

C.V. - R. ROGER RUAN
Professor and Director

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Dr. Roger Ruan is a Fellow of the American Society of Agricultural and Biological Engineers, the Institute of Food Technologists, the International Association of Advanced Materials, and Vebleo, and have received many other awards, including International Bioprocessing Association's Pandey Award, CAFS Professional Achievement, Scientist of IAAM, etc. He is a Professor and Director of Graduate Studies in the Department of Bioproducts and Biosystems Engineering, and the Director of the Center for Biorefining at the University of Minnesota. Dr. Ruan's research areas include renewable energy and environment technologies for sustainable development and circular economy. His research has focused on biomass and solid wastes such as plastic wastes pyrolysis and gasification for chemicals, materials, fuels, and energy production; wastewater treatment and utilization through novel anaerobic digestion, microalgae cultivation, and hydroponics; airborne and other pathogen disinfection and pollutant control; innovative catalytic non-thermal plasma, low temperature microwave and pulse microwave, photocatalytic intensive pulse light, and NMR/MRI technologies development and applications in nitrogen fixation, food safety assurance, and food quality improvement; and food engineering and various value-added processing.

Dr. Ruan has published over 600 papers in refereed journals, 2 books, and 27 book chapters, and holds 20 US patents. He is also a top-cited author in engineering and technologies, with an h-index of 87, i10-index of 438, and over 30,000 citations (<https://scholar.google.com/citations?user=seJPiQkAAAAJ&hl=en>). He has supervised over 75 graduate students, 140 post-doctoral fellows and other engineers and scientists, many of whom hold university faculty positions. He has been invited to give over 300 keynote lectures, invited symposium presentations, company seminars, and short courses, and has been a consultant for government agencies, and many local, national, and international companies and agencies in bioprocess engineering, food engineering, and renewable energy and environment areas. Dr. Ruan has received and managed over 200 projects totaling over \$45 million in various funding for research, including major funding from the USDA, DOE, DOT, DOD, LCCMR, and industries. He has served as a guest editor or editorial board member of several 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, and Transactions of CSAE. He has also organized and chaired multiple international conferences, including 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.

Dr. Ruan has taught many undergraduate and graduate 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*.

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.
4. Transferred the microwave distillation/pyrolysis technology to Resynergi, Inc. in 2020.
5. Established and lead the University of Minnesota Center for Biorefining with a number of innovative bioconversion technologies and pilot facilities developed and demonstrated.
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 MR 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 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 – 12/1993: 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 Scholar and 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. Conference Chair 2023 IFT-EFFoST International Nonthermal Processing Workshop & Short Course October, 2023
2. Conference Chair 2023 International Joint Conference on Environmental Engineering and Biotechnology (CoEEB 2023) May, 2023
3. Plenary Speaker of the 7th Edition of Global Energy Meet March 06-10, 2023, Boston, MA March, 2023
4. 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
5. BBE Space and Safety Committee member Spring, 2023 - Present
6. 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
7. International Advisory Committee Member and Invited Speaker, International Conference on Biotechnology for Sustainable Bioresources and Bioeconomy (BSBB-2022) December, 2022
8. Dr. Yen Wah Tong's Professor Promotion, Department of Chemical and Biomolecular Engineering, at the National University of Singapore (NUS) – External evaluator Fall, 2022
9. Gave an interview to *Chemical and Engineering News* (C&EN) on waste plastics pyrolysis, story published as cover story on the August 12, 2022 issue of the magazine August, 2022

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| 10. Search Committee Chair, MnDRIVE faculty position in Robotics and Sensors in Sustainable Agricultural and Environmental Management | Fall, 2022 – Spr, 2023 |
| 11. IFT Food Engineering Division Chair | Sept. 2022 – Aug, 23 |
| 12. Conference General Chair and Keynote Speaker of the 2022 2 nd International Conference on Environmental Pollution and Governance (ICEPG 2022) | September, 2022 |
| 13. Invited to the MN Soybean Research & Promotion Council's Cragun Retreat in Brainerd, MN as an expert panelist | July, 2022 |
| 14. Ireland BiOrbic SFI Bioeconomy Research Centre Phase I Project progress and Phase II Proposal Review Panelist | Summer, 2022 |
| 15. IFT Food Engineering Division Graduate Oral Competition Committee Co-Chair and Judge | Spring – Sum, 2022 |
| 16. 2022 ASABE Annual International Meeting Invited Speaker Session: Recent Advancement in Renewable Energy Resources and Technologies | July, 2022 |
| 17. 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 |
| 18. The UK Royal Academy of Engineering's Chair in Emerging Technologies scheme Reviewer | May - July, 2022 |
| 19. Organizer, Chair, and Panelist of the IFT Webinar/Panel Discussion on Food Security and Sustainable Development | April, 2022 |
| 20. 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 |
| 21. Organize and give the Walmart Foundation Webinar on Innovative Technologies for A Sustainable Swine Industry | March, 2022 |
| 22. Invited Speaker, Panelist, and Session 01 Chair at Composite Materials Congress. | March, 2022 |
| 23. Organize the Walmart Project Zoom Conference on Swine Production Odor Control and Waste Treatment/Utilization with New Hope Group scientists. | March, 2022 |
| 24. Dr. Jin Liu's Associate Professor Promotion and Tenure, Peking University – External reviewer | Spring, 2022 |
| 25. NSF Proposal Reviewer | Spring, 2022 |
| 26. Dr. Xuebing Zhao's Associate Professor Promotion and Tenure, Tsinghua University – External reviewer | Spring, 2022 |
| 27. Invited speaker at the International Symposium on Biomass Refining, Nanchang University | December, 2021 |
| 28. Keynote speaker and panelist at the BESS Conference on Zero Waste and Circular Economy, National University of Singapore | December, 2021 |
| 29. Invited speaker at the 5 th Conference on Health and Environment, Beijing Union University | December, 2021 |

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| 30. Honorary Director of the Technical Committee of the MOE Engineering Research Center for Biomass Conversion | 2021- Present |
| 31. Selected to attend the UN Climate Change Conference (COP 26) in Glasgow, Scotland | November, 2021 |
| 32. Invited speaker in the Fifth BUU Health and Environment Conference | November, 2021 |
| 33. Invited as the lunch speaker in the Minnesota Environmental Science and Economic Review Board (MESERB) Fall Conference | November, 2021 |
| 34. Invited Speaker in the International Pork Safety Forum | October, 2021 |
| 35. Keynote Speaker in the FoodChem-2021 (The Food Chemistry Summit), Washington, DC. | September, 2021 |
| 36. Keynote Speaker in the Chemicat-2021 (Chemical Engineering & Catalysis Conference), Washington, DC. | September, 2021 |
| 37. 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 |
| 38. Supported the nomination of Dr. Yanyun Zhao for the CAFS Professional Achievement Award | July, 2021 |
| 39. Second International Conference on Sustainable Solid Waste Treatments and Managements (SWTM-2021), International Advisory Committee member and Invited Speaker | July, 2021 |
| 40. Conference Chairman and Keynote Speaker, the 2021 International Conference on Environmental Pollution and Governance (ICEPG 2021) | May, 2021 |
| 41. Invited Plenary Speaker in the 5th Asia Pacific Biochar Conference (APBC2021) | May, 2021 |
| 42. Invited to present at the USDA Food Loss and Waste Innovation Fair | April, 2021 |
| 43. USDA NIFA NC Sun Grant Proposal Review Panelist | April – May, 2021 |
| 44. IFT Food Engineering Division Graduate Oral Competition Committee Chair and Judge | Spring – Sum, 2021 |
| 45. Keynote Speaker in the Fellow of Vebleo’s Webinar on Energy Materials and Technologies | April, 2021 |
| 46. Invited Speaker in the International Conference on Sustainable Biowaste Management 2021 (SBM 2021) | April, 2021 |
| 47. Chair for the Plenary and Keynote Session, Day-1 Moderator and Invited Keynote Speaker in the Catalysis Conference (CCE-2021), San Francisco, CA. 2/22-26/2021 | February, 2021 |
| 48. 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 |
| 49. Supported the nomination of Dr. Ruihong Zhang for the | October, 2020 |

- ASABE Award: Cyrus Hall McCormick - Jerome Increase Case Gold Medal
50. Organized a virtual international workshop on Development of continuous intense pulsed light technology for non-thermal pasteurization of powdered foods. September, 2020
 51. 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
 52. Foundation for Food and Agriculture Research (FFAR) 2020 Review Panel Member July - August, 2020
 53. Dr. Christopher Simmons' full professor promotion University of California, Davis – External reviewer Summer, 2020
 54. Dr. Jian Shi's associate professor promotion and tenure at University of Kentucky – External reviewer Summer, 2020
 55. CFANS Graduate Research & Policy Review Committee July, 2020 - Present
 56. Director of Graduate Studies, Bioproducts and Biosystems Science, Engineering and Management (BBSEM), Department of Bioproducts and Biosystems Engineering (BBE) July, 2020 - Present
 57. BBE Executive Committee member July, 2020 - Present
 58. Dr. Fanbin Kong's full professor promotion at University of Georgia - External reviewer Summer, 2020
 59. Dr. Vijay Singh's named professor appointment at University of Illinois at Urbana-Champaign - External reviewer Summer, 2020
 60. Reviewer for the Food Science and Nutrition topic area of the USDA's SBIR Competitive Grants Program. Spring-Summer, 2020
 61. External Advisory Board Member, Center for Advanced Surface Engineering (CASE), an Arkansas NSF EPSCoR Center Spring, 2020
 62. ASABE Fellow nominator for Prof. Kumar Mallikarjuna April, 2020
 63. Elected to IFT Food Engineering Division Executive Committee to serve as Secretary, Chair-Elect, Chair, and Past-Chair each year Apr, 2020 – Jul, 2024
 64. IFT Fellow Selection Committee Jury 2020
 65. Dr. Zhengrong Jimmy Gu's full professor promotion at South Dakota State University - External reviewer Fall, 2019
 66. Guest Editor, Bioresource Technology Special Issue on Pyrolysis, Combustion and Gasification of Biomass (Lignocellulosic and Algal Biomass) (PCGB-2020) Oct, 2019 – Jul, 2020
 67. International Conference on New Horizons in Biotechnology (NHBT-2019), Trivandrum, Kerala, India November, 2019
Keynote Speaker and Poster Judger, and International Advisory Committee Member
 68. Biofuels & Bioenergy and Green Energy & Expo 2019, THEME: "Accelerating Advancement in the Fields of Biofuels & Bioenergy" Rome, Italy. October, 2019

- Keynote Speaker and Session Chair
69. Search Committee Chair, UMN MnDRIVE faculty position in robotics and sensors in sustainable agricultural and environmental management Fall, 2019 - Sum, 20
 70. Dr. Ajay Kumar's full professor promotion at Oklahoma State University - External reviewer Fall, 2019
 71. The 10th Asia-Pacific Conference on Algal Biotechnology Nanchang, Jiangxi. Conference Executive Chair and Plenary Speaker September, 2019
 72. 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
 73. Asst. Prof. Zhenong Jin's mentoring committee Fall, 2019 - Present
 74. The 3rd International Conference on Bamboo Utilization – Green Circular Economy and Technology, Fuzhou, Fujian. Keynote Speaker, and Section Chair June, 2019
 75. IFT Symposium on Intensive Pulse Light (IPL) Technology Development and Application organize, IFT Annual Meeting, New Orleans, LA. Symposium Organizer and Speaker June, 2019
 76. 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
 77. Guest Editor, Bioresource Technology Special Issue on Algal Biorefinery Mar – Dec., 2019
 78. BBE TA Selection Committee Member March – April, 2019
 79. 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
 80. Guest Editor, JFPE special issue on Conference of Food Engineering 2018 Jul, 2018 – Sept, 2019
 81. Mathematics Modeling and Emerging Technologies Session Chair, *Conference of Food Engineering 2018* September, 2018
 82. *2nd International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability* – Invited Speaker, and Thermo-Chemical Processing of Biomass Section Chair September 2018
 83. Successfully nominated ph.d. candidate Mr. Peng Peng For the 2018-2019 Mistletoe Research Fellowship (\$10,000 from August, 2018 – May, 2019). Spring, 2018
 84. Successfully nominated Mr. Peng Peng (my ph.d. student) To receive the University's 2018 President's Student Leadership and Service Award Spring, 2018
 85. Organization Committee Member, and Sessions I: Biomass: Dec, 2017 - Oct, 2018

- Biomass feed stocks for renewable energy generation – Biomass technologies Chair. *13th International Congress on Biofuels and Bioenergy*, October 18-20, 2018. Ottawa, Ontario, Canada
86. Gave a welcome speech at the Opening Ceremony and a keynote presentation at the Keynot Forum, and served as Poster Competition Judge. *Bioeneggy 2018*, July 2-4, 2018 Berlin, Germany July, 2018
87. Foundation for Food and Agriculture Research (FFAR) 2018 Review Panel Member Sept. – Oct., 2018
88. Conference Chairman for Conference of Food Engineering 2018, September 8-12, 2018, Minneapolis, Minnesota, USA Aug, 2017 – Sep, 18
89. Elected Steering Committee member for USDA NC1023 Food Engineering Committee 2017 - 2019
90. USDA NIFA Lignin Utilization Proposal review panelist Oct – Nov, 2017
91. Elected Chair of CFANS Promotion and Tenure Committee Nov 2018 – Nov, 19
92. Elected CFANS Promotion and Tenure Committee member Nov 2017 – Nov, 19
93. IAFP 2017 Symposium on Nonthermal Plasma Technology for Improving Food Safety and Quality organizer and convenor Jun, 2016 – Jul, 2017
94. AAAS UNC Research Opportunities Initiative Proposal Review Panel Member June – July, 2017
95. 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
96. EPA 13th Annual People, Prosperity, and the Planet (P3) (Phase II) Review Panel Member May – June, 2017
97. USDA SBIR Phase II proposal review member April – June, 2017
98. Foundation for Food and Agriculture Research (FFAR) 2017 Review Panel Member March - May, 2017
99. University of Minnesota President's Club member Dec, 2016 - Present
100. Guest editor, *Engineering!* A Chinese Academy of 2019 Engineering's peer-reviewed Open Access journal Dec, 2016 – Dec.
101. 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
102. 4th Bioprocessing India Conference (BPI-2016) – Section Chair. December, 2016
103. International Conference on Strategies for Environmental Protection and Management (ICSEPM 2016) - Poster Program Judge December, 2016
104. International Conference on Current Trends in Biotechnology (ICCB-2016) - Poster Program Judge December, 2016
105. ASIA-Pacific Conference on Biotechnology for Waste Conversion (BioWC-2016) - Section Chair and Poster Program Judge December, 2016

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| 106. Guest Editor, <i>Renewable Energy</i>
Present | December, 2016 - |
| 107. Guest Editor, <i>Bioresource Technology</i>
Present | December, 2016 – |
| 108. Editorial Board Member and Guest Editor, <i>Engineering</i>
Present | November, 2016 - |
| 109. 1st International Conference on Bioresource Technology for
Bioenergy, Bioproducts & Environmental Sustainability –
Invited Speaker, Section Chair and Poster Program Judge | October, 2016 |
| 110. 2016 International Seminar on Advanced Materials Research
- International Advisory Committee Member | October, 2016 |
| 111. Dr. Samir Khanal’s full professor promotion at University of
Hawaii - External reviewer | Fall, 2016 |
| 112. Dr. Carol Lin’s Associate Professor at National University of
Singapore - External reviewer | Fall, 2016 |
| 113. Conference of Food Engineering (CoFE) 2016 – Safety of
Low Moisture Foods Section Chair | September, 2016 |
| 114. International Conference on Biomass Energy and Sustainable
Economy – Conference Chairman | August, 2016 |
| 115. The 4th International Conference on Environmental-Ehancing
Energy - Scientific Committee member and Section Chair | May - July, 2016 |
| 116. DOE Sustainable Ammonia Synthesis Review Panel Member | May – July, 2016 |
| 117. Co-lead fund raising effort with Ms. KaiMay Terry (lead) for
The University of Minnesota Landscape Arboretum Chinese
Garden Project (raised ~\$1 million in total). The Garden was
successfully established on September 18 th , 2017. | 2016-2017 |
| 118. EPA 2016 People, Prosperity, and the Planet (P3) Review
Panel Member | March – June, 2016 |
| 119. New Horizons in Biotechnology – 2015
International Organizing Committee Member | November, 2015 |
| 120. USDA/DOE Biomass Research and Development Initiative
(BRDI) 2016 review panelist | Oct, 2015 – Feb, 2016 |
| 121. Dr. Troy Runge Tenure and promotion at UW-Madison
- External reviewer | Fall, 2015 |
| 122. Dr. Mark Wilkins Tenure and promotion at Oklahoma State
University - External reviewer | Fall, 2015 |
| 123. Dr. Susie Yan Liu’s Tenure and promotion at Michigan State
- External reviewer | Fall, 2015 |
| 124. Dr. Sergio Capareda’s full professor promotion at Texas A&M
University – External reviewer | Summer, 2015 |
| 125. 2015 EPA P3 Competition Judge, Alexandria, VA | March – April, 2015 |
| 126. EPA 2014 People, Prosperity, and the Planet (P3) Review
Panel, St. Paul, MN | Feb – March, 2015 |
| 127. Editorial Board Member – <i>Bioresource Technology</i> | Oct, 2014 - Present |
| 128. Vice Chair of External Advisory Committee, Tianjin
Municipal Biomass Solid Waste Reclamation Technology | Fall, 2014 - Fall, 2019 |

- Engineering Center, Nankai University
129. Advisory Committee Member, Tianjin Municipal Engineering Center for Biomass Derived Gas and Oils, Tianjin University Fall, 2014 - Fall, 2019
 130. USDA NIFA Enhanced Food Safety through Improved Processing Technology Review Panelist Summer, 2014
 131. Chairman of the Editorial Board - International Journal of Agricultural and Biological Engineering Sum, 2014 - Present
 132. Organized LCCMR Site Visit to Rosemount and Metroplant Wastewater Treatment Facility in St. Paul and Rosemount on Innovative Waste Utilization Technologies Summer, 2014
 133. China International Cooperation Program Renewable Renewable Energy and Environment Review and Planning Panelist July, 2014
 134. Organized 3M-Center for Biorefining Renewable Energy and Environment Meeting, St. Paul, MN. June, 2014
 135. UMN MNDrive GFV Proposal Reviewer May, 2014
 136. China National 863 Bioresource and Medical Technology Program Review Panelist May, 2014
 137. US DOE 2014 DOE Vehicles Incubator Solicitation Reviewer Spring, 2014
 138. Netherlands Technology Foundation STW Proposal Reviewer Spring, 2014
 139. US EPA 2014 P3 Competition Judge Spring, 2014
 140. International Energy Agency (IEA) Bioenergy Task 34 - Pyrolysis, US team member Spring, 2014
 141. Dr. Nicholas Holden's Full Professor promotion at University College Dublin - international reviewer Fall, 2013
 142. Dr. Lance Schideman, U. of Illinois at Urbana – Champaign, Promotion and Tenure external reviewer Fall, 2013
 143. USDA Food Engineering Committee (NC 1023, Engineering For Food Safety and Quality) Rewrite Committee Chair Fall, 2013 - Fall, 2015
 144. BARD - The US-Israel Agricultural Research & Development Fund proposal reviewer Fall, 2013
 145. Dr. Lance Schideman, U. of Illinois at Urbana - Champaign, Promotion and Tenure external reviewer Summer, 2013
 146. Dr. Buddhi Lamsal, Iowa State U, Promotion and Tenure external reviewer Summer, 2013
 147. Dr. Yong-Su Jin, U. of Illinois at Urbana-Champaign Promotion and Tenure external reviewer Summer, 2013
 148. China National 863 Bioresource and Medical Technology Program Review Panelist July, 2013
 149. Part of University of Minnesota President Eric Kaler's Delegation to Hong Kong, Taiwan, and Mainland China Summer, 2013
 150. DOE SBIR/STTR Program Review Panelist Spring, 2013
 151. US EPA 2013 P3 Competition Judge Spring, 2013
 152. CAS Qingdao Institute of Bioenergy and Bioprocess Technology Consultative Committee member Jan, 2013 - Present

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| 153. USDA Food Engineering Committee (NC 1023, Engineering For Food Safety and Quality) Secretary, Chair Elect, Vice Chair, Chair and Pass Chair) | Fall, 2012 - Fall, 2015 |
| 154. Biosensor and Bionanotechnology Faculty Search Committee member | Dec, 2012 - May, 13 |
| 155. USDA S1041 The Science and Engineering for the Biobased Industry and Economy Committee Rewrite Committee Member, Conversion Subcommittee Chair | Fall, 2012 - Fall, 2013 |
| 156. Dr. Sridhar Viamajala U. of Toledo, Promotion and Tenure external reviewer | Fall, 2012 |
| 157. BBE Faculty Recruitment Committee | Fall, 2012 – Present |
| 158. DOE Advancements in Sustainable Algal Production Solicitation Merit Review Panelist | Spring, 2012 |
| 159. Organized CB 2012 Sino-USA Renewable Energy Conference in St. Paul, MN | Spring, 2012 |
| 160. US AAAS EPA 2012 P3 Competition Judge | Spring, 2012 |
| 161. NSF SBIR Wastewater Review Panelist | Spring, 2012 |
| 162. ASABE Food and Process Engineering Division Paper Awards Judge | Spring, 2012 |
| 163. CFANS Six Year Capital Plan - Lab and Specimen collection committee | Dec, 2011 - Present |
| 164. Dr. Soojin Jun, U. of Hawaii at Manoa, Promotion and Tenure external reviewer | Fall, 2011 |
| 165. Co-organized an AACCI Workshop on Improving the Functionality and Health Attributes of Wheat | Fall, 2011 |
| 166. UMN China Center Director Search Committee | Fall, 2011 |
| 167. UMN China Center Bylaw Revision Committee | Fall, 2011 |
| 168. DOE BRDI 2011 review panelist | July, 2011 |
| 169. 2011 International Conference on Agricultural Engineering New Technology & Taishan Forum Academic Committee Member | May, 2011 |
| 170. NSF Energy for Sustainability panel on Photobiological Production of Fuels | Spring, 2011 |
| 171. NSF SBIR Biofuel Program Merit Review Panelist | Spring, 2011 |
| 172. NSF SBIR Algae Program Merit Review Panelist | Spring, 2011 |
| 173. USDA SBIR Biofuels Program Merit Review Panelist | Winter, 2011 |
| 174. CFANS Blue Ribbon Committee member | Nov. 2009 - Feb. 10 |
| 175. NSF SBIR Biofuel Program Merit Review Panelist | Spring, 2010 |
| 176. NSF SBIR Algae Program Merit Review Panelist | Spring, 2010 |
| 177. Asst. Prof. Bo Hu mentoring committee | Fall, 2009 - Present |
| 178. USDA SBIR Biofuels Program Merit Review Panelist | Winter, 2010 |
| 179. DOE (US Department of Energy) Major Algae R&D and Demonstration review Panelist | November, 2009 |
| 180. Associate Professor Dr. Steven Severtson's Full Professor promotion dossier review and mentor committee | Fall, 2009 |
| 181. Dr. Hossein Nouredini, University of Nebraska - Lincoln | Fall, 2009 |

- Full Professor Promotion Committee External Reviewer
182. US Recovery Act: Clean Coal Power Initiative – Round 3 review panelist Fall, 2009
 183. Dr. Steve Severtson’s Full Professor Promotion Mentoring Committee member Fall, 2009
 184. USDA S1007 The Science and Technology for the Biobased Economy Committee-Thermochemical Conversion Subcommittee Chair Fall, 2009
 185. Dr. Jian Yu, University of Hawaii Promotion and Tenure Committee External Reviewer Fall, 2009
 186. DOE Carbon Capture and Sequestration from Industrial Sources and Innovative Concepts for Beneficial CO₂ Use review panelist Fall, 2009
 187. USDA/DOE Biomass R&D Initiative review panelist Summer, 2009
 188. DOE Major Biomass Program Merit Review Panelist Spring, 2009
 189. USDA SBIR Biofuels Program Merit Review Panelist Winter, 2009
 190. Review Panel member for UMN Award for Global Engagement Committee. Fall, 2008
 191. USDA CSREES Competitive Program Biofuels and Biobased Products Review Panelist Spring, 2008
 192. USDA SBIR Biofuels Program Merit Review Panelist Winter, 2008
 193. Organized an Algae R & D & Commercialization Focus Forum – Site Visit and Discussion for DARPA and Other Opportunities January, 2008
 194. UMN International Scholarship Advisory Committee Fall, 2007 – Present
 195. UMN UMore Park Task Force on Energy member May, 2007 - Sum, 08
 196. NSF Biofuels (STTR and SBIR) Program Merit Review Panel March, 2007
 197. University of Minnesota China Center Director Search committee Spring, 2007
 198. Organized the USDA S1007 Annual Meeting. (The Science and Technology for the Biobased Economy) St. Paul, MN. September, 2006
 199. DOE Major Biomass Program Merit Review Panel Summer, 2006
 200. 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
 201. ASABE Technical Paper Awards Judge Spring, 2006
DOE/USDA Joint Biomass Solicitation Review Panel Spring, 2006,
Summer, 2007
 202. President, MN Section of ASABE Mar, 2003 - Apr, 06
 203. Vice President, MN Section of ASABE April, 2006 – Present
Sum, 2001 - Mar, 03
 204. Outside Reviewer for Associate Professor Dr. Terry Walker’s (Clemson U) Promotion Fall, 2007

205. Outside Reviewer for UI Assistant Professor Dr. Hao Feng's Promotion and Tenure Summer, 2006
206. Minnesota China Bioenergy Symposium Organization committee, the symposium was co-sponsored by MN DOA, IREE, China Center, and Center for Biorefining Fall, 2005 – Spr, 2006
207. University of Minnesota China Center Advisory Council Jul, 2005 – Jun, 2015
208. CFANS International Program Steering Committee Dec., 2006 – Present
209. Part of the Minnesota Governor Tim Pawlenty's Trade Mission to China. Summer, 2005
210. IFT Food Engineering Division Paper Competition Judge Spring, 2005
211. Selection Committee for the University of Minnesota Distinguished Leadership Award for Internationals. Spring, 2005
212. Bioproducts Engineering Faculty Search Committee member and Prof. Ping Wang's on-campus interview host Nov, 2004 - May, 06
213. 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, 2005
214. USDA CSREES Food Characterization/Process/Product (71.1) Review Panel April, 2005
215. USDA CSREES Food Characterization/Process/Product (71.1) Review Panel Spring, 2004
216. United Nations Development Program (UNDP)'s Chief Technology Advisor (CTA) for Agricultural Processing Industry in China Nov., 2003 - Jan, 07
217. Co-Leader and Coordinator, Bioenergy and Bioproducts Cluster, University of Minnesota Initiative for Renewable Energy and The Environment (IREE) Aug, 2003 – Present
218. Director, University of Minnesota Center for Biorefining May, 2003 – Present
219. Director of Undergraduate Studies June, 1998 - Jan, 03
220. Distinguished Guest Professor Nanchang University, China Fall, 2002 – Present
221. ASAE Technical Paper Awards Committee Chair Sum, 2002 - Sum, 03
222. Founding Editor-in-Chief, *International Journal of Agricultural and Biological Engineering* Fall, 2007 - Fall, 2014
223. Editorial Board, *Sensing and Instrumentation for Food Quality and Safety* Sum, 2006 - Present
224. Editorial Board, *Journal of Food Process Engineering* Jan, 2005 - Present
225. Associate Editor, FPEI, *Transactions of The ASABE* Sum, 2002 - Present
226. Associate Editor, *Applied Engineering in Agriculture* Sum, 2002 – Present
227. International Editor, *Transactions of The CSAE* Jan, 2007 - Present
228. AOCABFE Publication Committee Chair Sum, 2002 - Present
229. AOCABFE Board of Directors Sum, 2001 – Present
230. AOCABFE Preparatory Committee Sum, 2000 – Sum, 01
231. North/South America Director, AOCABFE Sum, 2001 – Sum, 02
232. ASABE Section Steering Committee member Sum, 2003 – Sum., 07
233. Committee Member of ASABE Publications Group Sum, 1998 – Present
234. Appointed FPE representative to the ASAE Technical Sum, 1998 – Sum, 03

- Paper Awards Committee
233. USDA NCDC 209 BioEnergy and BioProducts Committee member, Minnesota representative to the committee Fall, 06 – Fall, 2007
 234. USDA S1007 (then 1041) The Science and Engineering for the Biobased Industry and Economy Committee Member, Minnesota Representative to the Committee Spr, 2003 – Present
 235. USDA NC1023 Improvement of Thermal and Alternative Processes for Foods committee member, Minnesota State Representative to the committee Spr, 2005 – Present
 236. Co-organized w/ Vance Morey the Biorefining Video Conference (Co-organized by Winsconsin and U of M Center for Biorefining, involved two countries (US and Canada), five States, and eight sites). St. Paul, MN. June, 2004
 237. ICC/AACC/3rd Food Science International Symposium – Buckwheat and Cereal Grains Session Chair Fall, 2004
 238. 2004 CIGR International Conference – Section II Scientific Committee Spr, 2003 – Fall, 2004
 239. USDA SRDC 00-03 Biomass Conversion Planning Committee member Spr 2001 - Spr, 2003
 240. Panel Member, Second Annual Renewable Energy and Biorefining Workshop, Morris, MN March, 2003
 241. Help organized the Agricultural and Food Professing Training Program for Jiangxi’s university faculty group Fall, 2002 – Spr, 2003
 242. Help organized the International Symposium on Food Safety and Food Trade Rules, Nanchang, China Fall, 2002
 243. Organization Committee Member, Forum on Agricultural & Biosystem Engineering Development Strategy, Yangling, China Sum, 2001 – Sum, 02
 244. International Conference on Food Science and Technology - Program Committee Winter & Spr, 1998
 245. Symposium on NMR Applications in Food Science and Technology - Program Committee member Winter & Spr, 1998
 246. International Conference on Food Science and Technology - Overall Program Committee member Spr & Summer, 1996
 247. Symposium on NMR and MRI Applications in Food Science and Technology - Program Committee and Session Chair, and Food Processing Section Chair Summer, 1996
 248. EPRI Food Technology Center - Technical Advisory Council Member Spr, 1996 – Sum, 01
 249. Elected Chair of FPE-043 Paper Awards and Special Publications, ASAE Sum, 1995 – Sum, 98
 250. Committee member of FPE-043 Paper Awards and Special Publications, ASAE Sum, 1994 – Sum, 99
 251. BAE Graduate Program Committee Fall, 2002 – Present
 252. Outside Reviewer for Assistant Professor Dr. Ferenxz S. Denes’ (UW) Promotion and Tenure Spring, 2003

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| 253. | Associate Professor Dr. Bruce Wilson's promotion review committee | Fall, 2002 |
| 254. | Outside Reviewer for Assistant Professor Dr. Danielle Bellmer's (Oklahoma SU) Promotion and Tenure | Fall, 2002 |
| 255. | Proposal Review Panel member for Rapid Agricultural Response Fund proposals | Spring – Sum, 2002 |
| 256. | BAE Department Head Search Committee | Sum, 2001 |
| 257. | COAFES Campaign Minnesota Committee | Fall, 2000 - Sum, 01 |
| 258. | Outside Reviewer for Associate Professor Dr. Ulrike Tschirner's tenure decision | Fall, 2000 |
| 259. | University Senate Twin Cities Facilities and Support Services Sub-Committee member | Sum, 2000 – Sum, 02 |
| 260. | College Prioritization Themes Group – Agricultural, Food and Human Health member | May, 2000 - May, 05 |
| 261. | OIAP China Faculty Advisory Committee member | April, 2000 – Present |
| 262. | CSREES Comprehensive Review Planning Committee Member | Spr, 1998 - Spr, 1999 |
| 263. | Asst. Prof. Dr. Jun Zhu's Mentoring Committee | Sum, 1999 – Fall, 04 |
| 264. | Asso. Prof. Dr. Jun Zhu's Mentoring Committee | Fall, 2004 - Fall, 2008 |
| 265. | Asso. Prof. Dr. Ping Wang's Mentoring Committee | Fall, 2006 - Fall, 2009 |
| 266. | Asst. Prof. Dr. Sangwon Suh's Mentoring Committee | Fall, 2006 - Spr, 2010 |
| 267. | Department Seminar Committee - Co-chair | Sum, 1996 – Spr, 97 |
| 268. | Department Faculty Consultative Committee | Sum, 1996 – Sum, 99 |
| 269. | Faculty Advisory Committee of IT Libraries | Spr, 1994 – Sum, 98 |
| 270. | EPRI/NSP Food Technology Center Director Search Committee | Fall, 1995 |

Current Professional Affiliations and Membership in Honorary Societies

American Society of Agricultural and Biological Engineers (ASABE) – Fellow and Lifetime member
 Institute of Food Technologists (IFT) – Fellow
 International Association of Advanced Materials - 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

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 contribution 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 the career achievement.
- 2022, 2021, 2020, 2019, 2018, 2017, 2016, 2015, 2014 Top Cited Authors Award in Agricultural and Biological Sciences and in Engineering and Technology.**
- 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 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 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 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 Distinguished McKnight University Professorship Nominee,** University of Minnesota.
- 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 Distinguished McKnight University Professorship Nominee,** University of Minnesota.
- 2009 Certification of Appreciation Award** 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.

- 1997 McKnight Land-Grant Professor Nominee.** University of Minnesota.
- 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.
- 1986 Excellent Young Scholar** in 1986 (China).
- 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.

Book Chapters

3. 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.
4. 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>.

5. 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
6. 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.
7. 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
8. **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>
9. 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>
10. 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>
11. **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>

12. 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*. Editors: Taherzadeh, M.J., Bolton, K., Wong, J., Pandey, A. Elsevier Publishing Company.
13. 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>.
14. 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.
15. 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.
16. 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>
17. 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.
18. 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
19. 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.
20. **Ruan, R.** and P. Chen. 2010. Bioenergy Industry Status and Prospects. In *Industrial Crops and Uses*. CAB International. ISBN: 978-1-84593-616-7.
 21. 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>.
 22. **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.
 23. **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.
 24. **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.
 25. **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.
 26. **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.
 27. **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.
 28. 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.
 29. 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), *Progress in Energy and Combustion Science* (IF = 35.34), *Applied Catalysis B: Environmental* (IF = 21.41), *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), *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 = 4.35), *J. of Food Science* (IF = 3.17), ...

30. 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, 1 June 2023, 127558.
31. Jianyun Xiong, Shumei Zhang, Linyao Ke, Qiu hao 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, 10 May 2023, 162214.
32. Yuan Zeng, Yuanyuan Wang, Qiu hao 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, 1 March 2023, 141567.
33. Qiu hao 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.
34. Qiu hao 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, 15 January 2023, 125683.
35. Dingle 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, 1 January 2023, 125757.

36. 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 Huang, **Roger Ruan**. 2023. Application of high-pressure homogenization to improve physicochemical and antioxidant properties of almond hulls. *J. of Food Processing Engineering*, 14 December 2022, <https://doi.org/10.1111/jfpe.14235>.
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Patents

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Invited Conference, Symposium and Company Presentations and Seminars

1. **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.
2. **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.

3. **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.
4. **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.
5. **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.
6. **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.
7. **Roger Ruan.** 2022. Nitrogen Fixation from Atmosphere Using Nonthermal Plasma for Green Nitrogen Fertilizer Production. Ningbo University. November 18, 2022.
8. **Roger Ruan.** 2022. Catalytic Microwave-assisted Pyrolysis and Gasification of Biomass and Plastic waste for Chemicals and Materials and Hydrogen Production. Zhoushan Ocean University. November 17, 2022.
9. **Roger Ruan.** 2022. NMR/MRI Analysis of Polymer States and Properties. Niumag Corporation. October 30, 2022.
10. **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.
11. **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.
12. **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.

13. **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.
14. **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. September 20, 2022.
15. **Roger Ruan**. 2022. Research for Sustainable Circular Economy Development in Agriculture, Food, Energy, and Environment. BBE 8001 Graduate Seminar. September 12, 2022.
16. **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.
17. **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.
18. **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.
19. **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.
20. **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.
21. **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.

22. **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.
23. **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.
24. **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.
25. **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.
26. **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.
27. **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.
28. **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.
29. **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. December 29, 2021.
30. **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
31. **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

32. **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
33. **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.
34. **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.
35. **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.
36. **Roger Ruan**. 2021. Conversion of Waste Polyolefinic Plastics to Value-added Chemicals and Materials by Pyrolysis. BASF Company Presentation. September 7, 2021.
37. **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.
38. **Roger Ruan**. 2021. Innovative waste plastics to naphtha chemicals and materials conversion by microwave assisted pyrolysis. Mitsui Company Presentation. June 24, 2021.
39. **Roger Ruan**, Nan Zhou, Leilei Dai, Yanling Cheng, Paul Chen. 2021. Catalytic microwave assisted pyrolysis of solid waste for fuels, energy and chemicals production. Invited Speaker of Second International Conference on Sustainable Solid Waste Treatments and Managements (SWTM-2021).
40. **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).

41. **Roger Ruan**, Nan Zhou, Leilei Dai, Yayun Zhang, Denge 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).
42. **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.
43. **Roger Ruan**, Leilei Dai, Nan Zhou, Yanling Cheng, Yuancai Lyu, Kirk Cobb, Paul Chen, Hanwu Lei. 2021. Complete utilization of plastic wastes through catalytic microwaveassisted pyrolysis for upcycling chemicals, fuels and materials production. An invited keynote presentation for Fellow of Vebleo’s Webinar on Energy Materials and Technologies.
44. **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. Plannary 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).
45. **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
46. **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.
47. **Roger Ruan**. 2020. Catalytic IPL system and process development. USDA AFRI CAP Project [2016-68003-24850] Final Review Meeting. St. Paul, MN.
48. **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.
49. **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.
50. **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.

51. **Roger Ruan**. 2020. Microwave-assisted catalytic pyrolysis of solid wastes for chemicals, fuels, and materials production. 2020 S-1075 Virtual Annual Committee Meeting.
52. **Roger Ruan**. 2020. Nonthermal plasma-induced nitrogen fixation. Kennedy Research LLC and Lorentzen Investments virtual meeting organized by UMN OTC. Minneapolis, MN.
53. **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.
54. **Roger Ruan**, Nan Zhou, Renchuan Zhang, Peng Peng, Yunpu Wang, Feiqiang Guo, Lingqin Liu, Leilei Dai, Shiyu Liu, Yiqin Wan, Erik Anderson, Xiaodan Wu, Dengle 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.
55. **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.
56. **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.
57. **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.
58. **Roger Ruan**, Paul Chen, Chi Chen, Kumar Mallikarjunan. 2019. NC1023 Station Report. Annual NC-1023 Food Engineering Committee Meeting. Las Cruces, NM.
59. **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

60. **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.
61. **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.
62. **Roger Ruan**. 2019. Biorefining Technologies Development and Applications in Complete Solid and Liquid Waste Utilization and Treatment. 2019. Nanjing Forestry University, Nanjing, Jiangsu.
63. **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
64. **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
65. **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.
66. **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.
67. **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.
68. **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.

69. **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.*
70. **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.
71. **Ruan, R.** 2019. Safety Assessment of Almond Hull as a Novel Food Source. *Biomass Work Group Meeting, ABC Offices, Modesto, CA.*
72. **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.*
73. **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.*
74. **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.
75. **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.*
76. **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.*
77. **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.*

78. **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.
79. **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.*
80. **Roger Ruan** and Brian Bauer. 2019. Biomass to Energy Conversion Technologies. *Forest Stewardship Campaign Initial Summit, Santa Rosa, CA.*
81. **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.
82. **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.
83. **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.
84. **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.
85. **Roger Ruan,** 2018. Non-thermal processes for food safety, health benefits, and added value. USDA/NC-1023 Committee Meeting. Orono, Maine.
86. **Roger Ruan.** 2018. Complete solid and liquid waste utilization technologies. *UMN Energy Club General Meeting.* Minneapolis, MN.
87. **Roger Ruan.** 2018. Thermochemical Conversion of Biomass for Energy and Chemicals Production. *ALLIANCE FOR PULP & PAPER TECHNOLOGY INNOVATION.* St. Paul, MN.
88. **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

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90. **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.
91. **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.
92. **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.
93. **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.
94. **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.
95. **Roger Ruan** and Paul Chen. 2018. Bioenergy: A great promise for our economy, environment, and society. Opening Ceremony speech, *BioEnergy 2018*, Berlin.
96. **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.
97. **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.

98. **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.
99. **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.
100. **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.
101. **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.
102. **Roger Ruan**. 2018. Microwave assisted catalytic conversion of waste plastics for fuels and energy production. Resynergi Industrial Waste Plastics Utilization Meeting. Twin Cities.
103. **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.
104. **Roger Ruan**. 2017. Conference of Food Engineering (CoFE) 2018. NC-1023 Committee Meeting, Washington State University. Pullman, WA.
105. **Roger Ruan**. 2017. Intensive pulsed light technology for non-thermal pasteurization of powdered foods. NC-1023 Committee Meeting, Washington State University. Pullman, WA.
106. **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.

107. **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.
108. **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. Jiesshou, Anhui.
109. **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.
110. **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 Profudction. HIT Summer School on Energy 2017. Harbin, Heilongjiang.
111. **Ruan, R.** 2017. Thermochemical Conversion of Biomass for Energy, Fuels, Chemicals and Materials Profudction. HIT Summer School on Energy 2017. Harbin, Heilongjiang.
112. **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.
113. **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.
114. **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.
115. **Ruan, R.**, Min Addy, Renchuan Zhang, Qian Lu, Yanling Cheng, Shanshan Luo, Wenkui Li, Hongyan Ren, Erik Anderson, Wenguang Zhou, Yiwei Ma, Richard Griifith, 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.

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117. **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.
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119. **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.
120. **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.
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122. **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,
123. **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
124. **Ruan, R.** 2016. Non-thermal technology for food safety. *Biowastes utilization and bioavailability and function food conference*, Beijing Union University, Beijing
125. **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.

126. **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.
127. **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.
128. **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.
129. **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.
130. **Ruan, R.** 2016. Systematic waste utilization process and system. *Bioenergy Seminar*, China University of Mining and Technology, Beijing.
131. **Ruan, R.** 2016. Innovative Thermochemical Conversion of BioWastes for Renewable Energy and Chemicals Production. *International Symposium on Energy Economics and Management*. Beijing.
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133. **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.
134. **Ruan, R.** 2016. Sustainable Bioeconomy for Rural Social and Economic Development. MOST Biomass Utilization Conference. Nankai University, Tianjin.
135. **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 exo-economy. *Frontier Biotechnology Forum*, Beijing, China
136. **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.

137. **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.
138. **Ruan, R.** 2015. Wastewater-to-Algae Technologies for Biofuels and Biochemicals Production and Wastewater Treatment. *Advances in Algal Biotechnology Wrokshop*. IIT Bombay, Mumbai, India.
139. **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.
140. **Ruan, R.** 2015. Energy and Chemical Extraction from Various Solid Wastes. *Waste Not TAG Meeting*, St. Paul, MN.
141. **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.
142. **Ruan, R.** 2015. Innovative rural eco-township-a turly sustainable development model. *TIB Distinguished Lecture Series*. Chinese Academy of Sciences. Tianjin, China.
143. **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.
144. **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.
145. **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*. Minnespolis Convention Center, Minneapolis, MN.
146. **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.
147. **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.

148. **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.
149. **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.
150. **Ruan, R.** 2015. Innovative thermochemical and biological technologies for waste utilization and renewable energy and chemicals production. Taiyuan University of Technology, Shangxi, China.
151. **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.
152. **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.
153. **Ruan, R.** 2015. Development and application of fast microwave assisted gasification technology for biomass utilization. Sinopec Star Petroleum Co., Ltd. Beijing, China
154. **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.
155. **Ruan, R.** 2014. Innovative thermochemical and biological technologies for waste utilization and renewable energy and chemicals production. Shandong University, Jinan, China.
156. **Ruan, R.** 2014. Solid, liquid, and gas waste utilization and control technologies. Nantong Qingbo Environmental Science and Technology Company, Nantong, China.
157. **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.
158. **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.
159. **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.

160. **Ruan, R.** and P. Chen. 2014. Innovative Waste Utilization Technologies. LCCMR Site Visit. St. Paul and Rosemount, MN.
161. **Ruan, R.** 2014. Innovative Bio-renewable Energy and Chemicals Production Research. MOST International Cooperation Program Planning and Discussion Meeting. Tianjin, China.
162. **Ruan, R.** 2014. Innovative Technologies for Waste Utilization and Renewable Energy and Chemicals Production. Tianjin Bohai PetroChem Company. Tianjin, China.
163. **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.
164. **Ruan, R.** 2014. Improving and Maintaining Bioavailability of Phytochemicals and Solublized Fibers in Plant Materials. 16th Annual Meeting of China Association for Science and Technology. Kunming, China.
165. **Ruan, R.** 2014. Renewable energy and biobased economy research and development. Minnesota Bipartisan Issues Group, Minneapolis, MN.
166. **Ruan, R.** 2014. fMAP and fMAG for brewery byproducts utilization. Luzhou Laojiao Liquor Company, Sichuan, China.
167. **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
168. **Ruan, R.** 2014. Innovative distributed technologies for renewable energy production. 11th Tactical Power Sources Submit. Washington, DC.
169. **Ruan, R.** 2014. Improving bioavailability of phytochemicals and solublized fibers in plant materials. Seminar at Yunnan Minzu University. Kunming, China.
170. **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
171. **Ruan, R.** 2013. Algae for Biofuels and Biochemicals Production and Wastewater Treatment. International Conference on Beneficial Uses of Algal Biomass. Hong Kong
172. **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.
173. **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.
174. **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
175. **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.
176. **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.
177. **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.
178. **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.
179. **Ruan, R.** 2013. Innovative Technologies for Sustainable Energy, Environment, and Economy. *Bioproducts and Biosystems Engineering Departmental Seminar Series*. St. Paul, MN.
180. **Ruan, R.** 2013. Catalytic Microwave Assisted Fast Thermochemical Conversion of Biomass and Solid Wastes for Energy Production. Tactical Power Source Submit. Washington, DC.
181. **Ruan, R.** 2012. Catalytic Microwave Assisted Fast Thermochemical Conversion and Wastewater Algae Production. Fushun Research Institute of Petroleum and Petrochemicals (FRIPP), SINOPEC. Fushun, Liaoning.

182. **Ruan, R.** 2012. Catalytic Microwave Assisted Fast Thermochemical Conversion of Biomass for Biofuels Production. Ninth National Microwave Chemistry and Sample Preparation Conference. Kunming, Yunan.
183. **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.
184. **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.
185. **Ruan, R.** 2012. Algae for wastewater treatment and feed and biofuel production. Haid Feed Group. Guangzhou, China.
186. **Ruan, R.** 2012. Improving functionality and bioactivity of wheat bran. Agricultural Product Processing Congerence, CSAE, Nanchang, JX, China.
187. **Ruan, R.** 2012. Producing Bio-oil and Chemicals through In-situ Microwave Assisted Catalytic Pyrolysis. Southeast Biofuels and Renewable Energy Conference. Jackson, MS.
188. **Ruan, R.** 2012. Trends in Thermochemical Conversion of Biomass. S-1041 Bioeconomy Symposium. Washington, DC.
189. **Ruan, R.** 2012. Catalytic microwave-assisted pyrolysis of biomass for distributed biofuels and chemicals production. *National Science Foundatoin Workshop on Lignocellulosic Biofuels using Thermochemical Converson*. Auburn, AL.
190. **Ruan, R.** 2012. Innovative waste treatment and renewable energy production. Elite forum of China Environmental Protection. Fuzhou, China.
191. **Ruan, R.** 2012. Coupling wastewater treatment and biofuel production. Chinese Academy of Agricultural Mechanization Science. Beijing, China.
192. **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.
193. **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.

194. **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.
195. **Ruan, R.** 2011. Biofuels Research Renewable Energy and Bio-based Products Innovation. Univeristy Health and Safety Retreat. Minneapolis, MN.
196. **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.
197. **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.
198. **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.
199. **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, Shangdong, China.
200. **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.
201. **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.
202. **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.
203. **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.

204. **Ruan, R.** 2011. Distributed biomass production, conversion and utilization. 2011 International Conference on Agricultural Engineering New Technology & Taishan Forum. Zibo, China.
205. **Ruan, R.** 2011. Distributed energy crop production and conversion. IDGA's 9th Tactical Power Sources Summit - Alternative Fuels focus Day. Washington, DC.
206. **Ruan, R.** 2011. Mass culture of algae from wastewater for energy production and wastewater treatment. 28th Annual Conference on Innovative approaches to wastewater operational programs. St. Cloud, MN.
207. **Ruan, R.** 2010. Biomass Energy Technology Options. Biomass Energy: Where are we now? Workshop, Maplewood, MN.
208. **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.
209. **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.
210. **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.
211. **Ruan, R.** 2010. Distributed Biomass Production and Conversions. Rosemount Research and Outreach Center at UMore Park Advisory Committee Meeting. Rosemount, MN.
212. **Ruan, R.** 2010. Mass culture of algae as an energy crop for biofuel production. China Agricultural University. Beijing, China.
213. **Ruan, R.** 2010. Distributed biomass production and thermochemical conversion technologies. Fuzhou University, Fujian, China.
214. **Ruan, R.** and Y. Cheng. 2009. Distributed biomass production and catalytic thermochemical conversion technologies. Guangdong Department of Economic Development. Guangzhou, China.
215. **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.
216. Shihau Own and **R. Ruan,** 2009. Biofuels production from nonedible biooils. Advanced Propulsion Mid Year Review. Office of Naval Research (ONR), Washington, DC.

- 217.**Ruan, R.** 2009. Catalytic reforming of biooil for fuel production. UMN Extension Service and IREE Biorenewable Conference, St. Paul, MN.
- 218.**Ruan, R.** and P. Chen. 2009. Biomass pyrolysis technology research and development. Growing the Bioeconomy: Solutions for Sustainability. Fargo, ND.
- 219.**Ruan, R.** 2009. Mass culture of algae as an energy crop for biofuel production in Jamaica. Jamaica Energy Independence Forum. Kingston, Jamaica.
- 220.**Ruan, R.,** 2009. Mass culture of algae as an energy crop for biofuel production. The 9th BioCycle Annual Conference: Renewable Energy From Organics Recycling. Bloomington, MN.
- 221.**Ruan, R.** 2009. Distributed biomass production and conversion technologies. Key Note Presentation of the First South America Bioenergy Conference. Guayaquil, Ecuador.
- 222.**Ruan, R.,** 2009. Mass Production of algae as and energy crop for biofuel production. Midwest Algae Commercialization Workshop. Minneapolis, MN.
- 223.**Ruan, R.** 2009. Mass Production of algae as an energy crop for biofuel production and wastewater treatment. Metro Council Environmental Service, St. Paul, MN.
- 224.**Ruan, R.** 2009. Thermochemical biomass conversion for energy, biofuel, and chemical production. BioEco 2009, Tianjin, China.
- 225.**Ruan, R.** 2009. NMR development and Applications in foods and biopolymers. First Low Field NMR Technology and Application conference, Hanzhou, China.
- 226.**Ruan, R.** 2009. MRI development and Applications in foods and biopolymers. First Low Field NMR Technology and Application conference, Hanzhou, China.
- 227.**Ruan, R.** 2009. Mass culture of algae from wastewater for biofuels production. 47th Annual Rural Energy Conference. Bloomington, MN.
- 228.**Ruan, R.** 2009. Distributed biomass production and conversion technology development. Applied Plant Science Seminar Series, University of Minnesota, St. Paul, MN.
- 229.**Ruan, R.** 2009. Biomass to Energy and other Bio-based Products. 5th annual Third Crop Producer Meeting, Fairmont, MN.
- 230.**Ruan, R.** 2008. Mass culture of algae as an energy crop for biofuel production. EcoWatch's Forum. November 25, 2008. Minneapolis, MN.
- 231.**Ruan, R.** 2008. SBIR and innovative distributed biomass production and conversion system. The Fifth Oversea Chinese Forum Worldwide. Beijing, China.

- 232.**Ruan, R.** 2008. Production of algae from wastewater. UMN IREE Algae Submit. Minneapolis, MN.
- 233.**Ruan, R.** 2008. Wastewater for algae production as an energy crop. Hennepin County Environmental Science. August, 2008. Minneapolis, MN.
- 234.**Ruan, R.** 2008. Production of algae as an energy crop from wastewater. Faculty in the Media for Student Welcome Week. St. Paul, MN.
- 235.**Ruan, R.** 2008. Magnetic resonance imaging of foods. *Symposium on Water in foods*. IFT Annual Meeting, New Orleans, LA.
- 236.**Ruan, R.** 2008. High pressure homonization and enzyme treatment of bran. *Symposium on Designing and delivering whole grains with enhanced health attributes*. IFT Annual Meeting, New Orleans, LA.
- 237.**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.
- 238.**Ruan, R.** 2008. Distributed biomass production and conversion system. BIO 2008 International Convension, State of Minnesota Exhibition, San Diego, CA.
- 239.**Ruan, R.** 2008. Concentrated high intensity electric field (CHIEF) technology for milk processing. Dairy Center Annual Meeting, St. Paul, MN.
- 240.**Ruan, R.** 2008. Mobile microwave assisted biomass pyrolysis and wastewater for algae production. LCCMR Meeting, Waseca, MN.
- 241.**Ruan, R.** and L. Zhang, 2008. High oil corn refining. IOE Seminar Series. May 7th, 2008, St. Paul, MN.
- 242.**Ruan, R.** Thermochemical conversion of biomass for biofuels production. 3rd Crop Producer Meeting. February 25th, 2008. Fairmnt, MN.
- 243.**Ruan, R.**, 2008. Small distributed biofuels production systems. BBI International Biomass Conference & Trade Show, Minneapolis, MN.
- 244.**Ruan, R.** 2008. Magnetic resonance imaging of foods. State Key Laboratory of Food Science annual meeting. Wuxi, China.
- 245.**Ruan, R.** 2008. Algae for a Better Environment and Energy Security. MN State Legislature joint senate and house budget committee hearing. St. Paul, MN.
- 246.**Ruan, R.** 2008. Distributed Energy with Pyrolysis & Gasification. 3rd Crop Producer Meetings. Fairmont, MN.

247. **Ruan, R.** 2007. Overview of biorefining research. The 22nd Annual Conference on the Environment – Addressing Current Environment Issues. Brooklyn Center, MN.
248. **Ruan, R.** 2007. Develop sustainable renewable energy systems for practical utilization of bulky biomass. North Center Regional Sun Grant Meeting. Ames, IA.
249. **Ruan, R.** 2007. Opportunities in biorefining. 2007 Biobased Industry Outlook Conference, Thermochemical Processing. Ames, IA.
250. **Ruan, R.** 2007. Progress in food engineering research. USDA NC-1023 Annual Meeting. State College, PA.
251. **Ruan, R.** 2007. Energy for green environment and healthy life. BBE Information Exchange Seminar Series, St. Paul, MN.
252. **Ruan, R.** 2007. Progress in biomass thermochemical conversion. USDA S-1007 Annual Meeting. Perioa, IL.
253. **Ruan, R.** 2007. Challenges and opportunities in thermochemical conversion of biomass. Solution Driven Symposium Series – Biofuel Symposium. St. Paul, MN.
254. **Ruan, R.** and P. Chen. 2007. Magnetic resonance imaging of foods. *Structural and Chemical Imaging Techniques in Cereal Science: Beyond Conventional Microscopy Symposium*. AACC International Annyal Meeting, San Antonio, TX.
255. **Ruan, R.** 2007. Renewable energy technology development. Australia Department of Transport and Regional Services Sactreary Michael Taylor’s Minnisota renewalbe energy visit meeting. St. Paul, MN.
256. 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.
257. **Ruan, R.** 2007. New techniques in biomass pyrolysis. Renewable Energy Forum. St. Paul, MN.
258. **Ruan, R.** 2006. Renewable energy research and development. Renewable Energy Conference. The Great Hall of the People, Beijing, China.
259. **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.

- 260.**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.
- 261.**Ruan, R. 2006.** Conversion of biomass into biofuels. Norwegian Biofuels North America Study Tours. St. Paul, MN.
- 262.**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.
- 263.**Ruan, R. 2006.** Development and application of non-thermal plasma (NTP) technology for liquid pasteurization. MN-SD Dairy Center Annual Meeting. St. Paul, MN.
- 264.**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.
- 265.**Ruan, R. 2006.** Advanced technologies for converting biomass into bio-oil and biopolymers. Chemical Engineering Department Seminar, Zhejiang University, Hanzhou, China.
- 266.**Ruan, R. 2006.** Development of nonthermal plasma technology. AIChE Minnesota Section Spring Meeting, St. Paul, MN.
- 267.**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.
- 268.**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.
- 269.**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 processin*, ACS Annual Meeting, Atlanta, GA.
- 270.**Ruan, R. 2006.** NMR/MRI applications in the study of food polymer properties and processes. The Solae Company, St. Louis, MO.
- 271.**Ruan, R. 2006.** Applications of NMR/MRI in the Study of Biopolymer Properties and Processes. Biomedical Imaging Seminar. Department of Biomedical Engineering. Minneapolis, MN.
- 272.**Ruan, R. 2005.** NMR/MRI applications in high protein snack bar research. The Solae Company, St. Louis, MO.

273. **Ruan, R.** 2005. Biorefining approach for renewable energy production. IREE 2005 Research Symposium. Minneapolis, MN.
274. **Ruan, R.** 2005. Biorefining approach for biomass utilization. Department of Thermal Energy seminar, Thinghua University. Beijing, China.
275. **Ruan, R.** 2005. Renewable energy research and development. Workshop by Graduate University of Chinese Academy of Sciences and University of Minnesota. Beijing, China
276. **Ruan, R.**, 2005. NMR applications in dry bean storage study. Bush Brothers and Company, Knoxville, TN.
277. **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.
278. **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.
279. **Ruan, R.** and P. Chen. 2005. Applications of NMR and MRI in the study of biopolymers. AIChE Annual Symposium, Bloomington, MN.
280. **Ruan, R.** 2005. Biorefinery technologies overview. Minnesota Corn Growers Association Expanded Uses Focus Team Meeting. Minneapolis, MN.
281. **Ruan, R.** 2004. An overview of biomass conversion technology for fuel and materials. Agricultural and Forestry Biomass Engineering Symposium. Beijing, China.
282. **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. Tianjing, China.
283. **Ruan, R.** 2004. Conversion of biomass materials into fuels and materials. College of Environmental Science and Engineering International Seminar, China Agricultural University, Beijing, China.
284. **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.
285. **Ruan, R.** 2004. NMR application in dry bean longitudinal storage study. Bush Brothers and Company's Research Council Meeting. September, 2004. Knoxville, TN.
286. **Ruan, R.** 2004. Evaluation of emerging non-thermal processes for almond pasteurization. Almond Board of California's Research Council Meeting. September, 2004. Modesto, CA.

287. **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.
288. **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.
289. **Ruan, R.** 2004. Biorefining – Minnesota Perspective. Biorefining Videoconference (two countries, USA and Canada, five States, eight sites). St. Paul, MN.
290. **Ruan, R.** 2004. Bioconversion and biorefining technologies. China Agricultural University. Beijing, China.
291. **Ruan, R.** 2004. Value-added processing technologies. Nanchang University. Nanchang, Jiangxi, China.
292. **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.
293. **Ruan, R.** 2004. DOD biomass liquefaction technology development and application in sugarcane waste conversion. Hawaiian Commercial and Sugar Company, Maui, HI.
294. **Ruan, R.** 2004. IREE Bioproenergy and Bioproducts Cluster. Department of Applied Economics and IREE Policy cluster. St. Paul, MN.
295. **Ruan, R.** 2004. Overview of biorefining technologies. Department of Chemical Engineering and Material Science Senior Design Seminar. University of Minnesota. Minneapolis, MN.
296. **Ruan, R.** 2003. Supporting Minnesota's bioenergy and bioproducts industries. Wood and Paper Science Department Seminar. St. Paul, MN.
297. **Ruan, R.** 2003. IREE Bioenergy and Bioproducts. BAE Department Seminar. St. Paul, MN.
298. **Ruan, R.** 2003. Vision for Bioprocessing and Food Engineering. BAE Vision Presentation Series. St. Paul, MN.
299. **Ruan, R.** 2003. Bioenergy and Bioproducts. Bioindustrial Development Coalition Meeting. St. Paul, MN.
300. **Ruan, R.** 2003. Center for Biorefining: Heading into a bioeconomy era. COAFES Leadership Council Meeting. St. Paul, MN.

- 301.**Ruan, R.** 2003. NMR/MRI development and applications in foods. Cargill Research Center, Wayzata, MN.
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- 303.**Ruan, R.** 2003. Biobased industrial products. Renewable Energy and the Environment Workshop Series - Initiative Introduction and Planning Workshop. Minneapolis, MN.
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- 307.**Ruan, R.** 2002. Nonthermal plasma technology for liquid nonthermal pasteurization. Sota Tec Fund, Inc. Roseville, MN.
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- 311.**Ruan, R.** 2002. Biorefinery and the future of agricultural engineering. Forum on Agricultural and Biosystems Engineering Development Strategy. Yangling, China.
- 312.**Ruan, R.** 2002. NIR, computer vision and neural network techniques for scab inspection. 2nd International Conference on Grain, Flour and Bread Quality, Moscow, Russia.
- 313.**Ruan, R.** 2002. Analysis of physiochemical properties of food polymers using NMR, MRI. DuPont Protein Technologies International, St. Louis, MO.
- 314.**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.

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316. **Ruan, R.** 2001. Non-thermal plasma and ozone technologies for the food industry. National Food Processors Association Annual Meeting. Washington, DC.
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318. **Ruan, R.** 2001. Advanced electro-technology and bioconversion technology for bioprocessing and environmental engineering. Nanchang University, Nanchang, China.
319. **Ruan, R.** 2001. Biomass utilization: conversion of biomass into biofeuls and biomaterials. International Conference on Agricultural Science & Technology. Beijing, China.
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321. **Ruan, R.** 2001. Application of Near Infrared, Machine Vision, and Neural Networks in Scab Research. Second International Wheat Quality Conference, Manhattan, KS.
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- 330.**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.
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- 332.**Ruan, R.** and P. Chen. 1999. Ozone for food processing. Second International Science and Technology Convention, Guangzhou, China.
- 333.**Ruan, R.** 1999. Advanced electro-technology application in food and environmental engineering. China Agricultural University, Beijing, China
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- 338.**Ruan, R.** 1999. MRI and NMR study of popcorn moisture and water mobility distributions. General Mills James Ford Technology Center, Golden Valley, MN.
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- 347.**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.
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- 352.Labuza, T. and **R. Ruan.** 1997. A Comparison of various rheological methods for measuring the state diagram (T_g vs moisture) of solid & powdered foods. IFT-IUFoST Basic Symposium: Phase/State Transitions in Food: Chemical, Structural, and Rheological Changes, Orlando, FL.
- 353.**Ruan, R.** 1997. Discussion on highly-refined cellulose processing and applications. Columbus Potato Processing Company, Columbus, OH.
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- 360.**Ruan, R.** 1995. Microfibrillated cellulose - A potential food ingredient. Hormel R&D Center, Hormel Corp., Austin, MN.
- 361.**Ruan, R.** 1995. NMR and water binding. Department of Food Science and Nutrition - Food Physical Chemistry, University of Minnesota, St. Paul, MN.
- 362.**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.
- 363.**Ruan, R.** 1994. Development and application of MRI in biological, agricultural and food systems. Department of Soil Science Seminar, University of Minnesota.
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- 368.**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.
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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.
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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.
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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.
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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.

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

1. Private Industry Gifts. Value added fiber processing research. 9/15/2022 – open. \$25,000.
2. 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

3. 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.
4. LCCMR. Destruct Per/Polyfluoroalkyl Substances (PFAS) in Landfill Leachates. 7/1/16 – 6/31/19. \$200,000.
5. LCCMR. Fungal-woodchips Filtering System for PFAS Remediation. With Jiwei Zhang lead. 7/1/22 – 6/30/24. \$189,000.
6. 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.
7. 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.
8. Private Industry Gifts. Refining research. 2/10/2022 – open. \$50,000.
9. Private Industry Gifts. Value added processing research. 1/15/2022 – open. \$10,000.
10. 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.
11. Small Grains Initiative (SGI). Control of fusarium seedling blight in wheat through fast physical seed treatment. 7/1/2021-6/30/2023. \$140,000.
12. Private Industry Gifts. Waste plastics pyrolysis research. 3/11/2021 – open. \$90,000.
13. Walmart Foundation. Improving Food Safety of Pork Supply Chains in China. Lead by Yanbin Li of University of Arkansas. 10/15/2020 – 10/14/2022. \$3,200,000.
14. MNDrive Demonstration Program. Demonstrate an integrated biological system for animal wastewater treatment through utilization. 1/1/2021 – 12/31/2023. \$500,000.
15. Undergraduate Research Opportunities Program (UROP). Increasing Acetogenic Bacterial Density for Syngas Conversion Using a Porous Membrane. With Abigail Chiaokhiao lead. 01/19/21to 05/12/21. \$1,800.
16. 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. 01/19/21to 05/12/21. \$1,800.

17. 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.
18. Private Industry Gifts. Pyrolysis research. 10/16/2020 – open. \$35,000.
19. 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 – 12/31/2024. \$1,199,919.00
20. 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.
21. 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.
22. Private Industry Gifts. Food Safety and Engineering Research. 1/2020 - open. \$20,000.
23. MDA/MAES. Effective process and system for inactivation of avian influenza viruses. 1/1/2020 – 12/31/2022. \$198,853.
24. UMN CFANS Faculty Development Fund. Catalytic microwave processing for food pasteurization. 1/21/21 – 5/12/22. \$10,163.
25. Private Industry Gifts. Food Engineering Research. 3/2019 - open. \$10,000.
26. 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.
27. 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.
28. Mistletoe Post-Doctoral Research Fellowship. Sustainability research and development. With Peng Peng lead. 8/2018-5/2019. \$10,000.
29. Private Industry Gifts. Food Engineering Research and Communications. 5/2018 - open. \$12,000.
30. 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.

31. 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.
32. MDA/UMN CFANS. Novel Microwave Inactivation of Avian Influenza Viruses. 3/1/18 – 2/28/21. \$300,000.
33. Minnesota Biofuel Association. Gift for Biofuel Plant Tours. 3/1/18. \$445.
34. 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.
35. 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.
36. Private Industry Gifts. Microwave assisted waste plastics conversion and utilization. 7/2017 – open. \$5,000.
37. 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.
38. Xcel Energy RDF. Development of a Novel Gasification Technology for Distributed Power Generation from Solid Wastes. 1/4/2017 – 1/3/2022. \$999,999.
39. Private Industry Gifts. Barley malting research. 11/2016 – open. \$10,219.
40. Private Industry Gifts. Fiber utilization research. 8/2016 – open. \$6,587.63.
41. Private Industry Gifts. Fiber utilization research. 2/2016 – open. \$4,500.
42. LCCMR. Tiny Cheap Sensors for Pollutants Monitoring in Waters. With Tianhong Cui lead. 7/1/16 – 6/30/19. \$509,000.
43. LCCMR. Utilization of Dairy Farm Wastewater for Sustainable Production. With Brad Heins lead. 7/1/16 – 6/30/19. \$475,000.
44. MDA. Sustainable Protein for Aquaculture from Alfalfa. 3/1/16 – 2/28/17. With Deborah Samac lead. \$100,000.
45. Serendipity Grant 2015. Building Partnerships for Complete Utilization of Municipal Wastewater Streams. 2/1/16 – 1/31/17. \$25,000.
46. 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.

47. 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.
48. LCCMR. Renewable and Sustainable Fertilizers Produced Locally. With Alon McCormick lead. 7/1/15 – 6/31/18. \$1,000,000.
49. 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.
50. 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.
51. 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.
52. MNDrive. The Green Nutrient Revolution - Development of Renewable and Sustainable Fertilizers. With Mike Reese lead. 8/1/14 – 7/31/16. \$500,000.
53. Metropolitan Council Environmental Services. Municipal wastewater scum to biodiesel production system. 8/1/14 – 7/31/15. \$50,000.
54. MNDrive. Waste Not: Closing the Loop on Organics Wastes. With Lawrence Baker lead. 7/1/14-6/30/16. \$622,972.
55. LCCMR. Demonstrating innovative technologies to fully utilize wastewater resources. 7/1/14 – 6/30/17. \$1,000,000. (total \$1.4 million.)
56. 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.
57. USDA/MN Corn Crowers/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
58. USDA NIFA/Sun Grant. Development of novel fast pyrolysis and gasification processes. 2/14/14 – 2/13/15. \$140,108
59. MAES. Conversion of turnkey wastes to energy via fast pyrolysis and gasification. 7/1/13 – 6/30/15. \$184,366.
60. Private Industry Gifts. Renewable resources utilization. 5/20/13 – open. \$210,000.
61. CFANS. Graduate Research Assistantship Award for renewable energy and nonthermal pasteurization research. 10/15/12 – 9/30/13. \$15,000.

62. DOT/Sun Grant. Distributed production of DME based fuels using microwave technology and direct catalytic synthesis. 4/20/12-12/31/16. \$473,546.
63. Almond Board of California. Shelflife study of raw and roasted almonds for Chinese market. With Xiangyang Lin of Fuzhou University lead. 4/15/12-4/14/14. \$127,825.
64. Graduate School/BBE. Incoming Graduate Students Scholarship for Qinglong Xie, 3/12-2/13. \$25,000.
65. National Agricultural Biotechnology Council. The Student Voice at NABC – Graduate Student Scholarship Award for travel/lodging and registration for Zhenyi Du, 6/12, \$750.
66. 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.
67. 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.
68. UMN UROP. Catalyst Research of Methanol from Pyrolysis Produced Syngas. With Peter Larson. 1/18/2011 to 4/11/2011. \$1,700.
69. 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.
70. LCCMR. Wastewater algae pilot project. 7/1/10 – 6/30/14. \$900,000. (total \$1.35 million).
71. 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
72. University of Minnesota IREE. Algae Production System Using Centrate Wastewater from Met Council Treatment Plant. 4/1/10 – 6/30/13. \$156,840.
73. DMI/MN-SD Dairy Center. Development of Stable Flavored Whey Protein Beverages. 1/1/2010 – 12/31/2010. \$27,500.
74. MCES. Mass culture of algae on wastewater as an energy crop for biofuel production. 11/1/09 – 6/30/10. \$50,000.
75. Office of Naval Research (ONR) & Luna Innovations. Biofuels production from nonedible biooils. Phase I. 8/1/09 – 7/31/10. \$37,000.

76. USDA/DMI. Non-thermal pasteurization of Milk using CHIEF technology. 10/19/09 – 12/31/10. \$99,620.
77. Almond Board of California. Odor control for NTP disinfection of almonds. 7/1/09 – 6/30/10. \$45,000.
78. 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.
79. 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.
80. 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.
81. 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).
82. USDA/DOE. Development of Scalable Biorefining Processes for Distributed Biomass Conversion. 01/01/2007 - 06/30/2012. \$1,224,055.
83. Green Energy Group. Algae photobioreactor testing. 11/7/2008 – open. \$23,800.
84. USDA FAS. 2008. Latin American Biofuel Training Grant. With John Verynes. Summer-Fall, 2008. \$25,000.
85. Cargill Inc. Concentrated High Intensity Electric Field (CHIEF) technology for juice processing. 8/1/08 – open. \$20,000.
86. 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.
87. Xcel Energy. Mass production of algae as energy crop. 1/11/08 – open. \$150,000.
88. 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.
89. UM Institute on the Environment. Dual renewable biofuels from a single source. 7/1/07-6/30/09. With Ron Phillips lead. \$300,000.
90. LCCMR. Mobil biomass pyrolysis system development and demonstration. 7/1/07 – 6/30/11. \$500,000. (total \$750,000.)
91. USDA and DMI. Non-thermal plasma treatment of milk. 10/26/06 – 12/31/08. \$ 275,584.

92. UMN UROP. Extraction of Oil from Microalgae. With Leo Kucek. 7/8/2008 to 8/31/2008. \$1,700.
93. UMN UROP. Mass Production of Biodiesel Using Algae. With Steven Biorn. 7/8/2008 to 8/31/2008. \$1,700.
94. 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.
95. 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.
96. Hormel Foods Corporation. Oil refining. 6/25/07 – open. \$7,500.
97. 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.
98. Source Food Technology, Inc. Oil quality improvement using advanced distillation technology. 3/8/07 – open. \$10,000.
99. Kellogg Company. Whole grain biorefining. 12/27/06 – open. \$100,000.
100. Southwest Corn Utilization Corp. Birefining of Red Corn, Phase II. Extraction, characterization and utilization of anthocyanins from red corn. 11/1/06 – 10/31/07. \$120,000.
101. 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.
102. USDA and DMI. Non-thermal plasma treatment of milk. 10/26/06 – 10/25/08. \$100,000.
103. Bush Brothers & Company. NMR study of dry bean storage technology, Phase IV. 7/15/06 - open. \$12,500.
104. Red Oak Management. Purification and analysis Fagopyritols from buck wheat. 7/1/06 - open. \$5,000.
105. University of Minnesota IREE. Developing and Demonstrating a Scalable Renewable-Hydrogen-to-Ammonia System. 5/15/06 – 5/14/08. \$147,961.
106. North Central Companies. Making biodiesel from animal fat. 3/7/06 – open. \$1,500.
107. eYou Beijing Yizhongyou Information Technology, Ltd. NMR software development for food analysis. 2/20/06 – open. \$5,000.

108. University of Minnesota IREE Equipment Fund. Biorefining equipment. 12/12/05 – open. \$186,625.
109. Zanker Road Resource Management, Ltd. and CalRecovery, Inc. Microwave pyrolysis of municipal solid waste. 12/5/05 – open. \$5,000.
110. Biorefining, Inc. High pressure extraction applications in sugar beet pulp processing. 7/29/05 – open. \$13,000.
111. Bixby Energy Systems and UM IREE. Development of Commercially Transferable Thermochemical Conversion Technologies. 7/1/05-6/30/08. \$1,260,000.
112. 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.
113. ConocoPhillips. Preliminary NMR and MRI applications in petroleum exploration. 5/2/05 – open. \$1,200.
114. Source Food Technology, Inc. Oil quality improvement using advanced distillation technology. 1/15/05 – open. \$15,000.
115. 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.
116. 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.
117. Bush Brothers & Company. NMR study of dry bean storage technology, Phase III. 2/1/05 - open. \$35,000.
118. DMI. Non-thermal pasteurization of milk using non-thermal plasma technology. 1/1/05 – 6/30/06. \$50,000.
119. 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.
120. Almond Board of California. Non-thermal plasma technology for almond disinfection – fundamental feasibility study. 9/1/04 – 6/30/05. \$39,500.
121. Biorefining, Inc. Grain biorefining product analysis. 1/15/04 – open. \$5,000.

122. Source Food Technology, Inc. Oil quality improvement using advanced distillation technology. 1/15/04 – open. \$25,000.
123. Land O'Lakes. NMR assessment of cheese quality. 4/15/04 – open. \$1,000.
124. Southwest Corn Utilization Corporation. Red Corn Quality Characterization. With Gary Fulcher lead. 9/15/04 - 9/14/06. \$89,998.
125. 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.
126. University of Minnesota IREE. Making biodiesel from crop residues. 2/1/04 – 1/31/05. \$29,232.
127. Bush Brothers & Company. NMR study of dry bean storage technology, Phase II. 2/1/04 - open. \$25,000.
128. University of Minnesota IREE. Development of A Biorefining Model for Corn Processing. 12/15/03 – 12/14/04. \$24,920.
129. 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.
130. University of Minnesota IREE. USDOD Value added biomass conversion technologies matching fund. 11/1/03 – open. \$100,000.
131. DOD US Army Natick Solcier Systems Center. Studies of shelf stability of food systems Using Advanced NMR and MRI Tehniques. 7/1/03-7/31/04. \$50,000.
132. Bush Brothers & Company. NMR study of dry bean storage technology, Phase I. 8/1/03 - open. \$12,000.
133. General Mills. 23MHz Maran Drx Benchtop MRI Spectrometer. 6/1/03 - open. \$165,000.
134. University of Minnesota. MRI Facility Matching Support. 7/1/03 - open. \$120,000.
135. UM Biotechnology Institute. Value Added Processing of Minnesota Cereals. With G. Fulcher (lead) and L. Marquart. 3/1/03-2/28/04. \$43,000.
136. Novozymes A/S. NMR methods and applications in bread products. 9/15/02- open. \$7,500.
137. Generation II Ethanol. Value-added process and product development for corn germ protein isolates. 9/1/2002 – open. \$2,500.

138. Sota Tec Fund. Non-thermal disinfection of blood using non-thermal plasma (NTP). 9/1/02 – 8/31/03. \$105,610.
139. AURI. Converting minnesota biomasses including DDGS to biopolymers. 4/15/02 – 4/14/04. \$88,375.
140. Source Food Technology. Oil quality improvement using advanced distillation technology. 7/1/02 – open. \$33,000.
141. DQCI Services, Inc. Automatic dairy product filling and labling system development. 2/1/02 – open. \$35,000.
142. AURI. Comparison of different agricultural residues for making biomaterials. 11/1/01 – 5/31/02. \$15,000.
143. SCP Control, Inc. Nonthermal plasma and ozone system development. 10/15/01 – open. \$4,000.
144. DQCI Services, Inc. Automatic dairy product filling and labling prototype system development. 6/1/01 – open. \$45,000.
145. 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.
146. Bush Brothers & Company. Study of dry bean processing technology. 8/1/00 – open. \$15,000.
147. Colorado Sweet Gold, LLC. Ozone applications in corn wet milling. 8/1/00 - 12/31/00. \$20,000.
148. Sota Tec Fund. Non-thermal discharge plasma system for liquid pasteurization and sterilization. 6/15/2000 – 12/31/2003. \$208,007.
149. IB2, Inc. Evaluation of milli-second pasteurization technology. 2/15/2000 – 6/30/2001. \$294,336.
150. USDA ARS. Determination of DON and scab in barley using near-infrared and neural networks. 2/15/00 – 3/15/01. \$30,000.
151. SCP Control, Inc. NTP and ozone for odor control. 2/1/00 – open. \$9,000.
152. AURI. Utilization of food and agricultural fibrous byproducts. 7/15/99 – 1/14/01. \$60,000.

153. The FiberStar Corp. Making highly refined cellulose materials. 1/1/99 – 12/31/99. \$23,500.
154. 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.
155. 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.
156. 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.
157. 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.
158. 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.
159. COAFES. Major Coordinator Fund. 7/1/98 – 1/31/03. \$15,750.
160. The FiberStar Corp. Ozone digestion of agricultural fibrous materials. 7/1/98 – 12/31/98. \$40,065.
161. Roche Vitamins Inc. The ASAP 200 Micromeritics particle, surface, and porosity analysis system. 6/1/98 - open. \$50,000.
162. Apple Growers Association and Minnesota State Legislature. Ozone cleaning of apple for juice making. 7/1/98 - 7/30/99. \$24,000.
163. 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.
164. The Sota Tec Fund. An innovative non-thermal plasma system for farm odor control. 2/1/98 - 12/31/2000. \$199,577.
165. The Pillsbury Company. NMR study of water-solid interactions in dough. 2/5/98 - 8/4/98. \$25,000.
166. EPRI Food Technology Alliance. MRI temperature mapping of foods. 1/1/98-12/31/98. \$17,500.
167. Ottogi Food Company Ltd. Study of caking of freeze-dried soups. 12/15/97 - 12/14/99. \$86,354.

168. 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.
169. 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.
170. 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.
171. EPRI - Food Technology Center. Application of ozone technology in wastewater treatment in food processing industry. 9/1/97 - 8/31/98. \$45,000.
172. Agricultural Utilization Research Institute. Utilization of food and agricultural fibrous byproducts (Phase I). 8/29/96 - 10/31/97. \$26,498.
173. 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.
174. 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.
175. Minnesota State Legislature. Scabby wheat assessment using machine vision and neural networks (preliminary work). 9/1/96 - 6/30/97. \$12,000.
176. Agri-Scan, Inc. Plasma treatment of potato blight and removal of SO_x from exhausted streams. 9/1/96 - 8/31/99. \$300,000.
177. 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.
178. Hunt-Wesson, Inc. MRI applications in food process control and quality improvement. 2/15/96 - open. \$6,850.
179. University of Minnesota Graduate School Grant-in-Aid. Study of properties of novel temperature-sensitive hydrogels. 12/16/95 - 12/15/96. \$9,500.
180. General Mills, Inc. MRI applications in cereal process control and quality improvement. 12/1/95 - open. \$40,000.

181. Minnesota Wheat Research and Promotion Council. Scabby wheat assessment using machine vision and neural networks. 6/15/96 - 12/14/97. \$2,500.
182. 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.
183. Grand Metropolitan/Pillsbury Company. MRI and neural networks - applications in food process control and quality improvement. 1/1/94 - open. \$100,000.
184. 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.
185. Department of Energy. Injection molding of plastics from agricultural materials. With M. Bhattacharya (lead). 1/2/96 - 1/1/99. \$507,071.
186. 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.
187. Agricultural Utilization Research Institute. Utilization of agricultural waste fibrous materials. With M. Bhattacharya. 2/1/95 - 1/31/96. \$9,500.
188. 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.
189. 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.
190. 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.
191. Filter Corporation. Study of microfibrillated cellulose as filter aid. With P. Addis. 8/1/94-7/31/97. \$114,834.
192. 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.
193. 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.
194. Canada Malting Co. Structure/function relationships in barley. With R.G. Fulcher (lead). 7/1/93 - 6/30/98. \$370,000.

195. University of Minnesota Graduate School Grant-in-Aid. Study of structure-function relationships in microfibrillated cellulose. 7/1/94 - 12/31/95. \$16,600.
196. 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.
197. 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.
198. University of Minnesota. Department start-up Funds. 1/1/94 - 12/31/95. \$100,000.
199. 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.
200. 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.
201. 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.

Professional Development Workshops Attended

1. 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.
2. National Academy of Engineering (NAE) FOCUS - Complex Food and Agricultural Systems. September 9, 2021.
3. Virtual leadership trainings organized by IFT, 2020, 2021.
4. AURI New Uses Forum. Plymouth, MN, March, 2017.
5. Agriculture & Environment Innovation Commercialization Bootcamp. St. Paul, MN. January, 2017.
6. Algae Biofuels World Summit. By Information Forecase, Inc. New York, NY. March, 2009.
7. Talking charge of your academic career: Lifelong planning for success. COAFES Faculty Development Workshop. St. Paul, MN. March, 2005.
8. Almond Board of California's Pasteurization Technology Workshop. Modesto, CA. September, 2004.

9. National Planning Workshop on Nanoscale Science and Engineering for Agriculture and Food Systems, Washington, DC. November, 2002.
10. Successful Selling Strategies Workshop. By Ryan Partnership, Washington, DC. November, 2001.
11. 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.
12. 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.
13. Pulsed Electric Field International Workshop III, Columbus, OH, March, 1998.
14. Pulsed Electric Field International Workshop II, Chicago, IL, October, 1997.
15. Pulsed Electric Field International Workshop, Orlando, FL, June, 1997.
16. Minnesota Workshop on Principles and Applications of High Field Magnetic Resonance Imaging and Spectroscopy Techniques, Minneapolis, MN, March, 1997.
17. Pulsed Electric Field International Workshop I, San Diego, CA, March, 1997.
18. 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.
19. 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.
20. Artificial Neural Networks. Workshop by Richard D. De Veaux and Lyle H. Ungar. Minneapolis, MN, Fall, 1995.
21. Fuzzy Logic Control. By Lofti A. Zadeh. Mechanical Engineering Distinguished Lecture Series, University of Minnesota, Spring, 1994.
22. Modeling of Plasma Processes. By John J. Lowke. Mechanical Engineering Distinguished Lecture Series, University of Minnesota, Spring, 1994.
23. 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 technologing technologies for teaching, learning, and research. Office of Information Tehnology. 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, 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.
BBE4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2022. 23 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2022. 5 students.

BBE4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2021. 46 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2021. 10 students.
BBE4733/5733	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.
BBE4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2019. 33 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2019. 10 students.
BBE4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2018. 45 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2018. 12 students.
BBE4733/5733	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.
BBE4733/5733	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.
BAE 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.
BBE4733/5733	Renewable Energy Technologies. 3 semester cr., Spring, 2014. 33 students.
BBE 4723/5723	Food Processing Engineering. 3 semester cr. Spring, 2014. 10 students.
BAE 5095	<i>Special Problems</i> , 3 semester cr., Spring and Fall, 2014. 2 students.
BBE4733/5733	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.

BAE 5095 *Special Problems*, 3 semester cr., Spring and Fall, 2013. 2 students.
BBE4733/5733 *Renewable Energy Technologies*. 3 semester cr., Spring, 2012. 40 students.
BBE 4723/5723 *Food Processing Engineering*. 3 semester cr. Spring, 2012. 16 students.
BAE 5095 *Special Problems*, 3 semester cr., Spring and Fall, 2012. 2 students.
BBE4733/5733 *Renewable Energy Technologies*. 3 semester cr., Spring, 2011. 36 students.
BBE 4723/5723 *Food Processing Engineering*. 3 semester cr. Spring, 2011. 15 students.
BBE 8703 *Managing Water in Food and Biological Systems*. 3 semester cr., Fall, 2010. 9 students including 1 visiting.
BBE 4733 *Renewable Energy Technologies*. 3 semester cr., Spring, 2010. 40 students.
BBE 4723 *Food Processing Engineering*. 3 semester cr., Spring, 2010. 6 students.
BBE 8703 *Managing Water in Food and Biological Systems*. 3 semester cr., Fall, 2008. 5 students.
BBE 4723 *Food Processing Engineering*. 3 semester cr. Fall, 2008. 16 students. (Newly developed).
BBE 4733 *Renewable Energy Technologies*. 3 semester cr., Spring, 2008. 14 students.
BBE 4733 *Renewable Energy Technologies*. 3 semester cr., Spring, 2007. 24 students. (Newly developed).
BBE 8703 *Managing Water in Food and Biological Systems*. 3 semester cr., Fall, 2006. 4 students.
BAE 4713 *Biological Processing Engineering*. 3 semester cr., Spring, 2006. 14 students.
BAE 5095 *Special Problems*, 3 semester cr., Spring, 2006. 1 student.
BAE 3213 *Engineering Principles and Applications*. 3 semester cr., Spring, 2005, 3 students.
BAE 5095 *Special Problems*, 3 semester cr., Fall, 2004. 1 student.
BAE 8703 *Managing Water in Food and Biological Systems*. 3 semester cr., Fall, 2004. 2 students.
AGET 3213 *Engineering Principles and Applications*. 3 semester cr., Spring, 2004. 8 students.
BAE 4713 *Biological Processing Engineering*. 3 semester cr., Spring, 2004. 8 students.
AGET 3213 *Engineering Principles and Applications*. 3 semester cr., Spring, 2003. 6 students.
BAE 5095 *Special Problems*, 3 semester cr., Spring, 2003. 1 student.
BAE 8703 *Managing Water in Food and Biological Systems*. 3 semester cr., Fall, 2002. 7 students.
BAE 4713 *Biological Processing Engineering*. 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. Taught 2 weeks lecture.
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. Taught 2 weeks lecture 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. Taught 3 weeks lecture 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> . Birefining 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> . Birefining 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 (19)

International workshop on	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 2003 – Spring, 2004
Summer Principles 1/3 of the new course,
Biotechnology Labs
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 both of 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, "AccuraFlow - 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 one hundred (200) undergraduate students advised

Post-Doctors, Research Associates, Research Fellows, Engineers, Scientists, Visiting Professors, Visiting Scholars, and Consultants Advised (146)

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
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	August, 2012 – August, 2013

Xiaoli Cao	(UFRGS) 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 B.S. in Chemical Engineering, UMN	October, 2014 – September, 2016
Caishui Chen	Consultant Professor of Food Engineering	Sept., 2002 – Sept., 2003
Dongjie Chen	Post-doctoral associate Ph.D. in Food Science and Nutrition (Current Employment: InnovHope, Inc, Boston, MA)	January, 2020 – May, 2020
Junhui Chen	Post-Doctoral Scholar Ph.D. in Food Science and Engineering South China University of Technology	March 21, 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 – December, 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 - Present
Shaobo Deng	Research Engineer Ph.D. C. in BAE	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 Jiangsu University of Science and Technology	Sept., 2016 – Sept., 2017
Kuan Ding	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 Nanchang University	February, 2016 – January, 2018
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 China Agricultural University	Sept., 2012 – Sept., 2013
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 Beijing Union University	September, 2018 – March, 2019
Shuhao Huo	Visiting Professor Jiangsu University	Jan., 2019 – Jan. 2020
Gi-Chul Jang	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 – January, 2009
Mark Gino Galang	Visiting Scholar University of Salerno, Italy	December, 2022 – October, 2023
Zhiping Le	Engineer Ph.D. in Chemical Engineering, Professor	October, 2006 – July, 2010
Hanwu Lei	Post-Doctoral Research Associate (Current Employment: Associate Professor, Washington State University)	January, 2006 – December, 2007
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 – November, 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	December, 1999 – Dec., 2002

	(Current Employment: Professor, Ohio State University)	
Yuhong Li	Research Fellow	March, 2002 – April, 2006
	Lecture and Assistant Director	
Yuhong Li	Research Associate	January, 2020 – present
	Bio-techn, Inc., Minneapolis, MN	
Xiangyang Lin	Research Fellow	February, 2001 – January, 2003
	Lecturer and Associate Dean	
Xiangyang Lin	Consultant	January, 2003 – September, 2010
Chenghui Liu	Visiting Scholar, faculty of Yunnan Minzu University	August, 2019 – August, 2020
Frank Liu	Research Associate	November, 2020 – Present
	Ph.D. in Environmental Physiology and MBA	
Hui Liu	Visiting Professor	April, 2015 – November, 2016
	Ph.D. in Environmental Science	
Jie Liu	Visiting Scholar	March, 2018 – September, 2018
	Beijing Union University	
Junzhi Liu	Visiting Professor	October, 2018 – October, 2019
	Zhejiang Ocean University	
Lingqin Liu	Visiting Scholar	March, 2019 – March, 2020
	School of Energy and Environment, Southeast University	
Yuhuan Liu	Visiting Associate Professor	June, 2001 – July, 2002
	Associate Professor	
Shiyu Liu	Graduate Intern	June, 2014 – September, 2014
	MS in Chemical Engineering, Syracuse University, NY	
Wei Liu	Visiting Professor	October, 2019 – October, 2020
	Shandong Analysis and Test Center, Shandong Academy of Sciences	
Xianghong Lu	Visiting Associate Professor	May, 2009 – May, 2010
	Ph.D. in Chem. Engr. and Asso. Prof. of Zhejiang Univ. of Technology	
Zejian Lu	Visiting Professor	January, 2004 – July, 2004
	Professor of Agri-Processing	
Yuancai Lyu	Visiting Professor	Dec., 2019 – Dec., 2021
	Professor of Environmental Engineering Fuzhou University	
Henrik Lundqvist	Visiting Assistant Professor	September, 2002 – Nov., 2002
	Ph.D. in starch-lipid interaction	
Hongbin Ma	Research Associate	Jan., 1999 – September, 2002
	Ph.D. in High Voltage Engineering	
Huan Ma	Visiting Assistant Professor	March, 2015 – March, 2016
	Ph.D. in Biophysics	
Blanca Martinez	Scientist	Jan., 1994 – September, 2011

Chul Kyoong Mok	Ph.D. in Pharmacy Sabbatical leave/Visiting Professor	August, 2003 – August, 2004
Chul Kyoong Mok	Ph.D. in Food Engineering Visiting Professor Kyungwon University	January, 2005 – September, 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
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
Adolfo Posadas	Visiting Associate Professor Ph.D. and Associate Professor	Dec., 1998 - April, 1999
Peng Peng	Post-doctor Ph.D. in Bioproducts and Biosystems Engineering (Current Employment: Columbia University in New York then Berkeley 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
Fred Rigelhof	Food Engineer Food Science and Nutrition	January, 2005 – January, 2007
Raíssa Aparecida	Federal University of Uberlândia –	Sept. 2022 – March, 2023

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

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 Ph.D. in Chemical Engineering	October, 2006 – December, 2007
Xiaodan Wu	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-doctor 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 Key Laboratory of Energy Thermal Conversion and Control of MOE School of Energy and Environment, Southeast University	September, 2014 - Sept., 2015
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,	April, 1994 - March, 1995

Liming Zhang	Jiangsu University 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 – November, 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
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 China Agricultural University	September, 2014- Sept., 2015
Yindan Zhu	Visiting Scholar 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, Zhengjiang University. April, 2006.
Kai Zhao	Ph.D., General Manager, Beijing Bioindustrial Incubation Center. December, 2005 and April, 2006.

Other Research Fellows/Teaching Assistants Advised

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.
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.
Glorimar Chiclana	Life Sciences Summer Undergraduate Research Programs, Summer, 2002.
Michael Fuad	Breck School Senior High Science Advanced Research Program, Summer, 2008.
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 – Present.
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 T₂ 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)
- 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)
- 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)
- 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)
- 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)
- 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), December, 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)
- Xiaolan 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 Nanchang University (co-advised with Professor Y. Gao)	December, 2007
	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 Nanchang University (co-advised with Professor Y. Liu)	May, 2021
	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.	

In Progress

Abigail Chiaokhiao	M.S. Bioproducts and Biosystems Engineering	August, 2022
	Thesis:	
Ozlem Karakas	M.S. Bioproducts and Biosystems Engineering	January, 2021
	Thesis:	
Jason Guo	M.S. Bioproducts and Biosystems Engineering	August, 2022
	Thesis:	
Suman Lata	M.S. Bioproducts and Biosystems Engineering	August, 2022
	Thesis:	
Juer Liu	Ph.D. Food Science and Nutrition	August, 2015
	Thesis:	
Dmiti Mataya	M.S. Bioproducts and Biosystems Engineering	June, 2021
	Thesis:	
Jaime Thissen	M.S. Bioproducts and Biosystems Engineering	September, 2012
	Thesis:	
Tom Weisbecker	M.S. Bioproducts and Biosystems Engineering	January, 2021
	Thesis:	

Other Advisory and/or Examination Committees

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 Advisory committee member, 2001 - present.
Karen E. Churchill	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

John David McKeehen	Advisory and final exam committee member, 1996 - 98. 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

Nese Tulay Yurttas	Thesis reader and final exam committee chair, 2002-2003. 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 new.
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 waste water 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 Sichuang 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, news paper, 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.