YI WANG

Associate Professor
Department of Biosystems Engineering
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Research Interests

- Biofuels, biochemicals, and bioproducts production: metabolic engineering, synthetic biology, bioprocess engineering, and biochemical engineering
- Waste management and water pollution control: waste/wastewater treatment, valorization, reclamation, and reuse through biological engineering approaches
- Bioremediation: biodegradation and biotransformation of emerging environmental contaminants
- Human/animal/environmental health: Pathogen detection, control, and treatment with synthetic biology and biological engineering strategies
- Environmental molecular biology: microbial genomics, genetics and transcriptomics

Education

Ph.D., Agricultural and Biological Engineering
University of Illinois at Urbana-Champaign (UIUC) 2012

M.S., Environmental Engineering, 2006
University of Science and Technology of China (USTC)

B.S., Environmental Engineering, 2003
University of Science and Technology Beijing (USTB)

Professional Experience

Associate Professor, 2020-Present
Department of Biosystems Engineering, Auburn University

Adjunct Associate Professor, 01/2022-Present
Department of Chemical Engineering, Auburn University

Assistant Professor, 2015-2020
Department of Biosystems Engineering, Auburn University

Post-Doc Research Associate, 2012-2014
Center for Advanced BioEnergy Research (CABER), UIUC

Peer-Reviewed Journal Publications

(#1-60: published after joining Auburn; *: Corresponding Author; Google Scholar Citation: 3,303 as of 8/17/2022; h-index: 31; i10-Index: 63; Google Scholar: http://goo.gl/4nMpMc).

1. J. Feng, J. Zhang, Y. Ma, Y. Feng, S. Wang, N. Guo, H. Wang, P. Wang, P. Jiménez-Bonilla, Y. Gu, J. Zhou, Z.T. Zhang, M. Cao, D. Jiang, S. Wang, X.W. Liu, Z. Shao, I. Borovok, H. Huang*, **Y. Wang***. 2021. Renewable fatty acid ester production in *Clostridium*. ***Nature Communications***. 12:4368. *(**Highlighted and featured by Editor as one of the 50 best papers published in "Biotechnology and methods" area*).

2. P. Jiménez-Bonilla, J. Feng, S. Wang, J. Zhang, Y.F. Wang, D. Blersch, L.E. de-Bashan, P. Gaillard, L. Guo, **Y. Wang***. 2021. Identification and investigation of autolysin genes in *Clostridium saccharoperbutylacetonicum* N1-4 for enhanced biobutanol production. *Applied and Environmental Microbiology*. 87:e02442-20.
3. Y. Ma, S. Liu, **Y. Wang**, Y.F. Wang. 2022. Processing wet microalgae for direct biodiesel production: optimization of the two-stage process assisted by radio frequency heating. *International Journal of Green Energy.* 1-9. DOI: 10.1080/15435075.2022.2070023.
4. D. Xing, B. Su, M. Bangs, S. Li, J. Wang, L. Bern, R.M.C. Simora, W. Wang, X. Ma, M. Coogan, A. Johnson, Y. Wang, Z. Qin, R. Dunham. 2022. CRISPR/Cas9-mediated knock-in method can improve the expression and effect of transgene in P1 generation of channel catfish (*Ictalurus punctatus*). *Aquaculture*. 560:738531.
5. J. Li, S. Shi, **Y. Wang**, Z. Jiang. 2021. Integrated production of optically pure L-lactic acid from paper mill sludge by simultaneous saccharification and co-fermentation (SSCF). *Waste management*. 129:35-46.
6. X. You, Q. Liao, **Y. Wang**, Y. Zhao, C. Jin, M. Gao, Z. She, G. Wang, L. Guo. 2021. Integrating acidogenic fermentation and microalgae cultivation of Bacterial-Algal Coupling System (BACS) for mariculture wastewater (MW) treatment. *Bioresource Technology*. 320:124335.
7. Y. Huang, W. Bugg, M. Bangs, G. Qin, D. Drescher, N. backenstose, C.C. Weng, Y. Zhang, K. Khalil, S. Dong, A. Elaswad, Z. Ye, C. Lu, K. Vo, R.M. Simora, X. Ma, Z. Taylor, Y. Yang, T. Zhou, J. Guo, G. Salze, Z. Qin, **Y. Wang**, R.A. Dunham. 2021. Direct and pleiotropic effects of the masou salmon Delta5-desaturase transgene in F1 channel catfish (*Ictalurus punctatus*). *Transgenic Research*. 30:185-200.
8. S. Lu, H. Jin, **Y. Wang**, Y. Tao. Genome-wide transcriptomic analysis of n-caproic acid production in *Ruminococcaceae* bacterium CPB6 with lactate supplementation. *Journal of Microbiology and Biotechnology* 2021, *31*.
9. Y. Wang, Z. Chen, M. Haefner, S. Guo, N. DiReda, Y. Ma, **Y. Wang**, C.T. Avedisian. 2021. Combustion of n-butyl acetate synthesized by a new and sustainable biological process and comparisons with an ultrapure commercial n-butyl acetate produced by conventional Fischer esterification. *Fuel*. 304, 121324.
10. J. Lian, **Y. Wang***, Y. Luo, C. Li. 2020. Development and application of novel genome engineering tools in microbial biotechnology. *Frontiers in Bioengineering and Biotechnology*. 8:1415.
11. X. Cao, Z. Chen, L. Liang, L. Guo, Z. Jiang, F. Tang, Y. Yun, **Y. Wang***. 2020. Co-valorization of paper mill sludge and corn steep liquor for enhanced *n*-butanol production with *Clostridium tyrobutyricum* Δ*cat1::adhE2*. *Bioresource Technology.* 296:122347.
12. J. Zhou, Z. Chen, **Y. Wang***. 2020. Bioaldehydes and beyond: expanding the realm of bio-derived chemicals using biogenic aldehydes as platforms. *Current Opinion in Chemical Biology.* 59:37-46.
13. Z. Chen, J. Zhou, Y.F. Wang, **Y. Wang***. 2020. Nano on micro: tuning microbial metabolisms by nano-based artificial mediators to enhance and expand production of biochemicals. *Current Opinion in Biotechnology.* 64:161-168.
14. P. Jiménez-Bonilla, J. Zhang, Y.F. Wang, D. Blersch, L. de-Bashan, L. Guo, **Y. Wang***. 2020. Enhancing the tolerance of *Clostridium saccharoperbutylacetonicum* to lignocellulosic-biomass-derived inhibitors for efficient biobutanol production by

overexpressing efflux pumps genes from *Pseudomonas putida*. *Bioresource Technology*. 312:123532.

15. J. Feng, W. Zong, P. Wang, Z.T. Zhang, Y. Gu, M. Dougherty, I. Borovok*, **Y. Wang***. 2020. RRNPP-type quorum-sensing systems regulate solvent formation, sporulation and cell motility in *Clostridium saccharoperbutylacetonicum*. *Biotechnology for Biofuels*. 13:84.
16. J. Zhang, W. Hong, L. Guo, Y.F. Wang, **Y. Wang***. 2020. Enhancing plasmid transformation efficiency and enabling CRISPR-Cas9/Cpf1-based genome editing in *Clostridium tyrobutyricum*. *Biotechnology and Bioengineering*. 117:2911-2917.
17. Y. Ma, P. Wang, **Y. Wang***, S. Liu, Q. Wang, Y.F. Wang*. 2020. Fermentable sugar production from wet microalgae residual after biodiesel production assisted by radio frequency heating. *Renewable Energy.* 155:827-836.
18. Z. Zhang, P. Gao, L. Guo, **Y. Wang**, Z. She, M. Gao, Y. Zhao, C. Jin, G. Wang. 2020. Elucidating temperature on mixotrophic cultivation of a *Chlorella vulgaris* strain: different carbon source application and enzyme activity revelation. *Bioresource Technology*. 314:123721.
19. X. Li, L. Guo, Y. Liu, **Y. Wang**, Z. She, M. Gao, Y. Zhao. 2020. Enhancing swine wastewater hydrolysis with thermophilic bacteria and assisted pretreatments. *Water Environment Research.* 92:954-958.
20. P. Gao, L. Guo, J. Sun, **Y. Wang**, Z. She, M. Gao, Y. Zhao, C. Jin. 2020. Effect of alkyl polyglycosides on the performance of thermophilic bacteria pretreatment for saline waste sludge hydrolysis. *Bioresource Technology.* 296:122307.
21. H. Xu, L. Guo, S. Guo, **Y. Wang**, Z. She, M. Gao, Y. Zhao, C. Jin. 2020. Effect of magnetic powder on denitrification using the sludge alkaline fermentation liquid as carbon source. *Environmental Science and Pollution Research*. 27:7712-7719.
22. Z. Zhang, L. Guo, **Y. Wang**, Y. Zhao, Z. She, M. Gao, Y. Guo. 2020. Application of iron oxide (Fe_3O_4) nanoparticles during the two-stage anaerobic digestion with waste sludge: Impact on the biogas production and the substrate metabolism. *Renewable Energy*. 146:2724-2735.
23. X. Li, L. Guo, Y. Liu, **Y. Wang**, Z. She, M. Gao, Y. Zhao. 2020. Effect of salinity and pH on dark fermentation with thermophilic bacteria pretreated swine wastewater. *Journal of Environmental Management*, **271**, 111023.
24. F.B. Browne, X. Li, K.J. Price, J. Wang, **Y. Wang**, G.R. Kruger, J. Golus, G.C. Macedo, B.C. Vieira, T. Sandlin. 2020. Dicamba retention in commercial sprayers following triple rinse cleanout procedures, and soybean response to contamination concentrations. *Agronomy*. 10:772.
25. P. Wang, J. Feng, L. Guo, O. Fasina, **Y. Wang***. 2019. Engineering *Clostridium saccharoperbutylacetonicum* for high level Isopropanol-Butanol-Ethanol (IBE) production from acetic acid pretreated switchgrass using the CRISPR-Cas9 system. *ACS Sustainable Chemistry & Engineering*. 7:18153-18164.
26. P. Wang, J. Zhang, J. Feng, S. Wang, L. Guo, Y.F. Wang, Y.Y. Lee, S. Taylor, T. McDonald, **Y. Wang***. 2019. Enhancement of acid re-assimilation and biosolvent production in *Clostridium saccharoperbutylacetonicum* through metabolic engineering for efficient biofuel production from lignocellulosic biomass. *Bioresource Technology*. 281:217-225.
27. P. Wang, Y.M. Chen, Y. Wang, Y.Y. Lee, W. Zong, S. Taylor, T. McDonald, **Y. Wang***. 2019. Towards comprehensive lignocellulosic biomass utilization for bioenergy

production: Efficient biobutanol production from acetic acid pretreated switchgrass with *Clostridium saccharoperbutylacetonicum* N1-4. *Applied Energy.* 236:551-559.

28. Y. Ma, S. Liu, **Y. Wang**, S. Adhikari, T.A. Dempster, Y.F. Wang. 2019. Direct biodiesel production from wet microalgae assisted by radio frequency heating. *Fuel*. 256:115994.
29. Y. Gu, J. Feng, Z.T. Zhang, S. Wang, L. Guo, Y.F. Wang, **Y. Wang***. 2019. Curing the endogenous megaplasmid in *Clostridium saccharoperbutylacetonicum* N1-4 (HMT) using CRISPR-Cas9 and preliminary investigation of the role of the plasmid for the strain metabolism. *Fuel*. 236:1559-1566.
30. P. Gao, L. Guo, J. Sun, **Y. Wang**, Z. She, M. Gao, Y. Zhao. 2019. Enhancing the hydrolysis of saline waste sludge with thermophilic bacteria pretreatment: New insights through the evolution of extracellular polymeric substances and dissolved organic matters transformation. *Science of the Total Environment.* 670:31-40.
31. P. Gao, L. Guo, J. Sun, **Y. Wang**, Z. She, M. Gao, Y. Zhao. 2019. Accelerating waste sludge hydrolysis with alkyl polyglucose pretreatment coupled with biological process of thermophilic bacteria: Hydrolytic enzyme activity and organic matters transformation. *Journal of Environmental Management.* 247:161-168.
32. J. Zhang, W. Zong, W. Hong, Z.T. Zhang, **Y. Wang*.** 2018. Exploiting endogenous CRISPR-Cas system for multiplex genome editing in *Clostridium tyrobutyricum* and engineer the strain for high-level butanol production. *Metabolic Engineering*. 47:49-59.
33. J. Zhang, P. Wang, X. Wang, J. Feng, H.S. Sandhu, **Y. Wang***. 2018. Enhancement of sucrose metabolism in *Clostridium saccharoperbutylacetonicum* N1-4 through metabolic engineering for improved acetone–butanol–ethanol (ABE) fermentation. *Bioresource Technology*. 270:430-438.
34. J. Zhang, W. Hong, W. Zong, P. Wang, **Y. Wang***. 2018. Markerless genome editing in *Clostridium beijerinckii* using the CRISPR-Cpf1 system. *Journal of Biotechnology*. 284:27-30.
35. H. Wang, X. Li, **Y. Wang**, Y. Tao, S. Lu, X. Zhu, D. Li. 2018. Improvement of *n*-caproic acid production with *Ruminococcaceae* bacterium CPB6: selection of electron acceptors and carbon sources and optimization of the culture medium. *Microbial Cell Factories*. 17:99.
36. W. Hong, J. Zhang, G. Cui, L. Wang, **Y. Wang*.** 2018. Multiplexed CRISPR-Cpf1-mediated genome editing in *Clostridium difficile* toward the understanding of pathogenesis of *C. difficile* infection. *ACS Synthetic Biology*. 7:1588-1600.
37. S. Wang, W. Hong, S. Dong, Z.T. Zhang, J. Zhang, L. Wang, **Y. Wang*.** 2018. Genome engineering of *Clostridium difficile* using the CRISPR-Cas9 system. *Clinical Microbiology and Infection*. 24(10):1095-1099.
38. W. Hong, Y. Cheng, F. Rao, J. Yang, G. Cui, Z. Chen, J. Liao, X. Huang, J. Zhang, P. Wang, S. Wang, **Y. Wang**, Z. Guan, X. Qi. 2018. Co-infection of *Clostridioides* (*Clostridium*) *difficile* GMU1 and *Bacillus cereus* GMU2 in one patient in Guizhou, China. *Anaerobe*. 54:159-163.
39. P. Jiménez-Bonilla, **Y. Wang*.** 2018. *In situ* biobutanol recovery from clostridial fermentation: a critical review. *Critical Reviews in Biotechnology*. 38(3):469-482.
40. S. Wang, S. Dong, P. Wang, Y. Tao, **Y. Wang*.** 2017. Genome editing in *Clostridium saccharoperbutylacetonicum* N1-4 with the CRISPR-Cas9 system. *Applied and Environmental Microbiology*. 83(10):e00233-17.
41. S. Wang, S. Dong, **Y Wang*.** 2017. Enhancement of solvent production by

overexpressing key genes of the Acetone-Butanol-Ethanol fermentation pathway in *Clostridium saccharoperbutylacetonicum* N1-4. *Bioresource Technology*. 245:426-433.

42. Z.T. Zhang, S. Taylor, **Y. Wang*.** 2017. *In situ* esterification and extractive fermentation for butyl butyrate production with *Clostridium tyrobutyricum*. *Biotechnology and Bioengineering*. 114:1428-1437.
43. J. Feng, Y. Gu, P.F. Yan, C. Song, **Y. Wang*.** 2017. Recruiting energy-conserving sucrose utilization pathways for enhanced 2,3-butanediol production in *Bacillus subtilis*. *ACS Sustainable Chemistry & Engineering*. 5(12):11221-11225.
44. P.F. Yan, J. Feng, S. Dong, M. Wang, I.A. Khan, **Y. Wang*.** 2017. Production of high levels of chirally pure *D*-2,3-butanediol with a newly isolated *Bacillus* strain. *ACS Sustainable Chemistry & Engineering*. 5(11):11016-11023.
45. D. Yao, S. Dong, P. Wang, T. Chen, J. Wang, Z.B. Yue, **Y. Wang*.** 2017. Robustness of *Clostridium saccharoperbutylacetonicum* for Acetone-Butanol-Ethanol production: effects of lignocellulosic sugars and inhibitors. *Fuel*. 208:549-557.
46. Y. Tao, X. Zhu, H. Wang, **Y. Wang***, X. Li, H. Jin, J. Rui. 2017. Complete genome sequence of *Ruminococcaceae* bacterium CPB6: a newly isolated culture for efficient *n*-caproic acid production from lactate. *Journal of Biotechnology*. 259:91-94.
47. S.O. Seo, H. Janssen, A. Magis, **Y. Wang**, T. Lu, N.D. Price, Y.S. Jin, H.P. Blaschek. 2017. Genomic, transcriptional, and phenotypic analysis of the glucose derepressed *Clostridium beijerinckii* mutant exhibiting acid crash phenotype. *Biotechnology Journal*. 12:1700182.
48. D. Yao, X. Zhang, G. Wang, T. Chen, J. Wang, Z.B. Yue, **Y. Wang.** 2017. A novel parameter for evaluating the influence of iron oxide on the methanogenic process. *Biochemical Engineering Journal*. 125:144-150.
49. Z. Zhang, L. Guo, **Y. Wang,** F. Li, Y. Zhao, M. Gao, Z. She. 2017. Degradation and transformation of extracellular polymeric substances (EPS) and dissolved organic matters (DOM) during two-stage anaerobic digestion with waste sludge. *International Journal of Hydrogen Energy*. 42:9619-9629.
50. J. Feng, Y. Gu, Y. Quan, W. Gao, Y. Dang, M. Cao, X. Lu, **Y. Wang**, C. Song, S. Wang. 2017. Construction of energy-conserving sucrose utilization pathways for improving poly-γ-glutamic acid production in *Bacillus amyloliquefaciens*. *Microbial Cell Factories*. 16:98.
51. J. Feng, Y. Quan, Y. Gu, F. Liu, X. Huang, H. Shen, Y. Dang, M. Cao, W. Gao, X. Lu, **Y. Wang**, C. Song, S. Wang. 2017. Enhancing poly-γ-glutamic acid production in *Bacillus amyloliquefaciens* by introducing the glutamate synthesis features from *Corynebacterium glutamicum*. *Microbial Cell Factories*. 16:88.
52. X. Zhu, Y. Zhou, **Y. Wang**, T. Wu, X. Li, D. Li, Y. Tao. 2017. Production of high concentration *n*-caproic acid from lactate through fermentation using a newly isolated *Ruminococcaceae bacterium* CPB6. *Biotechnology for Biofuels*. 10:102.
53. Y. Gu, J. Zheng, F. Feng, M. Cao, W. Gao, Y. Quan, Y. Dang, **Y. Wang**, S. Wang, C. Song. 2017. Improvement of levan production in *Bacillus amyloliquefaciens* through metabolic optimization of regulatory elements. *Applied Microbiology and Biotechnology*. 101:4163-4174.
54. Q. Li, P.F. Xia, L.R. Tan, **Y. Wang**, X.F. Sun, S.G. Wang. 2017. Inducible microbial osmotic responses enable enhanced biosorption capability of cyanobacteria. *Biochemical Engineering Journal*. 120: 113-117.

55. S.O. Seo, **Y. Wang,** T. Lu, Y.S. Jin, H.P. Blaschek. 2017. Characterization of a *Clostridium beijerinckii spo0A* mutant and its application for butyl butyrate production. *Biotechnology and Bioengineering.* 114: 106-112.
56. X. Wang, Z.T. Zhang, **Y. Wang**, Y.F. Wang. 2016. Production of polyhydroxybutyrate (PHB) from switchgrass pretreated with a radio frequency-assisted heating process. *Biomass & Bioenergy*. 94: 220-227.
57. J. Zhang, S. Taylor, **Y. Wang*.** 2016. Effects of end products on fermentation profiles in *Clostridium carboxidivorans* P7 for syngas fermentation. *Bioresource Technology*, 218: 1055-1063.
58. **Y. Wang,** Z.T. Zhang, S.O. Seo, P. Lynn, T. Lu, Y.S. Jin, H.P. Blaschek. 2016. Bacterial genome editing with CRISPR-Cas9: deletion, integration, single nucleotide modification, and desirable "clean" mutant selection in *Clostridium beijerinckii* as an example. *ACS Synthetic Biology*. 5: 721-732.
59. **Y. Wang,** Z.T. Zhang, S.O. Seo, P. Lynn, T. Lu, Y.S. Jin, H.P. Blaschek. 2016. Gene transcription repression in *Clostridium beijerinckii* using CRISPR-dCas9. *Biotechnology and Bioengineering*. 113:2739-2743 (**Journal Spotlighted**).
60. X. Wang, Z.T. Zhang, **Y. Wang**, Y.F. Wang. 2016. Improvement of Acetone-butanol-ethanol (ABE) production from switchgrass pretreated with a radio frequency-assisted heating process. *Fuel*. 182: 166-173.
61. C. Liao, S.O. Seo, V. Celik, H. Liu, W. Kong, **Y. Wang**, H.P. Blaschek, Y.S. Jin, and T. Lu. 2015. Integrated, systems metabolic picture of acetone-butanol-ethanol fermentation by *Clostridium acetobutylicum*. *Proceedings of the National Academy of Sciences of the United States of America*. 112(27): 8505-8510.
62. **Y. Wang,** Z.T. Zhang, S.O. Seo, K. Choi, T. Lu, Y.S. Jin, H.P. Blaschek. 2015. Markerless chromosomal gene deletion in *Clostridium beijerinckii* using CRISPR/Cas9 system. *Journal of Biotechnology*. 200: 1-5.
63. Y. Mu, H.Y. Yang, Y.Z. Wang, C.S. He, Q.B. Zhao, **Y. Wang**, H.Q. Yu. 2014. The maximum specific hydrogen-producing activity of anaerobic mixed cultures: definition and determination. *Scientific Reports*. 4:5239.
64. **Y. Wang**, X.Z. Li, H.P. Blaschek. 2013. Effects of supplementary butyrate on butanol production and the metabolic switch in *Clostridium beijerinckii* NCIMB 8052: genome-wide transcriptional analysis with RNA-Seq. *Biotechnology for Biofuels*. 6:138.
65. **Y. Wang**, X.Z. Li, C.B. Milne, H. Janssen, W.Y. Lin, G. Phan, H.Y. Hu, Y.S. Jin, N.D. Price, H.P. Blaschek. 2013. Development of a gene knockout system using mobile group II introns (Targetron) and genetic disruption of acid production pathways in *Clostridium beijerinckii*. *Applied and Environmental Microbiology*. 79(19): 5853-5863.
66. X. Wang, **Y. Wang**, B. Wang, H.P. Blaschek, H. Feng, Z.Y. Li. 2013. Biobutanol production from fiber-enhanced DDGS pretreated with electrolyzed water. *Renewable Energy*. 52:16-22.
67. J.P. Wang, S.J. Yuan, **Y. Wang***, H.Q. Yu. 2013. Synthesis, characterization and application of a novel starch-based flocculant with high flocculation and dewatering properties. *Water Research*. 47(8):2643-2648.
68. **Y. Wang**, X.Z. Li, Y.J. Mao, H.P. Blaschek. 2012. Genome-wide dynamic transcriptional profiling in *Clostridium beijerinckii* NCIMB 8052 using single-nucleotide resolution RNA-Seq. *BMC Genomics*. 13:102.
69. J.P. Wang, Y.Z. Chen, **Y. Wang**, S.J. Yuan, G.P. Sheng, H.Q. Yu. 2012. A novel efficient

cationic flocculant prepared through grafting two monomers onto chitosan induced by Gamma radiation. *RSC Advances*. 2:494-500.

70. **Y. Wang**, X.Z. Li, Y.J. Mao, H.P. Blaschek. 2011. Single-nucleotide resolution analysis of the transcriptome structure of *Clostridium beijerinckii* NCIMB 8052 using RNA-Seq. *BMC Genomics*. 12:479.
71. **Y. Wang**, H.P. Blaschek. 2011. Optimization of butanol production from tropical maize stalk juice by fermentation with *Clostridium beijerinckii* NCIMB 8052. *Bioresource Technology*. 102(21):9985-9990.
72. J.P. Wang, Y.Z. Chen, **Y. Wang**, S.J. Yuan, H.Q. Yu. 2011. Optimization of the coagulation-flocculation process for pulp mill wastewater treatment using a combination of uniform design and response surface methodology. *Water Research*. 45(17):5633-5640.
73. **Y. Wang**, Q.B. Zhao, Y. Mu, H.Q. Yu, H. Harada, and Y.Y. Li. 2008. Biohydrogen production with mixed anaerobic cultures in the presence of high-concentration acetate. *International Journal of Hydrogen Energy*. 33(4):1164-1171.
74. Q.B. Zhao, Y. Mu, **Y. Wang**, X.W. Liu, F. Dong, H.Q. Yu. 2008. Response of a biohydrogen-producing reactor to the substrate shift from sucrose to lactose. *Bioresource Technology*. 99(17):8344-8347.
75. **Y. Wang**, Y. Mu, H.Q. Yu. 2007. Comparative performance of two upflow anaerobic biohydrogen-producing reactors seeded with different sludges. *International Journal of Hydrogen Energy*. 32(8):1086-1094.
76. Y. Mu, **Y. Wang**, G.P. Sheng, H.Q. Yu. 2007. Surface characteristics of sludge in acidogenic H_2-producing process. *Journal of Water and Environmental Technology*. 5(1):1-12.
77. **Y. Wang**, Y. Mu, Q.B. Zhao, H.Q. Yu. 2006. Isotherms, kinetics and thermodynamics of dye biosorption by anaerobic sludge. *Separation and Purification Technology*. 50:1-7.
78. Y. Mu, H.Q. Yu, **Y. Wang**. 2006. The role of pH in the fermentative H_2 production from an acidogenic granule-based reactor. *Chemosphere.* 64(3):350-358.

Book Chapters

1. W. Hong, J. Zhang, G. Cui, P. Wang, **Y. Wang*.** Highly efficient genome editing in *Clostridium difficile* using the CRISPR-Cpf1 system. In *Recombineering: Methods and Protocols*, Methods in Molecular Biology. Christopher Reisch (eds.), Springer, 2022.
2. Y. Ma, S. Liu, **Y. Wang**, Y.F. Wang. Comprehensive utilization of lipid and starch from microalgae (*Chlorella vulgaris*). In *Algal Biotechnology*. Ashfaq Ahmad, Fawzi Banat, Hanifa Taher (eds.), Elsevier, 2022.
3. Z.T. Zhang, P. Jiménez-Bonilla, S.O. Seo, T. Lu, Y.S. Jin, H.P. Blaschek, **Y. Wang*.** Bacterial genome editing with CRISPR-Cas9: taking *Clostridium beijerinckii* as an example. In *Synthetic Biology,* Methods in Molecular Biology, Jeff Braman, et al. (eds.), Springer, 2018.
4. J. Zhang, S. Wang, **Y. Wang*.** Biobutanol production from renewable resources: recent advances. In *Advances in Bioenergy*. Y. Li, eds. Elsevier, 2016.
5. **Y. Wang,** H. Janssen, H.P. Blaschek. Fermentative biobutanol production: an old topic with remarkable recent advances. In *Bioprocessing of Renewable Resources to Commodity Bioproducts*. A. Kondo and V.S. Bisaria, eds. Wiley, 2014.
6. H. Janssen, **Y. Wang**, H.P. Blaschek. CLOSTRIDIUM | *Clostridium acetobutylicum*.

In *Encyclopedia of Food Microbiology*, 2nd Edition. C. Batt and M.L. Tortorello, eds. Elsevier, 2013.

Conference Presentations

1. J. Zhang, J. Feng, P. Wang, **Y. Wang**. Genome engineering tools development and metabolic engineering of solventogenic clostridia for biofuel and biochemical production. 2021 Institute of Biological Engineering (IBE) Annual Conference (Virtual). April 9-10, 2021.
2. **Y. Wang**. Towards energy, environment and health nexus: understanding and manipulating biosystems using metabolic engineering and synthetic biology approaches. International Symposium on Microbiology: One Health 2021 (Virtual). May 12-14, 2021. (Invited talk)
3. J. Feng, J. Zhang, M. Cao, Z. Shao, I. Borovok, **Y. Wang**. Rational engineering of *Clostridium* for efficient production of renewable fatty acid esters. 2020 Virtual AIChE Annual Meeting. November 16-20, 2020.
4. Y. Wang, J. Feng, S. Guo, M. Haefner, J. Zhang, **Y. Wang**, C.T. Avedisian. Combustion of butyl acetate as an alternative additive to petroleum fuels. 36th Annual Meeting, American Society of Gravitational and Space Research. Virtual Forum, November 5-6, 2020.
5. S. Wang, H. Goldfine, **Y. Wang**. Deletion of plasmalogen biosynthesis genes in *Clostridium beijerinckii* enhanced biobutanol production. 2020 ASABE Annual International Meeting. Virtual Forum, July 12-July 15, 2020.
6. P. Jiménez-Bonilla, David Blersch, Yifen Wang, Luz-Estela Gonzalez-de-Bashan, **Y. Wang**. Autolysin gene deletion in *Clostridium saccharoperbutylacetonicum* N1-4 increased strain stability and production for biobutanol fermentation. 2019 Bioenergy Sustainability Conference. Nashville, TN, October 21-22, 2019.
7. P. Jiménez-Bonilla, Jie Zhang, David Blersch, Yifen Wang, Luz-Estela Gonzalez-de-Bashan, **Y. Wang**. *srpB* efflux pump from *Pseudomonas putida* increases robustness of *Clostridium saccharoperbutylacetonicum* N1-4 for biobutanol production. 2019 ASABE Annual International Meeting. Boston, MA, July 07-July 10, 2019.
8. P. Jiménez-Bonilla, David Blersch, Yifen Wang, Luz-Estela Gonzalez-de-Bashan, **Y. Wang**. Exploring polycationic surfaces on the cell adsorption immobilization for acetone-butanol-ethanol (ABE) fermentation. 2019 ASABE Annual International Meeting. Boston, MA, July 07-July 10, 2019.
9. Jie Zhang, Jun Feng, Pixiang Wang, **Y. Wang**. Systematic genome engineering of solventogenic clostridia for biofuel and biochemical production. 41st Symposium on Biotechnology for Fuels and Chemicals, Society of Industrial Microbiology and Biotechnology. Seattle, WA, April 28-May 1, 2019.
10. Pixiang Wang, Benedict Okeke, **Y. Wang**. Enhanced isopropanol-butanol-ethanol (IBE) production using engineered *Clostridium* strain from switchgrass with *Trichoderma* in-house enzymes for biomass hydrolysis. 41st Symposium on Biotechnology for Fuels and Chemicals, Society of Industrial Microbiology and Biotechnology. Seattle, WA, April 28-May 1, 2019.
11. P. Jiménez-Bonilla, **Y. Wang**. Exogenous efflux pump expression increase robustness against biomass hydrolysates inhibitors on fermentations of the hyperbutanol producer *C. saccharoperbutylacetonicum* N1-4. 41st Symposium on Biotechnology for Fuels and Chemicals, Society of Industrial Microbiology and Biotechnology. Seattle, WA, April 28-May 1, 2019.

12. J. Yoon, D. Lee, E. Lee, Y.S. Yoon, **Y. Wang**, D.J. Kim. Non-enzymatic urea biosensor based on silver-nickel oxyhydroxide nanorods composite electrode. The 235th Electrochemical Society (ECS) Meeting. Dallas, TX, May 26-31, 2019.
13. P. Jiménez-Bonilla, **Y. Wang**. Enhancement of butanol fermentations through metabolic engineering of membrane and whole cell immobilization. ASABE 2019 Alabama Section Meeting. Auburn, AL, April 12, 2019.
14. **Y. Wang**, J. Zhang, W. Hong, P. Wang, S. Wang. Develop CRISPR-Cas genome engineering tools and engineer solventogenic clostridia for biofuel and biochemical production. Clostridium XV-International Conference on the Genetics, Physiology and Synthetic Biology of Solvent- and Acid-forming Clostridia. Technical University Munich in Freising, Bavaria, Germany, September 18-20, 2018.
15. P. Wang, **Y. Wang**. Efficient isopropanol-butanol-ethanol (IBE) production from lignocellulosic biomass by acetic acid thermal pretreatment with *Clostridium saccharoperbutylacetonicum* N1-4. Thermal & Catalytic Sciences Symposium (TCS) 2018. Auburn, AL, October 8-10, 2018.
16. J. Zhang, **Y. Wang**. Exploiting endogenous CRISPR-Cas system for multiplex genome editing in *Clostridium* and engineering *Clostridium* for enhanced biobutanol production. ASABE 2018 Annual International Meeting. Detroit, MI, July 29-August 1, 2018.
17. J. Zhang, S. Wang, H.P. Blaschek, **Y. Wang**. Develop CRISPR-Cas genome engineering tools and engineer clostridia for enhanced biofuel and biochemical production. S1041 Multi-state project symposium. Madison, WI, July 9-10, 2018.
18. J. Zhang, W. Hong, **Y. Wang**. Exploiting endogenous CRISPR-Cas system for multiplex genome editing in *Clostridium*. ASM Microbe 2018, American Society for Microbiology. Atlanta, GA, June 7-11, 2018.
19. J. Feng, Y. Gu, C. Song, **Y. Wang**. Recruiting energy-conserving sucrose utilization pathways for enhanced biochemical production in *Bacillus*. ASM Microbe 2018, American Society for Microbiology. Atlanta, GA, June 7-11, 2018.
20. J. Yoon, D. Lee, E. Lee, S.P. Woo, Y.S. Yoon, **Y. Wang**, D.J. Kim. Sputtering of nickel-palladium bimetallic anode catalysts for direct urea/urine fuel cell (DUFC) application. The 233rd Electrochemical Society (ECS) Meeting. Seattle, WA, May 13-17, 2018.
21. P. Wang, S. Taylor, **Y. Wang**. Engineering *Clostridium saccharoperbutylacetonicum* for enhanced isopropanol-butanol-ethanol (IBE) production from lignocellulosic biomass through acetic acid pretreatment. 40th Symposium on Biotechnology for Fuels and Chemicals, Society of Industrial Microbiology and Biotechnology. Clearwater Beach, FL, April 29-May 2, 2018.
22. J. Zhang, S. Wang, H.P. Blaschek, **Y. Wang**. Develop CRISPR-Cas genome engineering tools and engineer solventogenic clostridia for enhanced biofuel and biochemical production. 40th Symposium on Biotechnology for Fuels and Chemicals, Society of Industrial Microbiology and Biotechnology. Clearwater Beach, FL, April 29-May 2, 2018.
23. E. Lee, J. Yoon, D. Lee, S. Woo, Y. Yoon, **Y. Wang**, B.C. Prorok, D.J. Kim. Direct conversion fuel cell of urine in animal wastes and its condition monitoring sensors for efficient water usage in agriculture. The 232nd Electrochemical Society (ECS) Meeting. National Harbor, MD, October 1-6, 2017.
24. **Y. Wang**, Z.T. Zhang, S. Wang, J. Zhang, P. Wang, H.P. Blaschek. Develop CRISPR-Cas genome engineering tools and engineer solventogenic clostridia for enhanced biofuel and biochemical production. ASABE 2017 Annual International Meeting. Spokane, WA, July

16-19, 2017.

25. S. Dong, S. Wang, **Y. Wang.** Metabolic engineering of *Clostridium pasteurianum* for enhanced biobutanol production. ASABE 2017 Annual International Meeting. Spokane, WA, July 16-19, 2017.
26. Z.T. Zhang, S. Taylor, **Y. Wang.** In situ esterification and extractive fermentation for butyl butyrate production with *Clostridium tyrobutyricum*. ASABE 2017 Alabama Section Meeting. Auburn, AL, March 31-April 1, 2017
27. **Y. Wang**, Z.T. Zhang*, S.O. Seo, P. Lynn, T. Lu, Y.S. Jin, H.P. Blaschek. Efficient and precise genome editing and gene transcription repression in *Clostridium beijerinckii* using CRISPR-Cas9 system. Clostridium XIV-International Conference on the Genetics, Physiology and Synthetic Biology of Solvent- and Acid-forming Clostridia. Dartmouth College in Hanover, NH, August 28-31, 2016.
28. C. Liao, S.O. Seo, V. Celik, H. Liu, W. Kong, **Y. Wang**, H.P. Blaschek, Y.S. Jin, T. Lu. Integrative modeling of Acetone-Butanol-Ethanol (ABE) fermentation. Biomedical Engineering Society (BMES) Annual Meeting. Minneapolis, MN, October 5-8, 2016.
29. X. Wang, Z.T. Zhang, **Y. Wang**, Y.F. Wang. Production of polyhydroxybutyrate (PHB) from switchgrass pretreated with a radio frequency-assisted heating process. Institute of Food Technologists (IFT) Annual Meeting. Chicago, IL, July 16-19, 2016.
30. **Y. Wang**, Z.T. Zhang, S.O. Seo, P. Lynn, T. Lu, Y.S. Jin, H.P. Blaschek. Efficient and precise genome editing and gene transcription repression in *Clostridium beijerinckii* using CRISPR/Cas9 system. 38nd Symposium on Biotechnology for Fuels and Chemicals, Society of Industrial Microbiology and Biotechnology. Baltimore, MD, April 25-28, 2016.
31. **Y. Wang**, X.Z. Li, C.B. Milne, H. Janssen, Y.S. Jin, N.D. Price, H.P. Blaschek. Development and application of a gene knockout system for *Clostridium beijerinckii* using mobile group II introns (Targetron). Clostridium XIII-International Conference on the Genetics, Physiology and Synthetic Biology of Solvent- and Acid-forming Clostridia. Shanghai, China, September 19-21, 2014.
32. **Y. Wang**, C.B. Milne, H. Janssen, Y.S. Jin, N.D. Price, H.P. Blaschek. Genetic disruption of acid production pathways in *Clostridium beijerinckii* using mobile group II introns (Targetron). Genomic Sciences Contractor-Grantee Meeting XII: USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Meeting 2014. Arlington, VA, February 9-12, 2014.
33. **Y. Wang**, H. Janssen, C.B. Milne, A.T. Magis, Y.S. Jin, N.D. Price, H.P. Blaschek. Understanding fundamental aspects of butanol production by *Clostridium beijerinckii*. Genomic Sciences Contractor-Grantee Meeting XII: USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Meeting 2014. Arlington, VA, February 9-12, 2014.
34. **Y. Wang**, X.Z. Li, C.B. Milne, H. Janssen, Y.S. Jin, N.D. Price, H.P. Blaschek. Development of a gene knockout system and the inactivation of butyrate kinase gene led to enhanced butanol production in *Clostridium beijerinckii* NCIMB 8052. ASABE 2013 Annual International Meeting. Kansas City, MO, July 21-24, 2013.
35. **Y. Wang**, H. Janssen, C.B. Milne, A.T. Magis, C.G. Kumar, Y.S. Jin, N.D. Price, H.P. Blaschek. Understanding fundamental aspects of butanol production by *Clostridium beijerinckii*. Genomic Sciences Contractor-Grantee Meeting XI: USDA-DOE Plant Feedstock Genomics for Bioenergy Awardee Meeting 2013. Bethesda, MD, February 24-27, 2013.
36. **Y. Wang**, H. Janssen, X.Z. Li, Y.J. Mao, H.P. Blaschek. Genome-wide transcriptomic

analysis in *Clostridium beijerinckii* 8052 using single-nucleotide resolution RNA-Seq technology. Clostridium XII-International Conference on the Genetics, Physiology and Biotechnology of Solvent- and Acid-forming Clostridia. Nottingham, UK, September 10-12, 2012.

37. **Y. Wang**, H.P. Blaschek. Optimization of butanol production from tropical maize stalk juice. International Symposium on Alcohol Fuels (ISAF). Verona, Italy, October 10-14, 2011.
38. **Y. Wang**, X.Z. Li, Y.J. Mao, H.P. Blaschek. Genome-wide transcriptomic analyses of *Clostridium beijerinckii* NCIMB 8052 during transition from acidogenesis to solventogenesis using high-throughput RNA-Seq technology. SIM Annual Meeting and Exhibition (Special Session-Student Oral Presentations). New Orleans, LA, July 24-28, 2011.
39. H.P. Blaschek, **Y. Wang**. *Clostridium beijerinckii* tolerance improvement to biomass hydrolysate inhibitors during the acetone butanol and ethanol (ABE) fermentation. 32nd Symposium on Biotechnology for Fuels and Chemicals. Clearwater Beach, FL, April 19-22, 2010.
40. **Y. Wang**, X.J. Wang, T. Ezeji, H. Feng, H.P. Blaschek. Improvement of fermentation of dried distillers' grains and solubles (DDGS) hydrolysates to acetone butanol and ethanol (ABE) employing adapted *Clostridium beijerinckii*. ASABE-Bioenergy Engineering 2009 Conference. Bellevue, WA, October 11-14, 2009.
41. X.J. Wang, **Y. Wang**, H. Feng, H.P. Blaschek, Z.Y. Li. ABE (acetone, butanol, and ethanol) production from fiber-enriched DDGS pretreated by electrolyzed water. AIChE Annual meeting. Nashville, TN, November 8-13, 2009.
42. **Y. Wang**, J. Zilles, E. Morgenroth. Influence of bioaugmentation using In-Pipe Technology treatment on sewer processes and the microbial community in sewer biofilms. ISAWWA-IWEA Joint Conference. Springfield, IL, March 16-19, 2009.

Invited Presentations

1. **Y. Wang**. Harnessing the synthetic biology of biosystems to achieve enhanced energy-environment-health nexus. Department of Civil & Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL. February 18th, 2020.
2. **Y. Wang**. Systematic genome engineering of solventogenic clostridia for biofuel and biochemical production. Department of Chemical and Biomedical Engineering, University of South Florida, Tampa, FL. September 18th, 2019.
3. **Y. Wang**. Systematic genome engineering of solventogenic clostridia for biofuel and biochemical production. Beijing Advanced Innovation Center for Soft Matter Science and Engineering, Beijing University of Chemical Technology, Beijing, China. June 28th, 2019.
4. **Y. Wang**. Systematic genome engineering of solventogenic clostridia for biofuel and biochemical production. Chinese Academy of Agricultural Sciences, Beijing, China. June 25th, 2019.
5. **Y. Wang**. Systematic genome engineering of solventogenic clostridia for biofuel and biochemical production. School of Chemistry, University of Science and Technology of China, Hefei, China. June 21st, 2019.
6. **Y. Wang**. Systematic genome engineering of solventogenic clostridia for biofuel and biochemical production. Department of Biological Engineering, Beijing Institute of Technology, Beijing, China. June 18th, 2019.

7. **Y. Wang**. Towards environment and energy sustainability: understanding and manipulating biosystems using biomolecular and synthetic biology approaches. Department of Bioproducts and Biosystems Engineering, University of Minnesota-Twin Cities, Saint Paul, MN. March 28th, 2019.
8. **Y. Wang**. Bioenergy and Biofuel: for the Sustainable Future of U.S. International Workshop and Conference on Renewable, Conventional Power and Green Technology, Auburn University-Montgomery, Montgomery, AL. December 4, 2017. (***Keynote Speech***).
9. **Y. Wang**. Reducing antibiotic use in catfish aquaculture: new approach to control fish pathogen using CRISPR-Cas9. Aquatic Animal Health Research Unit, USDA-ARS, Auburn, AL. August 23rd, 2017.
10. **Y. Wang**. Transcriptomics and Metabolic Engineering on Solventogenic Clostridia for Biobutanol Production. School of Energy and Environment Engineering, University of Science and Technology Beijing, Beijing, China. May 25th, 2016.
11. **Y. Wang**. Transcriptomics and Metabolic Engineering on Solventogenic Clostridia for Biobutanol Production. School of Environment Engineering, Shandong University, Jinan, China. May 23rd, 2016.
12. **Y. Wang**. Transcriptomics and Metabolic Engineering on Solventogenic Clostridia for Biobutanol Production. School of Chemistry, University of Science and Technology of China, Hefei, China. May 21st, 2016.
13. **Y. Wang**. Transcriptomics and Metabolic Engineering on Solventogenic Clostridia for Biobutanol Production. College of Water Conservancy & Civil Engineering, China Agriculture University, Beijing, China. May 19th, 2016.
14. **Y. Wang**. Towards Environment and Energy Sustainability: Understanding and Manipulating Biosystems at Bioprocess Engineering and Molecular Levels. Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China. September 24th, 2014.
15. **Y. Wang**. Towards Environment and Energy Sustainability: Understanding and Manipulating Biosystems at Bioprocess Engineering and Molecular Levels. School of Resources and Environmental Engineering, Hefei University of Technology, Hefei, China. September 22nd, 2014.
16. **Y. Wang**. Towards Environment and Energy Sustainability: Understanding and Manipulating Biosystems at Bioprocess Engineering and Molecular Levels. School of Environment Engineering and Sciences, Renmin University, Beijing, China. September 16th, 2014.

Awards & Honors

- Auburn University College of Agriculture Outstanding Publication Award (2021)
- Auburn University College of Agriculture Dean's Research Award (2020)
- Early Career Award, Association of Overseas Chinese Agricultural, Biological, and Food Engineers—AOCABFE, ASABE (2019)
- Auburn University College of Engineering Dean's Research Award for Excellence (2019)
- Auburn University College of Agriculture Dean's Grantsmanship Award (2019)
- Auburn University College of Agriculture Outstanding Publication Award (2019)
- Auburn University College of Agriculture Dean's Grantsmanship Award (2018)
- Auburn University College of Agriculture Outstanding Publication Award (2018)
- Gamma Sigma Delta-The Honor Society of Agriculture, Alabama Chapter (2018-Present)

- Auburn University New Faculty Scholar, Biggio Center for the Enhancement of Teaching and Learning (09/2015-05/2016)
- Outstanding Alumnus of the Environmental Engineering Program, University of Science and Technology of China, 2016.
- University Senate Award for Excellence in Education (this is a group award to the faculty of Biosystems Engineering Department), 2015.
- ASABE Young Professionals Community "Get to the AIM 2013" Incentive (07/2013)
- Young Presenter Award at Clostridium XII Conference (09/2012)
- Scholarship of Renewable Fuels Association (RFA) at 17th National Ethanol Conference (02/2012)
- Gamma Sigma Delta-The Honor Society of Agriculture, Illinois Chapter (03/2011)

Professional Memberships

- American Institute of Chemical Engineers (AIChE) (2018-present)
- Institute of Biological Engineering (IBE) (2020-present)
- International Metabolic Engineering Society (2018-present)
- American Society for Microbiology (ASM) (2017-present)
- Society for Industrial Microbiology and Biotechnology (SIMB) (2010-present)
- American Society of Agricultural and Biological Engineers (ASABE) (2009-present)

Professional Service

- **Associate Editor:**

  BMC Biotechnology (7/2014-present)
  BMC Microbiology (7/2015-present)
  ASABE Journals [the Plant, Animal, & Facility Systems (PAFS) technical community], (10/2018-10/2021)
  ASABE Journals [the Energy Systems (ES) technical community], (10/2021-Present)
  Food and Bioproducts Processing (Subject Editor in '*Biotechnology and Bioprocessing*', 2022-present)

- **Guest Editor:**

  Frontiers in Bioengineering and Biotechnology (Special Issue: *Development and Application of Novel Genome Engineering Tools in Microbial Biotechnology*, 2019-2020)

- **Review Editor:**

  Frontiers in Microbiology (2020-present)

  Frontiers in Chemical Engineering (2021-present)

- **Editorial board member:**

  Scientific Reports (10/2015-present)
  Journal of Industrial Microbiology & Biotechnology (JIMB) (08/2014-present)
  Frontiers in Microbiology (2020-present)
  Frontiers in Chemical Engineering (2021-present)

- **Reviewer for journals:** Reviewed >300 manuscripts for > 80 scientific journals, including *ACS Sustainable Chemistry & Engineering, ACS Synthetic Biology, Applied and Environmental Microbiology*, *Applied Energy*, *Applied Microbiology and Biotechnology*, *Biotechnology Advances*, *Biomass & Bioenergy*, *Bioresource Technology*, *Biotechnology and Bioengineering*, *Biotechnology for Biofuels*, *Biotechnology Journal*, *Chemical Engineering Journal*, *Communications Biology*, *Current Opinion in*

Biotechnology, *Energy & Fuels*, *Environmental Science & Technology*, *Frontiers in Microbiology*, *Fuel*, *Green Chemistry*, *Journal of Industrial Microbiology & Biotechnology*, *Journal of Agricultural and Food Chemistry, Journal of the American Chemical Society*, *Metabolic Engineering*, *Nucleic Acids Research*, *Process Biochemistry*, *Trends in Biotechnology*, *Water Research*, etc.

- **Reviewer for grants:**
  –USDA-NIFA Foundational Program (Panel-3 times)
  –USDA-NIFA Sustainable Bioenergy and Bioproducts Challenge Program (Panel-1 time)
  –USDA-NIFA Bioenergy and Biobased Product Feedstock Logistics Program (Panel-1 time)
  –NSF-Division of Integrative Organismal Systems (Ad-hoc Reviewer-2 times)
  *–DOE-the Bioenergy Technologies Office (*BETO*) (Ad-hoc Reviewer-1 time)*
  –DOE Small Business Innovation Research (SBIR) (Ad-hoc Reviewer-1 time)
  –USDA-NIFA Small Business Innovation Research (SBIR) (Ad-hoc Reviewer-2 times)
  –US Army Research Office (ARO)
  –The Israel Science Foundation (ISF), the Joint National Natural Science Foundation of China (NSFC)-ISF Research Grant (Ad-hoc Reviewer-1 time)
  –Pakistan-U.S. S&T Cooperation Program, The National Academies of Sciences, Engineering, and Medicine (Ad-hoc Reviewer-1 time)
  –Ohio State University OARDC SEEDS grant (Ad-hoc Reviewer-3 times)
  –Ohio Plant Biotechnology Consortium (Ad-hoc Reviewer-1 time)
- **Chair, Bioprocessing session (PRS-280)**, American Society of Agricultural and Biological Engineers (ASABE) (2020-Present)
- **Vice Chair, Bioprocessing session (PRS-280)**, American Society of Agricultural and Biological Engineers (ASABE) (2018-2020)
- **Committee member, Bioprocessing session (PRS-280)**, American Society of Agricultural and Biological Engineers (ASABE) (2015-present)
- **Board member at large**, Association of Overseas Chinese Agricultural, Biological, and Food Engineers (AOCABFE), ASABE (2018-2020)
- **Session Moderator**, Advanced and Drop-In Biofuels Production-Biochemical Approach, Annual Meeting 2020, American Society of Agricultural and Biological Engineers (ASABE)
- **Session Moderator**, Advanced and Drop-In Biofuels Production-Biochemical Approach, Annual Meeting 2019, American Society of Agricultural and Biological Engineers (ASABE)
- **Convener**, Synthetic and Systems Biology session, Symposium on Biotechnology for Fuels and Chemicals-2019, Society for Industrial Microbiology and Biotechnology (SIMB)