

YAN LIU
Department of Biosystems & Agricultural Engineering
Michigan State University
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EDUCATION

- Ph.D., Biological Systems Engineering, December 2005, Washington State University, USA
Dissertation Title: Co-production of lactic acid and chitin using a pelletized filamentous Rhizopus oryzae culture from cull potatoes
- Ph.D., Food Science, July 2000, Ocean University of China, China
Dissertation Title: Studies on the chemistry of alginate oligoglycuronates degraded by enzyme and the enzymology of alginate lyases
- M.S., Food Science, December 1996, Jiangnan University, China
Thesis Title: Production of protein-rich malt extract from malt and barley using enzymatic hydrolysis method
- B.S., Food Engineering, July 1994, Qilu University of Technology, China

REGISTRATION

- Engineer-in-training (EIT) certificate, Washington State No. 27939

PROFESSIONAL EXPERIENCE

Associate Professor, Dept. of Biosystems and Agricultural Engineering, Michigan State University (East Lansing, MI), August 2016 – Present

- Biological conversion of agricultural crops into different nutraceuticals for human and animal health
- Fungal fermentation of advanced fuel and value-added chemical production
- Algal cultivation for CO₂ sequestration and enzyme and fine chemical production

Assistant Professor, Dept. of Biosystems and Agricultural Engineering, Michigan State University (East Lansing, MI), August 2010 – July 2016

- Fungal fermentation of advanced fuel and value-added chemical production
- Algal cultivation of enzyme and fine chemical production
- Water reuses for microbial cultivation

Assistant Professor (Fixed term), Dept. of Biosystems and Agricultural Engineering, Michigan State University (East Lansing, MI), August 2007 – 2010

- Algal cultivation to convert agricultural wastes into value-added products
- Michigan Waste Biomass Energy Inventory to Support Renewable Energy Development project
- Fungal fermentation to produce biofuels

Research Associate, Dept. of Biological Systems Engineering, Washington State University (Pullman, WA), January 2006 – July 2007

- Organic acid production from lignocellulosic materials using fungal fermentation

- Cellulosic ethanol production from genetically modified straw
- Development of a novel process to produce lovastatin and chitin/chitosan from fungal biomass
- Co-production of organic acid and chitin using *Rhizopus oryzae* fermentation on a pretreated nitrogen-rich agricultural residue—dairy manure

Research/Teaching Assistant, Dept. of Biological Systems Engineering, Washington State University (Pullman, WA), August 2001 – December 2005

- A novel process of pelletizing filamentous fungus, *Rhizopus oryzae*, to produce lactic acid and chitin. Doctoral thesis: “Co-production of Lactic Acid and Chitin from a Pelletized Filamentous *Rhizopus oryzae* Culture Using Agricultural Residue — Cull Potatoes”
- A new concept of using fermentation technology to produce valuable chemicals (lactic acid, fumaric acid, chitin/chitosan, nisin, and Omega-3 etc.) and energy products (methane, ethanol etc.) from agricultural residues such as cull potatoes, wheat straws and dairy manure
- Research Associate in NSF (National Science Foundation) IGERT (Integrative graduate education and research training) program
- Mentor of summer intern students

Research/Teaching Assistant, Dept. of Food Engineering, Ocean University of China (Qingdao, P.R. China), September 1997 - July 2000

- Isolation of a bacterial strain from seaweed to produce alginate lyases, which are enzymes to degrade alginate to oligoglycuronates that has anti-bacterial and anti-tumor activities.
- Lecturing introductory biochemistry (laboratory)

Research/Teaching Assistant, Dept. of Food Science, Wuxi University of Light Industry (Wuxi, P.R. China), September 1994 - December 1996

- Production of protein-rich malt extract from malt and barley using enzymatic method
- Development of a process to separate α -amylase and β -amylases from malts

GRANTS

- Evaluation of scaling up lactose yeast fermentation and its by-products-Year 2. PI: Liu, Y. Source of Support: BASF. Total Award Amount: \$180,973, Award Period: 1.01/2026-12/31/2026
- Sustainable Production of Plant Protein through Biological Decarbonization. PI: Liu, Y., Co-PI Saffron, C. and Liao, W. Source of Support: DOE. Total Award Amount: \$ 1,832,997, Award Period: 1.01/2025-12/31/2027
- Production of probiotic animal feed from soybean. PI: Liu, Y. Source of Support: Michigan Soybean Committee. Total Award Amount: \$12,500, Award Period: 11.01/2024-9/30/2025
- Evaluation of scaling up lactose yeast fermentation and its by-products. PI: Liu, Y. Source of Support: BASF. Total Award Amount: \$186,345.9, Award Period: 1.01/2024-12/31/2025
- Demonstration of phage-enhanced biological and electrochemical processes to produce green ammonia fuel from blackwater. PI: Liao, W., Co-PI Liu, Y. Source of Support: DOD. Total Award Amount: \$503,583, Award Period: 7.01/2023-2/28/2025
- Biological hydrogen methanation (BHM) of enhancing anaerobic digestion of methane production. PI: Liao, W., Co-PI: Liu, Y. Source of Support: Linde Inc. Total Award Amount: \$318,528, Award Period: 12/15/2024 - 12/15/2026
- Effects of the PLAZER RF pretreatment technology on anaerobic digestion of dairy manure and corresponding soil quality. PI: Liao, W., Co-PI Liu, Y. Source of Support: USDA. Total Award Amount: \$280,000, Award Period: 9.28/2022-9/30/2026

- Production of pet food from legume crops and hemp seeds. PI: Liu, Y. Source of Support: MTRAC. Total Award Amount: \$100,000, Award Period: 6.01/2022-5/31/2023
- Production of vegan cat food from pulse crops and hemp seeds. PI: Liu, Y., Co-PI Liao, W. Source of Support: MTRAC. Total Award Amount: \$24,918, Award Period: 6.01/2021-12/31/2021
- Investigation of the effects of a probiotic yeast soybean/sugar beet based feed supplement on equine metabolic and gastrointestinal microbiome health. PI: Manfredi, J., Co-PI Liu, Y. Source of Support: Michigan Alliance for Animal Agriculture. Total Award Amount: \$24,966, Award Period: 6.01/2021-5/31/2022
- A cost-effective and efficient approach for quantification of microbial community shift in chitin amended soil (2nd year field tests) PI: Lu, R., Co-PI: Liu, Y., Long, C. Source of Support: USDA ARS. Total Award Amount: \$37,000, Award Period: 5.01/2020-5/31/2023
- A cost-effective and efficient approach for quantification of microbial community shift in chitin amended soil. PI: Lu, R., Co-PI: Liu, Y., Long, C. Source of Support: USDA ARS. Total Award Amount: \$49,002, Award Period: 5.01/2019-5/31/2020
- Investigating Causes and Control of Foaming in Rim Guard Tire Ballast Products. PI: Liu, Y. Source of Support: Small Company Innovation Program (SCIP). Total Award Amount: \$80,000, Award Period: 5/01/2018-2/28/2019
- A Combined Biological and Chemical Flue Gas Utilization System towards Carbon Dioxide Capture from Coal-fired Power Plants PI: Liao, W., Co-PI: Liu, Y., Smith, M., Wilson, A. Source of Support: Department of Energy. Total Award Amount: \$999,976, Award Period: 1/01/2018-12/31/2020
- Evaluations of probiotic sugar beet ferment on chick and weaning pig gut health and growth performance. PI: Liu, Y., Co-PI: Rust, S., Rozeboom, D. Source of Support: Agriculture and Agribusiness Institute (AABI). Total Award Amount: \$5,000, Award Period: 5/01/2017-2/25/2018
- Development of microbial strategies to enhance anaerobic acidification of agricultural residues. PI: Liu, Y. Source of Support: HELEE LLC. Total Award Amount: \$33,471, Award Period: 9/01/2015-2/25/2018
- Biological Management of Nematode-Virus And Nematode-Fungal Complexes In Fruit Crops. PI: Schilder, A., Co-PI: Shane, W., Melakeberhan, H., Longstroth, M., Liu, Y. Source of Support: USDA Total Award Amount: \$479,614, Award Period: 9/1/2016-8/31/2019
- Integrated Thermo-Bio-Conversion of Agricultural Residues for Bioenergy and Value-added Fertilizer production. PI: Liao, W., Co-PI: Saffron, C., Liu, Y. Source of Support: HELEE LLC. Total Award Amount: \$67,009, Award Period: 6/25/2015-2/28/2016
- Feasibility of Using Sugar Beet Pulp to Produce Chitosan as A high-Value Bioactive Agent for Food and Agriculture Applications. PI: Liu, Y. Source of Support: MDARD, Total Award Amount: \$67,976. Award Period: 05/1/2014-07/31/2015
- Towards Sustainable Animal Agriculture: an Integrated Wet Scrubber and Algal Cultivation System for Air Emission Mitigation and Value-Added Products. PI: Powers, W., Co-PI: Li, Q., Liu, Y., Rozeboom, D., Liao, W. Source of Support: USDA - National Institute of Food and Agriculture, Total Award Amount: \$150,000, Award Period: 9/1/2013 - 8/31/2016
- Evaluating Micro-bubble facilitated electrocoagulation-flotation (ECF) Technologies for cost-effective treatment of wastewater from anaerobic digestion. PI: Liu, Y. Source of Support: Beijing DQY Agricultural Technology Co. Ltd, Total Award Amount: \$243,559, Award Period: 11/01/2012-5/31/2016
- First Generation of Controlled-Release Bacteriocins/Anti-microbials. PI: Liu, Y. Source of Support: DOD via Metna Co (Subcontract). Total Award Amount: \$ 32, 998. Award Period: 2/1/2012-6/30/2012
- Effects of Sino Enzyme on Wet Milling Corn Starch Production. PI: Liu, Y. Source of Support: Baiyin Sino Bio-Science Co. Ltd, Total Award Amount: \$ 40,000, Award Period: 1/1/2012-12/31/2012
- Development Tools for Sustainable Waste Biomass to Energy in Michigan. PI: Safferman, S., Co-PI: Liu, Y., Kirk, D. Source of Support: Michigan Energy Office. \$25,054, Award Period: 1/3/2012-8/22/2012

- Using fecal sludge for butanol fermentation via a genetically engineered fungal species. PI: Liu, Y. Source of Support: The Bill & Melinda Gates Foundation via Washington University in St. Louis (subcontract). Total Award Amount: \$ 30,000, Award Period: 11/1/2011-12/31/2012
- Improving energy efficiency and generating high-value co-products from an integrated small-scale animal manure management system. PI: Liao, W., Co-PI: Engeda, A., Liu, Y., Safferman, S., Stevenson, J. Source of Support: Michigan Public Service Commission. Total Award Amount: \$1,538,306, Award Period: 10/01/2008-11/30/2010
- Developing Biological Process to Treat Feedstock for Cellulosic Ethanol Biorefining. PI: Liao, W., Co-PI: Liu, Y. Source of Support: Cornell University Department of Transportation. Total Award Amount: \$99,971, Award Period: 6/1/2008 - 5/31/2010

PATENTS

- Pelletization process to control filamentous fungi morphology for enhanced reactor rheology and bioproduct formation. Inventors: **Liu, Y.**, Liao, W., Frear, C., Chen, S. U.S. Patent 20100159557

PUBLICATIONS

Peer-reviewed journal articles

1. Chen, Y., Elhabet, Zannat, A., Zhang, L., Wang, X., Bian, Y., Rao, S., **Liu, Y.**, Liao, W., Tsurimaki, Y., Liu, X. 2026. Improving Photosynthesis by Scattering Hydrogel Fibers-Enabled Volumetric Illumination, *Proceedings of the National Academy of Sciences* 123 (17) e2536344123.
2. Celini, J., Qin, R., Torabian, S., Kim, E., **Liu, Y.** 2025. Effect of Fumigation, Cover Crops, and Potato Growth on Shifts in Soil Microbial Communities. *Science of the Total Environment*. Volume 958, 178032.
3. Chen X, Chen Z, Ng PKW, **Liu Y.** [Probiotic fermentation of soybeans and use of fermented soy in cookies](#). *J Sci Food Agric*. 2025 Dec 24
4. Omwangea, K., Chen, A., Lu, R., Daiek, C., Celini, J., **Liu, Y.** 2025 Exploring the feasibility of near-infrared spectroscopy in analyzing and predicting the chemical and biochemical changes of chitin-amended soils. *Journal of Agricultural Engineering* LVI:1710.
5. Smola MA, Utterback PL, Parsons CM, Chen X, Chen Z, **Liu Y**, Ng PKW, Swanson KS. [Amino acid digestibility and protein quality of fermented soybean-based ingredients using the precision-fed cecectomized rooster assay](#). *J Anim Sci*. 2025 Jan 4; 103. doi: 10.1093/jas/skaf328. PubMed PMID: 40974165; PubMed Central PMCID: PMC12597137.
6. Toleugazykyzy A, Daniyarova A, Bekbayev K, Xu M, **Liu Y**, Liao W. Sugar Beet Residue Valorization Through Anaerobic Digestion for Hydrogen and Methane Generation. *Journal of Innovative Solutions for Eco-Environmental Sustainability*. 2025; :162-162.
7. Xu M, Uludag-Demirer S, **Liu Y**, Liao W. Improving Anaerobic Digestion Efficiency of Animal Manure Through Ball Milling Pretreatment. *Agronomy*. 2025; 15(2):305.
8. Zheng, Y., Czajka, J, Daiek, C, Yang, Z, Sun, L., Tang, Y., **Liu, Y.**, Liao, W. 2023. An algal-bacterial symbiotic system of carbon fixation using formate as a carbon source. *Algal Research* 72, 103103.
9. Cutshaw, A., Frost, H., Uludag-Demirer, S., **Liu., Y.**, Liao, W. 2023 Protein Extraction, Precipitation, and Recovery from *Chlorella sorokiniana* Using Mechanochemical Methods. *Energies* 16(12):4809.

10. Daiek, C., Liao, W., **Liu, Y.** 2022. Effects of water recirculation on microalgae assemblage and corresponding sustainability of the photobioreactor cultivation system. *Biomass and Bioenergy* 157, 106326.
11. Valenti, F., Rojas-Sossa, J., Zhong, Y., Porto, S., Toscano, A., Marsh, T., Dale, B., **Liu, Y.**, Liao, W. 2022. Effects of Mediterranean agricultural residues on microbial community and anaerobic digestion performance. *Biofuels Bioproducts and Biorefining*, (In Press).
12. Thomas, B. D., Uludag-Demirer, S., Frost, H., **Liu, Y.**, Dusenbury, J.S., Liao, W. 2022. Decentralized high-strength wastewater treatment using a compact aerobic baffled bioreactor. *Environmental Management* 305, 114281.
13. Xiao, Z., Zheng, Y., Chimmayi, G., **Liu, Y.**, Liao, W., Tang, Y. 2021. Development of a kinetic model to describe six types of symbiotic interactions in a formate utilizing microalgae-bacteria cultivation system. *Algal Research*. 58, 102372.
14. Xu, M., Uludag-Demirer, S., Fang, D., Zhou, L., Liu Y., Liao, W. 2021. Effects of pyrogenic carbonaceous materials on anaerobic digestion of a nitrogen rich organic waste – Swine manure. *Energy & Fuels* 35 (3), 2282-2292.
15. Cutshaw, A., Daiek, C., Zheng, Y., Frost, H., Marks A., Clements, D., Uludag-Demirer S., Verhanovitz, N., Pavlik, D., Clary, W., Liu, Y., Liao, W. 2020. A long-term pilot-scale algal cultivation on power plant flue gas – Cultivation stability and biomass accumulation. *Algal Research* 52, 102115.
16. Röder, M., Mohr, A., **Liu, Y.** 2020. Sustainable bioenergy solutions to enable development in low- and middle-income countries beyond technology and energy access. *Biomass and Bioenergy*, 143, 105876
17. Chen, A., Guan, Y., Bustamante, M., Uribe, L., Uribe, L., Murillo Roos, M., **Liu, Y.** 2020. Production of renewable fuel and value-added bioproduct using pineapple plant leaves in Costa Rica. *Biomass and Bioenergy*, 141, 105675
18. Zhong, Y., Frost, H., Li, S., **Liu, Y.**, Liao, W. 2020. An environmentally friendly mechano-biocatalytic approach to release mono-sugars from lignocellulosic materials. *Renewable and Sustainable Energy Reviews* 121, 109675. Impact factor 10.56.
19. Zhong, Y., Chen, R., Rojas, J., Isaguirre, C., Mashburn A., Marsh, T., **Liu, Y.**, Liao, W. 2020. Anaerobic co-digestion of energy crop and agricultural wastes to prepare homogenized cellulosic feedstock for biorefining. *Renewable Energy* 147, 1358-1370. Impact factor 5.44.
20. Pavlik, D., Zhong, Y., Daiek, C., Liao, W., Mrogan, R., Clary, B., **Liu, Y.** 2017 Microalgae Cultivation for of Carbon Dioxide Sequestration and Protein Production using a High-efficiency Photobioreactor System, *Algal Research* 25, 413-430. Impact factor 5.01.
21. Li, Q., **Liu, Y.**, Liao, W., Powers, W. 2017. Microalgal cultivation using animal production exhaust air: technical and economic feasibility. *CLEAN - Soil, Air, Water* 45, 1-8. Impact factor 1.95.
22. MacLellan, J., Chen, R., Yue, Z.B., Kraemer, R., **Liu, Y.**, Liao, W. 2017. Effects of protein and lignin on cellulose and xylan analyses of lignocellulosic biomass. *Journal of Integrative Agriculture* 16, 1268-1275. Impact factor 1.02.
23. Liu, Z., Oyetunde, T., Hollingshead, W., Hermanns, A, Tang, Y., Liao, W., **Liu, Y.** 2017. Exploring Eukaryotic Formate Metabolisms to enhance Microbial Growth and Lipid Accumulation. *Biotechnology for Biofuels* 10, 19-31. Impact factor 6.44.
24. Liu, Z., Liao, W., **Liu, Y.** 2016. A sustainable biorefinery concept to convert agricultural residues into value-added chemicals. *Biotechnology for Biofuels* 9, 197-205. Impact factor 6.44.
25. Zhong Y., Liu, Z., Isaguirre, C., Liu, Y., **Liao, W.** 2016. Fungal fermentation on anaerobic digestate for lipid-based biofuel production. *Biotechnology for Biofuels* 9, 253-264. Impact factor 6.44.
26. Chen, R., **Liu, Y.**, Liao, W. 2016. Using environmentally friendly process combining electrocoagulation and algal cultivation to treat high strength wastewater. *Algal Research* 16, 330-337. Impact factor 5.01.

27. Li, Y., Powers, W., Rozeboom, D., **Liu, Y.**, Liao, W. 2016. An integrated Water Curtain-Microalgal Culture system (WCMC) to mitigate air emissions and recover nutrients from animal feeding operations. *Algal Research* 18, 166-174. Impact factor 5.01.
28. Zanolotti, M., Ruan, Z., Bustamante, M., **Liu, Y.**, Liao, W. 2016. A Sustainable Lignocellulosic Biodiesel Production Integrating Solar- and Bio-power Generation. *Green Chemistry* 18, 5059-5068. Impact factor 8.02.
29. Liu, Z., **Liu, Y.** 2016. Synergistic Integration of Electrocoagulation and Algal cultivation to Treat Liquid Anaerobic Digestion Effluent and Accumulate Algal Biomass. *Process Biochemistry* 51, 89-94. Impact factor 2.52.
30. Wang, D., Zhu, Z., Wang, X., Bustamante, M., Xu, Y., **Liu, Y.**, Liao, W. 2015. Improving mycelium-bound lipase production by aggregating *Rhizopus chinensis* on a draft tube in a modified stirred tank fermentor. *Process Biochemistry* 50, 2019-2028. Impact factor 2.52.
31. Wang, X., Ruan, Z., Guan, W., Kraemer, R., Zhong, Y., **Liu, Y.** 2015. Evaluation of Fungal Lactic Acid Accumulation Using Glycerol as the Sole Carbon Source. *Biotechnology and Bioprocess Engineering* 20, 389-395. Impact factor 1.22.
32. Selke, S., Auras, R., Nguyen, T., Castro A., Cheruvathur, R., **Liu, Y.** 2015. Evaluation of Biodegradation-Promoting Additives for Plastics. *Environmental Science & Technology* 49(6), 3769-77. Impact factor 5.48.
33. Ruan, Z., Hollinshead, W., Isaguirre, C., Tang, Y. J., Liao, W., **Liu, Y.** 2015. Effects of inhibitory compounds in lignocellulosic hydrolysates on *Mortierella isabellina* growth and carbon utilization. *Bioresource Technology* 183, 18-24. Impact factor 4.49.
34. Wang, X., Ruan, Z., Sheridan, P., Boileau, D., **Liu, Y.**, Liao, W. 2015. Two-stage phototrophic cultivation to improve carbohydrate production in *Chlamydomonas reinhardtii*. *Biomass and Bioenergy* 74, 280-287. Impact factor 3.41.
35. Wang, X. Q., Ruan, Z. H., Sears, B. B., **Liu, Y.**, Liao, W. 2015. Transgenic expression of a bacterial thermophilic amylase in *Chlamydomonas reinhardtii* chloroplast. *BioEnergy Research* 8, 527-536. Impact factor 3.40.
36. Liu, Z., Stromberg, D., Liu, X., Liao, W., **Liu, Y.** 2015. A new multiple-stage electrocoagulation process on anaerobic digestion effluent to simultaneously reclaim water and clean up biogas. *Journal of Hazardous Materials* 285, 483-490. Impact factor 4.33.
37. Zhong, Y., Ruan, Z., Zhong, Y., Archer, S., **Liu, Y.**, Liao, W. 2015. A self-sustaining advanced lignocellulosic biofuel production by integration of anaerobic digestion and aerobic fungal fermentation. *Bioresource Technology* 179, 173-179. Impact factor 4.49.
38. Hussain J., **Liu, Y.**, Araujo-Lopes, W., de-Souze, C. O., de-Carvalho, G. C., Nascimento, I. A., Liao, W. 2015. Effects of different lipid extraction methods on algal lipid yield, fatty acid profile and biodiesel quality. *Applied Biochemistry and Biotechnology* 175(6), 3048-3057. Impact factor 1.74.
39. Ruan, Z., Zanolotti, M., Archer, S., Liao, W., **Liu, Y.** 2014. Oleaginous fungal lipid fermentation on combined acid- and alkali-pretreated corn stover hydrolysate for advanced biofuel production. *Bioresource Technology* 163, 12-17. Impact factor 4.49.
40. Hussain, J., Ruan, Z., Nascimento, I. A., **Liu, Y.**, Liao, W. 2014. Lipid profiling and corresponding biodiesel quality of *Mortierella isabellina* using different drying and extraction methods. *Bioresource Technology* 169, 768-772. Impact factor 4.49.
41. Chen, R., Thomas, B. D., **Liu, Y.**, Mulbry, W., Liao, W. 2014. Effects of algal hydrolysate as reaction medium on enzymatic hydrolysis of lignocelluloses. *Biomass and Bioenergy* 67, 72-78. Impact factor 3.41.
42. Ji, S., Lu, J., Liu, Z., Srivastava, D., Song, A., **Liu, Y.**, Lee, I. 2014. Dynamic encapsulation of hydrophilic nisin in hydrophobic poly (lactic acid) particles with controlled morphology by a single emulsion process. *Journal of Colloid and Interface Science* 423, 85-93. Impact factor 3.55.
43. Zhang, L., Wang, X.Q., Ruan, Z.H., **Liu, Y.**, Niu, X.R., Yue, Z.B., Li, Z. M., Liao, W., Liu, Y., 2014 Fungal cellulase/xylanase production and corresponding hydrolysis using pretreated corn stover. *Applied Biochemistry and Biotechnology* 172, 1045-1054. Impact factor 1.69.

44. Xiao, Y., Ruan, Z., Liu, Z., Wu, S., Varman, A., **Liu, Y.**, Tang, Y. 2013. Engineering *Escherichia coli* to convert acetic acid to free fatty acids. *Biochemical Engineering Journal* 76, 60-69. Impact factor 2.37.
45. Lu, J., Weerasiri, R., **Liu, Y.**, Wang, W., Ji, S., Lee, I. 2013. Enzyme Production by the Mixed Fungal Culture with Nano-Pretreated Biomass and Enzymatic Hydrolysis. *Biotechnology and Bioengineering* 110, 2123-2130. Impact factor 4.16.
46. Shi, R., Li, Z., Ye, Q., Xu, J., **Liu, Y.** 2013. Heterologous expression and characterization of a novel thermo-halotolerant endoglucanase Cel5H from *Dictyoglomus thermophilum*. *Bioresource Technology* 142, 338-44. Impact factor 5.04.
47. Liu, Z., Ruan, Z., Xiao, Y., Yi, Y., Tang, Y. Liao, W., **Liu, Y.** 2013. Integration of sewage sludge digestion with advanced biofuel synthesis. *Bioresource Technology* 132, 166-172. Impact factor 5.04.
48. Ruan, Z., Zanotti, M., Ducey, C., Liao, W., **Liu, Y.** 2013. Co-hydrolysis of lignocellulosic biomass for microbial lipid accumulation. *Biotechnology and Bioengineering* 110(4), 1039-49. Impact factor 4.16.
49. MacLellan, J., Chen, R., Kraemer, R., Zhong, Y., **Liu, Y.**, Liao, W. 2013. Anaerobic Treatment of Lignocellulosic Material to Co-produce Methane and Digested Fiber for Ethanol Biorefining. *Bioresource Technology* 130, 418-23. Impact factor 5.04.
50. Yue, Z. B., Chen, R., Yang, F., MacLellan, J., Marsh, T., **Liu, Y.**, Liao, W. 2013. Effects of dairy manure and corn stover co-digestion on anaerobic microbes and corresponding digestion performance. *Bioresource Technology* 128, 65-71. Impact factor 5.04.
51. Ruan, Z., Zanotti, M., Wang, X., Ducey, C., **Liu, Y.** (2012) Evaluation of lipid accumulation from lignocellulosic sugars by *Mortierella isabellina* for biodiesel production. *Bioresource Technology* 110, 198-205. Impact factor 4.75.
52. Chen, R., Li, R., Dietz, L., **Liu, Y.**, Stevenson, J., Liao, W. (2012) Freshwater algal cultivation with animal waste for nutrient removal and biomass accumulation. *Biomass and Bioenergy* 39, 128-138. Impact factor 2.98.
53. Chen, R., Yue, Z., Dietz L., **Liu, Y.**, Mulbry, W., Liao, W. 2012. Use of an algal hydrolysate to improve enzymatic hydrolysis of lignocellulose. *Bioresource Technology* 108, 149-154. Impact factor 4.75.
54. Zhang, L., Liu, Y., Niu, X., **Liu, Y.**, Liao, W. 2012. Effects of acid and alkali treated lignocellulosic materials on cellulase/xylanase production by *Trichoderma reesei* Rut C-30 and corresponding enzymatic hydrolysis. *Biomass and Bioenergy* 37, 16-24. Impact factor 2.98.
55. Mulbry, W., Reeves, J., **Liu, Y.**, Ruan, Z., Liao, W. 2012. Near- and mid-infrared spectroscopic determination of algal composition. *Journal of Applied Phycology* 24, 1261-1267. Impact factor 2.33.
56. Teater, C., Yue, Z., MacLellan, J., **Liu, Y.**, Liao, W. 2011. Assessing solid digestate from anaerobic digestion as feedstock for ethanol production. *Bioresource Technology* 102, 1856-1862. Impact factor 4.98.
57. Yue, Z., Teater, C., MacLellan J., **Liu, Y.**, Liao, W. (2011). Development of a new bioethanol feedstock – anaerobically digested fiber from confined dairy operations using different digestion configurations. *Biomass and Bioenergy* 35, 1946-1953. Impact factor 3.65.
58. Li, Z., **Liu Y.**, Liao, W., Chen, S., Zemetra, RS. (2011) Bioethanol production using genetically modified and mutant wheat and barley straws. *Biomass and Bioenergy* 35, 542-548. Impact factor 3.65.
59. Li, Z., **Liu, Y.**, Chi, Z., Chen, S. (2011). Effects of Pluronic F68 on Manganese Peroxidase Production by Pelletized *Phanerochaete chrysosporium*. *Appl Biochem Biotechnol.* 164, 487-96. Impact factor 1.94.
60. Yue, Z., Teater, C., **Liu, Y.**, MacLellan, J., Liao, W. 2010. A sustainable pathway of cellulosic ethanol production integrating anaerobic digestion with biorefining. *Biotechnology and Bioengineering* 105(6) 1031-1039. Impact factor 3.70.
61. **Liu, Y.**, Miller, S. A., Safferman, S. 2009. Screening co-digestion of food waste water with manure for biogas production. *Biofuels Bioproducts & Biorefining – BIOFPR* 3(1) 11-19. Impact factor 4.89.

62. Chi, Z., **Liu, Y.**, Frear, C., Chen, S. 2009. Study of a two-stage growth of DHA-producing marine algae *Schizochytrium limacinum* SR21 with shifting dissolved oxygen level. *Applied microbiology and biotechnology* 81 (6), 1141-1148. Impact factor 2.90.
63. **Liu, Y.**, Liao, W., Chen, S. 2008. Co-production of L-(+)-lactic acid and chitin using a pelletized filamentous fungus *Rhizopus oryzae* NRRL 395 cultured on cull potatoes and glucose. *Journal of Applied Microbiology* 105, 1521-1528. Impact factor 2.03.
64. Wu, B., **Liu, Y.**, Liao, W., Chen, S. 2008. A numerical model for predicting diffusivity in a biocatalyst particle with heterogeneous reactions. *Journal of AIChE* 54(8), 2182-2189. Impact factor 1.88.
65. Liao, W., **Liu, Y.**, Wen, Z., Frear, C., Chen, S. 2008. Kinetic modeling of enzymatic hydrolysis of cellulose in differently pretreated fibers from a nitrogen-rich lignocellulosic material – dairy manure. *Biotechnology and Bioengineering* 101(3), 441-451. Impact factor 2.92.
66. Liao, W., **Liu, Y.**, Frear, C., Chen, S. 2008. Co-production of fumaric acid and chitin from a nitrogen-rich agricultural residue — dairy manure using fungal fermentation. *Bioresource Technology* 99(13), 5859-5866. Impact factor 4.45.
67. **Liu, Y.**, Liao, W., Chen, S. 2008. Study of pellet formation of filamentous fungi—*Rhizopus oryzae* using a multiple logistic regression model. *Biotechnology and Bioengineering* 99(1), 117-128. Impact factor 2.92.
68. Liao, W., **Liu, Y.**, Chen, S. 2007. Studying pellet formation of a filamentous fungus – *Rhizopus oryzae* to enhance organic acid production. *Applied Biochemistry and Biotechnology* 136-140, 689-701. Impact factor 1.04.
69. Liao, W., **Liu, Y.**, Chen, S. 2007. A new approach of pellet formation of a filamentous fungus – *Rhizopus oryzae*. *Bioresource Technology* 98 (18), 3415-3423. Impact factor 4.45.
70. Liao, W., **Liu, Y.**, Wen, Z., Frear, C., Chen, S. 2007. Studying the effects of acid treatment on components of dairy manure and cellulose accumulation using dilute acid treatment. *Bioresource Technology* 98(10), 1992-1999. Impact factor 4.45.
71. Chi, Z., Wen, Z., Hu, B. **Liu, Y.**, Frear, C., Chen, S. 2007. Production of omega-3 polyunsaturated fatty acids from cull potato using a high density algae culture process. *Applied Biochemistry and Biotechnology* 136-140, 805-815. Impact factor 1.04.
72. Liao, W., **Liu, Y.**, Liu, C., Wen, Z., Chen, S. 2006. Acid hydrolysis of fiber from a nitrogen-rich cellulosic material — dairy manure. *Bioresource Technology* 97, 1687 - 1695. Impact factor 4.45.
73. Liu, C., Hu, B., **Liu, Y.**, Chen, S. 2006. Stimulation of nisin production from whey by a mixed culture of *Lactococcus lactis* and *Saccharomyces cerevisiae*. *Applied Biochemistry and Biotechnology* 129-132, 751-761. Impact factor 1.04.
74. **Liu, Y.**, Liao, W., Chen, S. 2006. Optimization of L-(+)-lactic acid production using pellet-form *Rhizopus oryzae* NRRL 395. *Applied Biochemistry and Biotechnology* 129-132, 844-853. Impact factor 1.04.
75. Liao, W., Wen, Z., Hurley, S., **Liu, Y.**, Liu, C., Chen, S. 2005. Effects of hemicellulose, lignin on enzymatic hydrolysis of cellulose from dairy manure. *Applied Biochemistry and Biotechnology* 121-124, 1017-1030. Impact factor 1.04.
76. Liu, C., **Liu, Y.**, Chen, S. 2005. Effects of nutrient supplements on simultaneous fermentation of nisin and lactic acid from cull potatoes. *Applied Biochemistry and Biotechnology* 121, 475-483. Impact factor 1.04.
77. **Liu, Y.**, Wen, Z., Liao, W., Liu, C., Chen, S. 2005. Optimization of L-(+)-lactic acid production process from cull potato by *Rhizopus oryzae*. *Engineering in Life Sciences* 5(4), 343 – 349. Impact factor 1.20.
78. Liao, W., **Liu, Y.**, Liu, C., Chen, S. 2004. Optimizing dilute acid hydrolysis of hemicellulose in a nitrogen-rich cellulosic material—dairy manure. *Bioresource Technology* 94(1), 33 – 41. Impact factor 4.45.

79. Liu, C., **Liu, Y.**, Liao, W., Wen, Z., Chen, S. 2004. Simultaneous production of nisin and lactic acid from cheese whey: optimization of fermentation conditions through statistically based experimental designs. *Applied Biochemistry and Biotechnology* 113, 627-638. Impact factor 1.04.
80. Liu, C., **Liu, Y.**, Liao, W., Wen, Z., Chen, S. 2003. Application of statistically-based experimental designs for the optimization of nisin production from whey. *Biotechnology Letter* 25(11), 877 – 882. Impact factor 1.60.
81. **Liu, Y.**, Jiang, X., Liao, W., Guan, H., 2002. Analysis of oligoguluronic acids with NMR, electrospray ionization-mass spectrometry and high-performance anion-exchange chromatography. *J. Chromatography A*. 968(1-2), 71-78. Impact factor 3.10.
82. **Liu, Y.**, Jiang, X., Guan, H., Cui, H. 2000. Analysis of oligomannuronic acids and oligoguluronic acids by high-performance anion-exchange chromatography and electrospray-ionization mass spectrometry. *J. Chromatography A*. 884, 105-111. Impact factor 4.17.
83. **Liu, Y.**, Jiang, X., Lu, Q., Guan, H. 2000. Effects of polymannuronic acids on the activities of immune enzymes in *Penaeus chinensis*. *Chinese Journal of Fishery*. 6, 1-5 (In Chinese). Impact factor N/A.
84. **Liu, Y.**, Wang, Z., Xu, S. 1998. Study on Purification and Property of β -amylase from Malt. *Journal of Wuxi University of light industry*. 17(1), 39-43 (In Chinese). Impact factor N/A.

Peer-reviewed book chapter

1. Demirer, S., Bustamante, M., **Liu, Y.**, Liao, W.³. 2021. Chapter 6: Techno-economic analysis and life cycle assessment of algal cultivation on liquid anaerobic digestion effluent for algal biomass production and wastewater treatment. In Press Elsevier Science
2. Ruan, Z., Wang, X., Liu, Y., **Liao, W.** 2019. Corn. In *Integrated Processing Technologies for Food and Agricultural By-products*, Pan, Z., Zhang, R., and Zicari, S. (Eds.), Academic Press, Cambridge, MA
3. Liao, W., **Liu, Y.**, Hodge, D. 2014. Biorefineries Integrated Biochemical Processes for Liquid Biofuels: Chapter 13 Integrated Farm-Based Biorefinery. Qureshi, N., Hodge, D., Vertes, A. (Ed.), Elsevier, New York, NY. ISBN: 978-0-444-59498-3.

Conference and symposium publications

1. Schneemann, J., Miller, S., **Liu, Y.**, Safferman, S. 2009. Waste biomass inventory to support renewable energy development. ASABE paper no. 096369. Reno, Nevada.
2. Wu, B., **Liu, Y.**, Liao, W., Chen, S. 2007. A numerical model to predict the diffusivity for the heterogeneous reactions on a biocatalyst particle. ASABE paper. Minneapolis, MN.
3. **Liu, Y.**, Wen, Z., Liao, W., Liu, C., Chen, S. 2003. Optimization of the L (+)-Lactic acid production process from cull potato by *Rhizopus oryzae*. ASAE paper no. 036024. Las Vegas, NV.
4. **Liu, Y.**, Wen, Z. and Chen, S. 2002. Direct fermentation of cull potato to L-(+)-lactic acid using *Rhizopus oryzae*. Paper no. 2022. Bioenergy2002. Boise, ID.

Conference and symposium presentations

1. Cheng, Y., Elhabet, M., Liu, Y., Liao, W., Tsurimaki, Y., Liu, X. 2026. Society of Engineering Science Annual Meeting. Purdue University, West Lafayette, IN, October 11-14.
2. Loomis, V., **Liu, Y.** 2025. Cheese waste stream for Ethanol Fermentation by *Kluyveromyces marxianus*. ASABE Annual International Meeting. Anaheim, California. July 13-16.

3. Thomas, B. D., Emerson, E., Smerigan, B., Monson, C., **Liu, Y.**, Dusenbury, J., Liao, W. 2025. Combined biological and electrochemical processes to produce ammonia fuel from wastewater. Oral presentation at the 2025 SIMB Annual Meeting, San Francisco, CA. July
4. Emerson, M. E., **Liu, Y.**, Liao, W. 2025. Biological and engineering control of a bench-scale wastewater treatment system for enhanced ammonia recovery. Oral presentation at the 2025 ASABE Annual International Meeting, Toronto, Canada. July
5. Emerson, M. E., Rose, J., Aw., T., **Liu, Y.**, Liao, W. 2025. Viral particle interaction and bacterial, viral, and fungal population dynamics during activated sludge wastewater treatment at different hydraulic retention times for nutrient recovery. Poster presentation at Water Micro 2025 – the 22nd Health Related Water Microbiology Conference, Amersfoort, Netherlands. June
6. Cutshaw, A., **Liu, Y.**, Liao, W. 2025. Techno-economic and life cycle assessment of a combined biological and chemical carbon capture system for the power industry. Oral presentation at the 47th Symposium on Biomaterials, Fuels, and Chemicals. Milwaukee, WI. May.
7. Celini, J., Liao, W., **Liu, Y.** 2024. Soil microbial community composition and chemical properties in a year-round corn production. ASABE Annual International Meeting. Anaheim, California. July 28-31.
8. Omwangea, K., Chen, A., Lu, R., Daiek, C., Celini, J., **Liu, Y.** 2024. Investigating the chitin amendment on soil biochemical property changes and exploring the near-infrared spectroscopy for soil property modeling and prediction. ASABE Annual International Meeting. Anaheim, California. July 28-31.
9. Grivins, J., Marks, A., Uludag-Demirer, S., Xu, M., **Liu, Y.**, Liao, W.³ 2024. Formate-added anaerobic digestion to enhance carbon conversion of methane production. Oral presentation at the 2024 ASABE Annual International Meeting, Anaheim, CA. July
10. Emerson, E., Rose, J., **Liu, Y.**, Liao, W. 2024. Bench scale activated sludge municipal wastewater treatment. Oral presentation at the 2024 ASABE Annual International Meeting, Anaheim, CA. July
11. Celini, J., Qin, R., Torabian, S., **Liu, Y.** 2023. Effect of fumigation, cover crops and potato planting on shifts in soil microbial communities. ASABE Annual International Meeting. Omaha, Nebraska, July 8-12.
12. Xu, M., Uludag-Demirer, S., Zheng, Y., Liu, S., **Liu, Y.**, Leytem, A., Liao, W. 2023. Understanding Influences of Seed Preparation on Biomethane Potential Test and Corresponding Anaerobic Microbial Communities. ASABE Annual International Meeting. Omaha, Nebraska, July 8-12.
13. **Liu, Y.**, Bustamante, M., Valenti, F., Zhou, Y., Liao, W. 2022. Techno-economic analysis and life-cycle assessment of co-production ethanol and probiotic yeast from sugar beets. Oral presentation at the ASABE Sustainable Energy for a Sustainable Future conference. San Jose, Costa Rica Oct.23-25.
14. **Liu, Y.**, Daiek, C. 2022. Microalgae Cultivation on Flue Gas in a Water Recirculating Photo-Bioreactor System. Poster presentation at the 2022 ASABE Annual International Meeting. Houston, TX, July 17-July 20.
15. Zhou, Y., **Liu, Y.** 2020. Utilization Residue Sugar Beets for Yeast and Ethanol Production. Oral presentation at the Annual Conference of the Institute of Food Technologists, Chicago, IL July 13-July 15
16. Zheng, Y., Czajka, J., Daiek, C., Tang, Y., **Liu, Y.**, Liao, W. 2020. Development of a robust algae-bacteria assemblage to efficiently accumulate biomass on formate. Oral presentation at the Algae Biomass Summit 2020. September 29.
17. Cutshaw, A., Daiek, C., Zheng, Y., Frost, H., Marks, A., Clements, D., Uludag-Demirer, S., Hsiao, P., Smith, M., Narayan, R., Verhanovitz, N., Clary, W., **Liu, Y.**, Liao, W. 2020. A pilot-scale algal cultivation and biomass utilization of amino acid salt solution and polymer

- production on power plant flue gas. Oral presentation at the Algae Biomass Summit 2020. September 16.
18. Xu, M., Uludag-Demirer, S., Smerigan, A., Fang, D., Zhou, L., **Liu, Y.**, Liao, W. 2020. Effects of pyrogenic carbonaceous materials on anaerobic digestion of swine manure. Oral presentation at the 2020 ASABE Annual International Meeting. Online. July 13-July 15
 19. Frost, H., Uludag-Demirer, S., **Liu, Y.**, Liao, W. 2020. An energy-neutral feedstock handling system to produce lignocellulosic fuels and chemicals. Oral presentation at the 2020 ASABE Annual International Meeting. Online. July 13- July 15
 20. Xu, M., Uludag-Demirer, S., Smerigan, A., Fang, D., Zhou, L., **Liu, Y.**, Liao, W. 2019. Effects of biochar and activated carbon on anaerobic digestion of a nitrogen-rich organic waste – swine manure. Oral presentation at the 2019 ASABE Annual International Meeting, Boston, MA. July 8-10
 21. Zheng, Y., Clements, D., Cheng, S., **Liu, Y.**, Liao, W. 2019. Synergistic Integration of Gas Separation and Algal Cultivation to Capture CO₂. Oral presentation at the 2019 ASABE Annual International Meeting, Boston, MA. July 8-10
 22. **Liu, Y.**, Song, L., Liao, W. 2018. Algal protein extraction by ball mill. Oral presentation at the 2018 ASABE Annual International Meeting, Detroit, MI. July 29-August 1, 2018.
 23. **Liu, Y.**, Liao, W., Pavlik, D., Clary, W. 2017. Microalgae Cultivation Using a High-efficiency Photobioreactor System for Flue Gas Carbon Dioxide Sequestration. Poster presentation at 2017 ASABE Annual International Meeting, Spokane, WA. July 16-19.
 24. Zhong, Y., Liu, Z., Isaguirre, C., **Liu, Y.**, Liao, W. 2016. Fungal fermentation on anaerobic digestate for lipid-based biofuel production. Oral presentation at the 2016 ASABE Annual International Meeting, Orlando, FL. July 17-20.
 25. Liu, Z., Vanderberg, M., Sanyal, O., Lee, I., Liao, W., **Liu, Y.** 2016. A novel approach to simultaneously clean up biogas and reclaim water from anaerobic digestion. Oral presentation at the 2016 ASABE Annual International Meeting, Orlando, FL. July 17-20.
 26. Zanolini, M., Ruan, Z., Bustamente, M., **Liu, Y.**, Liao, W. 2016. A sustainable lignocellulosic biodiesel production integrating solar and bio-power generation. Oral presentation at the 38th Symposium on Biotechnology for Fuels and Chemicals, Baltimore, MD. April 25 – April 28.
 27. Liu, Z., **Liu, Y.**, Liao, W. 2016. A self-sustaining biorefining concept to convert agricultural residues into high-value chemicals. Poster presentation at the 38th Symposium on Biotechnology for Fuels and Chemicals, Baltimore, MD. April 25 – April 28.
 28. Liu, Z., Vanderberg, M., Liao, W., **Liu, Y.** 2015. An integrated process to clean up biogas, reclaim water and utilize solid residues - magnifying sustainability of Anaerobic Digestion. Oral presentation at the 2015 AIChE Annual International Meeting, Salt Lake City, UT. November 6-9.
 29. Liao, W., Chen, R., Roman, M., Liu, Z., Sanyal, O., **Liu, Y.**, Lee, I. 2015. Integrating solar-bio-nano-technologies to develop a self-sustaining organic waste utilization system. Oral presentation at the 2015 ASABE Annual International Meeting, New Orleans, LA. July 26-29.
 30. Zhong, Y., Ruan, Z., Zhong, Y., Archer, S., **Liu, Y.**, Liao, W. 2015. A self-sustaining advanced lignocellulosic biofuel production by integration of anaerobic digestion and aerobic fungal fermentation. Oral presentation at the 2015 ASABE Annual International Meeting, New Orleans, LA. July 26-29.
 31. Li, Q., Powers, W., Rozeboom, D., **Liu, Y.**, Liao, W. 2015. Mitigate air emissions from animal feeding operations and recover nutrients using an integrated water curtain-microalgal culture system. Oral presentation at the 2015 ASABE Annual International Meeting, New Orleans, LA. July 26-29.
 32. Liu, Z., Liao, W., **Liu, Y.** 2015. Integrating electrocoagulation (EC) and biological routes to convert organic residues into value-added chemicals. Poster presentation at the 37th Symposium on Biotechnology for Fuels and Chemicals, San Diego, CA. April 27 – April 30.
 33. Li, Q., **Liu, Y.**, Liao, W., Powers, W. 2014. Integrated wet scrubbers-microalgae culture system: design and evaluation. Oral presentation at the 2014 ASABE Annual International Meeting, Montreal, Canada. July 13-17.

34. Li, Q., **Liu, Y.**, Liao, W., Powers, W. 2014. Cultivating microalgae using animal production exhaust air as a nutrient source – a laboratory scale study. Oral presentation at the 2014 ASABE Annual International Meeting, Montreal, Canada. July 13-17.
35. Liu, Z., Liao, W., **Liu, Y.** 2014. A new anaerobic digestion effluent utilization system integrating electrocoagulation and algal accumulation. Oral presentation at the 2014 ASABE Annual International Meeting, Montreal, Canada. July 13-17.
36. Ruan, Z., Zanotti, M., Liao, W., **Liu, Y.**, 2014. Development of an advanced biological process to convert lignocellulose into lipid-based fuel. Oral presentation at the 2014 ASABE Annual International Meeting, Montreal, Canada. July 13-17.
37. Wang, X., Ruan, Z., Sheridan, P., Boileau, D., **Liu, Y.**, Liao, W. 2014. Enhancement of microalgal biomass for bioethanol production. Oral presentation at the 36th Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL. April 28 – May 1.
38. Ruan, Z., Zanotti, M., Liao, W., **Liu, Y.** 2014. Development of an advanced biological process to convert lignocellulose into lipid-based fuel. Poster presentation at the 36th Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL. April 28 – May 1.
39. Liu, Z., Liao, W., **Liu, Y.** 2013. Reclaiming Water from Anaerobic Digestion Effluent using Electrocoagulation Flotation (ECF) Treatment. Oral presentation at ASABE 2013. Kansas City, Missouri. July 21 – July 24.
40. Zanotti, M., Ruan, Z., **Liu, Y.**, Liao, W. 2013 Conceptual mass and energy balance for solar-powered fungal biodiesel refinery on lignocellulosic feedstock. Poster presentation at ASABE 2013. Kansas City, Missouri. July 21 – July 24.
41. Liu, Z., Ruan, Z., Xiao, Y., Yi, Y., Tang, Y., **Liu, Y.**, Liao, W. 2012. Microbial conversion of sewage sludge for advanced fuel production. Oral presentation at the Fecal Sludge Management Conference 2012. Durban, South Africa. October 29-31.
42. Chen, R., Yue, Z., Yang, F., MacLellan, J., Marsh, T., **Liu, Y.**, Liao, W. 2012. Effects of farm wastes co-digestion on microbial community, methane production, and fiber quality as biorefining feedstock. Oral presentation at the 2012 AIChE Annual meeting, Pittsburgh, PA. October 28-November 2.
43. Wang, X., Sears, B. B., **Liu, Y.**, Liao, W. 2012. Transgenic expression of a bacterial exo-acting intracellular amylase in the *Chlamydomonas reinhardtii* chloroplast. Oral presentation at the 2012 AIChE Annual meeting, Pittsburgh, PA. October 28-November 2.
44. Ruan, Z., Zanotti, M., Zhong, Y., Ducey, C., Liao, W., **Liu, Y.** 2012. Comparison of fungal lipid accumulation on different lignocellulosic feedstocks. Oral presentation at the 2012 AIChE Annual meeting, Pittsburgh, PA. October 28-November 2.
45. Liao, W., Yue, Z.B., Teater C., **Liu, Y.**, Chen, R., MacLellan, J., Deitz, L., Stevenson, J. 2011. Integrated farm-based biorefining concept for agricultural residue utilization. Poster presentation at the National Academies Keck Futures Initiative Conference. Irvine, CA. November 10-13.
46. Chen, R., Yue, Z., Deitz, L., Wang, J., **Liu, Y.**, Liao, W. 2011. Dilute Acid Pretreatment of Farm-Waste Cultured Algae and Its Effects on Enzymatic Hydrolysis of Cellulose. Oral presentation at the AIChE 2011 Annual International Meeting, Minneapolis, MN. Oct. 16-21.
47. Wang, X., Ruan, Z., **Liu, Y.**, Liao, W., 2011. Comparison of General Metabolism of *Rhizopus oryzae* Using Glycerol and Glucose as Carbon Sources via Metabolic Flux Analysis. Oral presentation at the AIChE 2011 Annual International Meeting. Minneapolis, MN. Oct. 16-21.
48. Zhenhua Ruan, Xiaoqing Wang, **Liu, Y.**, Wei Liao, 2011. Study of Microbial Lipid Accumulation by *Mortierella isabellina* Using Different carbon Sources. Poster presentation at the AIChE 2011 Annual International Meeting. Minneapolis, MN. Oct. 16-21.
49. Liao, W., Yue, Z.B., Teater C., **Liu, Y.**, Chen, R., MacLellan, J., Deitz, L., Stevenson, J. 2011. Integrated Farm-based Biorefining. Oral presentation at the ASABE 2011 Annual International Meeting. Louisville, KY. August 7-10.
50. Liao, W., Yue, Z. B., Teater, C., Chen, R., MacLellan, J., Deitz, L., **Liu, Y.**, Stevenson, J. 2010. Integrated farm-based biorefinery (IFBBR). Poster presentation at the 32nd symposium on biotechnology for fuels and chemicals, Clearwater, FL. April 19- April 23.

51. Zhang, L., Liu, Y., Niu, X. R., **Liu, Y.**, Yue, Z. B., Liao, W. 2010. Hydrolysis of cellulosic materials using fungal enzymes cultured on different carbon sources. Poster presentation at the 32nd symposium on biotechnology for fuels and chemicals, Clearwater, FL. April 19- April 23.
52. Liu, Y., Zhang, L., Yue, Z. B., **Liu, Y.**, Liao, W. 2009. Enhanced cellulase and xylanase production from pelletized *Trichoderma Reesei* fermentation. Oral presentation at the AIChE Annual Meeting 2009. Nashville, TN. November 9 – November 13.
53. Schneemann, J., Miller, S., **Liu, Y.**, Safferman, S. 2009. Waste biomass inventory to support renewable energy development. Oral presentation at ASABE 2009. Reno, NV. June 21 – June 24.
54. Liao, W., **Liu, Y.**, Wu, B., Chen, S. 2009. Coupled mixing flow and mass transfer model for pelletized fungal fermentation. Oral presentation at the Inverse Problems Symposium 2009. East Lansing, MI. June 1-2.
55. **Liu, Y.**, Li, R., Chen, R., Liao, W., Stevenson, J. 2009. Algae research for energy/chemical products. Oral presentation at the Michigan Agri-energy conference 2009. Kalamazoo, MI. March 30 – March 31.
56. Liao, W., Yue, Z. B., Teater, C., **Liu, Y.**, Safferman, S. 2009. Integrated anaerobic digestion system for small-medium farms. Oral presentation at the Michigan Agri-energy conference 2009. Kalamazoo, MI. March 30 – March 31.
57. Liao, W., Safferman, S., **Liu, Y.**, Stevenson, J. 2009. Alternative energy production on the farm. Oral presentation at the 2009 agriculture's conference on the environment. Lansing, MI. January 28.
58. Liao, W., **Liu, Y.**, Chen, S. 2008. Production of lignocellulosic enzymes using mixture culture of pelletized fungi. Oral presentation at the northeast renewable energy conference. State College, PA. August 25 – August 28.
59. Li, Z., **Liu, Y.**, Liao, W., Jiang, A., Johson, R. L., Wilson, J., Liu, C., Chen, S., Koehler, T., Zemetra, R. S., Souza, E. J. 2008. Effects of genetic modified and mutant straws on bio-ethanol production. Oral presentation at the 30th symposium on biotechnology for fuels and chemicals. New Orleans, LA. May 4 – May 7.
60. **Liu, Y.**, Liao, W., Li, Z., Chen, S. 2008. Production of ligninase from wheat straw using a pelletized *Phanerochaete chrysosporium* Culture. Poster presentation at the 30th symposium on biotechnology for fuels and chemicals. New Orleans, LA. May 4 – May 7.
61. Wu, B., **Liu, Y.**, Liao, W., Chen, S. 2007. Numerical simulation of coupled mixing flow and mass transfer model in fungal fermentation process. Oral presentation at the AIChE Annual Meeting 2007. Salt Lake City, UT. November 5-10.
62. Wu, B., **Liu, Y.**, Liao, W., Chen, S. 2007. A numerical model to predict the diffusivity for the heterogeneous reactions on a biocatalyst particle. Oral presentation at the ASABE Annual International Meeting 2007. Minneapolis, MN. June 17 – June 20.
63. Liao, W., **Liu, Y.**, Chen, S. 2007. Enhance the Production of Ligninases using a Pelletized *Phanerochaete chrysosporium* Culture. Poster presentation at the 29th symposium on biotechnology for fuels and chemicals. Denver, CO. April 30 – May 3.
64. **Liu, Y.**, Liao, W., Chen, S. 2006. Production of L-(+)-lactic acid from a pelletized filamentous *Rhizopus oryzae* culture using cull potatoes and glucose as nutrients. Poster presentation at the 28th symposium on biotechnology for fuels and chemicals. Nashville, TN April 30 – May 3.
65. Chi, Z., Wen, Z., Hu, B. **Liu, Y.**, Frear, C., Chen, S. 2006. Production of omega-3 polyunsaturated fatty acids from cull potato using a high density algae culture process. Poster presentation at the 28th symposium on biotechnology for fuels and chemicals. Nashville, TN April 30 – May 3.
66. Hu, B., **Liu, Y.**, Chi, Z., Chen, S. 2006. Biological hydrogen production via bacteria immobilized in calcium alginate gel beads. Poster presentation at the 28th symposium on biotechnology for fuels and chemicals. Nashville, TN April 30 – May 3.
67. Liao, W., **Liu, Y.**, Chen, S. 2006. A new approach of pellet formation of a filamentous fungus – *Rhizopus oryzae*. Poster presentation at the 28th symposium on biotechnology for fuels and chemicals. Nashville, TN April 30 – May 3.

68. Liao, W., **Liu, Y.**, Wen, Z., Chen, S. 2006. Studying effects of acid treatment on components of dairy manure. Poster presentation at the 28th symposium on biotechnology for fuels and chemicals. Nashville, TN April 30 – May 3.
69. Liao, W., **Liu, Y.**, Wen, Z., Liu, C., Chen, S. 2005. Enzymatic hydrolysis of hydrogen peroxide pretreated fiber from an agricultural residue—dairy manure. Poster presentation at the 27th symposium on biotechnology for fuels and chemicals. Denver, CO May 1-4.
70. Liu, C., Hu, B., **Liu, Y.**, Chen, S. 2006. Stimulation of nisin production from whey by a mixed culture of *Lactococcus lactis* and *Saccharomyces cerevisiae*. Poster presentation at the 27th symposium on biotechnology for fuels and chemicals. Denver, CO May 1-4.
71. **Liu, Y.**, Liao, W., Chen, S. 2005. Optimization of L-(+)-lactic acid production using pellet-form *Rhizopus oryzae* NRRL 395. Poster presentation at the 27th symposium on biotechnology for fuels and chemicals. Denver, CO May 1-4.
72. **Liu, Y.**, Liao, W., Chen, S. 2005. Co-production of Lactic Acid from A Pelletized Filamentous *Rhizopus oryzae* Culture Using Cull Potatoes as Raw Material. Oral presentation at the World Congress on Industrial Biotechnology and Bioprocessing, Orlando, FL April 19-22.
73. Liao, W., **Liu, Y.**, Chen, S. 2005. Fumaric acid production from a nitrogen-rich agricultural residue — dairy manure using fungal fermentation. Oral presentation at the World Congress on Industrial Biotechnology and Bioprocessing, Orlando, FL April 19-22.
74. Chen, S., Liu, C., **Liu, Y.**, Liao, W. 2004. Using cull potatoes as feedstock for nisin and lactic acid production. Oral presentation at ASAE 2004. Ottawa, Ontario, Canada. August 1-4.
75. Liao, W., Wen, Z., Hurley, S., **Liu, Y.**, Liu, C., Chen, S. 2004. Effects of hemicellulose, lignin on enzymatic hydrolysis of cellulose from dairy manure. Poster presentation at the 26th symposium on biotechnology for fuels and chemicals. Chattanooga, TN May 9-12.
76. **Liu, Y.**, Wen, Z., Liao, W., Liu, C., Chen, S. 2004. Optimization of L-(+)-lactic acid production process from cull potato by *Rhizopus oryzae*. Poster presentation at the 26th symposium on biotechnology for fuels and chemicals. Chattanooga, TN May 9-12.
77. Liu, C., **Liu, Y.**, Liao, W., Chen, S. 2004. Effects of nutrient supplements on simultaneous fermentation of nisin and lactic acid from cull potatoes. Poster presentation at the 26th symposium on biotechnology for fuels and chemicals. Chattanooga, TN May 9-12.
78. Liu, C., **Liu, Y.**, Liao, W., Wen, Z., Chen, S. 2003. Simultaneous production of nisin and lactic acid from cheese whey. Oral presentation at 25th symposium on biotechnology for fuels and chemicals. Breckenridge, CO May 4-7.
79. **Liu, Y.**, Wen, Z., Liao, W., Liu, C., Chen, S. 2003. Optimization of the L (+)-Lactic acid production process from cull potato by *Rhizopus oryzae*. Poster presentation at ASAE 2003. Las Vegas, NV July 26-29.
80. **Liu, Y.**, Wen, Z. and Chen, S. 2002. Direct Fermentation of Cull Potato to L (+)-Lactic Acid Using *Rhizopus oryzae*, The 2002 Bioenergy Conference oral presentation and poster. Boise, ID Sept. 23-26.
81. **Liu, Y.**, Jiang, X., Guan, H., Cui, H. 1999. Analysis of Oligomannuronic Acids and Oligoguluronic Acids by High-performance Anion-exchange Chromatography and Electrospray-ionization Mass Spectrometry. Poster presentation at 12th International Ion Chromatography Symposium. San Jose, CA Sept. 12-15.

PROFESSIONAL ACTIVITIES

A. Professional Societies and Organization Memberships

Membership in:

- American Society of Agricultural and Biological Engineers (ASABE) since 2007
- Institute of Food Technologists (IFT) since 2014
- American Institute of Chemical Engineers (AIChE) 2010-2013

- American Society for engineering Education (ASEE) 2015

B. Membership on conference Steering and Scientific Committees

- Co-organizer of the 1st Canada-US Symposium on Microalgae for Bioenergy, 2012. Sarnia-Lambton, Ontario, Canada.
- Secretary of PRS-707 Food and Organic Waste Management and Utilization committee, 2015 ASABE annual meeting, New Orleans, Louisiana
- Moderator of Session “Anaerobic digestion and advances in manure, food and organic waste” 2015 ASABE Annual Meeting, New Orleans, Louisiana
- Moderator of Session PRS-707 “Upgrading of biogas and byproducts from anaerobic digestion to fuels and chemicals” 2016 ASABE annual meeting, Orlando, Florida
- Co-Chair/Moderator of Session PRS-280 “Bioprocess Modeling” 2016 ASABE annual meeting, Orlando, Florida
- Chair of PRS-707 Food and Organic Waste Management and Utilization committee, 2017 ASABE annual meeting, Spokane, Washington
- Session chair at the 2020 IFT annual conference. Session 127 : Utilization of Food wastes for value added product development: Convert Food Wastes into Value Added Products
- ASABE Women's Speed Networking events July 12, 2021
- IFT FIRST 2022, MSU Food Science Department Booth: Food Science and Food Law, July 11-13, 2022 Chicago Illinois
- ASABE 2022 PRS-707 Food and Organic Waste Management and Utilization committee meeting
- ASABE Women's Speed Networking events July 18, 2022

C. Review Duties

Served as the Associate Editor for journal of Biomass and Bioenergy from January 01, 2018 to present.

Served as ad-hoc reviewers:

- NSF/BIO/MCB 2025
- USDA ARS proposal review 2025
- USDA AFRI Sustainable Agricultural Systems (SAS) 2020
- The U.S. Army Corps of Engineers’ Engineer Research and Development Center (ERDC)
- The Sun Grant Program – South Central Region (SGP-SCR).
- USDA SBIR 2018
- USDA Foundational grant 2018, 2026