - Alternative Fuels focus Day. Washington, DC.
292. **Ruan, R.** 2011. Mass culture of algae from wastewater for energy production and wastewater treatment. 28th Annual Conference on Innovative approaches to wastewater operational problems. St. Cloud, MN.
293. **Ruan, R.** 2010. Biomass Energy Technology Options. Biomass Energy: Where are we now? Workshop, Maplewood, MN.
294. **Ruan, R.** 2010. Algae from Wastewater as an Energy Crop, Moderator for the Wastewater Treatment Operators' Perspective on their Role in the Value Chain panel at the Algae World Summit 2010. San Diego, CA.
295. **Ruan, R.**, P. Chen, X. Wang, Y. Wan, Y. Cheng, X. Lin, and Y. Liu. 2010. Microwave Gasification and Pyrolysis of solid wastes. Exploring Waste-to-energy Technologies. Half Moon Seminars, Bloomington, MN.
296. **Ruan, R.** 2010. Alternatives in food Processing. *Hot Topics and Opportunities: Academic & Industry Perspectives* Presenter and Panelists, Food Industry Networking Social by CFANES. St. Paul, MN.
297. **Ruan, R.** 2010. Distributed Biomass Production and Conversions. Rosemount Research and Outreach Center at UMore Park Advisory Committee Meeting. Rosemount, MN.

298. **Ruan, R.** 2010. Mass culture of algae as an energy crop for biofuel production. China Agricultural University. Beijing, China.
299. **Ruan, R.** 2010. Distributed biomass production and thermochemical conversion technologies. Fuzhou University, Fujian, China.
300. **Ruan, R.** and Y. Cheng. 2009. Distributed biomass production and catalytic thermochemical conversion technologies. Guangdong Department of Economic Development. Guangzhou, China.
301. **Ruan, R.** and Y. Cheng. 2009. Mass culture of algae as an energy crop for biofuel production. Beijing University of Science and Technology. Beijing, China.
302. Shihau Own and **R. Ruan**, 2009. Biofuels production from nonedible biooils. Advanced Propulsion Mid-Year Review. Office of Naval Research (ONR), Washington, DC.
303. **Ruan, R.** 2009. Catalytic reforming of biooil for fuel production. UMN Extension Service and IREE Biorenewable Conference, St. Paul, MN.
304. **Ruan, R.** and P. Chen. 2009. Biomass pyrolysis technology research and development. Growing the Bioeconomy: Solutions for Sustainability. Fargo, ND.
305. **Ruan, R.** 2009. Mass culture of algae as an energy crop for biofuel production in Jamaica. Jamaica Energy Independence Forum. Kingston, Jamaica.
306. **Ruan, R.,** 2009. Mass culture of alge as an energy crop for biofuel production. The 9th BioCycle Annual Conference: Renewable Energy from Organics Recycling. Bloomington, MN.
307. **Ruan, R.** 2009. Distributed biomass production and conversion technologies. Key Note Presentation of the First South America Bioenergy Conference. Guayaquil, Ecuador.
308. **Ruan, R.,** 2009. Mass Production of algae as and energy crop for biofuel production. Midwest Algae Commercialization Workshop. Minneapolis, MN.
309. **Ruan, R.** 2009. Mass Production of algae as an energy crop for biofuel production and wastewater treatment. Metro Council Environmental Service, St. Paul, MN.
310. **Ruan, R.** 2009. Thermochemical biomass conversion for energy, biofuel, and chemical production. BioEco 2009, Tianjin, China.
311. **Ruan, R.** 2009. NMR development and Applications in foods and biopolymers. First Low Field NMR Technology and Application conference, Hanzhou, China.
312. **Ruan, R.** 2009. MRI development and Applications in foods and biopolymers. First Low Field NMR Technology and Application conference, Hanzhou, China.

313. **Ruan, R.** 2009. Mass culture of algae from wastewater for biofuels production. 47th Annual Rural Energy Conference. Bloomington, MN.
314. **Ruan, R.** 2009. Distributed biomass production and conversion technology development. Applied Plant Science Seminar Series, University of Minnesota, St. Paul, MN.
315. **Ruan, R.** 2009. Biomass to Energy and other Bio-based Products. 5th annual Third Crop Producer Meeting, Fairmont, MN.
316. **Ruan, R.** 2008. Mass culture of algae as an energy crop for biofuel production. EcoWatch's Forum. November 25, 2008. Minneapolis, MN.
317. **Ruan, R.** 2008. SBIR and innovative distributed biomass production and conversion system. The Fifth Oversea Chinese Forum Worldwide. Beijing, China.
318. **Ruan, R.** 2008. Production of algae from wastewater. UMN IREE Algae Submit. Minneapolis, MN.
319. **Ruan, R.** 2008. Wastewater for algae production as an energy crop. Hennepin County Environmental Science. August, 2008. Minneapolis, MN.
320. **Ruan, R.** 2008. Production of algae as an energy crop from wastewater. Faculty in the Media for Student Welcome Week. St. Paul, MN.
321. **Ruan, R.** 2008. Magnetic resonance imaging of foods. *Symposium on Water in foods*. IFT Annual Meeting, New Orleans, LA.
322. **Ruan, R.** 2008. High pressure homogenization and enzyme treatment of bran. *Symposium on Designing and delivering whole grains with enhanced health attributes*. IFT Annual Meeting, New Orleans, LA.
323. **Ruan, R.** 2008. Dielectric barrier discharge eliminates *E. coli* on almonds. *Symposium on cold plasma: an emerging technology for food processing*. IFT Annual Meeting, New Orleans, LA.
324. **Ruan, R.** 2008. Distributed biomass production and conversion system. BIO 2008 International Convention, State of Minnesota Exhibition, San Diego, CA.
325. **Ruan, R.** 2008. Concentrated high intensity electric field (CHIEF) technology for milk processing. Dairy Center Annual Meeting, St. Paul, MN.
326. **Ruan, R.** 2008. Mobile microwave assisted biomass pyrolysis and wastewater for algae production. LCCMR Meeting, Waseca, MN.

327. **Ruan, R.** and L. Zhang, 2008. High oil corn refining. IOE Seminar Series. May 7th, 2008, St. Paul, MN.
328. **Ruan, R.** Thermochemical conversion of biomass for biofuels production. 3rd Crop Producer Meeting. February 25th, 2008. Fairmont, MN.
329. **Ruan, R.**, 2008. Small distributed biofuels production systems. BBI International Biomass Conference & Trade Show, Minneapolis, MN.
330. **Ruan, R.** 2008. Magnetic resonance imaging of foods. State Key Laboratory of Food Science annual meeting. Wuxi, China.
331. **Ruan, R.** 2008. Algae for a Better Environment and Energy Security. MN State Legislature joint senate and house budget committee hearing. St. Paul, MN.
332. **Ruan, R.** 2008. Distributed Energy with Pyrolysis & Gasification. 3rd Crop Producer Meetings. Fairmont, MN.
333. **Ruan, R.** 2007. Overview of biorefining research. The 22nd Annual Conference on the Environment – Addressing Current Environment Issues. Brooklyn Center, MN.
334. **Ruan, R.** 2007. Develop sustainable renewable energy systems for practical utilization of bulky biomass. North Center Regional Sun Grant Meeting. Ames, IA.
335. **Ruan, R.** 2007. Opportunities in biorefining. 2007 Biobased Industry Outlook Conference, Thermochemical Processing. Ames, IA.
336. **Ruan, R.** 2007. Progress in food engineering research. USDA NC-1023 Annual Meeting. State College, PA.
337. **Ruan, R.** 2007. Energy for green environment and healthy life. BBE Information Exchange Seminar Series, St. Paul, MN.
338. **Ruan, R.** 2007. Progress in biomass thermochemical conversion. USDA S-1007 Annual Meeting. Peoria, IL.
339. **Ruan, R.** 2007. Challenges and opportunities in thermochemical conversion of biomass. Solution Driven Symposium Series – Biofuel Symposium. St. Paul, MN.
340. **Ruan, R.** and P. Chen. 2007. Magnetic resonance imaging of foods. *Structural and Chemical Imaging Techniques in Cereal Science: Beyond Conventional Microscopy Symposium*. AACCC International Annual Meeting, San Antonio, TX.
341. **Ruan, R.** 2007. Renewable energy technology development. Australia Department of Transport and Regional Services Secretary Michael Taylor's Minnesota renewable energy visit meeting. St. Paul, MN.

342. Petter Heyerdahl and Geoffrey Gilpin, **Roger Ruan**, Paul Chen, Fei Yu, Kevin Hennessy, Yuanhua Wang, Jianping Wu, Alf Tunheim. 2007. Distributed biomass conversion. Biotechnology and Bioenergy Workshop. St. Paul, MN.
343. **Ruan, R.** 2007. New techniques in biomass pyrolysis. Renewable Energy Forum. St. Paul, MN.
344. **Ruan, R.** 2006. Renewable energy research and development. Renewable Energy Conference. The Great Hall of the People, Beijing, China.
345. **R. Ruan**, X. Lin, J. Zhang, Y. Li, P. Chen. 2006. Applications of NMR/MRI in the study of food polymers and processes. Plant Polysaccharide Workshop 2006: Plant Carbohydrates in Foods and Fuel. Winnipeg, Manitoba, Canada.
346. **Ruan, R.** 2006. Hydrothermal treatment and microwave assisted pyrolysis for biofuel production from biomass. USDA S1007 Subcommittee on the Science and Technology of the Biobased Economy Annual Meeting. St. Paul, MN.
347. **Ruan, R.** 2006. Conversion of biomass into biofuels. Norwegian Biofuels North America Study Tours. St. Paul, MN.
348. Heyerdehl, P. and **R. Ruan.** 2006. Hydrothermal treatment and microwave assisted pyrolysis of biomass for bio-fuel production. Joint Norwegian and University of Minnesota Research Conference. Aas, Norway.
349. **Ruan, R.** 2006. Development and application of non-thermal plasma (NTP) technology for liquid pasteurization. MN-SD Dairy Center Annual Meeting. St. Paul, MN.
350. **Ruan, R.** 2006. Alternative technologies for converting biomass into bio-oil. International Conference on Bioethanol and the Road to Sustainable Transport, Tsinghua University, Beijing, China.
351. **Ruan, R.** 2006. Advanced technologies for converting biomass into bio-oil and biopolymers. Chemical Engineering Department Seminar, Zhejiang University, Hanzhou, China.
352. **Ruan, R.** 2006. Development of nonthermal plasma technology. AIChE Minnesota Section Spring Meeting, St. Paul, MN.
353. **Ruan, R.** 2006. Novel Technologies for converting biomass into bio-oil and biopolymers. 5th Degussa's R&D Conference "Exploring Biorenewable Materials". St. Paul, MN.
354. **Ruan, R.**, X. Lin, J. Zhang, Y. Li, J. Qi, P. Chen, T. Yang, C. Doona, and T. Wagner. 2006. Applications of NMR/MRI in the Study of Food Polymers and Food Processes. *Symposium on Role of Polymers in Foods*. AOCS Annual Meeting, St. Louis, MO.

355. **Ruan R.**, S. Deng, P. Chen, X. Lin, H. Lei, and L. Metzger. 2006. Non-Thermal Plasma (NTP) Processes for Food Preservation. *ACS symposium on nonthermal processing*, ACS Annual Meeting, Atlanta, GA.
356. **Ruan, R.** 2006. NMR/MRI applications in the study of food polymer properties and processes. The Solae Company, St. Louis, MO.
357. **Ruan, R.** 2006. Applications of NMR/MRI in the Study of Biopolymer Properties and Processes. Biomedical Imaging Seminar. Department of Biomedical Engineering. Minneapolis, MN.
358. **Ruan, R.** 2005. NMR/MRI applications in high protein snack bar research. The Solae Company, St. Louis, MO.
359. **Ruan, R.** 2005. Biorefining approach for renewable energy production. IREE 2005 Research Symposium. Minneapolis, MN.
360. **Ruan, R.** 2005. Biorefining approach for biomass utilization. Department of Thermal Energy seminar, Tsinghua University. Beijing, China.
361. **Ruan, R.** 2005. Renewable energy research and development. Workshop by Graduate University of Chinese Academy of Sciences and University of Minnesota. Beijing, China
362. **Ruan, R.**, 2005. NMR applications in dry bean storage study. Bush Brothers and Company, Knoxville, TN.
363. **Ruan, R.** and P. Heyerdahl. 2005. On Farm Biomass Energy Conversion Technology Development. The Norwegian Research & Technology Forum in the U.S./Canada and University of Minnesota: The Environmental Impact of Agriculture and Energy Use: Genomics and biomass/bioenergy, Minneapolis, MN.
364. **Ruan, R.**, 2005. Pressure liquefaction and microwave pyrolysis of biomass into bio-crude oils. USDA S1007 The Science and Engineering for the Biobased Industry and Economy Committee Meeting. Knoxville, TN.
365. **Ruan, R.** and P. Chen. 2005. Applications of NMR and MRI in the study of biopolymers. AIChE Annual Symposium, Bloomington, MN.
366. **Ruan, R.** 2005. Biorefinery technologies overview. Minnesota Corn Growers Association Expanded Uses Focus Team Meeting. Minneapolis, MN.
367. **Ruan, R.** 2004. An overview of biomass conversion technology for fuel and materials. Agricultural and Forestry Biomass Engineering Symposium. Beijing, China.

368. **Ruan, R.**, X. Lin, R. Zhu, P. Chen, J. Qi. 2004. An overview of NMR and MRI applications in cereal foods. ICC/AACC/3rd Food Science International Symposium. Tianjin, China.
369. **Ruan, R.** 2004. Conversion of biomass materials into fuels and materials. College of Environmental Science and Engineering International Seminar, China Agricultural University, Beijing, China.
370. **Ruan, R.**, 2004. Atmospheric pressure liquefaction of biomass into bio-crude oils. USDA S1007 The Science and Engineering for the Biobased Industry and Economy Committee Meeting. Denver, CO.
371. **Ruan, R.** 2004. NMR application in dry bean longitudinal storage study. Bush Brothers and Company's Research Council Meeting. September, 2004. Knoxville, TN.
372. **Ruan, R.** 2004. Evaluation of emerging non-thermal processes for almond pasteurization. Almond Board of California's Research Council Meeting. September, 2004. Modesto, CA.
373. **Ruan, R.**, P. Heyerdahl, E. Fjermestad Hagen, L. Schmidt. 2004. Combined Biomass Refining Scheme for Conversion of Biomass into Bioenergy and Bioproducts. The Environmental Impact of Agriculture and Energy Use: How new technologies, including biotechnology, can provide sustainable solutions, Staur Gjestegard, Stange, Norway.
374. **Ruan, R.**, P. Chen, S. Deng, X. Lin. 2004. Non-Thermal Plasma (NTP) Technology for Food Processing. IFT Symposium: *Inactivating pathogens, parasites, and viruses using high pressure and other emerging nonthermal technologies*, Las Vegas, NV.
375. **Ruan, R.** 2004. Biorefining – Minnesota Perspective. Biorefining Videoconference (two countries, USA and Canada, five States, eight sites). St. Paul, MN.
376. **Ruan, R.** 2004. Bioconversion and biorefining technologies. China Agricultural University. Beijing, China.
377. **Ruan, R.** 2004. Value-added processing technologies. Nanchang University. Nanchang, China.
378. **Ruan, R.** 2004. Thermochemical conversion of biomass into energy fuels and bioproducts. Hawaii Natural Energy Institute (HNEI) and the Department of Molecular Bioscience and Bioengineering (MBBE), University of Hawaii at Honolulu, Oahu, HI.
379. **Ruan, R.** 2004. DOD biomass liquefaction technology development and application in sugarcane waste conversion. Hawaiian Commercial and Sugar Company, Maui, HI.
380. **Ruan, R.** 2004. IREE Bioenergy and Bioproducts Cluster. Department of Applied Economics and IREE Policy cluster. St. Paul, MN.

381. **Ruan, R.** 2004. Overview of biorefining technologies. Department of Chemical Engineering and Material Science Senior Design Seminar. University of Minnesota. Minneapolis, MN.
382. **Ruan, R.** 2003. Supporting Minnesota's bioenergy and bioproducts industries. Wood and Paper Science Department Seminar. St. Paul, MN.
383. **Ruan, R.** 2003. IREE Bioenergy and Bioproducts. BAE Department Seminar. St. Paul, MN.
384. **Ruan, R.** 2003. Vision for Bioprocessing and Food Engineering. BAE Vision Presentation Series. St. Paul, MN.
385. **Ruan, R.** 2003. Bioenergy and Bioproducts. Bioindustrial Development Coalition Meeting. St. Paul, MN.
386. **Ruan, R.** 2003. Center for Biorefining: Heading into a bioeconomy era. COAFES Leadership Council Meeting. St. Paul, MN.
387. **Ruan, R.** 2003. NMR/MRI development and applications in foods. Cargill Research Center, Wayzata, MN.
388. **Ruan, R.** 2003. Biomass research and development progress. USDA S1007 Committee on The Science and Engineering for the Biobased Industry and Economy. Washington, DC.
389. **Ruan, R.** 2003. Biobased industrial products. Renewable Energy and the Environment Workshop Series - Initiative Introduction and Planning Workshop. Minneapolis, MN.
390. **Ruan, R.** 2003. Utilization of lignocellulosic materials - Progress and future work. Empowering the Countryside with Renewable Energy II, 2003 Renewable Energy and Biorefining Workshop. Biorefining: Products, Processes, and Potential. Morris, MN.
391. **Ruan, R.** 2003. Recent NMR/MRI development and applications in foods. General Mills Technology Center, Minneapolis, MN.
392. **Ruan, R.** 2003. NMR/MRI study of high protein fruit bar during storage. DuPont Protein Technologies International, St. Louis, MO.
393. **Ruan, R.** 2002. Nonthermal plasma technology for liquid nonthermal pasteurization. Sota Tec Fund, Inc. Roseville, MN.
394. **Ruan, R.** 2002. Emerging non-thermal processes for food preservation. International Symposium on Food Safety and Food Trade Rules. Nanchang, China.
395. **Ruan, R.** 2002. Emerging non-thermal technologies for food preservation. Fuzhou University, Fuzhou, China.

396. **Ruan, R.** 2002. Nonthermal plasma technology for liquid food nonthermal pasteurization. *Forum Dealing with new intervention technologies in the fresh environment*. IFT Annual Meeting. Anaheim, CA.
397. **Ruan, R.** 2002. Biorefinery and the future of agricultural engineering. Forum on Agricultural and Biosystems Engineering Development Strategy. Yangling, China.
398. **Ruan, R.** 2002. NIR, computer vision and neural network techniques for scab inspection. 2nd International Conference on Grain, Flour and Bread Quality, Moscow, Russia.
399. **Ruan, R.** 2002. Analysis of physiochemical properties of food polymers using NMR, MRI. DuPont Protein Technologies International, St. Louis, MO.
400. **Ruan, R.** 2002. Development of nonthermal plasma technology for nonthermal pasteurization of liquid foods. University of Minnesota COAFES Technology Workshop for the Investment Committee, Minneapolis, MN.
401. **Ruan, R.** 2002. Conversion of biomass into biofuels and biomaterials. Spring Minnesota Section of ASABE Meeting. St. Paul, MN.
402. **Ruan, R.** 2001. Non-thermal plasma and ozone technologies for the food industry. National Food Processors Association Annual Meeting. Washington, DC.
403. **Ruan, R.** 2001. Overview of biomass conversion technologies. Fuzhou University, Fuzhou, China.
404. **Ruan, R.** 2001. Advanced electro-technology and bioconversion technology for bioprocessing and environmental engineering. Nanchang University, Nanchang, China.
405. **Ruan, R.** 2001. Biomass utilization: conversion of biomass into biofuels and biomaterials. International Conference on Agricultural Science & Technology. Beijing, China.
406. **Ruan, R.** 2001. Nonthermal plasma and ozone technology and applications. Ecolab, St. Paul, MN.
407. **Ruan, R.** 2001. Application of Near Infrared, Machine Vision, and Neural Networks in Scab Research. Second International Wheat Quality Conference, Manhattan, KS.
408. Peterson C. and **R. Ruan**. 2001. Non-thermal Plasma Technologies for the Food Industry. Non-thermal Food Processing Workshop, Newark, DE.
409. **Ruan, R.** 2000. Cold processes are just getting hotter. Land O'Lakes, Inc. St. Paul, MN.
410. **Ruan, R.** 2000. Ozone technology for wet milling applications. Colorado Sweet Gold, LLC. Johnstown, CO.

411. **Ruan, R.** and P. Chen. 2000. Nonthermal plasma and ozone technology for the food industry. *Novel non-thermal approaches to process foods symposium*, IFT Annual Meeting, Dallas, TX.
412. Montenegro, J. and **R. Ruan**. 2000. Development of a pulsed non-thermal plasma system for treatment of liquid food products. EPRI/NSP Electrotechnology Update – Pillsbury, Minneapolis, MN.
413. Montenegro, J. and **R. Ruan**. 2000. Development of a pulsed non-thermal plasma system for treatment of liquid food products. EPRI/NSP Electrotechnology Update – General Mills, Minneapolis, MN.
414. **Ruan, R.** 2000. Application of millisecond pasteurization technology in juice. Tropicana, Inc., Tampa, FL.
415. **Ruan, R.** 2000. Mobility of water molecules in gummy bears. General Mills, St. Paul, MN.
416. **Ruan, R.** 2000. Development of a rapid computer vision and neural network system for scabby wheat estimation. Scab Research Forum, University of Minnesota, St. Paul, MN.
417. **Ruan, R.** 1999. Nonthermal plasma systems for odor control. Second International Science and Technology Convention, Guangzhou, China.
418. **Ruan, R.** and P. Chen. 1999. Ozone for food processing. Second International Science and Technology Convention, Guangzhou, China.
419. **Ruan, R.** 1999. Advanced electro-technology application in food and environmental engineering. China Agricultural University, Beijing, China
420. **Ruan, R.** 1999. Management of water in foods and biological materials. Chinese Academy of Agricultural Science, Beijing, China.
421. **Ruan, R.** 1999. Ozone application in food safety control. Fuzhou University, Fuzhou, China.
422. **Ruan, R.** 1999. Millisecond pasteurization technology. Raytheon Corp, Philadelphia, PA.
423. **Ruan, R.** 1999. Ozone application in ready-to-eat meat processing. Lloyd's Barbeque Company, St. Paul, MN.
424. **Ruan, R.** 1999. MRI and NMR study of popcorn moisture and water mobility distributions. General Mills James Ford Technology Center, Golden Valley, MN.
425. **Ruan, R.** 1998. Study of water solid interaction in dough using NMR. The Pillsbury Technology Center, Minneapolis, MN.

426. **Ruan, R.** 1998. Interactions of carbohydrate, fats and their replacers in confectionery products – A polymer science and NMR approach. NCA Annual Research Meeting, Washington, DC.
427. **Ruan, R.** 1998. Odor control using nonthermal plasma. Current Technology in Odor Control, Allen D. Lemmon Swine Conference, Brooklyn Park, MN.
428. **Ruan, R.** 1998. New Electrotechnologies for food industrial applications. EPRI food Technology Center, St. Paul, MN.
429. **Ruan, R.** 1998. New NMR and MRI technologies for food research. US Army Natick Research Development and Engineering Center, Natick, MA.
430. **Ruan, R.** 1998. Non-thermal application in odor control. UIE/EPRI's International Conference on Creating Customer Business Opportunities Through International Collaboration on Industrial Electrotechnologies, Orlando, FL.
431. **Ruan, R.** 1997. NMR and MRI study of water and pore size distribution in dough. Pillsbury Technology Center, Minneapolis, MN.
432. **Ruan, R.** 1997. Moisture control during soybean dehulling process. Oil Milling, Buhler Inc., Minneapolis, MN.
433. **Ruan, R.** 1997. Non-destructive analysis and monitoring of biological materials and processes using NMR and MRI. Institute of Biological Engineering (IBE) Annual Meeting (keynote presentation), Minneapolis, MN.
434. **Ruan, R.** 1997. Imaging solution to problems in agricultural and food industries. 1997 National Imaging Technology Conference, Rochester, MN.
435. **Ruan, R.** 1997. An Innovative non-thermal plasma technique for odor control. EPRI Food Technology Center Technical Advisory Council Meeting, Orlando, FL.
436. **Ruan, R.** 1997. MRI temperature mapping of foods undergoing ohmic heating. EPRI Food Technology Center Technical Advisory Council Meeting, Orlando, FL.
437. **Ruan, R.** 1997. Application of ozone technology in wastewater treatment in food processing industry. EPRI Food Technology Center Technical Advisory Council Meeting, Orlando, FL.
438. Labuza, T. and **R. Ruan.** 1997. A Comparison of various rheological methods for measuring the state diagram (Tg vs moisture) of solid & powdered foods. IFT-IUFoST Basic Symposium: Phase/State Transitions in Food: Chemical, Structural, and Rheological Changes, Orlando, FL.

439. **Ruan, R.** 1997. Discussion on highly-refined cellulose processing and applications. Columbus Potato Processing Company, Columbus, OH.
440. **Ruan, R.** 1997. Discussion on pulse electric power principles, instrumentation, and applications. Pulsed Electric Field International Workshop, San Diego, CA.
441. **Ruan, R.** 1996. Water activity, glass transition, and water mobility. Symposium on phase transitions: effect on textural properties of cereal foods. 81st AACC Annual Meeting, Baltimore, MD.
442. **Ruan, R.** 1996. Wastewater and odor treatment using pulsed electric power. EPRI-NSP Food Process Wastewater Treatment Workshop, Shakopee, MN.
443. **Ruan, R.** 1996. Making HRC as a filter aid. Carlson Filtration, Ltd, Manchester, England.
444. **Ruan, R.** 1995. New technology development in food engineering. Pillsbury International R&D, Minneapolis, MN.
445. **Ruan, R.** 1995. Utilization of agricultural fibrous residues and application of neural networks. Department of Biosystems and Agricultural Engineering, University of Minnesota, St. Paul, MN.
446. **Ruan, R.** 1995. Microfibrillated cellulose - A potential food ingredient. Hormel R&D Center, Hormel Corp., Austin, MN.
447. **Ruan, R.** 1995. NMR and water binding. Department of Food Science and Nutrition - Food Physical Chemistry, University of Minnesota, St. Paul, MN.
448. **Ruan, R.** 1995. Basic principles of neural network and its applications in biological and food systems. Department of Chemical Engineering and Material Science, University of Minnesota, Minneapolis, MN.
449. **Ruan, R.** 1994. Development and application of MRI in biological, agricultural and food systems. Department of Soil Science Seminar, University of Minnesota.
450. **Ruan, R.** 1994. Introduction to neural network applications in food processing and control. Pillsbury Technology Center, Minneapolis, MN.
451. **Ruan, R.** 1993. Development and application of MRI and low field NMR in the study of structural and functional relationships in foods. Symposium on Food Microstructure: From Molecular to Macroscopic. 78th AACC Annual Meeting, Miami Beach, FL.
452. **Ruan, R.** 1993. Challenges of applying MRI in the study of food and agricultural systems. Food Preservation 2000 Conference, Natick, MA.

453. **Ruan, R.** 1992. Development and applications of MRI in the study of the structure-function relationships in foods. Department of Food Science and Nutrition Seminar, University of Minnesota, St. Paul, MN.
454. **Ruan, R.** 1992. Basic principle of NMR and MRI and their applications in the study of food systems. Pillsbury Technology Center, Minneapolis, MN.

Invited Conference Contributions and Proceedings Publication (not updated)

1. **Ruan, R.**, L. Chen, and X. Lin. 2008. SBIR and innovative distributed biomass production and conversion system. In the *Proceeding of The Fifth Oversea Chinese Forum Worldwide*. Beijing, China.
2. **Ruan, R.**, L. Metzger, P. Chen, and S. Deng. 2008. Nonthermal pasteurization of milk using plasma technology. In *Midwest Dairy Foods Research Center 208 Annual Report*. Page 115-121.
3. Liu, Y., A. Luo, C. Li, L. Gao, J. Luo, Y. Wan, **R. Ruan**, C. Liu. 2007. Polyurethane foams from combined liquefaction mixtures of bamboo residues and corn starch. In *The Proceeding of the Second National Symposium on Resources Biotech and Carbohydrate Engineering*, Weihai, China, Page 279-286.
4. Li, C., Y. Liu, A. Luo, L. Gao, J. Luo, Y. Wan, **R. Ruan**, C. Liu. 2007. Preparation of biodiesel from waste cooking oil by novel two-step catalytic process. In *Proceedings of International Symposium on Clean Energy Technology*.
5. Luo, A., Y. Liu, Y. Wan, L. Gao, J. Luo, **R. Ruan**, C. Liu. 2007. Experimental study on the microwave pyrolysis of bamboo residues. In *The proceeding of the Second National Symposium on Resources Biotech and Carbohydrate Engineering*, Weihai, China, Page 267-274.
6. Li, C., Y. Liu, A. Luo, L. Gao, J. Luo, Y. Wan, **R. Ruan**. 2007. Preparation of biodiesel from waste restaurant oil by novel two-step catalytic process. In *The proceeding of the Second National Symposium on Resources Biotech and Carbohydrate Engineering*, Weihai, China, Page:261~266.
7. Luo, A., Y. Liu, Y. Wan, C. Li, **R. Ruan**, L. Gao, J. Luo. 2007. Study on the products from microwave pyrolysis of bamboo residues. 2007. In *International Symposium on Clean Energy Technology in conjunction with the 3rd International Symposium on Bioenergy and Bioprocess Engineering*, Shanghai, China.
8. Gao, L., Y. Liu, A. Luo, J. Luo, Y. Wan, **R. Ruan**, C. Liu. 2007. Production of dimethyl ether by indirect liquefaction of lignocellulose. In *The Proceeding of the Second National Symposium on Resources Biotech and Carbohydrate Engineering*, Weihai, China, Page 287-292.

9. Luo, J., Y. Liu, L. Gao, A. Luo, Y. Wan, **R. Ruan**, C. Liu. 2007. The relationship between the biomass compositions and the growth of edible mushroom: A review. In *The proceeding of the Second National Symposium on Resources Biotech and Carbohydrate Engineering*, Weihai, China, 24-129.
10. **Ruan, R.**, L. Metzger, P. Chen, and S. Deng. 2006. Nonthermal plasma pasteurization of milk using plasma technology. *Midwest Dairy Foods Research Center 2006 Annual Report* 92-98.
11. **Ruan, R.**, F. Yu, Y. Liu, X. Lin, S. Bai, P. Chen, X. Pan. 2005. Liquefaction of corn stover and preparation of polyester from its liquefied polyol. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
12. Gao, Y., W. Chen, X. Lin, **R. Ruan**, C. Chen. 2005. Making biodiesel from Chinese tallow kernel oil with nano magnetic catalyst. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
13. Chen, W., Y. Gao, X. Lin, H. Xie, and **R. Ruan**. 2005. Making biodiesel from waste restaurant grease. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
14. Yu, F., **R. Ruan**, X. Lin, Y. Liu, D. Zhen, P. Chen, E. Hare. 2005. Reaction kinetics of stover liquefaction in recycled stover polyol. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
15. Bai, S., **R. Ruan**, X. Lin, Y. Liu, Y. Gao. 2005. Effect of properties of waste oils and fats on the biodiesel process and product quality. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
16. Chen, W., Y. Gao, X. Lin, D. Xia, and **R. Ruan**. 2005. Refining technology for glycerol from byproducts of biodiesel. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
17. Lin, X., **R. Ruan**, Z. Li, H. Xiong, C. Liu, and Y. Liu. 2005. Production of fuel alcohol from lignocellulosic biomass. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
18. Zhen, D., **R. Ruan**, Y. Liu, X. Lin, S. Bai. 2005. Thermo-chemical liquefaction of lignocellulose with catalyst. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
19. Fu, R., F. Yu, Y.H. Li, X. Lin, Y. Liu, Z. Li, P. Chen, **R. Ruan**. 2005. Ethylene glycol phenyl ether as a solvent in biomass liquefaction under atmospheric pressure. In *Proceeding*

of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference, Beijing, China.

20. Li, Z., **R. Ruan**, C. Liu, Y. Liu, X. Lin. 2005. Current development and issues on biomass rapid liquefaction. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
21. Liu, Y., **R. Ruan**, D. Zhen, X. Lin, S. Bai. 2005. Sustainable point of view for bio-energy development. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
22. Li, Z., **R. Ruan**, Y. Liu, X. Lin, C. Liu. 2005. Optimization of process parameters for corn stover rapid liquefaction under atmospheric pressure. In *Proceeding of the Second China International Renewable Energy Equipment & Technology Exhibition and Conference*, Beijing, China.
23. **Ruan, R.**, Z. Liu, S. Deng, X. Lin, F. Yu, Y. Li, and P. Chen. 2004. Removal of pesticides residue in produce with ozonated water wash. In *Proceedings of the CIGR International Conference*. Beijing, China.
24. Deng, S., **R. Ruan**, P. Chen, X. Lin, F. Yu, Y. Li. 2004. Non-thermal Plasma Pasteurization for Liquid Foods. In *Proceedings of the CIGR International Conference*. Beijing, China.
25. Yu, F., **R. Ruan**, Y. Liu, P. Chen, X. Lin, S. Deng, E. Hare, R.V. Morey, T. Yang, C. Chen, C. Liu, and Y. Gao. 2004. Preparation of biopolymer from liquefied corn stover. In *Proceedings of the CIGR International Conference*. Beijing, China.
26. **Ruan, R.**, X. Lin, Z. Liu, S. Deng, Y. Li, and P. Chen. 2003. Ozone decomposition of pesticides in produce. In *Proceedings of International Conference of Food Science and Technology*. Wuxi, China.
27. **Ruan, R.**, P. Chen, M. Chung, X. Lin, Y. Liu, C. Liu, Y. Gao, and C. Chen. 2003. NMR state diagram concept. In *Proceedings of International Conference of Food Science and Technology*. Wuxi, China.
28. **Ruan, R.**, P. Chen, Y. Li, X. Lin. 2003. NIR, computer vision and neural network techniques for scab inspection. In *Proceeding of International Wheat Quality Conference*. Manhattan. Kansas, USA.
29. **Ruan, R.**, P. Chen, X. Lin, and S. Deng. 2002. Emerging non-thermal processes for food preservation. In *Proceeding of International Symposium on Food Safety and Food Trade Rules*. Nanchang, China.
30. **Ruan, R.**, P. Chen, Y. Li, and X. Lin. 2002. NIR, computer vision and neural network techniques for scab inspection. In *Proceeding of Second International Conference on Grain, Flour and Bread Quality*, Moscow, Russia.

31. **Ruan, R.** H. Ma, X. Lin, S. Deng, P. Chen. 2002. Non-thermal Pasteurization of Liquid Foods Using Nonthermal Plasma. In *Proceeding of Forum on Agricultural and Biosystems Engineering Development Strategy*. Yangling, China.
32. Li, R., Y. Li, **R. Ruan**. 2001. Vacuum Infusion of Liquid Ingredient into Feed Pellets. In *Proceeding of International Conference on Agricultural Science & Technology*. Beijing, China.
33. **Ruan, R.**, K. Ning, P. Chen, M. Zhang, X. Lin, and Y. Li. 2001. A machine vision system for objective quality inspection of dry beans. In *Proceeding of International Conference on Agricultural Science & Technology*. Beijing, China.
34. Li, Y., **R. Ruan**, P. Chen, X. Lin, and H. Ma. 2001. Physical processes improve enzymatic hydrolysis of corn stover. In *Proceeding of International Conference on Agricultural Science & Technology*. Beijing, China.
35. Ye, X., **R. Ruan**, P. Chen, and Y. Li. 2001. A fast magnetic resonance imaging-based method for determination of convective heat transfer coefficient in ohmically heated food system. In *Proceeding of International Conference on Agricultural Science & Technology*. Beijing, China.
36. Ma, H., P. Chen, Y. Li, X. Lin, and **R. Ruan**. 2001. Treatment of H₂S and NH₃ using Ozone and Silent Discharge Plasma. In *Proceeding of International Conference on Agricultural Science & Technology*. Beijing, China.
37. **Ruan, R.**, Y. Li, X. Lin, and P. Chen. 2001. Development of Neural Network Model to Predicate Deoxynivalenol (DON) Levels by Near-Infrared Spectroscopy. In *Proceeding of Second International Wheat Quality Conference*, Manhattan, KS.
38. **Ruan, R.** and P. Chen. 2000. Nonthermal plasma demo system for odor control. In *AFTA Spring 2000 Proceedings*. Page 40-46. EPRI Publication.
39. **Ruan, R.**, S. Deng, and P. Chen. 2000. Automatic ozonated water generation system for sanitizing foods and food processing facilities. In *Proceedings of the Oriental Foods International Conference*, Beijing, China.
40. **Ruan, R.**, L. Gu, B. Lundberg, and P. Chen. 2000. Functional and physical properties of highly refined cellulose. In *Proceedings of the Oriental Foods International Conference*, Beijing, China.
41. **Ruan, R.** and P. Chen. 2000. Nonthermal plasma demo system for odor control. In *EPRI's Agricultural and Food Technology Alliances Joint Meeting*. Fall Meeting. EPRI Publication No. TE-114846.

42. **Ruan, R.** and S. Deng. 1999. An automatic ozonated water generation system for sanitizing foods and food processing facilities. In *Food & Machinery* 73(5):13.
43. **Ruan, R.**, K. Chang, P. Chen, and X. Ye. 1999. Fast MRI temperature mapping techniques for foods during dynamic processing. Proceedings of the 6th Conference of Food Engineering, Dallas, TX.
44. **Ruan, R.** 1999. A preliminary study on ozone applications in malting. In *EPRI's Agricultural and Food Technology Alliances Joint Meeting*. Spring Meeting. EPRI Publication No. TR-113380.
45. **Ruan, R.** 1999. Nonthermal plasma technique for odor control. In *EPRI's Agricultural and Food Technology Alliances Joint Meeting*. Spring Meeting. EPRI Publication No. TR-113380.
46. **Ruan, R.** and P. Chen. 1999. A preliminary study on applications of ozone in beef cleaning. In *EPRI's Agricultural and Food Technology Alliances Joint Meeting*. Spring Meeting. EPRI Publication No. TR-113380.
47. **Ruan, R.** L. Gu, B. Lundberg, and P. Chen. 1999. Physical properties of highly refined cellulose. 1999. Proceedings of the 6th Conference of Food Engineering, Dallas, TX.
48. **Ruan, R.** 1999. Nonthermal and ozone technologies for odor control. In *Pulsed Power Technology and Applications Symposium Proceedings*, Minneapolis, MN. EPRI Publication No. TE-113388, pp. 57-74.
49. **Ruan, R.**, L., Luo, S. Ning, X. Chen, P. Chen, and R. Jones. 1998. A machine vision and neural network based scabby wheat estimation system. Proceedings of the National Fusarium Head Blight Forum, East Lansing, MI.
50. **Ruan, R.**, W. Han, A. Ning, S. Deng, P. Goodrich, R. Zhang, and P. Chen. 1998. Animal house and waste odor control using silent discharge plasma. *Proceedings of the Allen D. Leman Swine Conference – Current Technologies in Odor Control*. Brooklyn Park, MN.
51. **Ruan, R.**, S. Ning, A. Ning, P. Chen, and R. Jones. 1997. Estimation of scab in wheat using machine vision and neural networks. Proceedings of the National Fusarium Head Blight Forum, St. Paul, MN.
52. **Ruan, R.**, S. Almaer, and L. Chen. 1997. Prediction of sweet corn maturity using time domain NMR. In *Sensors for Nondestructive Testing - Measuring the Quality of Fresh Fruits and Vegetables*, proceedings from the Sensors for Nondestructive Testing International Conference, pp. 277-284. Orlando, FL.
53. Fulcher, R.G., **R. Ruan**, T. Medin, K. Churchill, and J. McKeehen. 1997. Prediction of malting, milling, and baking quality using digital image analysis and neural networks. In: *Cereal 97: Quality Grains, Meeting the Needs of the Consumer*. AW Tarr, AS Ross, and CW Wrigley (Eds). Royal Australian Chemical Inst. Pp. 172-176.

54. Zhang, C., C.M. Chi, J.Z. Xu, **R. Ruan**, and W.S. Hu. 1996. Applications of neural networks in the classification of carrot somatic embryos. *INVITRO* (Journal of the Society for In Vitro Biology) 32(3):82A. World Congress on In Vitro Biology, San Francisco, CA.
55. **Ruan, R.**, K. Chang, and P.L. Chen. 1995. Modeling of simultaneous heat and mass transfer in Cheddar cheese during cooling. In *Food Processing Automation IV. Proceedings of the 1995 Conference*. Chicago, IL.
56. **Ruan, R.**, J.Z. Xu, and R. K. Jones. 1995. Rapid analysis of scabby wheat using machine vision and neural networks. In *Food Processing Automation IV. Proceedings of the 1995 Conference*. Chicago, IL.
57. McEntyre, E., R. G. Fulcher, and **R. Ruan**. 1995. Applications of fluorescence imaging and magnetic resonance imaging to barley water uptake studies. In *Proceedings of the Image and Vision Computing '95 in New Zealand Workshop*, pp. 25-50. Lincoln, Christchurch, New Zealand.
58. McEntyre, E., **R. Ruan**, and R. G. Fulcher. 1995. Water imbibition patterns in malting and feed barleys. In *Proceedings of the 45th RACI Cereal Chemistry Conference*. pp. 501-505. Royal Australian Chemical Institute. Adelaide, South Australia.
59. **Ruan, R.**, S. Almaer, and J. Zhang. 1995. Prediction of dough rheological properties using spectrum analysis and neural networks. In *Proceedings of International Agricultural Mechanization Conference*, pp. 358-362. Beijing, China.
60. Yi, L., J. Zhang, **R. Ruan**, P. Addis, and L. Chen. 1995. Study of structure-function relationships of microfibrillated cellulose made from agricultural waste fibrous materials. In *Proceedings of International Agricultural Mechanization Conference*, pp. 4106-4110. Beijing, China.
61. Freeman, P.L., K. Churchill, J.Y. Wheeler, **R. Ruan**, R.G. Fulcher, and E. Armstrong. 1994. The structural biology of barley and malt quality. In *Proceedings of Aviemore Conference*, pp. 9-16. Aviemore, Scotland.
62. Fulcher, R.G. and **R. Ruan**. 1994. Rapid testing of cereals and cereal products. In *Proceedings of the International Cereal Chemists Congress*. The Hague, Netherlands, June 5-9th.
63. **Ruan, R.**, S. Almaer, P. Perkins, and R.G. Fulcher. 1993. Challenges of applying MRI in the study of food and agricultural systems. In *Conference Integrating Processing, Packaging, and Consumer Research - Proceedings of the Food Preservation 2000 Conference*, pp. 563-575. Sponsored by Food Research Program, U.S. Army Natick Research, Development and Engineering Center, Natick, MA.
64. **Ruan, R.** and R.G. Fulcher. 1992. Evaluating structure-function relationships in cereal foods with advanced imaging techniques. In *Proceedings of the Forty-Second Australian Cereal*

Chemistry Conference. Royal Australian Chemical Institute. Clunies Ross House, Australia.

65. **Ruan, R.**, X. Zhou, J.B. Litchfield, and P.C. Lauterbur. 1991. Three-dimensional NMR microscopy of corn kernels using fast-interleaved projection reconstruction. In *Proceeding of International Conference on NMR Microscopy*. Heidelberg, Germany.
66. Song, H., **R. Ruan**, and J.B. Litchfield. 1990. Microscopic, 3-d measurements of foods during drying using magnetic resonance imaging, In *Food Processing Automation. Proceedings of the 1990 Conference*. Lexington, KY.

Grants and Research Proposals Funded (all lead PI unless noted otherwise)

1. USDA/Almond Board of California. Pilot Production of Phenolic-Rich Almond Hull Syrup and Antioxidant Fiber Powder for Whole-Hull Valorization. 11/30/2025 – 5/31/2027. \$118,000.
2. Bridgewater Township. Integration of optimized technical approaches for closed-loop landfill management. September 2, 2025 – June 30, 2026. \$60,000.
3. LCCMR. Affordable Statewide Tracking of Forestry Fragmentation and Degradation. With Rui Cheng. 7/1/2025 – 6/30/2028. \$331,000.
4. Private Industry Gifts. Biorefining and environmental research. 3/2025 – open. \$20,000.
5. Private Industry Gifts. Biorefining and environmental research. 2/2025 – open. \$500,000.
6. Undergraduate Research Opportunities Program (UROP). Assessing Low-Field NMR in Analyzing Gluten Development of Wheat Flours. With Willow Allred lead, and Sumana Bell and Juer Liu. 01/21/2025 to 05/14/2025. \$2,100.
7. IHI Corporation. Sustainable ammonia production via nonthermal plasma in liquid (Phase I). 11/25/2024 – 8/24/2025. \$97,978.
8. Private Industry Gifts. Value-added fiber research. 10/16/2024 – open. \$12,500.
9. Cargill, Inc. Nonthermal Plasma Treatment of Oils (Phase II). 11/1/2024 – 9/30/2025. \$106,800.
10. USDA/Almond Board of California. Comprehensive Shelf Life and Contamination Analysis of Almond Hull Powder. 8/1/2024 – 10/1/2026. \$79,500.
11. UMN Southeast Regional Sustainable Development Partnership–Rice County Landfill. Sustainable Landfill Site Management Strategies (Phase I). 8/1/24 – 4/30/25. \$50,000.
12. Environment and Natural Resources Trust Fund. Preventing PFAS and Microplastics Contaminants across Minnesota. 7/1/2024 – 6/30/2027. \$656,000.

13. UMN Technology Commercialization. Produce Green Nitrogen Fertilizer from Air and Water. 7/1/2024 – 6/30/2025. \$10,000.
14. AY24-25 MnDRIVE Global Food Ventures Graduate Student Professional Development Program Fellowship for Suman Lata. Waste plastics utilization. With Suman Lata lead. 9/26/2024 – 8/24/2025. \$14,000.
15. Undergraduate Research Opportunities Program (UROP). Eradicating PFAS from Soil and Water Ecosystems with Phytoremediation and Catalytic Pyrolysis. With Yuxi Chen lead. 05/25/2024 to 08/31/2024. \$2,100.
16. UMN MVP Challenge. Applications of Plasma Generated by Concentrated High Intensity Electric Field (CHIEF) in Nitrogen Fixation. 1/6/-5/31/2024. \$5,000.
17. Private Industry Gifts. Value-added fiber research. 2/23/2024 – open. \$12,500.
18. Environment and Natural Resources Trust Fund. Microwave assisted pyrolysis for prion remediation. 1/1/2024 – 6/30/2025. \$103,374.
19. UMN CFANS. IFT-EFFoST 2023 International Nonthermal Processing Workshop & Short Courses. Conference support. 9/1/2023 – 8/31/2024. \$1,000.
20. Cargill Inc. Nonthermal Plasma Treatment of Oils. 05/31/2023 - 6/30/2024. \$48, 282.
21. Ardent Mills. Microwave Disinfection of Wheat Kernels. 05/31/2023 - 4/30/2024. \$48, 282.
22. Elsevier Limited. 2023-03855, IFT-EFFoST 2023 International Nonthermal Processing Workshop & Short Courses. Conference grant. 9/1/2023 – 8/31/2024. €1000 (One thousand euro).
23. USDA NIFA. 2023-03855, IFT-EFFoST 2023 International Nonthermal Processing Workshop & Short Courses. An Agriculture and Food Research Initiative (AFRI) Competitive Grants Program (A1364 Novel Foods and Innovative Manufacturing Technologies) award. Conference grant. 9/1/2023 – 8/31/2024. \$50,000.
24. Institute of Food Technologists (IFT). 2023-03855, IFT-EFFoST 2023 International Nonthermal Processing Workshop & Short Courses. Conference grant. 9/1/2023 – 8/31/2024. \$5,000.
25. BBE Fred G. & Marty P. Bergsrud Fellowship for Suman Lata. Waste plastics utilization. With Suman Lata lead. May 29, 2023 - August 27, 2023. \$6,806.80.
26. Private Industry Gifts. Waste refining research. 4/27/2023 – open. \$10,000.

27. MnDRIVE GFV Graduate Student Professional Development Program. Apply non-thermal plasma to nitrogen fixation: one-step synthesis of nitrogen compound from atmospheric air and water. With graduate student Jianfei Guo lead. 8/28/2023 – 8/25/2024. \$13,000.
28. Private Industry Gifts. Value added fiber processing research. 9/15/2022 – open. \$25,000.
29. USDA/SBIR. Highly functional weighting agent by green modification of natural fibers to stabilize flavored oils in beverages. Phase II. Lead by Brock Lundberg of Fiberstar. 9/1/2022-8/31/2024. \$600,000
30. Undergraduate Research Opportunities Program (UROP). Understanding the effect of magnetic field treatment on liquid swine manure wastewater properties in order to optimize hydroponic plant growth. With Rachel Runzheimer lead. 09/06/22 to 12/20/22. \$1,800.
31. LCCMR. Destruct Per/Polyfluoroalkyl Substances (PFAS) in Landfill Leachates. 7/1/22 – 6/31/25. \$200,000.
32. LCCMR. Fungal-woodchips Filtering System for PFAS Remediation. With Jiwei Zhang lead. 7/1/22 – 6/30/24. \$189,000.
33. Supergen Bioenergy. Consortium for Waste-to-Hydrogen betterment and utilization and betterment (C-WtHub). Lead by Dr. Siming You of University of Glasgow, Scotland. 4/1-9/30/2022. £25,000.
34. USDA/Almond Board of California. Safety Assessment of Almond Hull as a Novel Food and Food Ingredient. 4/1/2022 – 1/1/2024. \$235,000.
35. Private Industry Gifts. Refining research. 2/10/2022 – open. \$50,000.
36. Private Industry Gifts. Value added processing research. 1/15/2022 – open. \$10,000.
37. USDA/SBIR. Natural emulsifier that is instantaneous and energy efficient, produced from sustainable fibrous agricultural byproducts. Phase I. Lead by Brock Lundberg of Fiberstar. 7/1/2021-8/31/2022. \$100,000.
38. Small Grains Initiative (SGI). Control of fusarium seedling blight in wheat through fast physical seed treatment. 7/1/2021-6/30/2023. \$140,000.
39. Private Industry Gifts. Waste plastics pyrolysis research. 3/11/2021 – open. \$90,000.
40. Walmart Foundation. Improving Food Safety of Pork Supply Chains in China. Lead by Yanbin Li of University of Arkansas. 10/15/2020 – 4/28/2024. \$3,200,000.
41. MNDrive Demonstration Program. Demonstrate an integrated biological system for animal wastewater treatment through utilization. 1/1/2021 – 12/31/2023. \$500,000.

42. Undergraduate Research Opportunities Program (UROP). Increasing Acetogenic Bacterial Density for Syngas Conversion Using a Porous Membrane. With Abigail Chiaokhiao lead. 01/19/21 to 05/12/21. \$1,800.
43. Undergraduate Research Opportunities Program (UROP). Use of Copper and Silver as Catalysts to Reduce Energy Consumed in Avian Influenza Virus Filters. With Sarah Kinney lead. 01/19/21 to 05/12/21. \$1,800.
44. CFANS Graduate Student Board/Ralph & Mildred Garber Research Award Fund. Development of a catalytic microwave-assisted pyrolysis-based waste plastic-to-naphtha technology. With Leilei Dai lead. 1/1/2021-6/15/2021. \$1,000.
45. Private Industry Gifts. Pyrolysis research. 10/16/2020 – open. \$35,000.
46. National Science Foundation. SitS: Spatial and Temporal Patterns of Soil N and P Cycles Quantified by a Sensor-Model Fusion Framework: Implications for Sustainable Nutrient Management. Award number: 2034385. With Zhenong Jin lead. 01/01/2020 – 1/1/2026. \$1,199,920.00
47. Dairy Management, Inc. Evaluation of intense pulsed light technologies for non-thermal processing to kill spore forming spoilage organisms in dry milk powders-continuation. With David Baumler lead. 10/1/18 – 12/31/20. \$19,948.
48. General Mills. Monitoring the Relationship between Ingredient and Hardening of Food Bars during Storage Using the NMR State Diagram Technique (Phase II). 2/1/2020 – 7/31/2020. \$60,000.
49. Private Industry Gifts. Food Safety and Engineering Research. 1/2020 - open. \$20,000.
50. MDA/MAES. Effective process and system for inactivation of avian influenza viruses. 1/1/2020 – 12/31/2023. \$198,853.
51. UMN CFANS Faculty Development Fund. Catalytic microwave processing for food pasteurization. 1/21/21 – 5/12/22. \$10,163.
52. Private Industry Gifts. Food Engineering Research. 3/2019 - open. \$10,000.
53. General Mills. Monitoring the Relationship between Ingredient and Hardening of Food Bars during the Storage by NMR State Diagram. 3/1/19 – 6/30/19. \$30,000.
54. Dairy Management Inc. (DMI). Evaluation of intense pulsed light technologies for non-thermal processing to kill spore forming spoilage organisms in dry milk powders. With David Baumler lead. 10/1/18 – 12/31/21. \$79,148.
55. Mistletoe Post-Doctoral Research Fellowship for Peng Peng. Sustainability research and development. With Peng Peng lead. 8/2018-5/2019. \$10,000.

56. Private Industry Gifts. Food Engineering Research and Communications. 5/2018 - open. \$12,000.
57. Undergraduate Research Opportunities Program (UROP). Comparison of Biofuel Production from Cooking Oil Using Acid and Alkaline Esterification and Glycerolysis and Alkaline Esterification. For Avi Limer lead. 9/9/18 – 2/28/19. \$1,800.
58. Undergraduate Research Opportunities Program (UROP). Production and Environmental Analysis of Bio-Oil from HDPE Waste. For Madison Best lead. 9/4/18 – 12/14/18. \$1,800.
59. MDA/UMN CFANS. Novel Microwave Inactivation of Avian Influenza Viruses. 3/1/18 – 2/28/21. \$300,000.
60. Minnesota Biofuel Association. Gift for Biofuel Plant Tours. 3/1/18. \$445.
61. USDA/Almond Board of California. Non-thermal Processes for Making Clean Label Food and Nutraceutical Ingredients from Almond Hull. 3/1/18 – 2/28/21. \$200,463.
62. Midwest Dairy Association. Evaluation of intense pulsed light technologies for non-thermal processing to kill spore forming spoilage organisms in dry milk powders. With David Baumler lead. 1/1/18 – 12/31/18. \$39,816.
63. Private Industry Gifts. Microwave assisted waste plastics conversion and utilization. 7/2017 – open. \$5,000.
64. Minnesota Department of Agriculture/Rapid Agricultural Response Fund. Atmospheric Pressure Nonthermal Plasma for Sanitizing Animal Production Facility Air. 6/1/2017 – 6/1/2019. \$200,000.
65. Xcel Energy RDF. Development of a Novel Gasification Technology for Distributed Power Generation from Solid Wastes. 1/4/2017 – 1/3/2022. \$999,999.
66. Private Industry Gifts. Barley malting research. 11/2016 – open. \$10,219.
67. Private Industry Gifts. Fiber utilization research. 8/2016 – open. \$6,587.63.
68. Private Industry Gifts. Fiber utilization research. 2/2016 – open. \$4,500.
69. LCCMR. Tiny Cheap Sensors for Pollutants Monitoring in Waters. With Tianhong Cui lead. 7/1/16 – 6/30/19. \$509,000.
70. LCCMR. Utilization of Dairy Farm Wastewater for Sustainable Production. With Brad Heins lead. 7/1/16 – 6/30/19. \$475,000.

71. MDA. Sustainable Protein for Aquaculture from Alfalfa. 3/1/16 – 2/28/17. With Deborah Samac lead. \$100,000.
72. Serendipity Grant 2015. Building Partnerships for Complete Utilization of Municipal Wastewater Streams. 2/1/16 – 1/31/17. \$25,000.
73. NIFA/USDA/Agriculture & Food Research Initiative (AFRI). Development of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. 1/31/2016-2/1/2023. \$3,595,390.
74. MNDrive. Building an Integrated Aquaponics System to Meet Health, Nutrition and Employment Objectives in Local Minority Communities. With Dean Current lead. 7/1/15 – 6/31/16. \$150,000.
75. LCCMR. Renewable and Sustainable Fertilizers Produced Locally. With Alon McCormick lead. 7/1/15 – 6/31/18. \$1,000,000.
76. Land O'Lakes, Inc. Non-thermal plasma technology for non-thermal pasteurization of milk powder. Phase I and II. 5/22/2015 – 10/13/2017. \$336,480.
77. MNDrive. Developing a unique non-thermal processing platform to improve nutritional value and microbial safety of food products. 8/1/14 – 7/31/14. \$125,910.
78. Vietnam Education Foundation (VEF). Visiting Scholarship for Dr. Doan Thi Thai Yen. With Dr. Doan Thi Thai Yen lead. 8/1/14 – 7/31/15. \$31,700.
79. MNDrive. The Green Nutrient Revolution - Development of Renewable and Sustainable Fertilizers. With Mike Reese lead. 8/1/14 – 7/31/16. \$500,000.
80. Metropolitan Council Environmental Services. Municipal wastewater scum to biodiesel production system. 8/1/14 – 7/31/15. \$50,000.
81. MNDrive. Waste Not: Closing the Loop on Organics Wastes. With Lawrence Baker lead. 7/1/14-6/30/16. \$622,972.
82. LCCMR. Demonstrating innovative technologies to fully utilize wastewater resources. 7/1/14 – 6/30/17. \$1,000,000. (total \$1.4 million.)
83. MNDrive. Creating Added Value from Minnesota Food and Agricultural Waste Streams by Recycling Nutrients through Microalgae Production. With Gerald Shurson lead. 7/1/14-6/30/15. \$184,108.
84. USDA/MN Corn Crowsers/AURI/IREE. Adding value to corn and agricultural byproducts through production of biochar and bio-oil: Step Two. 4/1/14 – 3/31/15. \$63,338

85. USDA NIFA/Sun Grant. Development of novel fast pyrolysis and gasification processes. 2/14/14 – 2/13/15. \$140,108
86. MAES. Conversion of turnkey wastes to energy via fast pyrolysis and gasification. 7/1/13 – 6/30/15. \$184,366.
87. Private Industry Gifts. Renewable resources utilization. 5/20/13 – open. \$210,000.
88. CFANS. Graduate Research Assistantship Award for renewable energy and nonthermal pasteurization research. 10/15/12 – 9/30/13. \$15,000.
89. DOT/Sun Grant. Distributed production of DME based fuels using microwave technology and direct catalytic synthesis. 4/20/12-12/31/16. \$473,546.
90. Almond Board of California. Shelf life study of raw and roasted almonds for Chinese market. With Xiangyang Lin of Fuzhou University lead. 4/15/12-4/14/14. \$127,825.
91. Graduate School/BBE. Incoming Graduate Students Scholarship for Qinglong Xie, 3/12-2/13. \$25,000.
92. National Agricultural Biotechnology Council. The Student Voice at NABC – Graduate Student Scholarship Award for travel/lodging and registration for Zhenyi Du, 6/12, \$750.
93. University of Minnesota IREE. Wind to Ammonia with absorbents. 11/1/11-10/31/14. With Alon McCormic (lead), Mike Reese, Paul Chen, and Doug Tiffany. \$400,000.
94. Minnesota Corn Research and Promotion Council. Economic Evaluation of Deploying Small- to Moderate-Scale Nitrogen Fertilizer Production Plants in Minnesota Using Wind and Grid-Based Electrical Energy Sources. With Mike Reese and Paul Chen. 6/1/2011-10/31/2014. \$144,000.
95. UMN UROP. Catalyst Research of Methanol from Pyrolysis Produced Syngas. With Peter Larson. 1/18/2011 to 4/11/2011. \$1,700.
96. Minnesota Corn Growers Association. Adding value to ethanol production byproducts (dried distillers' grain) through production of biochar and bio-oil. With Kurt Spokas of USDA lead. 9/1/10 – 8/31/12. \$60,000.
97. LCCMR. Wastewater algae pilot project. 7/1/10 – 6/30/14. \$900,000. (total \$1.35 million).
98. Minnesota Corn Research and Promotion Council. Transforming corn from a commodity crop to a higher-energy, multipurpose biofuel crop. With R. Bernardo lead. 7/1/10 – 7/30/12. \$455,513
99. University of Minnesota IREE. Algae Production System Using Centrate Wastewater from Met Council Treatment Plant. 4/1/10 – 6/30/13. \$156,840.

100. DMI/MN-SD Dairy Center. Development of Stable Flavored Whey Protein Beverages. 1/1/2010 – 12/31/2010. \$27,500.
101. MCES. Mass culture of algae on wastewater as an energy crop for biofuel production. 11/1/09 – 6/30/10. \$50,000.
102. Office of Naval Research (ONR) & Luna Innovations. Biofuels production from nonedible biooils. Phase I. 8/1/09 – 7/31/10. \$37,000.
103. USDA/DMI. Non-thermal pasteurization of Milk using CHIEF technology. 10/19/09 – 12/31/10. \$99,620.
104. Almond Board of California. Odor control for NTP disinfection of almonds. 7/1/09 – 6/30/10. \$45,000.
105. Almond Board of California. Study of simultaneous migration of moisture and oil in almond during Storage under different Conditions. 7/1/09 – 6/30/11. With Xiangyang Lin of Fuzhou University lead. \$84,211.
106. University of Minnesota IREE. Catalytic reforming of liquids and gases from thermochemical and biological conversion of biomass. 7/1/09 – 6/30/11. \$250,000.
107. Minnesota Corn Research and Promotion Council. High oil corn as a higher value commodity. 7/1/09 – 6/30/10. Ron Phillips lead. \$80,545.
108. USDA NRI. Whole Grain Ingredients: Health Benefits of Bioactive Phytonutrients and Dietary Fibers from Cereal Grains. 12/1/08 – 11/30/12. \$750,000. (Total \$1.1 million).
109. USDA/DOE. Development of Scalable Biorefining Processes for Distributed Biomass Conversion. 01/01/2007 - 06/30/2012. \$1,224,055.
110. Green Energy Group. Algae photobioreactor testing. 11/7/2008 – open. \$23,800.
111. USDA FAS. 2008. Latin American Biofuel Training Grant. With John Verynes. Summer-Fall, 2008. \$25,000.
112. Cargill Inc. Concentrated High Intensity Electric Field (CHIEF) technology for juice processing. 8/1/08 – open. \$20,000.
113. Minnesota Legislature, MCES, and IREE. Mass culture of algae on wastewater as an energy crop for biofuel production. 7/1/08 – 12/31/09. \$1,000,000.
114. Xcel Energy. Mass production of algae as energy crop. 1/11/08 – open. \$150,000.

115. US DOT and Sun Grant Initiative. Develop sustainable renewable energy systems for practical utilization of bulky biomass. 9/1/07 – 8/31/12. \$1,186,084.
116. UM Institute on the Environment. Dual renewable biofuels from a single source. 7/1/07-6/30/09. With Ron Phillips lead. \$300,000.
117. LCCMR. Mobil biomass pyrolysis system development and demonstration. 7/1/07 – 6/30/11. \$500,000. (total \$750,000.)
118. Special Hatch Fund, Minnesota Agricultural Experiment Station (MAES). Advancing the Science and Utilization of Biomass and Bioproducts by Strengthening Materials Characterization Research Capability. With William Tze lead. 2007. \$253,000.
119. UMN UROP. Extraction of Oil from Microalgae. With Leo Kucek. 7/8/2008 to 8/31/2008. \$1,700.
120. UMN UROP. Mass Production of Biodiesel Using Algae. With Steven Biorn. 7/8/2008 to 8/31/2008. \$1,700.
121. UM CFANS Minnesota Agricultural Experiment Station Fellowship – a two-year scholarship for a ph.d. student to work on biofuels. 9/1/08 -8/31/10. \$60,000.
122. UM Graduate School Grant-in-Aid Program. Viscous Dietary Fibers and Novel Processed Grain Ingredients for Increasing Satiety. With Len Marquart and Dan Gallaher (FScN). 9/1/07 – 8/31/08. \$26,000.
123. Hormel Foods Corporation. Oil refining. 6/25/07 – open. \$7,500.
124. Metropolitan Council Environmental Services. Algae literature review and preliminary study on mass production of algae for biodiesel and biooil production. 2/1/07 – 6/30/07. \$20,000.
125. Source Food Technology, Inc. Oil quality improvement using advanced distillation technology. 3/8/07 – open. \$10,000.
126. Kellogg Company. Whole grain biorefining. 12/27/06 – open. \$100,000.
127. Southwest Corn Utilization Corp. Biorefining of Red Corn, Phase II. Extraction, characterization and utilization of anthocyanins from red corn. 11/1/06 – 10/31/07. \$120,000.
128. University of Minnesota IREE. Comparative Environmental and Economic Systems Analysis of Corn Stover Logistics Options for Cellulosic Ethanol Production. With Sangwon Suh lead. 11/21/06 – 11/20/07. \$49,599.

129. USDA and DMI. Non-thermal plasma treatment of milk. 10/26/06 – 12/31/08.
\$ 275,584.
130. Bush Brothers & Company. NMR study of dry bean storage technology, Phase IV.
7/15/06 - open. \$12,500.
131. Red Oak Management. Purification and analysis Fagopyritols from buck wheat. 7/1/06 -
open. \$5,000.
132. University of Minnesota IREE. Developing and Demonstrating a Scalable Renewable-
Hydrogen-to-Ammonia System. 5/15/06 – 5/14/08. \$147,961.
133. North Central Companies. Making biodiesel from animal fat. 3/7/06 – open. \$1,500.
134. eYou Beijing Yizhongyou Information Technology, Ltd. NMR software development
for food analysis. 2/20/06 – open. \$5,000.
135. University of Minnesota IREE Equipment Fund. Biorefining equipment. 12/12/05 –
open. \$186,625.
136. Zanker Road Resource Management, Ltd. and CalRecovery, Inc. Microwave pyrolysis of
municipal solid waste. 12/5/05 – open. \$5,000.
137. Biorefining, Inc. High pressure extraction applications in sugar beet pulp processing.
7/29/05 – open. \$13,000.
138. Bixby Energy Systems and UM IREE. Development of Commercially Transferable
Thermochemical Conversion Technologies. 7/1/05-6/30/08. \$1,260,000.
139. Almond Board of California and SCP Control. Non-thermal plasma technology for
almond disinfection – fundamental feasibility study – Phase II, step one. 5/15/05 – 2/14/06.
\$55,605.
140. ConocoPhillips. Preliminary NMR and MRI applications in petroleum exploration.
5/2/05 – open. \$1,200.
141. Source Food Technology, Inc. Oil quality improvement using advanced distillation
technology. 1/15/05 – open. \$15,000.
142. Norwegian Government and Norway University of Life Sciences (UMB). Liquefaction
of Biomass for Biofuel Production Research Cooperation U of M and UMB. With Professor
Petter Hieronymus Heyerdahl of Department of Mathematical Sciences and Technology,
Norway University of Life Sciences lead. 3/4/05 – 3/3/06. \$690,000.
143. University of Minnesota IREE Special Opportunity Fund. Thermochemical Conversion
and Biorefining of Biomass and Wastes - A Multidisciplinary and Collaborative Research

between University of Minnesota and Agricultural University of Norway. 2/22/05 – 2/21/06. \$120,000.

144. Bush Brothers & Company. NMR study of dry bean storage technology, Phase III. 2/1/05 - open. \$35,000.
145. DMI. Non-thermal pasteurization of milk using non-thermal plasma technology. 1/1/05 – 6/30/06. \$50,000.
146. University of Minnesota IREE. Bioenergy and Bioproducts Cluster operation fund. With David Kittelson, Don Wyse, Don Fosnacht, Larry Wackett. 1/1/05 – 6/30/05. \$12,000.
147. Almond Board of California. Non-thermal plasma technology for almond disinfection – fundamental feasibility study. 9/1/04 – 6/30/05. \$39,500.
148. Biorefining, Inc. Grain biorefining product analysis. 1/15/04 – open. \$5,000.
149. Source Food Technology, Inc. Oil quality improvement using advanced distillation technology. 1/15/04 – open. \$25,000.
150. Land O'Lakes. NMR assessment of cheese quality. 4/15/04 – open. \$1,000.
151. Southwest Corn Utilization Corporation. Red Corn Quality Characterization. With Gary Fulcher lead. 9/15/04 - 9/14/06. \$89,998.
152. University of Minnesota IREE. Bioenergy and Bioproducts Cluster operation fund. With David Kittelson, Don Wyse, Don Fosnacht, Larry Wackett. 2/1/04 – 12/31/04. \$20,000.
153. University of Minnesota IREE. Making biodiesel from crop residues. 2/1/04 – 1/31/05. \$29,232.
154. Bush Brothers & Company. NMR study of dry bean storage technology, Phase II. 2/1/04 - open. \$25,000.
155. University of Minnesota IREE. Development of A Biorefining Model for Corn Processing. 12/15/03 – 12/14/04. \$24,920.
156. USDOD. Value-added biomass conversion technologies for utilizing of crop byproducts and residues. with Tom Yang of Natick. 11/3/03-11/2/05. \$610,000.
157. University of Minnesota IREE. USDOD Value added biomass conversion technologies matching fund. 11/1/03 – open. \$100,000.
158. DOD US Army Natick Soldier Systems Center. Studies of shelf stability of food systems Using Advanced NMR and MRI Techniques. 7/1/03-7/31/04. \$50,000.

159. Bush Brothers & Company. NMR study of dry bean storage technology, Phase I. 8/1/03 - open. \$12,000.
160. General Mills. 23MHz Maran Drx Benchtop MRI Spectrometer. 6/1/03 - open. \$165,000.
161. University of Minnesota. MRI Facility Matching Support. 7/1/03 - open. \$120,000.
162. UM Biotechnology Institute. Value Added Processing of Minnesota Cereals. With G. Fulcher (lead) and L. Marquart. 3/1/03-2/28/04. \$43,000.
163. Novozymes A/S. NMR methods and applications in bread products. 9/15/02- open. \$7,500.
164. Generation II Ethanol. Value-added process and product development for corn germ protein isolates. 9/1/2002 – open. \$2,500.
165. Sota Tec Fund. Non-thermal disinfection of blood using non-thermal plasma (NTP). 9/1/02 – 8/31/03. \$105,610.
166. AURI. Converting Minnesota biomasses including DDGS to biopolymers. 4/15/02 – 4/14/04. \$88,375.
167. Source Food Technology. Oil quality improvement using advanced distillation technology. 7/1/02 – open. \$33,000.
168. DQCI Services, Inc. Automatic dairy product filling and labeling system development. 2/1/02 – open. \$35,000.
169. AURI. Comparison of different agricultural residues for making biomaterials. 11/1/01 – 5/31/02. \$15,000.
170. SCP Control, Inc. Nonthermal plasma and ozone system development. 10/15/01 – open. \$4,000.
171. DQCI Services, Inc. Automatic dairy product filling and labeling prototype system development. 6/1/01 – open. \$45,000.
172. USDOD. Value-added technologies for utilizing of crop byproducts and residues in Hawaii. Phase I. Study of production of highly refined cellulose (HRC) from Lignocellulosic Materials. 3/9/01 – 3/8/03. \$560,000.
173. Bush Brothers & Company. Study of dry bean processing technology. 8/1/00 – open. \$15,000.

174. Colorado Sweet Gold, LLC. Ozone applications in corn wet milling. 8/1/00 - 12/31/00. \$20,000.
175. Sota Tec Fund. Non-thermal discharge plasma system for liquid pasteurization and sterilization. 6/15/2000 – 12/31/2003. \$208,007.
176. IB2, Inc. Evaluation of milli-second pasteurization technology. 2/15/2000 – 6/30/2001. \$294,336.
177. USDA ARS. Determination of DON and scab in barley using near-infrared and neural networks. 2/15/00 – 3/15/01. \$30,000.
178. SCP Control, Inc. NTP and ozone for odor control. 2/1/00 – open. \$9,000.
179. AURI. Utilization of food and agricultural fibrous byproducts. 7/15/99 – 1/14/01. \$60,000.
180. The FiberStar Corp. Making highly refined cellulose materials. 1/1/99 – 12/31/99. \$23,500.
181. Minnesota Institute for Sustainable Agriculture Summer Undergraduate Research Program. Highly refined cellulose process development and market analysis. With Jashua Goplin and Tracy Scheffer. 6/1/99 – 12/31/99. \$6,000.
182. Minnesota Small Grain Research and Promotion Council. Development of an automatic computer vision and neural network-based system for determination of scab weight percentage of wheat. 7/1/99 – 6/30/00. \$40,000.
183. The Portugal Government. Development and modeling of a pulsed nonthermal plasma system for treatment of liquid foods. 1/1/99 – 5/15/01. \$54,856.
184. US Army Natick Research, Development and Engineering Center. Application of magnetic resonance imaging in studying of ohmic heating process. 9/15/1998 - 8/14/2000. \$40,000.
185. The DAR Technology Company. Nonthermal plasma treatment of hazardous gases emitted from burning high Sulphur containing fuels. 8/1/1998 - 5/31/2000. \$198,812.
186. COAFES. Major Coordinator Fund. 7/1/98 – 1/31/03. \$15,750.
187. The FiberStar Corp. Ozone digestion of agricultural fibrous materials. 7/1/98 – 12/31/98. \$40,065.
188. Roche Vitamins Inc. The ASAP 200 Micromeritics particle, surface, and proximity analysis system. 6/1/98 - open. \$50,000.

189. Apple Growers Association and Minnesota State Legislature. Ozone cleaning of apple for juice making. 7/1/98 - 7/30/99. \$24,000.
190. Long Prairie Packing Co., NSP, EPRI FTA, and Agricultural Utilization Research Institute. A feasibility study on applications of ozone in beef processing. 4/15/98 - 10/14/98. \$30,000.
191. The Sota Tec Fund. An innovative non-thermal plasma system for farm odor control. 2/1/98 - 12/31/2000. \$199,577.
192. The Pillsbury Company. NMR study of water-solid interactions in dough. 2/5/98 - 8/4/98. \$25,000.
193. EPRI Food Technology Alliance. MRI temperature mapping of foods. 1/1/98-12/31/98. \$17,500.
194. Ottogi Food Company Ltd. Study of caking of freeze-dried soups. 12/15/97 - 12/14/99. \$86,354.
195. US Army Natick Research, Development and Engineering Center. MRI applications in ohmic heating modeling and multi-component food stability study. 9/19/97 - 9/18/99. \$93,048.
196. Northern States Power and Northern Star Potato Products. Development of low cost nonthermal plasma systems for H₂S control. 9/2/97 - 12/31/97. \$37,500.
197. Minnesota State Legislature. Scabby wheat assessment using machine vision and neural networks. With J.V. Wiersma, W. Wilcke, V. Morey, and R. Jones. 7/1/97 - 6/31/99. \$128,000.
198. EPRI - Food Technology Center. Application of ozone technology in wastewater treatment in food processing industry. 9/1/97 - 8/31/98. \$45,000.
199. Agricultural Utilization Research Institute. Utilization of food and agricultural fibrous byproducts (Phase I). 8/29/96 - 10/31/97. \$26,498.
200. US Army Natick Research, Development and Engineering Center. Application of magnetic resonance imaging in modeling of ohmic heating process. 2/15/97 - 1/14/98. \$25,500.
201. National Confectioners Association. Study of interactions of fat and carbohydrate replacers in confectionery products using NMR, MRI and food polymer science theory. With P. Addis and T. Labuza. 8/1/96 - 9/31/98. \$52,590.
202. Minnesota State Legislature. Scabby wheat assessment using machine vision and neural networks (preliminary work). 9/1/96 - 6/30/97. \$12,000.

203. Agri-Scan, Inc. Plasma treatment of potato blight and removal of SO_x from exhausted streams. 9/1/96 - 8/31/99. \$300,000.
204. EPRI Food Technology Center, Minnesota Agricultural Experiment Station, and The State of Minnesota (Legislature). Application of high voltage electric power in odor reduction of biological and food processing wastes. With P. Goodrich and R. Zhang (UC Davis). 8/1/96 - 12/31/98. \$120,000.
205. Hunt-Wesson, Inc. MRI applications in food process control and quality improvement. 2/15/96 - open. \$6,850.
206. University of Minnesota Graduate School Grant-in-Aid. Study of properties of novel temperature-sensitive hydrogels. 12/16/95 - 12/15/96. \$9,500.
207. General Mills, Inc. MRI applications in cereal process control and quality improvement. 12/1/95 - open. \$40,000.
208. Minnesota Wheat Research and Promotion Council. Scabby wheat assessment using machine vision and neural networks. 6/15/96 - 12/14/97. \$2,500.
209. The State of Minnesota (Legislature). Odor reduction in swine manure using electromagnetic energy. With P.R. Goodrich. 7/1/96 - 6/31/98. \$15,000.
210. Grand Metropolitan/Pillsbury Company. MRI and neural networks - applications in food process control and quality improvement. 1/1/94 - open. \$100,000.
211. University of Minnesota/College of Biological Science. NIH/NSF Young Scholars/USDA Research Apprenticeship Program. High School Summer Science Research Program. Summer, 1995; Summer, 1996; Summer, 1997; Summer, 1998; Summer 1999. \$1,800.
212. Department of Energy. Injection molding of plastics from agricultural materials. With M. Bhattacharya (lead). 1/2/96 - 1/1/99. \$507,071.
213. USDA National Needs Fellowship. MRI and polymer science applications in the study of food materials. With T. Labuza. 9/15/95 - 9/14/99. \$54,000.
214. Agricultural Utilization Research Institute. Utilization of agricultural waste fibrous materials. With M. Bhattacharya. 2/1/95 - 1/31/96. \$9,500.
215. Electric Power Research Institute (EPRI) and Northern States Power. Food Technology Center - Research and Development. With F. Busta and R.V. Morey. 4/1/95 - 12/31/98. \$1,213,000.
216. Minnesota Pork Producers Association. Odor reduction in swine manure using electromagnetic energy. With P.R. Goodrich (lead). 5/1/95-8/30/96. \$7,500.

217. Minnesota Corn Research and Promotion Council. Odor reduction in swine manure using electromagnetic energy. With P.R. Goodrich (lead). 6/1/95-8/30/96. \$7,500.
218. Filter Corporation. Study of microfibrillated cellulose as filter aid. With P. Addis. 8/1/94-7/31/97. \$114,834.
219. Minnesota Cultivated Wild Rice Council. Study of wild rice water holding capacity. (Supplement to AURI wild rice project). 3/15/95 - 8/31/95. \$2,000.
220. US Army Natick Research, Development and Engineering Center. Application of magnetic resonance imaging and polymer science theory to the study of storage stability in combat ration systems. With T. Labuza. 11/03/94 - 2/04/97. \$101,748.
221. Canada Malting Co. Structure/function relationships in barley. With R.G. Fulcher (lead). 7/1/93 - 6/30/98. \$370,000.
222. University of Minnesota Graduate School Grant-in-Aid. Study of structure-function relationships in microfibrillated cellulose. 7/1/94 - 12/31/95. \$16,600.
223. National Institute for Occupational Safety and Health. Agricultural Safety Zone Technology. With J.M. Shutske (lead), J. Chaplin, and W. Wilcke. 94-95. \$116,607.
224. MN-SD Dairy Research Center. Study of moisture profiles, temperature, water mobility, and structure of cheese blocks during cooling using MRI. With R.G. Fulcher and E. Bastian. 7/1/94 - 12/31/96. \$109,059.
225. University of Minnesota. Department start-up Funds. 1/1/94 - 12/31/95. \$100,000.
226. Agricultural Utilization Research Institute. Study of wild rice water holding capability using NMR and MRI technology. With P. Addis. 10/1/94 - 9/30/95. \$9,500.
227. Minnesota Soybean Research and Promotion Council. Study of soybean seedcoat cracking using magnetic resonance imaging. With R.G. Fulcher. 10/1/92 - 12/31/94. \$36,536.
228. Grand Metropolitan/Pillsbury Company. Development of magnetic resonance imaging (MRI) for moisture and fat management of Grand Metropolitan food products. With R.G. Fulcher and E. Davis. 5/18/1992 - 11/18/93. \$143,000.

(Note: This is not a comprehensive list, some previously co-PI'ed projects from within UMN and other institutions are not included.)

Professional Development Workshops Attended

1. Participated and attended the 26th International Symposium on Plasma Chemistry, Minneapolis, MN. June 15-20, 2025.
2. Organized and attended IFT-EFFoST Nonthermal Processing Short Course. Minneapolis, MN. 2023.
3. Participated and attended 5 virtual lab visits (VLV) and 8 academic seminars (AS) organized by the Consortium for Waste-to-Hydrogen Utilization and Betterment, University of Glasgow, UK. 2022.
4. National Academy of Engineering (NAE) FOCUS - Complex Food and Agricultural Systems. September 9, 2021.
5. Virtual leadership trainings organized by IFT, 2020, 2021.
6. AURI New Uses Forum. Plymouth, MN, March, 2017.
7. Agriculture & Environment Innovation Commercialization Bootcamp. St. Paul, MN. January, 2017.
8. Algae Biofuels World Submit. By Information Forecast, Inc. New York, NY. March, 2009.
9. Talking charge of your academic career: Lifelong planning for success. COAFES Faculty Development Workshop. St. Paul, MN. March, 2005.
10. Almond Board of California's Pasteurization Technology Workshop. Modesto, CA. September, 2004.
11. National Planning Workshop on Nanoscale Science and Engineering for Agriculture and Food Systems, Washington, DC. November, 2002.
12. Successful Selling Strategies Workshop. By Ryan Partnership, Washington, DC. November, 2001.
13. High Voltage Pulsed Power System Workshop. By Professor James Sergient, Director of High Voltage Electronics Institute, Department of Electrical Engineering, State University of New York at Buffalo, Buffalo, NY. Summer, 1999.
14. Discharge physics and plasma chemistry of dielectric-barrier discharges. By Ulrich Kogelschatz, BBB Corporate Research, Ltd., 5405 Baden, Switzerland. Modern developments in Mechanical Engineering Lecture Series, University of Minnesota, Spring, 1998.
15. Pulsed Electric Field International Workshop III, Columbus, OH, March, 1998.
16. Pulsed Electric Field International Workshop II, Chicago, IL, October, 1997.

17. Pulsed Electric Field International Workshop, Orlando, FL, June, 1997.
18. Minnesota Workshop on Principles and Applications of High Field Magnetic Resonance Imaging and Spectroscopy Techniques, Minneapolis, MN, March, 1997.
19. Pulsed Electric Field International Workshop I, San Diego, CA, March, 1997.
20. Whole Crop Biorefinery - Future Directions in Biomass Refining: Perspectives and Opportunities for North America. Workshop by BPTI, AURI, and Rahr Malting Company. University of Minnesota, Summer, 1996.
21. Aseptic Processing of Multiphase Foods Workshop II. By National Center for Food Safety and Technology and Center for Aseptic Processing and Packaging Studies. Chicago, IL Spring, 1996.
22. Artificial Neural Networks. Workshop by Richard D. De Veaux and Lyle H. Ungar. Minneapolis, MN, Fall, 1995.
23. Fuzzy Logic Control. By Lofti A. Zadeh. Mechanical Engineering Distinguished Lecture Series, University of Minnesota, Spring, 1994.
24. Modeling of Plasma Processes. By John J. Lowke. Mechanical Engineering Distinguished Lecture Series, University of Minnesota, Spring, 1994.
25. Water/Macromolecule Magnetization Transfer in Magnetic Resonance Imaging (MRI). Workshop by The Society of Magnetic Resonance Imaging and the Society of Magnetic Resonance in Medicine, Hood College, Frederick, MD, Summer, 1993.

EDUCATION/TEACHING

Overview

I have a diverse range of educational and teaching experiences and responsibilities that have allowed me to work with students at different levels of education. As BBE Director of Undergraduate Studies and Director of Graduate Studies, I have been responsible for overseeing the education of undergraduate and graduate students in the department. In addition to this, I have taught several courses at different levels, ranging from introductory to advanced courses.

At the beginning of each course, I send out a questionnaire and a copy of the syllabus to each student to understand their needs, interests, and background. This helps me adjust my teaching approach to meet individual student needs and interests and provide comprehensive lecture handouts for each course. I also use group problem-solving sets to develop students' communication and problem-solving skills.

As an advisor for undergraduate and graduate students, I help students plan their course schedule, identify electives, and arrange internships. I encourage students to have sufficient fundamentals and breadth in related fields, while also developing a clear focus that aligns with their individual interests and background. In addition to advising individual students, I served as the BAE Department Director of Undergraduate Studies from July 1998 to July 2003 and BBSEM Director of Graduate Studies since 2020, during which time I have helped many students clear graduation requirements and provided orientations to various new and transferred students.

I advise over 20 graduate students, research fellows, postdoctoral research associates, and visiting scholars each year. We have regular group meetings to encourage communication, collaboration, and discuss general research problems. I also meet with each member regularly to discuss various issues and their progress. In advising graduate students, I assist them in planning their coursework and developing their thesis topics, ensuring that they do quality research as evidenced by their peer-reviewed publication records.

Overall, my teaching and advising experiences have provided me with the tools to help students at all levels develop the skills and knowledge necessary to excel in their fields.

Teaching and Advising Improvement Activities

1. Attend two Canvas related training. 2018. St. Paul Campus.
2. Designing Your Course for Flipped & Online Learning. November, 2016. Teaching Support @ UMN, Office of Information Technology, Minneapolis Campus, University of Minnesota.
3. Future Leaders – curriculum sustainability. CFANS Undergraduate Curriculum Event. February, 2011, St. Paul Campus, University of Minnesota.

4. An Overview of the Digital Idea Stream: 8 emerging technologies for teaching, learning, and research. Office of Information Technology. October, 2009.
5. In-Class Writing: Brief, Low-Stakes, & Potent. January, 2007. Center for Writing, Minneapolis Campus, University of Minnesota.
6. Center for Writing. Writing assignments and activities. 2006. St. Paul Campus, University of Minnesota.
7. Conference on Video and Wireless Technology, October, 2003, Coffman Memorial Union, Minneapolis Campus, University of Minnesota.
8. Teaching with Writing. November, 2002. Center for Interdisciplinary Studies of Writing (CISW), University of Minnesota.
9. University of Minnesota Study Abroad Curriculum Integration Major Advising Start-up Retreat. Fall, 2002. Ruttger's Bay Lake Lodge, MN.
10. Bush Faculty Mid-Career Teaching Program. 2001-2002. University of Minnesota.
11. Global Campus Study Abroad Curriculum Integration Workshops. Spring, 2002. University of Minnesota.
12. Teaching Instrumentation and Control. ASABE Annual Meeting. Summer, 2001. Sacramento, CA.
13. Teaching and Learning with Cases: Promoting Active Learning in Agricultural, Food and Natural Resources Education. Summer, 1995. Chaska, MN.
14. Bush Faculty Development Teaching Excellence Program focus group. 1994-1995. University of Minnesota.
15. Informal Writing: a Teaching Tool. October, 1994. Teaching Assistant Development Program, Office of Human Resources, University of Minnesota.

Regular Courses Taught to On-Campus Students

BBE4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2026. 31 students.
BBE4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2025. 28 students.
BBE 8703	Managing Water in Food and Biological Systems. 3 semester cr., Fall, 2024. 2 students.
BBE4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2024. 22 students.

BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2024. 6 students.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2023. 30 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2023. 16 students.
BBE 8703	Managing Water in Food and Biological Systems. 3 semester cr., Fall, 2022. 5 students.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2022. 23 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2022. 5 students.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2021. 46 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2021. 10 students.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2020. 39 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2020. 11 students.
BBE 8703	Managing Water in Food and Biological Systems. 3 semester cr., Fall, 2018, 2020. 1 student each.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2019. 33 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2019. 10 students.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2018. 45 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2018. 12 students.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring and Fall, 2017. 40 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2017. 8 students.
BBE 8703	Managing Water in Food and Biological Systems. 3 semester cr., Fall, 2016. 5 students.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2016. 40 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2016. 10 students.
BBE4733/5733	Renewable Energy Technologies. 3 semester cr., Spring and Fall, 2015. 64 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2015. 8 students.
BBE 5095	<i>Special Problems</i> , 3 semester cr., Spring and Fall, 2015. 2 students.

BBE 8703	Managing Water in Food and Biological Systems. 3 semester cr., Fall, 2014. 9 students including 1 visiting.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2014. 33 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2014. 10 students.
BBE 5095	<i>Special Problems</i> , 3 semester cr., Spring and Fall, 2014. 2 students.
BBE 4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2013. 28 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2013. 8 students.
BBE 8703	Managing Water in Food and Biological Systems. 3 semester cr., Fall, 2012. 5 students including 1 visiting.
BBE 5095	<i>Special Problems</i> , 3 semester cr., Spring and Fall, 2013. 2 students.
BBE 4733/5733	<i>Renewable Energy Technologies</i> . 3 semester cr., Spring, 2012. 40 students.
BBE 4723/5723	<i>Food Processing Engineering</i> . 3 semester cr. Spring, 2012. 16 students.
BBE 5095	<i>Special Problems</i> , 3 semester cr., Spring and Fall, 2012. 2 students.
BBE 4733/5733	<i>Renewable Energy Technologies</i> . 3 semester cr., Spring, 2011. 36 students.
BBE 4723/5723	<i>Food Processing Engineering</i> . 3 semester cr. Spring, 2011. 15 students.
BBE 8703	<i>Managing Water in Food and Biological Systems</i> . 3 semester cr., Fall, 2010. 9 students including 1 visiting.
BBE 4733	<i>Renewable Energy Technologies</i> . 3 semester cr., Spring, 2010. 40 students.
BBE 4723	<i>Food Processing Engineering</i> . 3 semester cr., Spring, 2010. 6 students.
BBE 8703	<i>Managing Water in Food and Biological Systems</i> . 3 semester cr., Fall, 2008. 5 students.
BBE 4723	<i>Food Processing Engineering</i> . 3 semester cr. Fall, 2008. 16 students. (Newly developed).
BBE 4733	<i>Renewable Energy Technologies</i> . 3 semester cr., Spring, 2008. 14 students.
BBE 4733	<i>Renewable Energy Technologies</i> . 3 semester cr., Spring, 2007. 24 students. (Newly developed).
BBE 8703	<i>Managing Water in Food and Biological Systems</i> . 3 semester cr., Fall, 2006. 4 students.
BAE 4713	<i>Biological Processing Engineering</i> . 3 semester cr., Spring, 2006. 14 students.
BAE 5095	<i>Special Problems</i> , 3 semester cr., Spring, 2006. 1 student.

BAE 3213	<i>Engineering Principles and Applications.</i> 3 semester cr., Spring, 2005, 3 students.
BAE 5095	<i>Special Problems,</i> 3 semester cr., Fall, 2004. 1 student.
BAE 8703	<i>Managing Water in Food and Biological Systems.</i> 3 semester cr., Fall, 2004. 2 students.
AGET 3213	<i>Engineering Principles and Applications.</i> 3 semester cr., Spring, 2004. 8 students.
BAE 4713	<i>Biological Processing Engineering.</i> 3 semester cr., Spring, 2004. 8 students.
AGET 3213	<i>Engineering Principles and Applications.</i> 3 semester cr., Spring, 2003. 6 students.
BAE 5095	<i>Special Problems,</i> 3 semester cr., Spring, 2003. 1 student.
BAE 8703	<i>Managing Water in Food and Biological Systems.</i> 3 semester cr., Fall, 2002. 7 students.
BAE 4713	<i>Biological Processing Engineering.</i> 3 semester cr., Spring, 2002. New course. 15 students.
AGET 3213	<i>Engineering Principles and Applications.</i> 3 semester cr., Spring, 2002. 14 students.
BAE 4023	<i>Instrumentation and Control for Biological Systems.</i> 3 semester cr., Spring, 2001. 9 students.
AGET 3213	<i>Engineering Principles and Applications.</i> 3 semester cr., Spring, 2001. 18 students.
BAE 5095	<i>Special Problems,</i> 1 semester cr., Spring, 2001. 1 student.
BAE 8703	<i>Managing Water in Food and Biological Systems.</i> 3 semester cr., Fall, 2000. New course. 5 students.
BAE 4023	<i>Instrumentation and Control for Biological Systems.</i> 3 semester cr., Spring, 2000. 15 students.
AGET 3213	<i>Engineering Principles and Applications.</i> 3 semester cr., Spring, 2000. 28 students.
BAE 5095	<i>Special Problems,</i> 5 semester cr., Fall, 1999. 2 students.
BAE 5070	<i>Instrumentation and Control for Biological Systems.</i> 4 quarter cr., Spring, 1999. 8 students.
BAE 5191	<i>Special Problems in Biosystems and Agricultural Engineering.</i> 4 quarter cr., Summer, 1999. 1 student.
AGET 3025	<i>Engineering Principles and Applications.</i> 4 quarter cr., Winter, 1999. 36 students.
BAE 5070	<i>Instrumentation and Control for Biological Systems.</i> 4 quarter cr., Spring, 1998. 24 students.
BAE 8191	<i>Advanced Problems and Research.</i> 5 quarter cr., Spring, 1998, 1 student.
BAE 5191	<i>Special Problems in Biosystems and Agricultural Engineering.</i> 4 quarter cr., Spring, 1998. 1 student.
AGET 3025	<i>Engineering Principles and Applications.</i> 4 quarter cr., Winter, 1998. 45 students.
BAE 8191	<i>Advanced Problems and Research.</i> 4 quarter cr., Winter, 1998, 3 students.

BAE 5070	<i>Instrumentation and Control for Biological Systems.</i> 4 quarter cr., Spring, 1997. 14 students.
FScN 5316	<i>Quantitative Light Microscopy in Agriculture and Food Research.</i> 4 quarter cr., Spring, 1997. 7 students. Lecture 2 weeks.
AGET 3025	<i>Engineering Principles and Applications.</i> 4 quarter cr., Winter, 1997. 40 students.
BAE 5191	<i>Special Problems in Biosystems and Agricultural Engineering.</i> 2 quarter cr., Fall, 1996. 3 students.
BAE 5192	<i>Special Problems in Biosystems and Agricultural Engineering.</i> 2 quarter cr., Fall, 1996. 1 student.
BAE 5191	<i>Special Problems in Biosystems and Agricultural Engineering.</i> 2 quarter cr., Summer, 1996. 1 student.
BAE 5070	<i>Instrumentation and Control for Biological Systems.</i> 4 quarter cr., Spring, 1996. 14 students.
BAE 5191	<i>Special Problems in Biosystems and Agricultural Engineering.</i> 4 quarter cr., Summer, 1995. 2 students.
BAE 5070	<i>Instrumentation and Control for Biological Systems.</i> 4 cr., Spring, 1995. 20 students.
FScN 5316	<i>Quantitative Light Microscopy in Agriculture and Food Research.</i> 4 quarter cr., Spring, 1995. 10 students. Lecture 2 weeks and 4 hrs lab, and graded homework and lab reports.
AGET 3030	<i>Introduction to Problem Solving Using Computers.</i> 4 quarter cr., Winter, 1994. 35 students. Lecture 3 weeks and all labs, graded exams and half of the homework, and prepared final grades.

Guest Lectures to On-Campus Students

BBE 1011	Bioproducts and Biosystems Engineering Orientation. Video introduction of solid, liquid waste utilization and food engineering research. Fall, 2020.
BBE 4502	<i>Capstone Design</i> , Design project advisor, 3 students, Spring, 2017.
BBE 4502	<i>Capstone Design</i> , Design project advisor, 4 students, Spring, 2016.
BBE 4502	<i>Capstone Design</i> , Design project advisor, Spring, 2015.
BBE 4502	<i>Capstone Design</i> , Design project advisor, Spring, 2014.
CHEN 5551	Survey of Renewable Energy Technologies, One, one and a half hour lectures on wastewater algae production and thermochemical algal biofuel conversion, Fall, 2013.
BBE 4502	<i>Capstone Design</i> , Design project advisor, Spring, 2013.
CHEN 5551	Survey of Renewable Energy Technologies, One, one and a half hour lectures on wastewater algae production and algal biofuel conversion, Fall, 2012.
BBE 4502	<i>Capstone Design</i> , Design project ideas, Spring, 2012.

BBE 1011	Bioproducts and Biosystems Engineering Orientation. Lab tours and algae and pyrolysis research introduction. Fall, 2009, Fall, 2010, Fall, 2011, Fall, 2012 (8 tours).
CHEN 5551	<i>Survey of Renewable Energy Technologies</i> , One, one-and-a-half-hour lecture on wastewater algae production and algal biofuel conversion, Fall, 2011.
FSCN 4732	<i>Food and Nutrition Management</i> , one lecture, Spring, 2011.
BBE 4502	<i>Capstone Design</i> , Design project ideas, Spring, 2011.
CHEN 5551	<i>Survey of Renewable Energy Technologies</i> , One, one-and-a-half-hour lecture on thermochemical conversions and algae, Fall, 2010.
BBE 4733	<i>Renewable Energy Technologies</i> . 3 semester cr., one-week lectures. Spring, 2009.
CHEN 5551	<i>Survey of Renewable Energy Technologies</i> , One, one-and-a-half-hour lecture on thermochemical conversions and algae, Fall, 2009.
BBE 2113	Design project ideas, Fall, 2008.
BBE 1011	<i>Bioproducts and Biosystems Engineering Orientation</i> . One, one-hour lecture. Fall, 2008
BBE 1011	<i>Bioproducts and Biosystems Engineering Orientation</i> . One, one-hour lecture. Fall, 2007
CHEN 5595/8995	<i>Introduction to Renewable Energy</i> . Biorefining and thermochemical conversion technology. Fall, 2007.
BAE 2113	<i>Introduction to Design</i> . Engineering project ideas. Fall, 2007
BBE 4723	<i>Food Process Engineering</i> , One and a half-hour lecture on Emerging non-thermal processes for food preservation, Spring, 2007.
CHEN 5595/8995	<i>Introduction to Renewable Energy</i> . Biorefining and thermochemical conversion technology. Fall, 2006.
BBE 1011	<i>Bioproducts and Biosystems Engineering Orientation</i> . One, one-hour lecture. Fall, 2006
BBE 4401/5401	<i>Biobased Product Engineering</i> . Thermochemical conversion technology. Fall, 2006.
CHEN 4502W	<i>Chemical Engineering Process Design II</i> . Overview of biorefining technologies. Spring, 2006.
BAE 4023	<i>Instrumentation and Control for Biological Systems</i> . Two, one-hour lectures and one lab. Fall, 2005.
BAE 2113	<i>Introduction to Design</i> . Food engineering project ideas. Fall, 2005
BAE 4023	<i>Instrumentation and Control for Biological Systems</i> . Two, one-hour lectures and one lab. Spring, 2005.
CHEN 4502W	<i>Chemical Engineering Process Design II</i> . Overview of biorefining technologies. Spring, 2005.
BAE 2113	<i>Introduction to Design</i> . Food engineering project ideas. Fall, 2004
BAE 4023	<i>Instrumentation and Control for Biological Systems</i> . Two, one-hour lectures and one lab. Spring, 2004.
CHEN 4502W	<i>Chemical Engineering Process Design II</i> . Overview of biorefining technologies. Spring, 2004.

BAE 3013	<i>Engineering Principles of Molecular and Cellular Processes</i> , One-hour lecture. Spring, 2004.
BAE 4723	<i>Food Process Engineering</i> , Two, one and a half-hour lectures, Spring, 2003.
BAE 4023	<i>Instrumentation and Control for Biological Systems</i> . Two, one-hour lectures and one lab. Spring, 2003.
BAE 1011	<i>Biosystems and Agricultural Engineering Orientation</i> . One, one-hour lecture. Spring, 2003.
BAE 4112 & BAE 2113	<i>Senior Design I and Introduction to Design</i> . One lecture introducing design project ideas. Fall, 2002.
BAE 1011	<i>Biosystems and Agricultural Engineering Orientation</i> . One, one-hour lecture. Spring, 2002.
BAE 4023	<i>Instrumentation and Control for Biological Systems</i> . Two, one-hour lectures and one lab. Spring, 2002.
BAE 1011	<i>Biosystems and Agricultural Engineering Orientation</i> . One, one-hour lecture. Fall, 2001.
BAE 2113	<i>Introduction to Design</i> . Food engineering project ideas. Fall, 2001
BAE 1011	<i>Biosystems and Agricultural Engineering Orientation</i> . One, one-hour lecture. Spring, 2001.
BAE 2113	<i>Introduction to Design</i> . Food engineering project ideas. Fall, 2000
BAE 1011	<i>Biosystems and Agricultural Engineering Orientation</i> . One, one-hour lecture. Fall, 2000.
BAE 2113	<i>Introduction to Design</i> . Food engineering project ideas. Fall, 1999
BAE 1011	<i>Biosystems and Agricultural Engineering Orientation</i> . One, one-hour lecture. Fall, 1999.
BAE 1060	<i>Biosystems and Agricultural Engineering Orientation</i> . One, one-hour lecture. Fall, 1998.
FScN 5555	<i>Freezing and Dehydration of Foods</i> . One, one-hour lecture. Winter, 1997.
BAE 1060	<i>Biosystems and Agricultural Engineering Orientation</i> . One, one-hour lecture. Spring, 1996.
AGET 3025	<i>Engineering Principles and Applications</i> . Three, one-hour lectures. Winter, 1996.
FScN 5135	<i>Food Engineering Unit Operations</i> . Two, one-hour lectures. Fall, 1995.
BAE 1060	<i>Agricultural Engineering Orientation</i> . One, one-hour lecture. Spring, 1995.
BAE 5070	<i>Automatic Control and Instrumentation</i> . One, one-hour lecture; assisted with lab. Spring, 1994.
FScN 5312	<i>Instrumental Analysis</i> . One, two-hour lecture. Fall, 1993.

Short Courses Taught to Industry Professionals (20)

IFT-EFFoST Nothermal Processing Workshop and Short Course	Catalytic intense pulsed light (cIPL) and catalytic microwave (cMW) technologies for non-thermal pasteurization of foods October, 2023
--	---

International IPL Workshop	Development of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. September, 2020
HIT Summer School on Energy 2017	Thermochemical Conversion of Biomass for Energy, Fuels, Chemicals and Materials Production. July, 2017.
AACCI Workshop	Improving the Functionality and Health Attributes of Wheat. October, 2011
TD-NMR Short Course	Structure, composition, and mobility of water: Theory and Analysis of glass transition. May, 2011.
General Mills NMR/MRI Short Course	Development and Applications of NMR/MRI in the study of food polymers and food processes. December, 2005.
Donaldson Company, Inc. Short Course	NMR and MRI development and applications and fiber technology, May, 2005.
Almond Board of California Pasteurization Technology Workshop	Emerging non-thermal processes for food preservation, September, 2004.
Food Processing Training Program for Jiangxi's University Faculty Group	Recent development in food processing technology, February, 2003.
UNDP – Agricultural and Food Processing Project	Overview of agricultural and food processing technology and industry. December, 2002.
EPRI/NSP Electro-Technology Update - Pillsbury	<i>Non-thermal Plasma and Ozone Technology for Food Industry.</i> June, 2000.
EPRI/NSP Electro-Technology Update - General Mills	<i>Non-thermal Plasma and Ozone Technology for Food Industry.</i> June, 2000.
EPRI/NSP Short Course	<i>Pulsed Power Technology and Applications.</i> May, 1999.
AACC Short Course	<i>Water Activity and Stability of Drugs, Foods, and Biologics.</i> April, 1998. NMR, MRI, and water mobility demo, display, and discussion.
ASABE/NSP Short Course	<i>Pulsed Electric Field and Non-Thermal Plasma Technology for Microorganism and Odor Control.</i> August, 1997.
EPRI Food Technology Center Short Course	<i>Use of Electricity in Preserving Foods/Use of Pulsed Electromagnetic Energy.</i> April, 1996.
AACC Short Course	<i>Water Activity and Stability of Drugs, Foods, and Biologics.</i> May, 1995. NMR, MRI, and water mobility demo, display, and discussion.
AACC Short Course	<i>Quantitative Light Microscopy of Foods.</i> October, 1992.
Pillsbury Short Course	<i>NMR/MRI Principles and Applications.</i> October, 1992.
Cargill Short Course	<i>Introduction to Grain Structure and Organization.</i> July, 1992.

Teaching Administration and Service Activities (not updated)

1. Chair of College Biotechnology Core Committee November, 2003 – March, 2004
Coordinator of Biotechnology Lab Course Development

- | | |
|---|-----------------------------|
| 2. Development of Bioprocessing and Engineering Summer Principles 1/3 of the new course, <i>Biotechnology Labs</i> | 2003 – Spring, 2004 |
| 3. College Biotechnology Core Committee | Spring, 2002 – Present |
| 4. College Career Services Advisory Committee | August, 2001 – August, 2003 |
| 5. Director of Undergraduate Studies | July, 1998 - January, 2003 |
| 6. IT Academic Standards and Student Affairs Committee | July, 1998 - January, 2003 |
| 7. College Curriculum Committee | Fall, 1998 – January, 2003 |
| 8. Department Student Branch Advisor | Fall, 1995 – Fall, 2005 |
| 9. IT Open House (IT Week) Committee | Spring, 1995 – Spring, 2005 |
| 10. BBE Graduate Faculty – Senior Member | Winter, 1994 - Present |
| 11. Departmental Undergraduate Program and Advising Team | Winter, 1994 - Present |
| 12. Departmental Undergraduate Student Board | Fall, 1995 – Fall, 2003 |
| 13. Departmental Undergraduate Recruiting Team | Fall, 1995 – Present |
| 14. Departmental Undergraduate Honors Program Team | Fall, 1995 – Fall, 2003 |
| 15. Departmental Undergraduate Scholarships Team | Fall, 1995 – Fall, 2003 |
| 16. Graduate Manual and Procedures Committee, Food Science and Nutrition Department | Summer, 1995 – Summer, 2000 |
| 17. Food Science and Nutrition Graduate Faculty - Senior Member | January, 1994 – Present |
| 18. Gave tours of the Center for Biorefining's renewable energy lab and explain about the wastewater algae and microwave pyrolysis related projects to many groups of the Saturday Sneak Preview prospective student and parent visitors each Fall. | |
| 19. Represented BAE and ASABE Student Branch at the COAFES 2003-2004 Kick Off event for students, faculty and staff. St. Paul, MN. September, 2003. | |

20. Gave a tour of the bioprocessing and food engineering lab and explain about the biorefining and food safety related projects to a group of the MN Agricultural Academy students. May, 2003.
21. Gave a bioprocessing lab and pilot plant tour to the IT career exploration class. Spring, 2003.
22. Prepared a display and gave a lunch-time presentation on making biodegradable materials and fuels from biomass materials and introduction to Biosystems and Agricultural Engineering Department to 50 high school students and their teachers at the AFSA Day on Campus event. May, 2002.
23. Represented BAE at the COAFES Spring Welcome Reception for Fall 2002 Admitted Freshmen and their parents. St. Paul, MN. April, 2002.
24. Represented BAE at the IT "Commitment Event" for Fall 2002 Admitted Freshmen and their parents. Minneapolis, MN. March, 2002.
25. Participated in the Annual Dinner with IT Deans, Faculty, and Students, Minneapolis, MN. Spring, 2002.
26. Participated in the National College Fair, Minneapolis Convention Center, Minneapolis, MN. Fall, 2001, Fall, 2002.
27. Organized the BAE Spring Semester Group Advising section, Spring 2001; Spring, 2002.
28. Gave a presentation to a group of prospective students and their parents on BAE undergraduate programs at the Ag. Ambassador Shadowing Day. Spring, 2000; Spring, 2001.
29. Organized a plant field trip to Buhler Inc. for BAE 1011 students. Spring, 2001.
30. Meeting and hosting prospective students in classroom teaching. Spring, 2001.
31. Participated in the COAFES Summer Sneak Preview for high school students. Summer, 2000; Fall, 2000; Fall, 2001
32. Student design evaluator, "AccurFlow - design of a flowmeter" by Brandon Jacobsen. Fall, 2000.
33. Senior design project "Quality Dough Processors" faculty mentor, report evaluator. Fall, 1998 – Winter, 1999.
34. Help organized the ASABE student branch display at the New Student Convocation event of the University of Minnesota, September 1998.

35. High School Summer Science Research Program Mentor, NIH Research Apprenticeship Program. Summer, 1997, 1998, and 1999.
36. Participated in advising the Undergraduate Research Opportunities Program (UROP). June – November 1998.
37. Participated in the IT Summer Sneak Preview for high school students. Summer, 1998, 1999, and 2000.
38. Organized a Student Branch tour of Rahr Malting Co. April, 1998.
39. Advisor for Raj Pai on the non-thermal plasma project, which competed at the Twin Cities Regional Science Fair in both engineering and physics category and won an MTS Systems Corp. Award, a United States Marine Award, and a First Place Award, in addition to an all-expense paid trip to international competition (ISEF) in Ft. Worth, Texas, where countries from all over the world will send delegates to compete, and many Nobel laureates will be judges. He also won a Second Place Award at the state competition in Rochester with the project. April, 1998.
40. Organized and presented two lab demonstrations of machine vision and neural networks application in scabby wheat prediction for the small grain growers, barley and wheat industry leaders, and legislators. February, 1998.
41. Organized Biosystems and Agricultural Engineering IT Week displays and set up a biodegradable materials display. May, 1997; May, 1998; May, 1999; April, 2000.
42. Organized a Student Branch tour of Pillsbury Technology Center. February, 1997.
43. Participated in St. Paul Student Leaders Fall Gathering, sponsored by the St. Paul Student Center and the Board of Governors. October, 1996.
44. High School Summer Science Research Program Mentor, NSF Young Scholars/USDA Research Apprenticeship Program. Summer, 1995 and 1996.
45. Organized Biosystems and Agricultural Engineering IT Week displays and set up a hands-on neural network for corn quality classification demonstration. May, 1995; May, 1996.
46. Coordinated the discussion and formulation of the BAE 3150: Biology for Engineers course. 1995.
47. Roundtable discussion group leader at the CIC (Committee on Institutional Cooperation) Summer Research Opportunities Program Conference. 1994.
48. COAFES High School and Transfer Visit Day faculty host. 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001.

49. Represented Biosystems and Agricultural Engineering at IT Week departmental exhibits. May, 1994.

50. Visited with over thirty (30) prospective students

51. Gave orientation to over fifty (50) new and transferred students

52. Cleared over thirty (30) BAE students for graduation as DUGS

Individual Undergraduate Students Advised

Over two hundred (200) undergraduate students advised

Post-Doctors, Research Associates, Research Fellows, Engineers, Scientists, Visiting Professors, Visiting Scholars, and Consultants Advised

Jun An	Visiting Scholar Beijing Forestry University	Dec., 2018 – Dec., 2019
Erik Anderson	Post-Doctoral Research Associate Current employment: New Leaf Biofuel, San Diego, CA	January, 2018 – August, 2018
Min M. Addy	Post-Doctoral Research Associate Ph.D. in Biosystems and Agricultural Engineering	December, 2007 – Present
Ana Beatriz	Visiting Scholar State University of Goiás, Post-Graduate Program in Natural Resources of Cerrado Brazil	September, 2023 – May, 2024
Regina Bertoldo de Barros	Assistant Scientist Food Science and Nutrition	January, 2005 – January, 2007
Chonghao Bi	Visiting Scholar China Agricultural University	October, 2013- October, 2014
Fernanda Borges	Visiting Scholar Federal University of Rio Grande do Sul (UFRGS)	August, 2012 – August, 2013
Xiaoli Cao	Visiting Professor Ph.D. in analytic chemistry from CAS	February, 2008 – Sept., 2008
Manoj Chamlagain	Exchange Research Hong Kong Baptist University Department of Biology	June, 2022 – August, 2022
Ceria Chandra	Visiting Scholar Chemical Engineering, UMN	October, 2014 – Sept., 2016
Caishui Chen	Consultant Professor of Food Engineering	Sept., 2002 – Sept., 2003
Dongjie Chen	Post-doctoral research associate Ph.D. in Food Science and Nutrition (Current Employment: InnovHope, Inc, Boston, MA)	January, 2020 – May, 2020
Dongjie Chen	Post-Doctoral Research Associate	September, 2023 – Jan., 2024.

Junhui Chen	Post-Doctoral Scholar Ph.D. in Food Science and Engineering South China University of Technology	March, 2022 - Present
Lide Chen	Research Fellow, Associate Professor of Mechanical Engineering (Current Employment: Assistant Professor, University of Idaho)	April, 2003 – September, 2004
Ling (Paul) Chen	Research Associate, Research Professor Ph.D. in Food Science and Technology	Nov., 1994 - Present
Qin Chen	Post-doctoral research associate Ph.D. in Agricultural and Biological Engineering	August, 2009 – November, 2010
Xia Chen	Visiting Professor Professor of Information Science	Feb., 1997 - Dec., 1998
Xiye Chen	Visiting Scholar Harbin Institute of Technology	October, 2018 – October, 2019
Yi-feng Chen	Post-Doctoral Research Associate Ph.D. in Chemistry	November, 2008 – July, 2010
Yu Chen	Visiting Professor Ph.D. in Ecology	February, 2015 – January, 2016
Zhongxiu Chen	Visiting Professor Ph.D. in Chemical Engineering	October, 2008 – Dec., 2008
Yanling Cheng	Visiting Professor Ph.D. in Chemical Engineering	May, 2008 - December, 2013
Yanling Cheng	Visiting Professor Ph.D. in Chemical Engineering	January, 2015 – August, 2020
Abigail Chiaokhiao	Undergraduate Research Assistant	Fall, 2020 – Summer, 2021
Myong-Soo Chung	Post-Doctoral Research Associate Ph.D. in Biosystems and Ag. Engr. (Current Employment: Faculty of Food Packaging Department, Yonsei University, South Korea)	March, 2000 – Jan., 2001
Kirk Cobb	Research Engineer M.S. Chemical Engineering	July, 2018 – Present
Leilei Dai	Post-Doctoral Research Associate Ph.D. Bioproducts and Biosystems Engineering	October, 2022 – Jan. 2025
Shaobo Deng	Research Engineer Ph.D. C. in BBE	January, 2002 – February, 2013
Wenyi Deng	Visiting Associate Professor Ph.D. in Power Engineering and Engineering Thermophysics. Zhejiang University, currently faculty of Donghua University	July, 2019 – October, 2020
Xiangyuan Deng	Visit Scholar Ph.D. in Marine Biology	February, 2014 – August, 2014
Xiangyuan Deng	Visiting Professor	Sept., 2016 – Sept., 2017

Kuan Ding	Jiangsu University of Science and Technology Post-Doctoral Research Associate Ph.D. in Power Engineering and Engineering Thermophysics Southwest University Current position: Faculty at Nanjing Forestry University	Sept. 2017 – January, 2019
Liangliang Fan	Visiting Scholar Ph.D., Nanchang University	February, 2016 – January, 2018
Haotian Fei	Visiting Scholar Chemical Engineering and Technology Zhejiang University of Technology	December, 2023 – June, 2024
Michelle French	Assistant Scientist Food Science and Nutrition	January, 2005 – January, 2007
Rong Fu	Research Fellow M.S. Chemical Engineering	May, 2004 – June, 2005
Zongqiang Fu	Visiting Scholar Ph.D., China Agricultural University	Sept., 2012 – Sept., 2013
Jack Gao	Summer Intern	Summer, 2025
Kun Gao	Visiting Professor Jiangsu University of Science and Technology	Sept., 2016 – Sept., 2017
Yinyu Gao	Consultant Professor of Food Engineering	Sept., 2002 – Sept., 2003
Feiqiang Guo	Visiting Professor School of Electrical and Power Engineering, China University of Mining and Technology	November, 2018 – Nov., 2019
Hans Ragnar Gislerød	Visiting Professor (sabbatical leave) Norwegian University of Life Sciences, Universitetstunet 3, Norway	October, 2013 – July, 2014
Li Huang	Visiting Professor, Binzhou University Ph.D. in Food Sci & Engr.	September, 2017-Sept. 2018
Fida Hussain	Ph.D., Visiting Scholar Islamia College Peshawar, Pakistan	July, 2013 – Jan., 2014
Kevin Hennessy	Research Fellow M.S. Bioproducts and Biosystems Engineering	Dec. 2008 – Jan. 2011
Erik Hare	Research Scientist Ph.D. in Chemical Engineering	February, 2004 – Dec., 2004
Aoxi He	Visiting Scholar Yunnan Minzu University	December, 2017 – Dec. 2018
Wei Hua	Visiting Scholar Ph.D., Beijing Union University	September, 2018 – March, 2019
Shuhao Huo	Visiting Professor	Jan., 2019 – Jan. 2020

Gi-Chul Jang	Jiangsu University Post-Doctoral Research Associate Ph.D. in Agricultural Chemistry	May, 1996 - June, 1997
Xuanli Jiang	Visiting Professor	April, 2008 – October, 2008
Yongcheng Jiang	Visiting Professor Ph.D. in Mechanical Engineering and Automation, Jiamusi University	Sept., 2012 – Sept., 2013
Faryal Kabir	Visiting Scholar PMAS University of Arid Agriculture Rawalpindi, Pakistan	November, 2016 – May, 2017
Sarah Kinney	Undergraduate Research Assistant	Fall, 2020 – Summer, 2021
Qingxue Kong	Scientist, Post-Doctor Ph.D. in Bioscience and Professor (Current Employment: Assistant Professor, Tianjin Agricultural University, China)	September, 2006 – Jan., 2009
Mark Gino Galang	Visiting Scholar University of Salerno, Italy	December, 2022 – Dec., 2023
Zhiping Le	Engineer Ph.D. in Chemical Engineering, Professor	October, 2006 – July, 2010
Hanwu Lei	Post-Doctoral Research Associate (Current Employment: Professor, Washington State University)	January, 2006 – December, 2007
Huankai Li	Ph.D. Candidate in Chemistry Hong Kong Baptist University	August, 2025 – Feb. 2026
Hui Li	Post-doctoral associate School of Energy and Power Engineering Shandong University Currently faculty of Shandong Jianzhu University	August, 2019 – August, 2020
Junrong Li	Scientist Jinhua Polytechnic University	January, 2008 – Nov., 2008
Kun Li	Visiting Professor Nanchang University	November, 2018 – Nov., 2019
Ling Li	Assistant Scientist	March, 2008 – December, 2008
Shangwei Li	Visiting Professor	April, 2008 – October, 2008
Yebo Li	Post-Doctoral Research Associate Ph.D. and Associate Professor (Current Employment: Professor, Ohio State University)	December, 1999 – Dec., 2002
Yuhong Li	Research Fellow Lecture and Assistant Director	March, 2002 – April, 2006
Yuhong Li	Research Associate Bio-technne, Inc., Minneapolis, MN	January, 2020 – present
Xiangyang Lin	Research Fellow Lecturer and Associate Dean	February, 2001 – January, 2003

Xiangyang Lin	Ph.D., Consultant	January, 2003 – Sept., 2010
Chenghui Liu	Visiting Scholar, Ph.D., faculty of Yunnan Minzu University	August, 2019 – August, 2020
Frank Liu	Research Associate Ph.D. in Environmental Physiology and MBA	November, 2020 – March, 2024
Hui Liu	Visiting Professor Ph.D. in Environmental Science	April, 2015 – November, 2016
Jie Liu	Visiting Scholar Beijing Union University	March, 2018 – September, 2018
Juer Liu	Ph.D., Research Associate (Research V) University of Minnesota	Dec. 2023 – Present
Junzhi Liu	Visiting Professor Zhejiang Ocean University	October, 2018 – October, 2019
Lingqin Liu	Visiting Scholar School of Energy and Environment, Southeast University	March, 2019 – March, 2020
Shan Liu	China Agricultural University Visiting Professor	April, 2024 – April, 2025
Shiyu Liu	Graduate Intern MS in Chemical Engineering, Syracuse University, NY	June, 2014 – September, 2014
Yuhuan Liu	Visiting Associate Professor Associate Professor	June, 2001 – July, 2002
Wei Liu	Visiting Professor Shandong Analysis and Test Center, Shandong Academy of Sciences	October, 2019 – October, 2020
Xianghong Lu	Visiting Associate Professor Ph.D. in Chem. Engr. and Asso. Prof. of Zhejiang Univ. of Technology	May, 2009 – May, 2010
Zejian Lu	Visiting Professor Professor of Agri-Processing	January, 2004 – July, 2004
Yuancai Lyu	Visiting Professor Professor of Environmental Engineering Fuzhou University	Dec., 2019 – Dec., 2021
Henrik Lundqvist	Visiting Assistant Professor Ph.D. in starch-lipid interaction	September, 2002 – Nov., 2002
Hongbin Ma	Research Associate Ph.D. in High Voltage Engineering	Jan., 1999 – September, 2002
Huan Ma	Visiting Assistant Professor Ph.D. in Biophysics	March, 2015 – March, 2016
Tanushree Maheshwari	Teaching/Research Assistant	January, 2023 – June, 2023
Blanca Martinez	Scientist Ph.D. in Pharmacy	Jan., 1994 – September, 2011
Chul Kyoong Mok	Sabbatical leave/Visiting Professor	August, 2003 – August, 2004

Chul Kyoong Mok	Ph.D. in Food Engineering Visiting Professor Kyungwon University	January, 2005 – Sept., 2008
Johannes Moen	Research Fellow Norwegian University of Life Sciences	June, 2007 – July, 2008
Yong Nie	Visiting Professor Ph.D. in Chemical Engineering, Zhejiang University of Technology	June, 2012 – June, 2013
Anrong Ning	Visiting Professor Ph.D. in Electrical Engineering, Tsinghua University	June, 1995 – Feb., 1999
Shu Ning	Visiting Professor Professor of Mechanical Engineering, Shandong University	July, 1996 - August, 1998
Cassiano Oliveira	Visiting scholar Chemical Engineering, Federal University of Uberlândia, Brazil.	September, 2023 - March, 2024
Muhammad M. Omar	Visiting Scholar University of Agriculture, Faisalabad, Pakistan	Jan. 2017 – July, 2017
Nonso A. Onuma	M.S. Food Science and Nutrition Lab Assistant	September, 2013 - July, 2015
Wendy Ouyang	Research Scientist BS in Biotechnology	March, 2004 – September, 2004
Xuejun Pan	Research Associate Ph.D. and Prof. in Chemical Engineering (Current Employment: Assistant Professor, University of Wisconsin at Madison)	March, 2001 – August, 2002
Keith Pelletier	Research specialist	August, 2025 - Present
Adolfo Posadas	Visiting Associate Professor Ph.D. and Associate Professor	Dec., 1998 - April, 1999
Peng Peng	Post-doctoral associate Ph.D. in Bioproducts and Biosystems Engineering (Current Employment: Columbia University in New York then Berkley National Laboratory)	June, 2018 – September, 2019
Pu Peng	Visiting Professor Sinopec China	Sept., 2013 – December, 2013
Jining Qi	Research Associate Ph.D. of Chemistry Current Employment: faculty in Nanjing University	August, 2004 – September, 2006
Hongyan Ren	Visiting Professor Ph.D. in Process Engineering, Jiangnan University	April, 2016 – April, 2017
Jacob Reuter	Summer Intern	Summer, 2025

Fred Rigelhof	Food Engineer	January, 2005 – January, 2007 Food Science and Nutrition Sept. 2022 – March, 2023
Raíssa Aparecida da Silveira Rossi	Federal University of Uberlândia – MG/Brazil	
Weijun Sang	Visiting Professor	April, 2008 – October, 2008
Aimin Shi	Visiting Scholar, Ph.D., China Agricultural University	October, 2011 – October, 2012
Yong Sun	Visiting Professor Ph.D. in Agricultural Engineering, Northeast Agricultural University	Sept., 2012 – Sept., 2013
Gaoyou Tian	Visit Professor Ph.D. in Applied Chemistry	October, 2015 – October, 2016
Xiaojie Tian	Visiting Scholar Nanchang University	May, 2025 – May, 2026
Yinggang Tian	Visiting Professor Nanchang University	Sept., 2013 – Sept., 2014
Alf I. M. Tunheim	Research Fellow Norwegian University of Life Sciences	August, 2005 – September, 2006
Jana Votrubova	Research Fellow Ph.D. C. in Environment Engineering	July, 1998 – July, 1999
Yiqin Wan	Research Fellow Ph.D. in Bioprocess Engineering Current employment: Faculty at Nanchang University	April, 2008 – September, 2010
Bao Wang	Visiting Scholar Ph.D., China Agricultural University	October, 2011 – October, 2012
Chenguang Wang	Post-doctoral research associate Ph.D. in Chemical Engineering	July, 2009 – November, 2010
Jinghan Wang	Visiting Scholar Tongji University	October, 2013 – October, 2014
Liang Wang	Post-doctoral research associate Ph.D. in Bioproducts and Biosystems Engineering	January, 2009 – December, 2009
Lu Wang	Visiting Scholar East China University of Science and Technology	October, 2017 – October, 2018
Lu Wang	Visiting Scholar, Ph.D., East China University of Science and Technology	October, 2019 – May, 2020
Lu Wang	Post-doctoral Research Associate	May, 2020 - Present
Qin Wang	Visiting Professor Ph.D. in Food Engineering and Professor, Zhongkai Agricultural University	October, 2008 – May, 2009
Xiaobing Wang	Ph.D. in Soil Science Yangzhou University	April 2012 – November, 2012
Xiaoquan Wang	Post-Doctor Research Associate	December, 2008 – June, 2011

Yingkuan Wang	Ph.D. in Chemical Engineering Post-doctor Research Associate Chinese Academy of Agricultural Engineering	May, 2008 – December, 2010
Yuchuan Wang	Post-doctoral research associate	June, 2023 - Present
Yunpu Wang	Visiting Professor Ph.D., Nanchang University	November, 2018 – Nov., 2019
Jun Wei	Visiting Scholar Beijing Union University	October, 2018 – March, 2019
Zuo-Jun Wei	Visiting Professor Ph.D. in Chemical and Biochemical Engineering	May, 2007 – August, 2007
Jianping Wu	Post-doctor Associate 2007	October, 2006 – December,
Xiaodan Wu	Ph.D. in Chemical Engineering Visit Professor Ph.D. in Microbiology Current Employment: Nanchang University	March, 2015 – March, 2016
Chunhua Xin	Visiting Professor Ph.D. in Management Science and Engineering, China University of Mining and Technology	March, 2015 – March, 2016
Changyan Yang	Post-doctoral Associate Ph.D. in Chemical Engineering	May, 2007 – April, 2009
Qiong Yang	Graduate Researcher	April, 2016 – June, 2017
Hong Yang	Visiting Professor	April, 2008 – October, 2008
Xiaofei Ye	Post-Doctoral Research Scientist Ph.D. in Bioproducts and Biosystems Engineering (Current Employment: Professor, University of Tennessee at Knoxville, TN)	November, 2003 – July, 2004
Doan Thi Thai Yen	Ph.D. Senior Lecturer Department of Environmental Engineering Institute for Environmental Science and Technology (INEST), Hanoi University of Science and Technology (HUST), Vietnam	July, 2014 – July, 2015
Bo Zhang	Post-Doctoral Research Associate Ph.D. in Bioprocessing Engineering (Current Employment: Assistant Professor, North Carolina A&T University)	November, 2007 – Nov., 2008
Bo Zhang	Visiting Scholar, Ph.D. Key Laboratory of Energy Thermal Conversion and Control of MOE	September, 2014 - Sept., 2015

	School of Energy and Environment, Southeast University	
Hong Zhang	Research Fellow	June, 2010 – December, 2010
Jingsheng Zhang	Research Fellow Ph.D. C. in Food Engineering Nanchang University	December, 2005 – June, 2006
Jixian Zhang	Visiting Professor Ph.D. in Mechanical Engineering, Jiangsu University	April, 1994 - March, 1995
Liming Zhang	Assistant Scientist	May, 2006 – May, 2008
Mingliang Zhang	Visiting Professor Ph.D. and Professor	April, 1999 – December, 2001
Renchuan Zhang	Post-Doctoral Research Associate	January, 2021 – Nov., 2021
Yaning Zhang	Visiting Professor Harbin Institute of Technology (HIT)	March, 2016 – March, 2018
Dajiang Zhao	Visiting Associate Professor Doctor of Medicine	February, 2005 – May, 2006
Meiyu Zhao	Post-Doctoral Research Associate Ph.D. in Physical Chemistry Current Employment: Harbin Institute of Technology	September, 2008 – April, 2009
Hongli Zheng	Post-Doctoral Research Associate Ph.D. in Physical Biochemistry Current Employment: Nanchang University	September, 2014 – Sept., 2015
Nan Zhou	Post-Doctoral Research Associate	April, 2021 – November, 2021
Nan Zhou	Post-Doctoral Research Associate	Jan., 2025 – Present
Wenguang Zhou	Post-Doctoral Research Associate Ph.D. in Biological Sciences Current Employment: Professor, Nanchang University	Dec., 2009 – February, 2019
Cheng Zou	Post-Doctoral Research Associate Ph.D. in Biosystems and Ag. Engr.	March, 1995 - July, 1996
Xindi Zhu	Visiting Scholar Ph.D., China Agricultural University	September, 2014- Sept., 2015
Yindan Zhu	Visiting Scholar Ph.D., China Agricultural University	October, 2018 – Oct., 2019

Short-Term Visits/Exchanges (16)

Jakob von Essen	Civil Engineering of Sustainable Energy Systems, Department of Engineering Sciences and Mathematics, Lulea University of Technology, Lulea, Sweden. February, 2019
H. P. Heldt-Hansen	Ph.D., Manager, Applied Discovery, Cereal Foods, Novozymes A/S in Denmark. February, 2002
YeonKyeong Lee	Ph.D., Department of Plant Sciences, Norwegian University of Life Sciences. November, 2014.

Weizun Li	Ph.D. in Environmental Science and Engineering. Nankai University. February, 2014
Defa Li	Ph.D. Professor and Director, China Agricultural University and Ministry of Agriculture Feed Industry Center, China, February, March, 2002
Xiangyang Lin	Ph.D., Professor and Head, Food Science and Engineering Department, Fuzhou University, November, 2010.
Dehua Liu	Ph.D., Professor and Director, Chemical Engineering Department, Tsinghua University, April, 2006.
Zhihuai Mao	Ph.D., Dean and Professor of Mechanical Engineering, China Agricultural University, August - October, 2001
Hongwei Qiu	Professor and Director, Industrial Biotechnology Department, China National Center for Biotechnology Development. December 2005 and April 2006.
Pingfan Rao	Ph.D., Professor and Vice President, Fuzhou University, and Dean of Institute of Biotechnology. December, 2000, July, 2001
Bo Shi	Ph.D. and Professor, Chinese Academy of Agricultural Science, February - March, 2002
Jian Shi	Ph.D., Associate Professor and Head, Environmental Engineering Dept. Nantong University, August, 2013.
Hongguang Wang	Ph.D., Professor and Deputy Director General of the Department of Rural and Social Development, The Ministry of Science and Technology, China. July and August 2001, December 2005, and April 2006.
Maohua Wang	Academician, Chinese Academy of Engineering, China Agricultural University. August, 2002.
Lirong Yang	Ph.D. Professor and Director, Chemical Engineering, Zhejiang University. April, 2006.
Kai Zhao	Ph.D., General Manager, Beijing Bioindustrial Incubation Center. December, 2005 and April, 2006.

Other Research Fellows/Teaching Assistants Advised

Archer Anderson	Undergraduate Research Assistant, Summer, 2024 - present
Ray Anderson	Undergraduate Research Assistant, Fall, 2002 – Fall, 2003.
Yasmeen Barnes-Nkrumah	Undergraduate Summer Research Apprenticeship Program, Summer, 2000.
Andrew Berge	Undergraduate Research Assistant, Spring, 1999 – Fall, 1999.
Andrew Berge	Undergraduate Research Assistant, Spring, 2001 – Spring, 2003.
Jamie Berntson	Undergraduate Research Assistant, Summer, 2024.
Madison Best	Chem Engr. UROP Undergraduate Research Assistant, Spr. - Fall, 2018
Andrew Bird	Undergraduate Research Assistant, Summer, 2016
Steven Biorn	Undergraduate Research Assistant and UROP project recipient. June – Spring-Fall, 2008
Rajit Chakravarty	NSF Young Scholars. High School Summer Science Research Program. Summer, 1998.
Yuxi Chen	Undergraduate Research Assistant and UROP researcher, Spring, 2024 – present.

Ashley Chiu	High School Intern, December 2025 – Present.
Glorimar Chiclana	Life Sciences Summer Undergraduate Research Programs, Summer, 2002.
Michael Fuad	Breck School Senior High Science Advanced Research Program, Summer, 2008.
Jack Gao	High School Research Intern, August, 2024 – Present.
Atishya Ghosh	Undergraduate Research Assistant, Summer, 2016
Liam Gong	High school summer research intern. Summer, 2014
Joshua Goplin	Undergraduate Research Assistant, MISA project, Spring, 99 – Fall, 1999.
Raymond Hatzenbeller	Undergraduate Research Assistant, Summer and Fall, 2016
Peter Hauck	High school research apprenticeship program, Spring, 2001
Ben Henderson	Chem Engr undergraduate honor thesis advisor, Fall, 2017 – Spring, 2018.
Brian Hetchler	TA for Engineering Principles and Applications, Winter, 1997
Johanna Heyda	TA for Engineering Principles and Applications, Winter, 1999
Sheena Hodges	TA for Engineering Principles and Applications, Winter, 1999
Arush Jain	High school research intern. Fall, 2014
Andrew Johnson	Undergraduate Research Assistant, Spring, 2002 – Fall, 2003
Geoffrie Kramer	Undergraduate Research Assistant, Fall, 2005 – Present
Leo A. Kucek	Undergraduate Research Assistant and UROP project recipient. June – Spring-Fall, 2008
Jaynie Leung	NSF Young Scholars/USDA Research Apprenticeship Program. High School Summer Science Research Program. Summer, 1995.
Avi Limer	Chem Engr. Undergraduate Research Assistant, Fall, 2019 – Spring, 2019
Dmitriy Lis	Undergraduate Research Assistant, Spring, 2007 - present
Tuo Liu	Lab Assistant, Fall, 2009 – August, 2010.
Brock Lundberg	Undergraduate Research Assistant and UROP project recipient. June - December, 1998. Honor thesis advisor.
Joana Montenegro	TA for Engineering Principles and Applications, Spring, 2001
Vinay Nangia	TA for Engineering Principles and Applications, Spring, 2000
Carrie O’Neal	Undergraduate Research Assistant, Summer, 2001 – Spring, 2002.
David Necas	Undergraduate Research Assistant, Fall, 2018 - present
Raj D. Pai	NIH Research Apprenticeship Program. High School Summer Science Research Program. Summer, 1997.
Peng Peng	Undergraduate Research Assistant, Spring, 2011 - Summer, 2014
Michael Perniel	M.S. Agricultural Education, Minnesota Pollution Control Agency. Lemna (duckweed) research project, Summer, 1995 and 1996.
Reid Pulley	Undergraduate Research Assistant, Spring, 1999 – Fall, 1999.
Ian Silver-Ramp	Undergraduate Research Assistant, Summer, 2007 – Fall, 2007.
Nick Ramberg	Undergraduate Research Assistant, October, 2023 – June, 2024.
Gerhardt Robinson	Undergraduate Research Assistant, Spr., 2020
Gerhardt Robinson	BBE undergraduate honor thesis advisor, Spring, 2020.
Tracy L. Scheffer	Undergraduate Research Assistant, MISA project, Spr., 1999 – Fall, 1999.
Benjamin Schroeder	Undergraduate Research Assistant, Spring, 2007 – present.
Nandini Singh	BBE undergraduate research assistant, Spring – Fall, 2019

Sai Syhaphum	Undergraduate Research Assistant, Fall, 1998 – Fall, 1999.
Seyade Tadele	High school summer research intern. Summer, 2016
Aisha Toure	NIH Research Apprenticeship Program. High School Summer Science Research Program. Summer, 19920189.
Nicole Wagner	TA for Engineering Principles and Applications, Winter, 1998
Adrian Widjaja	Undergraduate Research Assistant, Spring, 2014 - Summer, 2014
Brendon Xu	High school summer research intern. Summer, 2014
Cassidy Yueh	High school summer research intern. Summer, 2016
David Zhou	Undergraduate Research Assistant, Summer, 2007
Simin Zhou	NSF Young Scholars/USDA Research Apprenticeship Program. High School Summer Science Research Program. Summer, 1996.

Graduate Students Advised Completed

Erik Anderson	Ph.D. Biosystems and Agricultural Engineering	December, 2017
	Thesis: New Technologies for the Complete Rendering and Economic Conversion of Waste Oils to Biofuels.	
	(Current Employment:	
Changshun Bie	M.S. Biosystems and Agricultural Engineering	August, 1999
	Theses: Study of States of Water in Dough using Continues NMR T ₂ Spectra.	
	(Current Employment: Tochi, Inc., Plymouth, MN)	
Leipeng Cao	Ph.D. Food Engineering	May, 2019
	Nanchang University (co-advised with Professor Y. Liu)	
	Thesis: Study on the N and P recovery and Cu and Zn removal from swine wastewater and quality-safety of hydroponic water spinach.	
Kehua Chang	Ph.D. Biosystems and Agricultural Engineering	July, 2004
	Thesis: Moisture and Temperature Mapping of Foods during Dynamic Processes Using MRI.	
	(Current Employment: Ugs Plm Solutions, Arden Hills, MN)	
Dongjie Chen	Ph.D. Food Science and Nutrition	January, 2020
	Thesis: Decontamination of particulate foods using intense pulsed light and other non-thermal methods.	
	(Current Employment: InnovHope, Inc, Boston, MA)	
Sibo Cheng	M.S. Bioproducts and Biosystems Engineering	June, 2015
	Thesis: Techno-economic analysis of algae cultivation in wastewater.	
Myong-Soo Chung	Ph.D. Biosystems and Agricultural Engineering	March, 2000
	Thesis: Study of Caking in Powered Foods Using Nuclear Magnetic Resonance (NMR).	
	(Current Employment: Faculty of Food Packaging Department, Yonsei University, South Korea)	
Leilei Dai	Ph.D. Bioproducts and Biosystems Engineering	October, 2022
	Thesis: Catalytic microwave-assisted pyrolysis of waste plastics for fuels and chemicals	
Shaobo Deng	M.S. Biosystems and Agricultural Engineering	January, 2001
	Thesis: Nonthermal Plasma Development and Application in Hazardous Gas Control.	
	(Current Employment: Burma, Inc., Mounds View, MN.)	
Zhenyi Du	Ph.D. Bioproducts and Biosystems Engineering	January, 2013

Thesis: Thermochemical Conversion of microalgae for biofuel production
(Current Employment: University of Tennessee, Knoxville, TN)

Dengle Duan Ph.D. Food Engineering May, 2019
Nanchang University (co-advised with Professor Y. Liu)
Thesis: Upgrading biooil from co-pyrolysis of lignin and food waste soapstock over corn
stover activated carbon catalyst.
(Current Employment: Assistant Professor at Zhongkai University of Agriculture and
Engineering, Guangzhou, China)

Liangliang Fan Ph.D. Food Engineering May, 2018
Nanchang University (co-advised with Professor Y. Liu)
Thesis: Microwave assisted catalytic pyrolysis of lignin
(Current Employment: Faculty at Henan University, China)

Richard Griffith M.S. Bioproducts and Biosystems Engineering April, 2018
Project: Chlorella Harvest by Flotation - Electro-Flotation Process

Lin Gu M.S. Biosystems and Agricultural Engineering July, 2000
Thesis: Structural-Functional Relationships of Highly Refined Cellulose.
(Current Employment: China Agricultural University, Beijing, China)

Jason Guo Ph.D. Bioproducts and Biosystems Engineering May, 2026
Thesis: Mechanistic and Engineering Studies of Atmospheric Nitrogen Oxides Synthesis
in a Non-thermal Plasma-Liquid System

Jianfei Guo MS Bioproducts and Biosystems Engineering December, 2023
Project: Applications of Plasma Generated by Concentrated High Intensity Electric Field
(CHIEF) in Nitrogen Fixation.

Mufan Guo MS Food Science January, 2012
Thesis: Physical, Chemical, and Enzymatic Treatment of Wheat Bran to Improve
Bioavailability and Functionality.

Jun Han M.S. Microbial Engineering February, 1996
Thesis: Temperature-Sensitive Hydrogel Pore Size Characterization and Its Application
in Bioseparation.
(Current Employment: Scientist, Digital River, Inc., Minneapolis, MN.)

Wei Han M.S. Biosystems and Agricultural Engineering August, 1998
Thesis: Application of High Voltage Electrical Power in Odor Reduction of Biological
and Food Processing Wastes.
(Current Employment: Engineer, Lucent Technologies, Morrow, GA.)

Bing Hu Ph.D. Bioproducts and Biosystems Engineering Aug., 2009-June, 2013
Thesis: Swine manure-based algal cultivation for biofuel & animal feed production and
wastewater treatment.
(Current Employment: Faculty at Beijing Institute of Technology)

Kevin Hennessy M.S. Bioproducts and Biosystems Engineering December, 2008
Thesis: Developing a Continuous System for the Hydrothermal Processing of Wet
Biomass Slurries
(Current Employment: Minnesota Department of Agriculture)

Allison Hohn M.S. Food Science June, 2012
Thesis: Enzyme Treatment of Wheat Bran to Release Antioxidants
(Current Employment: Land O'Lakes)

Fida Hussain Ph.D. in Biological Sciences May, 2014

Islamia College Peshawar (A Pakistan Public Sector University)
 Thesis: Local bioprospecting for promising microalgal strains and their application in CO₂ biomitigation
 (co-advised with Professor Syed Zahir Shah of Islamia College Peshawar
 Current Employment: Faculty at the Islamia College Peshawar, Pakistan)

Ozlem Karakas M.S. Bioproducts and Biosystems Engineering May, 2023
 Thesis: Thermochemical conversion of algal biomass and agricultural plastic waste to fuels and value-added materials
 (Current Employment: Tukiye (Turkey) Ministry of Agriculture)

Suman Lata M.S. Bioproducts and Biosystems Engineering May, 2025
 Research: PFAS removal from landfill leachate

Hanwu Lei M.S. Biosystems and Agricultural Engineering December, 2002
 Thesis: Ozone aided corn steeping process.

Hanwu Lei Ph.D. Biosystems and Agricultural Engineering January, 2006
 Thesis: Temperature mapping and modeling of extrusion process.
 (Current Employment: Faculty of Biological and Agricultural Engineering Department, Washington State University)

Liang Li M.S. Bioproducts and Biosystems Engineering Aug., 2010-Sept., 2012
 Thesis: Synthesis and Characterization of starch-based cationic flocculants for microalgae harvesting

Yecong Li Ph.D. Bioproducts and Biosystems Engineering December, 2011
 Thesis: Cultivation of algae on municipal wastewater as feedstock for biofuel production
 (Current Employment: Sapphire Energy, San Diego, CA)

Yun Li Ph.D. Bioproducts and Biosystems Engineering January, 2012
 Thesis: Development of a low field MRI system for non-medical applications.

Xiangyang Lin Ph.D. Food Engineering December, 2006
 Nanchang University (co-advised with Professor Gao)
 Thesis: Applications of NMR and MRI in food shelf stability improvement
 (Current Employment: Faculty at Fuzhou University, China)

Chengmei Liu Ph.D. Food Engineering December, 2006
 Nanchang University (co-advised with Professor Gao)
 Thesis: Instantaneous High Pressure Process: Its Sterilization Mechanisms and Effect on Quality Improvement and Property Changes of Dietary Fiber
 (Current Employment: Faculty at Nanchang University, China)

Juer Liu Ph.D. Food Science and Nutrition December, 2023
 Thesis: Valorization of almond hull: Enhancing functional properties and bioavailability as a value-added food ingredient.

Shiyu Liu Ph.D. Bioproducts and Biosystems Engineering October, 2019
 Thesis: Microwave-assisted catalytic thermochemical conversion of organic solid wastes for biofuels production
 (Current Employment: 3M Company)

Yuhuan Liu Ph.D. Food Engineering December, 2006
 Nanchang University (co-advised with Professor Gao)
 Thesis: Making formaldehyde free wood adhesives from biomass
 (Current Employment: Faculty at Nanchang University, China)

Zhe Liu M.S. Food Science and Nutrition January, 2004

- Thesis: Ozone washes for pesticide removal and their effect on shelf life of fruits.
(Current Employment: Scientist, North Carolina A&T State University, Greensboro, NC.)
- Zhenzhong Long M.S. Biosystems and Agricultural Engineering January, 1997
Thesis: Application of Magnetic Resonance Imaging and Polymer Science Theory to the Study of Storage Stability in Ready-To-Eat Food Systems.
(Current Employment: Engineer, Safetran, Inc., Louisville, KY.)
- Brock Lundberg M.S. Biosystems and Agricultural Engineering January, 2000
Thesis: Development of a New Process to Make Highly Refined Cellulose.
(Current Employment: Vice President, Fiberstar, Inc. Hudson, WI.)
- Qian Lu Ph.D. Food Science and Nutrition January, 2018
Thesis: Strategies to Cultivate Microalgae on Eutrophic Wastewater for Nutrients Recycling and Biomass Production.
- Liuqing Luo M.S. Biosystems and Agricultural Engineering September, 1999
Thesis: Prediction of Scab Infection Rate in Wheat using Machine Vision and Neural Networks (Current Employment: Engineer, Active Logic Corp., Bloomington, MN.)
- Xiaochen Ma M.S. Bioproducts and Biosystems Engineering Aug., 2010 – Sept., 2012
Thesis: Biodiesel Production from Algae through In Situ Transesterification Technology
- Xiaochen Ma Ph.D. Bioproducts and Biosystems Engineering Sept., 2012 – May, 2016
Thesis: Utilization of Waste Resources for Low-Cost Algae-based Biofuel Production and Wastewater Bioremediation.
(Current employment: Chinese Academy of Science, Beijing)
- Yiwei Ma M.S. Food Science and Nutrition Aug., 2013-Aug., 2016
Thesis: Effects of Algae Feeding on Mouse Metabolome.
(Co-advised with Prof. Chi Chen)
- Yiwei Ma Ph.D. Food Science and Nutrition Aug., 2016-Aug., 2021
Thesis: Identification and characterization of double-edged metabolic effects of functional foods by metabolomics-based biochemical analysis.
(Co-advised with Prof. Chi Chen)
- Dmiti Mataya M.S. Bioproducts and Biosystems Engineering Dec., 2022
Thesis: Development of an Integrated Biological Wastewater Treatment System for the Full Utilization of High Nitrogen Livestock Waste
- Johannes Moen M.S. Mathematical Sciences and Technology June, 2008
Norwegian University of Life Sciences
Thesis: Microwave pyrolysis of biomass for biofuels production. (co-advised with Professor Petter Heyerdahl of UMB in Norway)
- Eric McEntyre M.S. Food Science and Nutrition May, 1995
Thesis: Evaluation of the Physical Properties of Barley in Relation to Hydration.
(Current Employment: Fulbright Scholar in New Zealand; Co-advised with R.G. Fulcher)
- Juan Medina M.S. Bioproducts and Biosystems Engineering December, 2025
Report: A Mechanistic Review of Oxidative Steep Water Treatments for Malting
- Joana Montenegro Ph.D. Biosystems and Agricultural Engineering April, 2001
Thesis: Development and Modeling of a Pulsed Non-Thermal Plasma System for Treatment of Liquid Foods.
(Current Employment: James Ford Technical Center, General Mills Inc., Plymouth, MN)

Ke Ning M.S. Biosystems and Agricultural Engineering August, 2001
Thesis: Magnetization Transfer and its Applications in Food Engineering.
(Current Employment: MIT, Boston, MA)

Muhammad Mubashar Omar Ph.D. in Agricultural Engineering (Energy), Dec., 2018
University of Agriculture, Faisalabad, Pakistan. (Co-advised with Dr. Anjum Munir).

Nonso A. Onuma M.S. Food Science and Nutrition May, 2015
Thesis: Investigation of treatment effects on biodiesel production from sludge from
municipal wastewater treatment plants
(Current Employment: Cargill Corporation)

Peng Peng MS BBESM December, 2015
Thesis: Modeling of Concentrated High Intensity Electric Field (CHIEF) and Its
Comparison with Other Non-thermal Liquid Food Pasteurization Technologies

Peng Peng Ph.D. Bioproducts and Biosystems Engineering June, 2018
Thesis: Sustainable atmospheric ammonia synthesis and nitrogen fixation using non-
thermal plasma (NTP)
(Current Employment: Columbia University, New York)

Keith Petrofsky Ph.D. Food Science April, 2012
Thesis: Enhance bioavailability of whole grain ingredients
(Current Employment: Harlan Bakeries, Indianapolis, IN; co-advised with
Len Marquart)

Charles Schiappacasse M.S. Bioproducts and Biosystems Engineering December, 2019
Thesis: Atmospheric Pressure Non-Thermal Plasma: A Tool for Airborne Pathogens
(Current Employment: Michael Foods, Chaska, MN)

Guiwei Tan M.S. Food Science and Nutrition September, 2015
Thesis: Development of a thin-layer chromatography-based method for structural
analysis of phosphatidylcholine (PC)
(Current Employment: Cargill Corporation)

Zongcai Tu Ph.D. Food Engineering December, 2006
Nanchang University (co-advised with Professor Gao)
Thesis: Improvement of Protein Properties through Dynamic High Pressure
Micro-Fluidization Treatment and Preliminary Study on its Mechanism
(Current Employment: Faculty at Nanchang University, China)

Alf I. M. Tunheim M.S. Mathematical Sciences and Technology May, 2007
Norwegian University of Life Sciences
Thesis: Destructive distillation of corn stover by microwave pyrolysis for the production
of biofuels. (co-advised with Professor Petter Heyerdahl of UMB in Norway)

Yiqin Wan Ph.D. Food Engineering December, 2008
Nanchang University
Thesis: Microwave pyrolysis of biomass for energy production
(Current Employment: Faculty at Nanchang University, China)

Xiaoan Wang M.S. Food Science and Nutrition September, 1998
Thesis: Interactions of Fat and Carbohydrate Replacers in Confectionery Products using
NMR, MRI and Food Polymer Science Theory.
(Current Employment: Scientist, Siemens Medical, Inc., Seattle, WA.)

Zhen Wang M.S. Food Science January, 2014
Thesis: Utilization of oil crop residues for enhanced algae based production of lipids,

polyunsaturated fatty acids, and protein
(Current Employment: Cornell University)

Yuanhua Wang M.S. Bioproducts and Biosystems Engineering May, 2008
Thesis: Making biopolymers from bio-oils.
(Current Employment: Dow Chemicals Company)

Yunpu Wang Ph.D. Food Science and Engineering May, 2020
Nanchang University (co-advised with Professor Liu Yuhuan)
Thesis: Production of hydrocarbon-rich bio-oil by microwave-driven catalytic pyrolysis of vegetable oil soapstock
(Current Employment: Faculty at Nanchang University, China)

Xiaodan Wu Ph.D. Food Engineering May, 2017
Nanchang University (co-advised with Professor Yuhuan Liu)
Thesis: Wastewater treatment and carbon dioxide emission reduction with low-cost production of microalgae biomass
(Current Employment: Faculty at Nanchang University, China)

Qinglong Xie Ph.D. BBESM January, 2016
Thesis: Fast microwave-assisted thermochemical conversion of biomass for biofuel production
(Current Employment: Zhejiang University of Technology, Assistant Professor)

Jianzhong Xu M.S. Biosystems and Agricultural Engineering November, 1996
Thesis: Prediction of Dough Rheological Properties Using Neural Networks.
(Current Employment: Senior Engineer, Seagate Inc., Bloomington, MN.)

Li Xu M.S. Food Science and Nutrition December, 1996
Project: Properties of Novel Cellulose Based Composite Edible Films.
(Current Employment: Iconovex Corporation, Hopkins, MN.)

Xiaofei Ye Ph.D. Biosystems and Agricultural Engineering April, 2004
Thesis: Fast and Accurate Mapping of Temperature and Mathematical Modeling of Liquid-Particulates System during Ohmic Heating using Magnetic Resonance Imaging.
(Current Employment: Faculty with BAE at University of Tennessee at Knoxville)

Lun Yi M.S. Food Science and Nutrition December, 1996
Thesis: Preparation and properties of highly refined cellulose (HRC) gel and powder made from corncobs and husks.
(Current Employment: Scientist, Ultimate/ProStar Nutrition, Farmington, CT.)

Fei Yu Ph.D. Bioproducts and Biosystems Engineering April, 2007
Thesis: Renewable Energy from Corn Residues by Thermochemical Conversion.
(Current Employment: Faculty of Department of Forest Products, Mississippi State University)

X. Suzy Zeng M.S. Food Science and Nutrition October, 1994
Thesis: Study of Soybean Seedcoat Cracking Using Magnetic Resonance Imaging.
(Current Employment: Scientist, Pillsbury Technology Center, Minneapolis, MN; Co-advised with R.G. Fulcher)

Jingsehn Zhang Ph.D. Food Engineering December, 2007
Nanchang University (co-advised with Professor Y. Gao)
Thesis: NMR and MRI techniques application in food science
(Current Employment: Faculty at Nanchang University, China)

Iris Lingyan Zhang M.S. Bioproducts and Biosystems Engineering January, 2010

Thesis: Improving Physiochemical and Sensory Properties of Wheat Bran.
 Renchuan Zhang Ph.D. Bioproducts and Biosystems Engineering January, 2021
 Thesis: An innovative thermal-vacuum stripping assisted thermophilic anaerobic digestion process and system for complete utilization of liquid swine manure.
 Yuan Zhao M.S. Bioproducts and Biosystems Engineering Aug., 2010-Sept., 2012
 Thesis: Heavy Metals in Wastewater: Their removal through algae cultivation and their roles in microwave-assisted pyrolysis of algae Sept. 2012
 Yunfeng Zhao Ph.D. in Food Science and Engineering May, 2021
 Nanchang University (co-advised with Professor Y. Liu)
 Thesis: Pyrolysis of polyolefin waste plastics for food packaging catalyzed by the composite nanofiber carbon and HZSM-5
 Nan Zhou Ph.D. Bioproducts and Biosystems Engineering April, 2021
 Thesis: Catalytic microwave-assisted pyrolysis for energy production from biomass and plastic wastes.

(Note: This is not a comprehensive list, as some previously co-advised Ph.D. and Master's students from other institutions are not included.)

In Progress

Yuxi Chen	Ph.D. Bioproducts and Biosystems Engineering	August, 2025
Thesis:		
Yuting Li	M.S. Bioproducts and Biosystems Engineering	Summer, 2024
Thesis:		
Juan Medina	Ph.D. Bioproducts and Biosystems Engineering	January, 2026
Thesis:		
Jon Schroeder	Ph.D. Bioproducts and Biosystems Engineering	August, 2025
Thesis:		
Jaime Thissen	M.S. Bioproducts and Biosystems Engineering	September, 2020
Thesis:		
Yucheng Xiao	Ph.D. Bioproducts and Biosystems Engineering	Jan., 2026
Thesis:		
Xukun Zhu	Ph.D. Bioproducts and Biosystems Engineering	May, 2025
Thesis:		

Other Advisory and/or Examination Committees (not updated)

Bryan E. Albright	B.S. Biosystems and Agricultural Engineering Senior design project advisor, 1994.
Raghu Kumar Cavatur	Ph.D. Pharmaceutics Dossier exam committee member, 1996. Final exam committee member, 1998.
Gang Chen	M.S. Food Science and Engineering, Nanchang University, China Final exam committee chair, 2004.
Roger Chen	M.S. Food Science and Nutrition

Karen E. Churchill	Advisory committee member, 2001 - 2002. Ph.D. Food Science and Nutrition Advisory committee member, 1996 - 98. Thesis reader and final defense committee member, 1999
Dana M. Dronen	Ph.D. Food Science and Nutrition Final exam committee, 2003-2004.
Jodi A. Engleson	Ph.D. Food Science and Nutrition Advisory committee member, 1999 - present Dossier reader and preliminary exam committee member, 1999 Final exam committee member, 2001
Jeffrey Enz	M.S. Food Science and Nutrition Advisory committee member, 1996 - 2002. Thesis reader and exam committee member, 2002.
Daniel L. Fasold	M.S. Food Science and Nutrition Advisory committee member, 1995 - 96. Thesis reader and exam committee member, 1996.
Kerstin M. Haberer	Ph.D. Food Science and Nutrition Advisory committee member, 1995 - 97.
Jennifer J. Hommerding	M.S. Biosystems and Agricultural Engineering Advisory committee member, 1999 - 2000.
Dengfeng Jiang	M.S. Computer Science Advisory and exam committee member, 1996 -1997.
Dengfeng Jiang	M.S. Management of Technology Exam committee member, 2003
Nalladurai Kaliyan	Ph.D. Biosystems and Agricultural Engineering Dossier exam committee member, 2006.
Bikram Kapoor	M.S. Biosystems and Agricultural Engineering Advisory and exam committee member, 1997 - 1998.
Rohit Kapoor	Ph.D. Food Science and Nutrition Advisory and exam committee member, 1995 – present.
Falai Li	Ph.D. Biosystems and Agricultural Engineering Dossier exam committee member, 1994. Final exam committee member, 1997.
Minlan Li	M.S. Forest Products Advisory committee member, 1995. Thesis reader and exam committee member, 1995.
Jingyang Liu	M.S. Forestry Thesis reader and exam committee member, 1997.
Wei Liu	M.S. Food Science and Engineering, Nanchang University, China Final exam committee chair, 2004.
Chin Yang Lo	Ph.D. Food Science and Nutrition Final exam committee chair, 1996.
Zhenzhong Long	M.S. Mechanical Engineering Advisory and final exam committee member, 1996 - 98.
John David McKeechen	Ph.D. Food Science and Nutrition Preliminary oral exam committee member, 1996.

Jonathan Arthur Merkle	Ph.D. Food Science and Nutrition Dissertation reader and final exam committee member, 1996.
Hui-Fuang Ng	Ph.D. Biosystems and Agricultural Engineering Dossier exam committee chair, 1995. Preliminary oral exam committee member, 1995. Final exam committee member, 1996.
Ke Ning	M.S. Electrical and Computer Engineering. Final exam committee member, 2001.
Mike Perniel	M.S. Agricultural Education Advisory and final exam committee member, 1995 - 1998.
Timothy John Puhek	M.S. Food Science and Nutrition Final exam committee member, 2002.
Michael Chunhua Qian	Ph.D. Food Science and Nutrition Preliminary exam committee member, 1998. Final exam committee member and thesis reader, 2000.
Irma Rosalina	M.S. Biosystems and Agricultural Engineering Final exam committee member, 2000.
Eugene Roytburg	Ph.D. Biosystems and Agricultural Engineering Final exam committee member, 1997.
Craig Philip Sherwin	M.S. Food Science and Nutrition Advisory committee member, 1997-1998. Final exam committee member, 1998.
Srinivas S. Somayajula	M.S. Food Science and Nutrition Advisory and final exam committee, 1995 - 1996.
Stephanie Tandean	Undergraduate Research Assistant, 2015-2016.
Mazhar Ahmet Tutuncu	Ph.D. Food Science and Nutrition Final exam committee member, thesis reader, 1998.
Nurhan Pinar Tutuncu	Ph.D. Food Science and Nutrition Advisory committee member, 1995 - 1997. Preliminary oral exam committee member, 1996. Final exam committee member, thesis reader, 1997.
Edward C. Wanat	Ph.D. in Chemical Engineering and Material Sciences Final exam committee member, thesis reader, 2005.
Ye Wang	Ph.D. Biosystems and Agricultural Engineering Preliminary dossier written and oral exam committee chairs, 2000. Advisory and final exam committee chair, 1998 - 2001.
Ye Wang	M.S. Electrical and Computer Engineering Final exam committee member, 2001
Jianzhong Xu	M.S. Computer Science Advisory and final exam committee, 1995 - 1997.
Ying Xu	M.S. Electrical and Computer Engineering Advisory and final exam committee, 1996 - 1999.
Hai You	Ph.D. Food Science and Engineering, Nanchang University, China Thesis reader and final exam committee chair, 2002-2003.
Nese Tulay Yurttas	M.S. Food Science and Nutrition Advisory committee member, 1997 - 1998.

Chun Zhang	Thesis reader and final exam committee member, 1998. Ph.D. Chemical Engineering and Material Science Dossier exam committee member, 1994. Advisory committee member, 1994 - 1997.
Dongmei Zhang	Thesis reader and final exam committee member, 1997. Ph.D. Biosystems and Agricultural Engineering Dossier exam committee member, 1994. MS advisory committee, 1996.
Jiangsong Zhang	Ph.D. Biosystems and Agricultural Engineering Dossier exam committee chair, 1997. Advisory committee member, 1995-1997.
Feng Zhu	Ph.D. Computer Science and Engineering Thesis reader and final exam committee member, 2002.
Hong Zhu	M.S. Electrical and Computer Engineering Advisory and final exam committee, 1998 - 2000.

SERVICE/OUTREACH

Overview

I always consider it an honor to be invited to participate in programs and committees of the department, college, university, professional society, state and federal agencies, and public and private companies. I take my commitment to these services very seriously and always strive to fulfill my responsibilities in a professional manner.

Throughout my career, I have held numerous leadership roles, including Director of Graduate Studies, Director of Undergraduate Studies, Student Branch Advisor, and President of the Minnesota Chapter of ASABE. I have also served on various committees such as the College Promotion and Tenure Committee, the Department Faculty Consultative Committee, the Electric Power Research Institute (EPRI) Food Technology Center (FTC) Director Search Committee, and a few Faculty Search Committees. Additionally, I have been a chair or member of the Overall Program Committee for the 1996 and 1998 International Conference on Food Science and Technology, Conference of Food Engineering (CoFE 2018), the Symposium on NMR and MRI Applications in Food Science and Technology, and many others, and chaired many Technical Sections also.

I have also contributed as a technical reviewer for various technical journals and have reviewed numerous research proposals for different agencies and companies. I have given many short courses or workshops, seminars, and symposium presentations for professional societies, university departments, and companies. Additionally, I have given numerous interviews to popular media on various research activities and presented to commodity groups, county extension educators, and high school and college educators. As a consultant to several companies, I have provided valuable insights that have helped advance my research and education.

One of my significant contributions was coordinating and preparing the successful NSP/University joint proposal to attract the EPRI/NSP National Food Technology Center to the University of Minnesota. I have also represented the department in various service activities, such as the State Fair, IT Week, and the High School Summer Research Program.

Technical Referee (not updated)

Professional Journals

Applied Engineering in Agriculture (1994 - present)
Biotechnology and Bioengineering (2002 – present)
Carbohydrate Research (2005-present)
Cereal Chemistry (1994 - present)
CRC Press, LLC (2003 – present)
Food Science and Technology International (2001, - present)
Innovative Food Science and Emerging Technologies (2001 – present)
International Journal of Food Science & Technology (1997 - present)

Journal of Cereal Science (1994 - present)
Journal of Dairy Science (1999 – present)
Journal of Food Engineering (2000 – present)
Journal of Food Process Engineering (1998 - present)
Journal of Food Science (1994-present)
Journal of Magnetic Resonance (1998 – present)
Journal of Rheology (2000 – present)
Journal of the Science of Food and Agriculture (2001 – present)
Plasma Chemistry and Plasma Processing (2001 – present)
Proceedings of the Institute of Biological Engineering (1998 – present)
Transactions of ASABE (1994 - present)
Transactions of CSAE (2002 - present)
Transactions of the Institution of Chemical Engineers (2003 – present)
ASABE paper awards (1994 - present)

Research Proposals

NSF biofuel related proposals (over 30 proposals, 2000 – present)
USDOE biofuel related grant proposals (over 100 proposals, 1998 – present)
USDA biomass related grant proposals (over 100 proposals, 1998 – present)
USDA NRICGP and Small Business Grants Program (20 proposals, 1994 - present)
U.S. Civilian Research and Development Foundation (1 proposal, 2003 – present)
Pillsbury Company (4 proposals, 1993 - 2001)
Rapid Agricultural Response Fund (41 proposals, 2002 - present)
Vermont EPSCoR (Experimental Program to Stimulate Competitive Research) Program (1 proposal, 1996)
Minnesota Technology, Inc. (1 proposal, 1998 - present)

Minnesota Agricultural Experimental Station

From Biosystems and Agricultural Engineering (15 papers, 1994 - 2000)
From Food Science and Nutrition (3 papers, 5 proposals, 1994 - present)

Consultant and Outreach to Industry

Gerson Lehrman Group in biorefining. 2007 – Present.

Rawhide Energy in biofuel production. 2007 – Present.

Bixby Energy Systems, Inc. in biofuel production. 2004 - Present.

Kellogg Company in NMR/MRI application in water management in food. 2005 - Present.

Generation II Ethanol, LLC. in value-added process development for byproducts from dry milling corn ethanol production. 2002 - Present.

Land O'Lakes, Inc. in NMR applications in cheese. 2004 – Present.

Sebesta Blomberg and Associates in value-added process development for byproducts from dry milling corn ethanol production and oil refinery. 2001 - Present.

Dupont Protein Technology International in NMR/MRI application in water management in food. 2002 - Present.

Source Food Technology in oil refinery. 2001- Present.

DQCI Services, Inc. in process automation and control. 2001- 2002.

Grand Metropolitan/Pillsbury Company in MRI and Neural Network applications. 1992 - 2002.

General Mills Company in MRI and digital image analysis. 1993 - Present.

Cargill Company in image analysis, NMR, NIR, visible light, and UV/fluorescence spectroscopy and microscopy applications; and fibrous by-products processing and utilization. 1992 - Present.

Bush Brothers & Company in NMR, MRI, and machine vision applications in dry bean processing. 2000 – Present.

Hunt-Wesson, Inc. in MRI and NMR applications in food process and product quality improvement. 1995 - Present.

Colorado Sweet Gold, LLC. in ozone applications in wet milling process. 2000 – Present.

SCP Control, Inc. in non-thermal plasma and ozone technology development and applications. 1999 – Present.

Land O'Lakes, Inc. in non-thermal processing technologies. 2000 – 2001.

Buhler Inc. in MRI and NMR applications in moisture control during soybean dehulling process. 1997 - Present.

Member of the Board of Directors, FiberStar, Inc. Highly refined cellulose processing. 1997 - 2000.

Member of the Scientific Advisory Board, FiberStar, Inc. Highly refined cellulose processing. 1997 - Present.

EnviroMedical Systems, Inc. Ozone application in medical equipment sterilization. 1998 - 1999.

Nestlé Company and Cereal Partners Worldwide in MRI and NMR applications in moisture and fat management in Foods. 1998 – Present.

US Army Natick Solider Systems Center in MRI and NMR applications in moisture and fat management in Foods. 1993 – Present.

Other Selected Service and Outreach Activities (not updated)

1. Gave a tour to of the Rosemount wastewater algae production and mobile biomass microwave assisted pyrolysis facility to Al Juhnke, State Ag & Energy Field Rep, Office of US Senator Franken, and John Snyder and Dick Hemmingsen among others. December 1, 2011.
2. Gave an interview on Rosemount pilot algae production system, the story “Filler up ... with algae” published on October 24, 2011 of *Pioneer Press* on the front page.
3. Gave an interview to Farm Show on mobile microwave pyrolysis system for biomass conversion. Story published in *Farm Show* Vol. 35, No. 1, 2011:34.
4. Gave an interview to Fox 9 news on mobile microwave pyrolysis system for biomass conversion. Story aired on June 1st, 2010 evening news.
5. Gave an interview to Popular Science on mobile microwave pyrolysis system for biomass conversion. Story published in June, 2010 issue of the Popular Science magazine.
6. Gave a tour to Worthington Middle School students on wastewater algae production and conversion. May, 2010.
7. Gave two wastewater treatment plant field tours to the International Biomass Conference attendees on wastewater algae production and conversion. May, 2010.
8. Gave an interview on algae as an energy crop production, and the story published as “Pond scum finally gets some respect - as oil resource” on *Star Tribune* on July 17th, 2009 issue.
9. Gave an interview on wastewater for algae production, and the story published as “From the Sewage Plant, The Promise of Biofuel” on *Yale Environment 360* on July 1st, 2009 issue.
10. Gave a presentation of mass culture of algae as an energy crop for biofuel production and a tour of thermochemical biomass conversion for the Class without Quiz. Spring, 2009 on St. Paul Campus.
11. Gave an interview on mass production of algae as an energy crop for biofuel production. Story published as Pond full of scum produces a tank full of cheap diesel on 04/17/2009

issue of Boston Herald, as MINNESOTA BUSINESS: Diesel revolution on 4/17/2009 issue of Grand Forks Herald, *and as* Pond full of scum produces a tank full of cheap diesel on April 13, 2009 issue of Minneapolis Star Tribune.

12. Gave a tour and overview of algae for energy crop and wastewater treatment to a group of Wisconsin students on April 4th, 2009.
13. Gave an interview on mass production of algae as an energy crop for biofuel production for *Northland's Newscenter*, story aired on March 25, 2009.
14. Gave an interview on mass production of algae from wastewater for *Minnesota Daily*, story published in November 25, 2008 issue.
15. Gave an interview on biofuel production using algae from wastewater for *Momentum*, story published in Fall, 2008 issue.
16. Hosted a group from Norway for a lab tour and microwave assisted biomass pyrolysis technology discussion. August, 2008.
17. Gave a tour to Senator Coleman's staff on renewable energy development. August, 2008.
18. Gave a discussion and tour to City of Hutchinson leaders on algae for wastewater treatment. August, 2008.
19. Organized a workshop and tour and gave short courses for Latin American group on renewable energy developments. August, 2008.
20. Gave a demo and tour for Bixby energy Systems on continuous microwave assisted biomass pyrolysis system. September, 2008.
21. Gave a tour and discussion to Lockheed Martin Company Twin Cities leaders on renewable energy development. September, 2008.
22. Gave a discussion to South Africa business leaders on renewable energy development. Organized by MN Department of Commerce. September 2008. St. Paul, MN.
23. Gave tours to attendees of the *5th Annual Ammonia Fuel Conference on NTP assisted NH₃ synthesis*. October, 2008. St. Paul, MN.
24. Gave a tour to MN State Senator Kulby on renewable energy development. October, 2008. St. Paul, MN.
25. Organized the MN ASABE Section Spring meeting. April 25, 2008. St. Paul Campus, MN.
26. Gave an overview of biomass production and conversion research programs at Center for Biorefining to the wood utilization research (WUR) initiative group. April 29, 2008.

27. Gave a tour of biorefining pilot facility and discussed advances in renewable energy and the science to the group of community leaders supporting university and extension. March, 2008.
28. Gave an interview to *America.gov*, an official US State Department web service on Algae for as energy crop research. Story aired/published as a feature video “Renewable Minnesota” on the web since March 24, 2008.
29. Gave an interview and lab tour to the *Minnesota Public Radio* on Algae for wastewater treatment and as energy crop. Story aired on Thursday, March 13, 2008 morning news and published on the station web also.
30. Gave a live interview in the Fox *TV 9* Station’s studio in Bloomington, MN and a lab tour on Algae for wastewater treatment and as energy crop. February 22, 2008.
31. Gave an interview and a lab tour to the *WCCO TV 5* on Algae for wastewater treatment and as energy crop. Story aired on February 8, 2008 evening news renewable energy series.
32. Gave an interview to the University of Minnesota news service on Algae for wastewater treatment and as energy crop. Story published as feature story on the University web home page starting Friday, January 25, 2008.
33. Gave a tour of the lab and pilot plant to a large group of Minnesota State Legislators on algae production and processing for wastewater treatment and biofuel production. January 24, 2008.
34. Gave an interview to the *Star Tribune* on Algae for wastewater treatment and as energy crop. Story published on Tuesday, January 15, 2008 issue of the newspaper.
35. Gave an interview and lab tour to the *Kare 11 TV* on Algae for wastewater treatment and as energy crop. Story aired on Tuesday, January 15, 2008 evening news.
36. Gave an interview to *Consumeraffairs.com* on algae work, and story published as “How Green Can Your Drive Get?” on January 14, 2008 issue.
37. Gave a presentation and testimony at the joint Minnesota House and Senate Budget Committees on “Algae for a better environment and energy security”. January 7, 2008.
38. Gave an hour-long live internet radio interview on algae as an energy crop on the Progressive Radio Network’s “Paradise Parking Lot” program with host Dr. Steve Barnett on December 12, 2007 from 12:00 noon to 1:00 pm.
39. Gave many interviews to Associated Press, CBC, WCCO, and many other news media on algae as an energy crop. Related stories published or showed in the *New York Times* (Sunday, December 2, 2007), *Washington Post* (Thursday, November 29, 2007), *Star*

Tribune (Tuesday, December 11, 2007), *Minnesota Daily* (Monday, November 26, 2007), and hundreds of other world, US, and local leading newspapers, TV stations, and live Radio news and other programs. November and December, 2007.

40. Gave a tour and interview to MCES people on joint algae research project. Story published on the MCES web. November, 2007.
41. Organized a tour to St. Paul District Heating and Energy with 40 participants. April, 2007.
42. Gave an interview to the *Twin Cities Business* on the renewable energy from biomass, January, 2007.
43. Gave an interview to the *WCCO TV with new anchor Dan Shelby* on the biofuel production from renewable biomass, January, 2007. The *Project Energy* story aired on January 23, 2007 evening news.
44. Gave an interview to the *Minnesota Daily* on the renewable energy from biomass, March, 2006. Front page story published in April 13, 2006 issue.
45. Testified at the Minnesota House of Representatives' Higher Education Committee on the use of high temperature plasma in biomass and waste conversion and utilization for bioenergy and materials. March, 2006.
46. Gave a tour and visit with Dr. Eric Jarvis of NREL on the Center for Biorefining's biorefining and biomass energy conversion facility and projects. December, 2005.
47. Gave a tour and a presentation of the Center for Biorefining's thermochemical conversion facility and projects to the NREL visitors (George Sverdrup, Maria Ghirardi, Pin-Ching Maness, and John Turner) here to identify specific projects and funding opportunities that NREL and UMN scientists might pursue together. November, 2005.
48. Gave an interview and biorefining lab tour to French ARTE G.R.I.E. television program on renewable energy and bioeconomy. October, 2005.
49. Gave a presentation to Sichuan government training program attendees. St. Paul, MN. October, 2005.
50. Gave a tour of the Center for Biorefining's biorefining and biomass energy conversion facility and projects to the Norwegian group here for the Third Norway and UMN joint research forum. September, 2005.
51. Gave a tour of Center for Biorefining to the Minnesota Department of Agriculture's guests on bioenergy and bioproducts. Also toured Exol corn ethanol plant and SoyMor biodiesel plant in Albert Lea, MN. July, 2005.

52. Met with Thai Ambassada to the US and his staff to discuss renewable energy and bioeconomy. Bloomington, MN. July, 2005.
53. Completed more audio recording with U Relations on biomass, fuel from plant crops. May, 2005. Story used in University's interactive web site.
54. Gave an interview for Ethanol Producer Magazine and Biodiesel Magazine on biorefining applications in corn ethanol refinery and biodiesel production. May, 2005. Story published in June, 2006 issue of *Ethanol Producer Magazine*.
55. Gave a presentation and tour to Congressman Gutknecht, and his staff and others on the renewable energy and bio-based product development. April, 2005.
56. Member of Board of Directors of CAAM (Chinese American Association of Minnesota). March, 2005 – Present.
57. Organized the Minnesota Section ASABE Spring Meeting including a tour of Phoenix Solutions pilot testing facility in Hutchinson, MN and Pioneer Seed Corn facility in Dassel, MN. Spring, 2004.
58. Completed an audio recording at KATP station on renewable energy development. March, 2005. Story used in various University radio ads.
59. Gave an interview for Bixby Energy Systems' biofuel video project on renewable energy. March, 2005.
60. Gave two interviews to *Minnesota Daily* on conversion of biomass into biofuels, chemicals and materials and on proposed National Center for Biofuels Research. March, 2005. Story published in March 3rd, 2005 issue.
61. Gave an interview to U Relations on renewable energy development. February, 2005. Story and pictures used in various University print, newspaper, and video ads. *Pioneer Press*, March 11, 2005 issue, *Star Tribune*, March 18, 2005 issue. *Ads on University bus stops*, March-April, 2005, and *Minnesota Monthly* magazine, and *Minnesota*, the University's alumni publication.
62. Gave an interview to *Minnesota Daily* on renewable energy development. January 2005. Story published in January 26, 2005 issue.
63. Organized the Minnesota Section ASABE Spring Meeting. April, 2004. St. Paul, MN.
64. Gave a tour of biorefining lab and biomass conversion projects to NREL visitors (Keorge Sverdrup, etc.) January, 2004.

65. Gave a presentation/discussion with the Training Delegation of Sichuan China on bioprocessing, value-added processing, organized by TBT Global Resources LLC. January, 2004.
66. Gave a tour of biorefining lab and biomass conversion projects to NREL visitors (Bob Evans, etc.) November, 2003.
67. Organized a tour and gave a presentation for the Shandong Agricultural Processing Delegation on value added processing of agricultural products. November, 2003.
68. Gave an interview to BIO on biobased fuel and products. November, 2003. Story published in Winter, 2004 issue.
69. Organized the Minnesota Section ASABE Fall Meeting. October, 2003. St. Paul, MN.
70. Gave an interview to the *Minnesota Daily* on the use of MRI for food research, October, 2003. Story published in October 30, 2003 issue.
71. Gave an interview to *Agri News* on biorefining research and development, June, 2003. Story published in the Tuesday, July 8, 2003 issue *Agri News*.
72. Gave a tour to Congressman Gutknecht's staff - Jim Beabout, "Energy Aide" in Congressman Gutknecht's D.C. office, and Malachi McNeilus from Congressman Gutknecht's Rochester office on the renewable energy and biobased product development. April, 2003.
73. Gave a tour and a presentation and organize a discussion with the UNDP Ningxia Training Group on bioprocessing, value-added processing, and ozone and nonthermal plasma applications in food safety and waste treatment. April, 2003.
74. Organized a tour of Rahr Malting Company in Shakopee, MN. for MN section ASABE members. March, 2003.
75. Organized an exhibit of NTP Liquid Disinfection System at the Research into Products Event at the McNamara Alumni Center, University of Minnesota. February, 2003.
76. Organized a tour to the Land O'Lakes Rtech Laboratories pilot facility and laboratories for Jiangxi's university faculty delegation. February, 2003.
77. Gave an interview to *AURI Ag Innovation News* on bioconversion and biorefining research and development for the special section on renewable products, October, 2002. Story published in the Jan-Mar 2003 issue 12(1).
78. Participate in the 2002 Minnesota's Tekne Awards Event recognizing technology achievements. Minneapolis Convention Center, October, 2002.

79. Gave an interview to *University of Minnesota Research & Inventions* on developing a better way to pasteurize juice – non-thermal plasma development and application. Story published in 2002 issue.
80. Participate in the COAFES Priority Kickoff 2002 event. Fall, 2002.
81. Participate in the *Blandin Thank You Video* for the Sota Tec Fund ten-year anniversary celebration. Spring, 2002.
82. Gave a tour and organize a discussion with the Japanese Ministry of Agriculture, Forestry, and Fisheries delegation on NIR, machine vision, and neural network application in scab and DON analysis. July, 2002.
83. Gave a tour to the Yantai Fruit/Vegetable Delegation from China on the nonthermal pasteurization of liquid foods and washing of fruits and vegetables using nonthermal plasma and ozone and the food science and nutrition pilot plant. April, 2002.
84. Organize a tour to the Biological Process Technology Institute pilot facility for members of the Minnesota Section ASABE, April, 2002.
85. Nominate Qinghuang (Charles) Geng to the Adjunct Faculty in Biosystems and Agricultural Engineering Department, University of Minnesota, with Vance Morey, November, 2001.
86. Represented Biosystems and Agricultural Engineering at College of Agriculture booth at the State Fair. 2001.
87. Gave a presentation to the Chinese Scab Research Delegation on the development of a rapid machine vision and neural network system for scabby wheat estimation. June, 2000.
88. Gave three presentations and tours to the wheat and barley farmers, county extension educators, and scab researchers. Spring, 2000.
89. Gave a presentation to Opta Food Ingredients, Inc. on highly refined cellulose material made from fibrous agricultural byproducts. June, 1999.
90. Gave a presentation to Agri-Fibers, LLC. on highly refined cellulose material made from fibrous agricultural byproducts. June, 1999.
91. Gave a presentation to Genesis Business Centers associates on highly refined cellulose material made from fibrous agricultural byproducts. June, 1999.
92. Serve as a tour guide for the Chinese Agricultural University Presidents' Delegation, January, 1999.
93. Gave a presentation and a tour to members of the Corn Refiners Association, September, 1998.

94. Gave a presentation on nonthermal plasma treatment of odorous gases at the *Dairy Odor Update* meeting at the University of Minnesota, July, 1998.
95. Nominate Gustavo Barbosa-Canovas to ASABE for The National Food and Energy Council Electric Technology Award, April, 1998.
96. Organized a Student Branch tour of Rahr Malting Co. April, 1998.
97. Gave an interview to *EPRI Journal* on nonthermal plasma application in odor control. Story published in *EPRI Journal* May/June, 1998 issue.
98. Gave a *WCCO Channel 4 TV* news interview on MRI applications in food safety improvement. Spring, 1998.
99. Organized and presented two lab demonstrations of machine vision and neural networks application in scabby wheat prediction for the small grain growers, barley and wheat industry leaders, and legislators. February, 1998.
100. Gave an interview on non-thermal plasma deodorization to the *IT Technology* magazine. February, 1998.
101. Gave a presentation on non-thermal plasma treatment of odorous gases at the *Odor Summit* at the University of Minnesota, January, 1998.
102. Organized two seminars on non-thermal plasma applications in odor control at UIE/EPRI's International Conference on Creating Customer Business Opportunities Through International Collaboration on Industrial Electrotechnologies. Orlando, FL. January, 1998.
103. Participated in the two-day trip organized by COAFES to visit the Morris area food producers and processors. September, 1997.
104. Gave an interview on non-thermal plasma application in farm odor control, story published in *Inventing Tomorrow*, Vol. 23, No. 1. Fall, 1997.
105. Gave a *Hogs Today* interview on non-thermal plasma application in farm odor control, story included in the Sulfide solutions article published in the environmental awareness issue of the *Hogs Today*, October, 1997, page 12-14.
106. Organized a *Utilization of Agricultural Fibrous Residues* display and demonstration for the AURI AgroMart of the Minnesota State Fair. August, 1997.
107. Organized and hosted a *Food/Feed Processing Tour* for the ASABE Annual Meeting. August, 1997.

- 108.Organized eight displays and a lab demonstration for the department open house during the ASABE Annual Meeting. August, 1997.
- 109.Gave two presentations on machine vision and MRI applications in biosystems, agricultural and food engineering to high school and college educators, Rochester, MN. July, 1997.
- 110.Attended the NSP Food Processing Technologies and Industrial Water Solutions Program Launch. Bloomington, MN. February, 1997.
- 111.Gave a demonstration on non-thermal plasma and pulsed electric fields for odor control for AIChE Symposium Tour. February, 1997.
- 112.In search of a crisp crust. Research featured in *Minnesota*, The Magazine of The University of Alumni Association. July-August, 1996.
- 113.Organized a demonstration on highly refined cellulose products and processes in Waseca for county extension educators, farmers, and businesspeople. June, 1996.
- 114.MRI Scans Used to Test Ice Cream. Research featured in *Minnesota - South Dakota Dairy Foods Research Center New Letter* Issue No. 25. June, 1996.
- 115.Gave a *KSTP Channel 5 TV* news interview on MRI applications in food process and quality improvement. Spring, 1996.
- 116.Immobilization of plant cells with temperature-sensitive hydrogel. 1996. Research featured in *Agricell Report* 27(3):17-18.
- 117.Gave a *Star Tribune* newspaper interview on MRI applications. Spring, 1996.
- 118.Gave a *Minnesota Public Radio* interview on MRI applications. Spring, 1996.
- 119.Gave a radio interview on MRI applications. Winter, 1996.
- 120.Gave interview and provided source for the “Smoother Ice Cream Comes from Brain Scanner” article published in *Minnesota’s Future - people, land, water* No. 57. March, 1996.
- 121.Gave a precooked and IQF wild rice shelf-life stability presentation to the marketing personnel at the Minnesota Cultivated Wild Rice Council Meeting at Grand Rapids. Fall, 1995.
- 122.Gave a *Minnesota Science* interview on MRI applications: Medical Technology Aids Ice Cream and Other Foods, story published in *Minnesota Science*, volume 49, number 1, page 4. Fall, 1995.

123. Gave a biotechnology presentation to the National Association of County Agricultural Agents. Summer, 1995.
124. Coordinated the efforts in attracting the EPRI Food Technology Center to the University of Minnesota. 1994-1995.
125. Represented Biosystems and Agricultural Engineering at College of Agriculture booth at the State Fair. 1994, 1995.