

**Samir Kumar Khanal**  
**College of Tropical Agriculture and Human Resources**  
**Department of Molecular Biosciences and Bioengineering**  
FTE Distribution: 25%I; 75%R; 0%E

**Education**

<u>Degree</u>	<u>University</u>	<u>Major</u>
PhD	Hong Kong Univ. of Sci. & Tech.	Civil Engineering
MS	Asian Institute of Technology	Environmental Engineering
BS	Malaviya National Institute of Tech.	Civil Engineering

**Professional Appointments**

<u>Title</u>	<u>Employer</u>	<u>Dates Employed</u>
Professor	University of Hawaii	2018 to Present
Associate Professor	University of Hawaii	20012 to 2018
Assistant Professor	University of Hawaii	2008 to 2012

**Courses Taught**

<u>Course ID and name (credits)</u>	
BE 373	Transport Phenomena (3)
BE 410	Bioconversion of Biomass into Bioenergy and Biofuels (3)
BE 491	Sustainable Engineering (3)
BUS 350	Sustainability Green and Global (3)
MBBE 610	Graduate Seminar (1)
BE/MBBE 691	Energy and Environment (3)

**Publications (reverse chronological order)**

Books

- Sustainable Bioresources for Emerging Bioeconomy. (eds. Rupam Kataki, Deepak Pant, Samir Kumar Khanal and Ashok Pandey). Elsevier Inc. USA. In-press.
- Resource Recovery from Wastes. (eds. Sunita Varjani, Ashok Pandey, Edgard Gnansounou, Samir Kumar Khanal, Sindhu Raveendran). Elsevier Inc. USA. 2019. 412 pp.
- Biofuels: Alternative Feedstocks and Conversion Processes for the Production of Biofuels (2nd Edition). (eds. Ashok Pandey, Christian Larroche, Claude-Gilles Dussap, Edgard Gnansounou, Samir Kumar Khanal, and Steven Ricke). Elsevier Inc. USA. 2019. 867 pp.
- Waste Biorefinery: Potential and Perspectives. (eds. Ashok Pandey, Thallada Bhaskar, Ventaka Mohan, D.-J. Lee and Samir Kumar Khanal). Elsevier Inc. USA. 2018. 816 pp.
- Bioenergy: Principles and Applications. (Yebo Li and Samir Kumar Khanal). John-Wiley & Sons. 2017. 600 pp (Textbook).
- Fungal Biorefineries. (eds. Sachin Kumar, Pratibha Dheeran, Mohammad Taherzadeh and Samir Kumar Khanal). Springer. 2018. 246 pp.
- Proceedings of the first international conference on “Recent Advances in Bioenergy Research” (eds. Sachin Kumar, Samir Kumar Khanal and Yogender Kumar Yadav). Springer. 2016. 358 pp.

• Anaerobic Biotechnology for Bioenergy Production: Principles and Applications. (1st edition, Bestseller, Wiley-Blackwell Publishing). 2008. 320 pp.

• Bioenergy and Biofuel from Biowastes and Biomass. (Bestseller, American Society of Civil Engineers). 2010. 505 pp.

### Book Chapters

1. Wongkiew, S., Hu, Z., Hua, N. T., and Khanal, S.K. Aquaponics for resource recovery and organic food productions. In *Current Developments in Biotechnology and Bioengineering: Sustainable Bioresources for Emerging Bioeconomy*. (eds. Rupam Kataki, Deepak Pant, Samir Kumar Khanal and Ashok Pandey). Elsevier Inc., USA. (In-press)
2. Khanal, S.K., Nindhia, T.G.T., and Nitayavardhana, S., Biogas from wastes: processes and applications. 2019. In *Sustainable Resource Recovery and Zero Wastes Approaches*. (eds. Mohammad Taherzedeah, Kim Bolton, Jonathan Wong and Ashok Pandey). Elsevier Inc., USA. Pp 165-174.
3. Yasin, M., Chab, M., Chang, I.S., Atiyeh, H., Munasinghe, P.C., and Khanal, S.K. 2019. Syngas fermentation into biofuels and biochemicals. In *Biofuels: Alternative Feedstocks and Conversion Processes for the Production of Biofuels* (2nd Edition). (eds. Ashok Pandey, Christian Larroche, Claude-Gilles Dussap, Edgard Gnansounou, Samir Kumar Khanal, and Steven Ricke). Elsevier Inc., USA. Pp 301-327.
4. Nguyen, D., Saoharit Nitayavardhana, Chayanon Sawatdeenarunat, K.C. Surendra and Khanal, S.K. Biogas production by anaerobic digestion: Current status and perspectives. In *Biofuels: Alternative Feedstocks and Conversion Processes for the Production of Biofuels* (2nd Edition). (eds. Ashok Pandey, Christian Larroche, Claude-Gilles Dussap, Edgard Gnansounou, Samir Kumar Khanal, and Steven Ricke). Elsevier Inc., USA. Pp 763-778.
5. Sawatdeenarunat, C., Wangnai, C., Songkasiri, W., Panichnumsin, P., Saritpongteeraka, K., Boonsawang, P., Khanal, S.K., Chaiprapat, S. Biogas production from industrial effluents. In *Biofuels: Alternative Feedstocks and Conversion Processes for the Production of Biofuels* (2nd Edition). (eds. Ashok Pandey, Christian Larroche, Claude-Gilles Dussap, Edgard Gnansounou, Samir Kumar Khanal, and Steven Ricke). Elsevier Inc., USA. Pp 301-327. Pp 779-816.
6. Rajendran, K., Surendra, K.C., Tomberlin, J.K., and Khanal, S.K. 2018. Insect-based biorefinery for bioenergy and biobased products: A critical review. In *Waste Biorefinery: Potential and Perspectives*. (eds. Ashok Pandey, Thallada Bhaskar, Ventaka Mohan, D.-J. Lee and Samir Kumar Khanal). Elsevier Inc., USA. Pp 657-669.
7. Khanal, S.K. Giri, B., Nitayavardhana, S., and Gadhamshetty, V. 2017. Anaerobic reactor/digester: Design and development. In *Current Developments in Biotechnology and Bioengineering*. (eds. D.-J. Lee, J. Jegatheesan, P. Hallenbeck, H. H. Ngo, and A. Pandey). Elsevier Inc., USA. pp 261-279.
8. Takara, D., and Khanal, S.K. 2012. Biomass pretreatment for biofuel production. In *Sustainable Bioenergy and Bioproducts*. (eds. K. Gopalakrishnan, H. van Leeuwen, and R. Brown). Springer-Verlag Inc., London, UK. pp 59-70.
9. Shrestha, P., Pometto III. A.L., Khanal, S.K., and Van Leeuwen, J. 2012. Second-generation biofuel production from corn-ethanol industry residues. In *Sustainable Bioenergy and Bioproducts*. (eds. K. Gopalakrishnan, H. van Leeuwen, and R. Brown). Springer-Verlag Inc., London, UK. pp 71-87.
10. Khanal, S.K., and Munasinghe, P. 2011. Biomass-derived syngas fermentation into biofuels. In *Biofuels: Alternative Feedstocks and Conversion Processes*. (eds. A. Pandey, C. Larroche, S.C. Ricke, C.G. Dussap and E. Gnansounou). Elsevier Inc., USA. pp 79-98.
11. Khanal, S.K., and Lamsal, B.P. 2010. Biofuel and bioenergy production: some perspectives. In *Biofuel and Bioenergy from Biowastes and Lignocellulosic Biomass*. (eds. Samir K. Khanal et al.). American Society of Civil Engineers. Reston, VA, USA. pp 1-22.

12. Takara, D., Shrestha, P., and Khanal, S.K. 2010. Lignocellulosic biomass pretreatment. In *Biofuel and Bioenergy from Biowastes and Lignocellulosic Biomass*. (eds. Samir K. Khanal et al.). American Society of Civil Engineers. Reston, VA, USA. pp 158-171.
13. Shrestha, P., Lamsal, B.P., and Khanal, S.K. 2010. Preprocessing of lignocellulosic biomass for biofuel production. In *Biofuel and Bioenergy from Biowastes and Lignocellulosic Biomass*. (eds. Samir K. Khanal et al.). American Society of Civil Engineers. Reston, VA, USA. pp 172-200.
14. Lamsal, B.P., Shrestha, P., and Khanal, S.K. 2010. Enzymatic hydrolysis of lignocellulosic biomass for biofuel production. In *Biofuel and Bioenergy from Biowastes and Lignocellulosic Biomass*. (eds. Samir K. Khanal et al.). American Society of Civil Engineers. Reston, VA, USA. pp 201-224.
15. Gadhamshetty, V., Nirmalakhandan, N., Khanal, S.K., and Johnson, G.R. 2010. Bioreactor systems for biofuel/bioelectricity production. In *Biofuel and Bioenergy from Biowastes and Lignocellulosic Biomass*. (eds. Samir K. Khanal et al.). American Society of Civil Engineers. Reston, VA, USA. pp 275-312.
16. Shrestha, P., Rasmussen, M.R., Nitayavardhana, S., Khanal, S.K., and Van Leeuwen. J. 2010. Bioreactor systems for biofuel/bioelectricity production. In *Biofuel and Bioenergy from Biowastes and Lignocellulosic Biomass*. (eds. Samir K. Khanal et al.). American Society of Civil Engineers. Reston, VA, USA. pp 389-410.
17. Khanal, S.K., Takara, D., Shrestha, P., and Lamsal, B.P. 2010. Ultrasound applications in biofuel and bioenergy production. In *Green Chemistry for Environmental Sustainability* (eds. A. Mudhoo and S. K. Sharma). CRC Press Taylor & Francis Group LLC, Boca Raton, Florida. pp 303-313.

#### Refereed Journal Publications

1. Zhu, W., He, Q., Gao, H., Nitayavardhana, S., Khanal, S.K., and Xie, L. 2019. Bioconversion of yellow wine wastes into microbial protein via mixed yeast-fungus cultures. *Bioresource Technology*. (accepted)
2. Oliveira, F.R., Surendra, K.C., Jaisi, D.P., Lu, H., and Khanal, S.K. Alleviating sulfide toxicity using biochar during anaerobic treatment of sulfate-laden wastewater with simultaneous recovery of sulfur-rich biochar as soil macro-nutrient. *Bioresource Technology*. (accepted)
3. Jia, Y\*., Yin, L\*., Khanal, S.K\*., Zhang, H., Oberoi, A., and Lu, H. 2019. Biotransformation of Ibuprofen in biological sludge systems: Performance and mechanisms. *Water Research* (in-press). (\* equal contribution)
4. Nguyen, D., Wu, Z., Shrestha, S., Lee, P.-H., Raskin, L., and Khanal, S.K. 2019. High organic loading rate digestion via bypassing syntrophic acetogenesis through intermittent micro-aeration. *Water Research*. 166:115080.
5. Zhang, H\*., Khanal, S.K\*., Jia, Y., Song, S., and Lu, H. 2019. Fundamental insights into ciprofloxacin adsorption by sulfate-reducing bacteria sludge: Mechanisms and thermodynamics. *Chemical Engineering Journal*. 378:122103. (\* equal contribution)
6. Qiu, L.Q., Zhang, L., Tang, K., Chen, G.H., Khanal, S.K., and Lu, H. Removal of sulfamethoxazole (SMX) in sulfate-reducing flocculent and granular sludge systems. *Bioresource Technology*. 288: 121592.
7. Li, X., Lin, S., Hao, T.W., Khanal, S.K., and Chen, G.H. 2019. Elucidating pyrolysis behaviour of activated sludge in granular and flocculent form: Reaction kinetics and mechanism. *Water Research*. 162. 409-419.
8. Jia, Y., Zhang, H., Khanal, S.K., Yin, L., and Lu, H. 2019. Insights into pharmaceuticals removal in an anaerobic sulfate-reducing bacteria sludge system. *Water Research*. 161:191-20.
9. Oberoi, A.S., Jia, Y., Zhang, H., Khanal, S.K., Lu, H. 2019. Insights into fate and removal of antibiotics in engineered biological treatment systems: A critical review. *Environmental Science & Technology*. 53: 7234–7264.

10. Phuttaro, C., Sawatdeenarunat, C., Surendra, K.C., Boonsawang, P., Chaiprapat, S., and Khanal, S.K. 2019. Anaerobic digestion of hydrothermally-pretreated lignocellulosic biomass: Influence of pretreatment temperatures, inhibitors and soluble organics on methane yield. *Bioresource Technology*. 284: 128-138.
11. Wongkiew, S., Park, M-R., Chandran, K., and Khanal, S.K. 2018. Aquaponic systems for sustainable resource recovery: Linking nitrogen transformations to microbial communities. *Environmental Science & Technology*. 52 (21): 12728-12739.
12. Nguyen, D., and Khanal, S.K. 2018. A little breath of fresh air into an anaerobic system: How micro-aeration facilitates anaerobic digestion process. *Biotechnology Advances*. 36 (7): 1971-1983.
13. Zhang, H., Jia, Y., Khanal, S.K., Lu, H., Fang, H., and Zhao, Q. 2018. Understanding the Role of Extracellular Polymeric Substances on Ciprofloxacin Adsorption in Aerobic Sludge, Anaerobic Sludge, and Sulfate-Reducing Bacteria Sludge Systems. *Environmental Science & Technology*. 52: 6476-6486.
14. Wongkiew, S., Popp, B.N., and Khanal, S.K. 2018. Nitrogen recovery and nitrous oxide (N<sub>2</sub>O) emissions from aquaponic systems: Influence of plant species and dissolved oxygen. *International Biodeterioration & Biodegradation*. 134: 117-126.
15. Dong, N., Bu, F., Xie, L., Khanal, S.K., and Zhou, Q. 2018. Performance and microbial community of hydrogenotrophic methanogenesis under thermophilic and extreme-thermophilic conditions. *Bioresource Technology*. 266: 454-462.
16. Bu, F., Dong, N., Khanal, S.K., and Xie, L. 2018. Effect of CO on hydrogenotrophic methanogenesis under mesophilic and extreme-thermophilic conditions: Microbial community and biomethanation pathways. *Bioresource Technology*. 266: 364-373.
17. Jia, Y., Khanal, S.K., Shu, H., Zhang, H., Chen, G.H., and Lu, H. 2018. Ciprofloxacin degradation in anaerobic sulfate-reducing bacteria (SRB) sludge system: Mechanism and pathways. *Water Research*. 136: 64-74.
18. Surendra, K.C., Ogoshi, R., Reinhardt-Hanisch, A., Oechsner, H., Hashimoto, A., Khanal, S.K. 2018. Anaerobic digestion of high yielding tropical energy crops for biogas production: Effects of crop types, locations and plant parts. *Bioresource Technology*. 262: 194-202.
19. Lu, H., Huang, H., Yang, W., Mackey, H.R., Khanal, S.K., and Wu, D. 2018. Elucidating the stimulatory and inhibitory effects of dissolved sulfide on sulfur-oxidizing bacteria (SOB) driven autotrophic denitrification. *Water Research*. 133: 165-172.
20. Surendra, K.C., Ogoshi, R., Hashimoto, A., Khanal, S.K. 2018. High yielding tropical energy crops for bioenergy production: Effects of plant components, harvest years, and locations on biomass composition. *Bioresource Technology*. 251: 218-229.
21. Sawatdeenarunat, C., Nam, H., Adhikari, S., Sung, S., and Khanal, S.K. 2018. Innovative decentralized biorefinery for lignocellulosic biomass: Integrating anaerobic digestion with thermochemical conversion. *Bioresource Technology*. 250: 140-147.
22. Medriano, C.A.D., Yoon, H., Chandran, K., Khanal, S.K., Lee, J.W., Cho, Y., Kim, S. 2018. Influence of oxytetracycline on the fate of nitrogen species in a recirculating aquaculture system. *Membrane Water Treatment*. 9 (2): 123-128.
23. Oliveira, F.R., Patel, A.K., Jaisi, D., Liu, H., and Khanal, S.K. 2017. Environmental applications of biochar: Current status and perspectives. *Bioresource Technology*. 246: 110-122. (Most downloaded paper)

24. Shrestha, S., Fonoll, X., Khanal, S.K\*. and Raskin, L\*. 2017. Biological strategies for enhanced hydrolysis of lignocellulosic biomass during anaerobic digestion: Current status and future perspectives. *Bioresource Technology*. 245, Part A: 1245-1257. (\*equal contribution).
25. Sitthikitpanya, S., Reungsang, A., Prasertsan, P., and Khanal, S.K. 2017. Two-stage thermophilic bio-hydrogen and methane production from oil palm trunk hydrolysate using *Thermoanaerobacterium thermosaccharolyticum* KKU19. *International Journal of Hydrogen Energy*. 42 (47): 28222-28232.
26. Wongkiew, S., Popp, B.N., and Khanal, S.K. 2017. Fate of nitrogen in floating-raft aquaponic systems using natural abundance nitrogen isotope. *International Biodeterioration & Biodegradation*. 125: 24-32.
27. Wongkiew, S., Hu, Z., Chandran, K., Lee, J.W., and Khanal, S.K. 2017. Nitrogen transformations in aquaponic systems: A review. *Aquacultural Engineering*. 76: 9-19. (Most downloaded paper).
28. Sawatdeenarunat, C., Sung, S., and Khanal S.K. 2017. Enhanced volatile fatty acids production during anaerobic digestion of lignocellulosic biomass via micro-oxygenation. *Bioresource Technology*. 237: 139-145.
29. Jia, Y., Khanal, S.K., Zhang, H., Chen, G.H., and Lu, H. 2017. Sulfamethoxazole degradation in anaerobic sulfate-reducing bacterial sludge system for wastewater treatment. *Water Research*. 119: 12-20.
30. Kanjanarong, P., Giri, B.S., Jaisi, D.P., Oliveira, F.R., Boonsawang, Chaiprapat, S., Singh, R.S., Balakrishna, A., and Khanal, S.K. 2017. Removal of hydrogen sulfide generated during anaerobic treatment of sulfate-laden wastewater by wood-derived biochar: Evaluation of efficiency and mechanisms. *Bioresource Technology*. 234: 115-121.
31. Yang, W., Lu, H., Khanal, S.K., Zhao, Q., Meng, L., and Chen, G. H. 2016. Granulation of sulfur-oxidizing bacteria for autotrophic denitrification. *Water Research*. 104: 507-519.
32. Surendra, K.C., Olivier, R., Tomberlin, J.K., Jha, R., and Khanal, S.K. 2016. Bioconversion of organic wastes into biodiesel and animal feed via insect farming. *Renewable Energy*. 98: 197-202.
33. Sawatdeenarunat, C. Nguyen, D., Surendra, K.C., Shrestha, S., Rajendran, K., Oechsner, H., Xie, L., and Khanal, S.K. 2016. Anaerobic biorefinery: current status, challenges, and opportunities. *Bioresource Technology*. 215: 304-313.
34. Zhang, M, Li, X., Khanal, S.K., and Zhou, Q. 2016. Biorefinery approach for cassava-based industrial wastes: current status and opportunities. *Bioresource Technology*. 215: 50-62.
35. Yin, Z, Xie, L., Khanal, S.K., and Zhou., Q. 2016. Interaction of organic carbon, reduced sulphur and nitrate in anaerobic baffled reactor for fresh leachate treatment. *Environmental Technology*. 37 (9): 1110-1121.
36. Nguyen, D., Gadhamshetty, V., and Khanal, S.K. 2015. Automatic process control in anaerobic digestion technology: a critical review. *Bioresource Technology*. 193: 513-522.
37. Tomberlin, J.K., van Huis, A., Benbow, M.E., Jordan, H., Astuti, D.A., Azzollini, D., Banks, I., Bava, V., Borgemeister, C., Cammack, J.A., Chapkin, R.S., Čičková, H., Crippen, T.L., Day, A., Dicke, M., Drew, D., Emhart, C., Epstein, M., Finke, M., Fischer, C.H., Gatlin, D., Grabowski, N.T., He, C., Heckman, L., Hubert, A., Jacobs, J., Joseph, J., Khanal, S.K., Kleinfinger, J. K., Klein, G., Leach, C., Liu, Y., Newton, G. L., Olivier, R., Pechal, J.L., Picard, C.J., Rojo, C., Roncarati, A., Sheppard, C., Tarone, A.M., Verstappen, B., Vickerson, A., Yang, H., Yen, A., Yu, Z., Zhang J., and Zheng, L. 2015. Protecting the environment through insect farming as a means to produce protein for use as livestock, poultry, and aquaculture feed. *Journal of Insect Food Feed*. 1: 307-309.

38. Paudel, S.R., Choi, O., Khanal, S.K., Chandran, K., Kim, S.P., and Lee, J.W. 2015. Effects of temperature on nitrous oxide (N<sub>2</sub>O) emission from intensive aquaculture system. *Science of the Total Environment*. 518-519: 16-23.
39. Takara, D., and Khanal, S.K. 2015. Characterizing compositional changes of Napier grass at different stages of growth for biofuel and biobased products potential. *Bioresource Technology*.188: 103-108.
40. Acevedo, J.C., Hernández, J.A., Valdés, C.F., and Khanal, S.K. 2015. Analysis of operating costs for producing biodiesel from palm oil at pilot-scale in Colombia. *Bioresource Technology*. 188: 117-123.
41. Hu, Z., Lee, J.W., Chandran, K., Kim, S., Brotto, A.C., and Khanal, S.K. 2015. Effect of plant species on nitrogen recovery in aquaponics. *Bioresource Technology*.188: 178-186.
42. Surendra, K.C., Sawatdeenarunat, C., Shrestha, S., and Khanal, S.K. 2015. Anaerobic digestion-based biorefinery for bioenergy and bio-based products. *Industrial Biotechnology*. 11 (2): 103-112. (High-impact and the most cited paper).
43. Sawatdeenarunat, C., Surendra, K.C., Takara, D., Oechsner, H. and Khanal, S.K. 2015. Anaerobic digestion of lignocellulosic biomass: Challenges and opportunities. *Bioresource Technology*. 178: 178-186. (Awarded Elsevier's top cited paper)
44. Surendra, K.C. and Khanal, S.K. 2015. Effects of crop maturity and size reduction on digestibility and methane yield of dedicated energy crop. *Bioresource Technology*. 178: 187-193.
45. Choi, I.S., Lee, Y.G., Khanal, S.K., Park, B.J., and Bae, H.-J. (2015). A low-energy, cost-effective approach to fruit and citrus peel waste processing for bioethanol production. *Applied Energy*. 140: 65-74.
46. Munasinghe, P.C., and Khanal, S.K. 2014. Evaluation of hydrogen and carbon monoxide mass transfer and a correlation between myoglobin-protein bioassay and gas chromatography method for carbon monoxide determination. *RSC Advances*. 4 (71): 37575-37581.
47. K.C., S., Takara, D., Hashimoto, A.G., and Khanal, S.K. 2014. Biogas as a sustainable energy source for the developing countries: Opportunities and challenges. *Renewable and Sustainable Energy Reviews*. 31: 846-859.
48. Hu, Z., Lee, J.W., Chandran, K., Kim, S., Sharma, K., and Khanal, S.K. 2014. Influence of carbohydrate addition on nitrogen transformations and greenhouse gas emissions of intensive aquaculture system. *Science of the Total Environment*. 470-471 (1): 193-200.
49. Rasmussen, M., Khanal, S.K., Pometto III, A.L., and Van Leeuwen, J. 2014. Water reclamation and value-added animal feed from corn-ethanol stillage by fungal processing. *Bioresource Technology*. 151:) 284-290.
50. Surendra, K.C., Takara, D. Jasinski, J. and Khanal, S.K. 2013. Household anaerobic digester for bioenergy production in developing countries: opportunities and challenges. *Environmental Technology*. 34 (13 and 14): 1671-1689.
51. Devappa, R.K., Bingham, J-P., and Khanal, S.K. 2013. High performance liquid chromatography method for rapid quantification of phorbol esters in *Jatropha curcas* seed. *Industrial Crops & Products*. 49: 211-219.
52. Nitayavardhana, S., Kerati, I, Pavasant, P., and Khanal, S.K. 2013. Production of protein-rich fungal biomass in an airlift bioreactor using vinasse as substrate. *Bioresource Technology*.133: 301-306.
53. Hu., Z, Lee, J.W., Chandran, K., Kim, S., Sharma, K., and Khanal, S.K. 2013. Nitrous oxide emission from intensive aquaculture system. *Bioresource Technology*. 130: 314-320.

54. Lee, K.H., Park, K.Y., Khanal, S.K. Lee, J.W. 2013. Effects of Household Detergent on anaerobic fermentation of kitchen wastewater from food waste disposer. *Journal of Hazardous Materials*. 244: 39-45.
55. Takara, D., Nitayavardhana, S., Munasinghe, P.C, Surendra, K.C., and Khanal, S.K. 2012. Sustainable Bioenergy from Biofuel-Derived Residues. *Water Environment Research*. 84: 1568-1585.
56. Pal, A., Negi, V.S., Khanal, S.K., and Borthakur, D. 2012. Immunodetection of curcumin in seed meal of *Jatropha curcas* using polyclonal antibody developed against curcumin-L. *Current Nutrition and Food Science*. 8 (3): 213-219.
57. Munasinghe, P., and Khanal, S.K. 2012. Syngas fermentation to biofuel: evaluation and modeling of carbon monoxide mass transfer using a composite hollow fiber (CHF) membrane bioreactor. *Bioresource Technology*. 122: 130-136.
58. Hu, Z., Lee, J. W., Chandran, K., Kim, S., and Khanal, S. K. 2012. Nitrous oxide (N<sub>2</sub>O) emission from aquaculture system: A review. *Environmental Science & Technology*. 46 (12): 6470-6480.
59. Nitayavardhana, S., and Khanal, S.K. 2012. Biofuel residues ban or boon? *Critical Reviews in Environmental Science and Technology*. 42 (1): 1-43.
60. Montalbo-Lombay, M., Khanal, S.K., Van Leeuwen, J., Raman, D.R., and Grewell, D. 2011. Simultaneous saccharification and fermentation and economic evaluation of ultrasonic and jet cooking pretreatment of corn slurry. *Biotechnology Progress*. 27 (6): 1561-1569.
61. Surendra, K.C., Khanal, S.K., Shrestha, P., and Lamsal, B. P. 2011. Current Status of Renewable Energy in Nepal: Opportunities and Challenges. *Renewable and Sustainable Energy Reviews*. 15 (1): 4107-4117.
62. Nitayavardhana, S., and Khanal, S.K. 2011. Biodiesel-derived crude glycerol bioconversion to animal feed: A sustainable option for a biodiesel refinery. *Bioresource Technology*. 102 (10): 5808-5814.
63. Takara, D., and Khanal, S.K. 2011. Green processing of tropical banagrass into biofuel and biobased products: An innovative biorefinery approach. *Bioresource Technology*. 102 (2): 1587-1592.
64. Munasinghe, P.C., and Khanal, S.K. 2010. Syngas fermentation to biofuel: Evaluation of carbon monoxide mass transfer coefficient (k<sub>La</sub>) in different reactor configurations. *Biotechnology Progress*. 26 (6): 1616-1621.
65. Takara, D., Nitayavardhana, S., Pinowska, A., and Khanal, S.K. 2010. Sustainable Bioenergy from Biofuel Residues and Wastes. *Water Environment Research*. 82 (10):1694-1719.
66. Mitra, D., Pometto III, A.L., Khanal, S.K., Byron, B.S., and Van Leeuwen, J. 2010. Value-added production of nisin from soy whey. *Applied Biochemistry and Biotechnology*. 162 (7): 1819-1828.
67. Nitayavardhana, S., and Khanal, S.K. 2010. Innovative biorefinery concept for sugar-based ethanol industries: production of protein-rich fungal biomass on vinasse as an aquaculture feed ingredient. *Bioresource Technology*. 101 (23): 9078-9085.
68. Shrestha, P., Khanal, S.K., Pometto, A.L., and Van Leeuwen, J. 2010. Ethanol production via in-situ fungal saccharification and fermentation of mild alkali and steam pretreated corn fiber. *Bioresource Technology*. 101 (22): 8698-8705.
69. Rasmussen, M., Khanal, S.K., Pometto III, A.L., and Van Leeuwen, J. 2010. Sequential saccharification of corn fiber and ethanol production by the brown rot fungus *Gloeophyllum trabeum*. *Bioresource Technology*. 101 (10): 3526-3533.

70. Montalbo-Lombay, M., Khanal, S.K., Van Leeuwen, J., Raman, D.R. Dunn, L.Jr., and Grewell, D. 2010. Ultrasonic pretreatment of corn slurry for saccharification: A comparison of batch and continuous systems. *Ultrasonics Sonochemistry*. 17 (5): 939-946.
71. Sindhuja, S., Khanal, S.K., Pometto, A.L., Jin, B., and Van Leeuwen, J. 2010. Use of microfungi for production of high value fungal by-products: A review. *Critical Reviews in Environmental Science and Technology*. 40 (5): 1-49.
72. Munasinghe, P.C., and Khanal, S.K. 2010. Syngas fermentation to biofuels: Challenges and opportunities. *Bioresource Technology*. 101 (13): 5013-5022.
73. Seng, B., Khanal, S.K., and Visvanathan, C. 2010. Anaerobic digestion of combined ultrasound and chemical pretreated waste activated sludge. *Environmental Technology*. 31 (3): 257-265.
74. Nitayavardhana, S., Shrestha, P. Rasmussen, M., Lamsal, B.P., Van Leeuwen, J., and Khanal, S.K. 2010. Ultrasound improved ethanol fermentation from cassava chips in cassava-based ethanol plants. *Bioresource Technology*. 10 (8): 2741-2747.
75. Karki, B., Lamsal, B.P., Grewell, D., Jung, S., Pometto, A.L., Van Leeuwen, J., and Khanal, S.K. 2010. Enhancing Protein and Sugar Release from Defatted Soy Flakes using Ultrasound Technology. *Journal of Food Engineering*. 96 (2): 270-278.
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86. Khanal, S.K., Montalbo, M., Van Leeuwen, J., Srinivasan, G., and Grewell, D. 2007. Ultrasound enhanced glucose release from corn in ethanol plants. *Biotechnology and Bioengineering*. 98 (5): 978-985.
87. Ho, J., Khanal, S.K., and Sung, S. 2007. Anaerobic membrane bioreactor for treatment of synthetic municipal wastewater at ambient temperature. *Water Science and Technology*. 55 (7): 79-86.
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92. Khanal, S.K., and Huang, J.-C. 2006. Online oxygen control for sulfide oxidation in anaerobic treatment of high sulfate wastewater. *Water Environment Research*. 78 (4): 397-408.
93. Khanal, S.K., Chen, W.-H., Li, L., and Sung, S. 2006. Biohydrogen production in continuous flow reactor using mixed microbial culture. *Water Environment Research*. 78 (2): 110-117.
94. Foulkes, B., Khanal, S.K., and Sung, S. 2006. Bioleaching of zinc and copper from anaerobically digested swine manure: effect of sulfur levels and solid contents. *Water Environment Research*. 78 (2): 202-208.
95. Jasti, N., Khanal, S.K., Pometto, A.L., and Van Leeuwen, J. 2006. Fungal treatment of corn processing wastewater in an attached growth system. *Water Science and Practice*. 1 (3): 1-8.
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98. Huang, J.-C., and Khanal, S.K. 2004. Treatment of high sulfate and high strength wastewater in a single stage anaerobic reactor. *Water Science and Technology-Water Supply*. 4 (1): 35-45.
99. Khanal, S.K., and Huang, J.-C. 2003. Anaerobic treatment of high sulfate wastewater with oxygenation to control sulfide toxicity. *Journal of Environmental Engineering, ASCE*. 129 (12): 1104-1111.

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101. Khanal, S.K., and Huang, J.-C. 2003. ORP based oxygenation for sulfide control in anaerobic treatment of high sulfate wastewater. *Water Research*. 37 (9): 2053-2062.
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#### Leadership Roles (Committees, Boards, Advisory, etc.)

Associate Editor, Bioresource Technology (I.F 6.669) (Jan 2018 to present).

International Advisor, Environmental Engineering Program, Korea University, Seoul, South Korea (2016 - present).

International Bioprocessing Association (IBA) (General Secretary).

USDA NIFA Multi State Project S1041: The Science and Engineering for a Biobased Industry and Economy, Secretary (2009-2010); Vice-Chair (2010-2011) and Chair (2011-2012).

#### **Graduate Students**

<u>Category</u>	<u>Current Number of Students</u>	<u>Number Graduated (Career)</u>
Chair of Master Committees	3	10 (UHM) +7 (Iowa St.)
Chair of PhD Committees	2	8 (UHM) + 3 (Iowa St.)
Member of Master Committees	2	6 (UHM) + 1 (Iowa St.)
Member of PhD Committees	2	9 (UHM)+ 7 (Iowa St.)
External MS Committees	1	4
External PhD Committees (Co-Chair)	-	13 (2 as Co-chair)

#### **Grant Support**

Title of Grant: Organic Bioconversion to Animal Feed via Black Soldier Flies (BSF) Larvae  
Source of Grant: HDOA  
Total Dollar Value (Your share of the grant value): \$150,000  
Dates of Grant: 2019-2021  
Role: (PI, CoPI,) PI

Title of Grant: Borlaug Newman Fellow - Vietnam  
Source of Grant: USDA  
Total Dollar Value (Your share of the grant value): \$50,000  
Dates of Grant: 2019-2022  
Role: (PI, CoPI,) PI

Title of Grant: Nanobubble Technology for Aquaculture and Aquaponics  
Source of Grant: HDOA  
Total Dollar Value (Your share of the grant value): \$60,000  
Dates of Grant: 2019-2021  
Role: (PI, CoPI,) PI

Title of Grant: Biological Conversion of Farm Waste/AD Digestate into Biofuel and Animal Feed Via Insect Farming  
Source of Grant: Western Sun Grant Regional Center  
Total Dollar Value (Your share of the grant value): \$150,000

Dates of Grant: 2018-2019

Role: (PI, CoPI,) PI

Title of Grant: Anaerobic Digestion of High-solids Feedstock: Evaluation of Microbiome and Bioenergetics

Source of Grant: USDA-ARS Supplemental Research grant

Total Dollar Value (Your share of the grant value): \$80,000

Dates of Grant: 2018-2020

Role: (PI, CoPI,) PI

Title of Grant: Algal Biomass to Ethanol and Aquatic Feed

Source of Grant: Kuehnle AgroSystems, Inc.

Total Dollar Value (Your share of the grant value): \$18,000

Dates of Grant: 2018

Role: (PI, CoPI,) PI

Title of Grant: High-yielding Bioenergy Feedstock Production, Characterization and Pretreatment for Bioenergy Production

Source of Grant: USDA-ARS

Total Dollar Value (Your share of the grant value): \$65,000

Dates of Grant: 2017-2018

Role: (PI, CoPI,) PI

Title of Grant: Novel Bio-Chars Production from Northeastern Forestry Feedstocks and Their Land Application to Enhance Environmental Sustainability of Agricultural Production Systems

Source of Grant: Northeast Regional Sun Grant Center

Total Dollar Value (Your share of the grant value): \$360,000 (\$65,000)

Dates of Grant: 2018-2019

Role: (PI, CoPI,) Co-PI

Title of Grant: Anaerobically-digested Slurry (Digestate) and Digestate-derived Biochar Applications as a Fertilizer for Organic Farming

Source of Grant: USDA-Supplemental Research/ Extension grant

Total Dollar Value (Your share of the grant value): \$80,000 (\$10,000)

Dates of Grant: 2017-2019

Role: (PI, CoPI,) Co-PI

Title of Grant: Utilization of Local Agri-processing By-products to Produce Fungal Protein for Aquatic Feed Production

Source of Grant: Center for Tropical and Sub-tropical Aquaculture (CTSA)

Total Dollar Value (Your share of the grant value): \$200,000

Dates of Grant: 2015-2018

Role: (PI, CoPI,) PI

Title of Grant: Fundamental Understanding of Anaerobic Digestion of Energy Crops for Bioenergy Production

Source of Grant: USDA-Supplemental Research/ Extension grant

Total Dollar Value (Your share of the grant value): \$80,000

Dates of Grant: 2016-2018

Role: (PI, CoPI,) PI

Title of Grant: Sustainable Integrated Food Production through Aquaponic Systems  
Source of Grant: USDA-Specialty Crops  
Total Dollar Value (Your share of the grant value): \$32,000  
Dates of Grant: 2016-2018  
Role: (PI, CoPI,) PI

Title of Grant: Developing ORP-based Process Control for High Solids Anaerobic Digestion  
Source of Grant: USDA-AFRI (Foundation Program)  
Total Dollar Value (Your share of the grant value): \$150,000  
Dates of Grant: 2013-2016  
Role: (PI, CoPI,) PI

Title of Grant: Nitrogen Transformations in Aquaponics and its Implications to Climate Change  
Source of Grant: USDA-AFRI (Foundation Program)  
Total Dollar Value (Your share of the grant value): \$500,000  
Dates of Grant: 2013-2018  
Role: (PI, CoPI,) PI

Title of Grant: Conversion of High-Yield Tropical Biomass into Sustainable Biofuels  
Source of Grant: USDA-BRDI  
Total Dollar Value (Your share of the grant value): \$6 million (\$575,000)  
Dates of Grant: 2012-2018  
Role: (PI, CoPI,) Co-PI

Title of Grant: Developing Anaerobic Digestion Biorefinery Using High Yield Tropical Feedstocks  
Source of Grant: Western Sun Grant Regional Center  
Total Dollar Value (Your share of the grant value): \$200,000  
Dates of Grant: 2013-2015  
Role: (PI, CoPI,) PI

Title of Grant: Can Biologically-derived Nitrogen be Used as a Fertilizer for Organic Farming?  
Source of Grant: USDA-Supplemental Research/ Extension grant  
Total Dollar Value (Your share of the grant value): \$99,847  
Dates of Grant: 2013-2015  
Role: (PI, CoPI,) PI

Title of Grant: Converting Food Waste into Biofuel and Animal Feed through Insect Farming  
Source of Grant: HATCH grant  
Total Dollar Value (Your share of the grant value): \$40,000  
Dates of Grant: 2014-2015  
Role: (PI, CoPI,) PI

Title of Grant: Analytical Instrument for Bioenergy, Aquaculture and Climate Change Research, Instruction and Extension in CTAHR  
Source of Grant: CTAHR Instructional, Extension or Research Instrumentation  
Total Dollar Value (Your share of the grant value): \$40,000  
Dates of Grant: 2013  
Role: (PI, CoPI,) PI

Title of Grant: Enhancing Biodiesel Feedstock and Co-product Production Using Oleaginous Fungi  
Source of Grant: Pacific Biodiesel, Inc.,  
Total Dollar Value (Your share of the grant value): \$10,000  
Dates of Grant: 2012-2014  
Role: (PI, CoPI,) PI

Title of Grant: Green Processing of High Yield Tropical Grass to Biobased Product and Biobutanol  
Source of Grant: Western Sun Grant Regional Center  
Total Dollar Value (Your share of the grant value): \$200,000  
Dates of Grant: 2011-2014  
Role: (PI, CoPI,) PI

Title of Grant: Global Mapping of N<sub>2</sub>O Emission from Aquaculture and Its Implications to Climate Change: Fate of N<sub>2</sub>O in Water Recirculating Aquaponic System  
Source of Grant: National Research Foundation of Korea  
Total Dollar Value (Your share of the grant value): \$300,000 (\$70,000)  
Dates of Grant: 2011-2014  
Role: (PI, CoPI,) Co-PI

Title of Grant: An Integrated BioGas-Solar Dehydration System: Increasing Sustainability through Value-Added Agriculture  
Source of Grant: Small Business Innovative Research (SBIR) Phase II-USDA-NIFA  
Total Dollar Value (Your share of the grant value): \$500,000 (\$50,000)  
Dates of Grant: 2011-2013  
Role: (PI, CoPI,) Co-PI

Title of Grant: Nitrogen Transformation in Aquaculture-Aquaponic System and Its Implication to Climate Change  
Source of Grant: USDA-Supplemental Research/Extension grant  
Total Dollar Value (Your share of the grant value): \$61,000  
Dates of Grant: 2011-2013  
Role: (PI, CoPI,) PI

Title of Grant: Lignocellulosic Biomass Conversion into Ethanol Through Syngas Fermentation with Simultaneous Recovery of Acetic Acid using Mesoporous Silica Nanoparticle Materials  
Source of Grant: USDA-TSTAR  
Total Dollar Value (Your share of the grant value): \$147,807  
Dates of Grant: 2009-2013  
Role: (PI, CoPI,) PI

Title of Grant: A Collaborative Effort for Utilizing Regionally-based Feedstocks and Co-Products for Aquaculture Production  
Source of Grant: USDA-ARS  
Total Dollar Value (Your share of the grant value): \$600,000 (\$100,000)  
Dates of Grant: 2009-2012  
Role: (PI, CoPI,) Co-PI

Title of Grant: Development of High Yield Feedstocks y for Renewable Energy

Source of Grant: US Dept. of Energy  
Total Dollar Value (Your share of the grant value): \$6.0 million (\$306,449)  
Dates of Grant: 2009-2013  
Role: (PI, CoPI,) Co-PI

Title of Grant: Value-added Processing of Sugarcane-ethanol Vinasse: Production of Protein-rich Fungal Biomass as a Fish Feed Ingredient  
Source of Grant: USDA-ARS  
Total Dollar Value (Your share of the grant value): \$79,987  
Dates of Grant: 2008-2013  
Role: (PI, CoPI,) PI

Title of Grant: Integrated Education and Research in Clean Energy and Island Sustainability  
Source of Grant: US Dept. of Energy  
Total Dollar Value (Your share of the grant value): \$ 2.5 million (\$75,000)  
Dates of Grant: 2010-2013  
Role: (PI, CoPI,) Co-PI

Title of Grant: Developing High School Bioenergy Laboratory Manual  
Source of Grant: Hawaii Dept. of Education  
Total Dollar Value (Your share of the grant value): \$ 10,000  
Dates of Grant: 2011  
Role: (PI, CoPI,) PI

Title of Grant: 33. Developing Hawaii Bioenergy Master Plan: Conversion Technology  
Source of Grant: State of Hawaii  
Total Dollar Value (Your share of the grant value): \$ 10,000  
Dates of Grant: 2009  
Role: (PI, CoPI,) PI

Title of Grant: Effect of Ultrasonic Pretreatment on the Biochemical Conversion of Banagrass to Ethanol  
Source of Grant: US Dept. of Energy  
Total Dollar Value (Your share of the grant value): \$ 70,633  
Dates of Grant: 2008-2009  
Role: (PI, CoPI,) PI

Title of Grant: Wood Utilization Research on US Biofuels, Bioproducts, Hybrid Biomaterials Production, and Traditional Forest Products  
Source of Grant: USDA-HATCH  
Total Dollar Value (Your share of the grant value): \$ 40,000  
Dates of Grant: 2008-2009  
Role: (PI, CoPI,) PI

## **Presentations at Conferences**

Referred conference presentation (podium) (speaker with “\*\*”)

Title: Innovative aquaponic system for resource recovery. 2019 Innovation Conference on Sustainable Wastewater Treatment and Resource Recovery

Authors: Wongkiew, S., Park, M.R., Chandran, K., and Khanal, S.K\*.

Name of Conference: 2019 Innovation Conference on Sustainable Wastewater Treatment and Resource Recovery

Location: Shanghai, China

Date of Presentation: November 16, 2019

Title: High solids anaerobic digestion of lignocellulosic biomass via oxidation-reduction potential-based micro-aeration

Authors: Nguyen, D., and Khanal, S.K\*

Name of Conference: 16th World Congress on Anaerobic Digestion

Location: Delft, The Netherlands

Date of Presentation: June 23-27, 2019

Title: Alleviating sulfide toxicity using biochar during anaerobic treatment of high-sulfate wastewater with sulfur recovery

Authors: Oliveira, F. and Khanal, S.K\*

Name of Conference: 16th World Congress on Anaerobic Digestion

Location: Delft, The Netherlands

Date of Presentation: June 23-27, 2019

Title: Intermittent micro-aeration for controlling volatile fatty acids accumulation in high loading rate anaerobic digestion

Authors: Nguyen, D., and Khanal, S.K\*

Name of Conference: 2nd International Conference on Bioenergy, Bioproducts & Environmental Sustainability

Location: Sitges, Spain

Date of Presentation: Sep 16-19, 2018

Title: Innovative decentralized biorefinery for lignocellulosic biomass: Integrating anaerobic digestion with thermochemical conversion

Authors: Sawatdeenarunat, C., and Khanal, S.K.\*

Name of Conference: 15th World Congress on Anaerobic Digestion

Location: Beijing, China

Date of Presentation: Oct 18-20, 2017

Title: Aquaponic system - An emerging technology for resource recovery

Authors: Wongkiew, S\*, Popp, B.N., Park, M.R., Chandran, K., and Khanal, S.K.

Name of Conference: 2nd International Resource Recovery Conference

Location: Columbia University, New York, NY

Date of Presentation: Aug 5-9, 2017

Title: Natural strategies for enhanced biogas production from lignocellulosic biomass revealed through the synergistic application of microbial and engineering techniques.

Authors: Shrestha, S\*, Fonoll, X., Dosta, J., Mata-Alvarez, J., Khanal, S.K., and Lutgarde R.

Name of Conference: 1st Symposium on Microbiological Methods for Waste and Water Resource

## Recovery

Location: Delft, The Netherlands

Date of Presentation: May 18-19, 2017

Title: High yielding tropical energy crops for bioenergy production: effects of plant components, harvest years, and locations on biomass composition and subsequent biogas production.

Authors: Surendra, K.C., and Khanal, S.K\*

Name of Conference: International Conference on Progress in Biogas IV

Location: University of Hohenheim, Stuttgart, Germany

Date of Presentation: Mar 8-11, 2017

Title: Redox potential-based micro-aeration process control for anaerobic digestion

Authors: Nguyen, D., and Khanal, S.K\*

Name of Conference: 1st International Conference on Bioenergy, Bioproducts & Environmental Sustainability

Location: Sitges, Spain

Date of Presentation: Oct 23-26, 2016

Title: Enhanced volatile fatty acids production with micro-oxygenation during anaerobic digestion of lignocellulosic biomass

Authors: Sawatdeenarunat, C., and Khanal, S.K\*

Name of Conference: 1st International Conference on Bioenergy, Bioproducts & Environmental Sustainability

Location: Sitges, Spain

Date of Presentation: Oct 23-26, 2016

Title: Anaerobic co-digestion of lignocellulosic biomass and cow manure using rumen content as inoculum.

Authors: Shrestha, S., Fonoll, X\*, Mata-Alvarez, J., Raskin, L., Khanal, S.K.

Name of Conference: 14th World Congress on Anaerobic Digestion

Location: Viña del Mar, Chile

Date of Presentation: Nov 15-18, 2015

Title: Does maturity and size reduction matter on digestibility and methane yield of energy crop?

Authors: Surendra, K.C., Fonoll, X\*, and Khanal, S.K.

Name of Conference: 14th World Congress on Anaerobic Digestion

Location: Viña del Mar, Chile

Date of Presentation: Nov 15-18, 2015

Title: Insect farming on organic wastes: A novel strategy to produce biodiesel and animal feed with concurrent waste remediation.

Authors: Surendra, K.C\*, Olivier, R., Tomberlin, J.K., and Khanal, S.K.

Name of Conference: 8th International Conference on Challenges in Environmental Science and Engineering, CESE-2015

Location: Sydney, Australia

Date of Presentation: Sep 28-Oct 2, 2015



Title: Effect of crop maturity stage and size reduction on digestibility of energy crop for biomethane production by anaerobic digestion.

Authors: Surendra, K.C.\* , and Khanal, S.K.

Name of Conference: American Society of Agricultural and Biological Engineers (ASABE) 2014, Annual International Meeting

Location: Montreal, QC, Canada

Date of Presentation: Jul 13-16, 2014

Title: Investigation of acid concentration, retention time and temperature on dilute acid pretreatment of banagrass

Authors: Drielak, E\*., and Khanal, S.K.

Name of Conference: American Society of Agricultural and Biological Engineers (ASABE) 2014, Annual International Meeting

Location: Montreal, QC, Canada

Date of Presentation: Jul 13-16, 2014

Title: Biorefining potential of a high-yielding tropical feedstock for biofuel and biobased products

Authors: Takara, D\*., and Khanal, S.K.

Name of Conference: American Society of Agricultural and Biological Engineers (ASABE) 2014, Annual International Meeting

Location: Montreal, QC, Canada

Date of Presentation: Jul 13-16, 2014

Title: Bioconversion of sugarcane-to-ethanol wastewater into fungal protein for animal feed applications

Authors: Nitayavardhana, S\*., and Khanal, S.K.

Name of Conference: American Society of Agricultural and Biological Engineers (ASABE) 2014, Annual International Meeting

Location: Montreal, QC, Canada

Date of Presentation: Jul 13-16, 2014

Title: Sugarcane-to ethanol biorefinery: Protein-rich fungal biomass production on vinasse for animal feed and organic food production.

Authors: Khanal, S.K.\* and Nitayavardhana, S.

Name of Conference: 10th International Conference on Renewable Resources and Biorefineries

Location: Valladolid, Spain

Date of Presentation: Jun 4-6, 2014

Title: Biorefining tropical feedstocks for biofuel and biobased products.

Authors: Khanal, S.K.\* and Takara D.

Name of Conference: 1<sup>st</sup> International Congress on Bioenergy

Location: Portalegre, Portugal.

Date of Presentation: May 23-25, 2013

Title: Ensilage strategy to pretreat green grass for enhanced biomethane production

Authors: Surendra, K.C., and Khanal, S.K.\*

Name of Conference: 27th Annual Biocycle West Coast Conference, 2013

Location: San Diego, CA

Date of Presentation: Apr 9-11, 2013

Title: Green processing: a biorefinery perspective. Sun Grant National Conference: Science for Biomass Feedstock Production and Utilization

Authors: Takara, D., Hashimoto, A.G., and Khanal, S.K.\*

Name of Conference: Sun Grant National Conference: Science for Biomass Feedstock Production and Utilization

Location: New Orleans, LA

Date of Presentation: Oct 2-5, 2012

Title: High-Yield Tropical Biomass for Advanced Biofuels

Authors: Hashimoto, A.G\*., Arnold, J., Ayars, J., Crow, S., Eggeman, T., Jakeway, L., Karkee, M., Khanal, S.K., Kiniry, J., Matsunaga, J., Meki, N., Murthy, G., Nakahata, M., Ogoshi, R., Turano, B., Turn, S., Yanangida, J., and Zhang, Q.

Name of Conference: Sun Grant National Conference: Science for Biomass Feedstock Production and Utilization

Location: New Orleans, LA

Date of Presentation: Oct 2-5, 2012

Title: Green processing of dedicated energy crops for biofuel and biobased products

Authors: Takara, D\*., Hashimoto, A.G. and Khanal, S.K.

Name of Conference: International Conference on Challenges in Environmental Science and Engineering (CESE), 2012

Location: Melbourne, Australia

Date of Presentation: Sep 9-13, 2012

Title: Evaluation and analytical modeling of carbon monoxide mass transfer using a composite hollow fiber (CHF) membrane bioreactor in syngas fermentation

Authors: Munasinghe, P.C.\*., and Khanal, S.K.

Name of Conference: International Conference on Challenges in Environmental Science and Engineering (CESE), 2012

Location: Melbourne, Australia

Date of Presentation: Sep 9-13, 2012

Title: Biofuel residues conversion into aquatic feed via fungal fermentation

Authors: Nitayavardhana, S\*., Kerati, I, Pavasant, P., and Khanal, S.K.

Name of Conference: International Conference on Challenges in Environmental Science and Engineering (CESE), 2012

Location: Melbourne, Australia

Date of Presentation: Sep 9-13, 2012

Title: Wet processing of banagrass: A biorefinery perspective

Authors: Takara, D.\*, and Khanal, S.K.

Name of Conference: American Society of Agricultural and Biological Engineers (ASABE), 2011, Annual International Meeting

Location: Louisville, KY

Date of Presentation: Aug 7-10, 2011

Title: Evaluation of hydrogen and carbon monoxide mass transfer and a correlation between myoglobin-protein bio-assay and gas chromatography method for carbon monoxide determination

Authors: Munasinghe, P.C.\*, and Khanal, S.K.

Name of Conference: American Society of Agricultural and Biological Engineers (ASABE), 2011, Annual International Meeting

Location: Louisville, KY

Date of Presentation: Aug 7-10, 2011

Title: Biodiesel-derived crude glycerol bioconversion to animal feed: A sustainable option for a biodiesel refinery

Authors: Nitayavardhana, S.\* and Khanal, S.K.

Name of Conference: American Society of Agricultural and Biological Engineers (ASABE), 2011, Annual International Meeting

Location: Louisville, KY

Date of Presentation: Aug 7-10, 2011

Title: Enhanced sugar release and co-product generation of green banagrass

Authors: Takara, D.\*, and Khanal, S.K.

Name of Conference: Asian Congress on Biotechnology (ACB)

Location: Shanghai, China

Date of Presentation: May 11-15, 2011

Title: Green processing of banagrass (*Pennisetum purpureum*) for enhanced sugar release.

Authors: Takara, D\*., and Khanal, S.K.

Name of Conference: Pacific Rim Summit on Industrial Biotechnology and Bioenergy

Location: Honolulu, HI

Date of Presentation: Dec 11-14, 2010

Title: Optimization of chemical pretreatment of banagrass (a variety of *Pennisetum purpureum*) for enhanced sugar release

Authors: Takara, D\*., and Khanal, S.K.

Name of Conference: Pacific Rim Summit on Industrial Biotechnology and Bioenergy

Location: Honolulu, HI

Date of Presentation: Nov 8-11, 2009

Title: Syngas fermentation to biofuel: evaluation of carbon monoxide mass transfer in different reactors configurations

Authors: Munasinghe, P.C\*, and Khanal, S.K.

Name of Conference: Pacific Rim Summit on Industrial Biotechnology and Bioenergy

Location: Honolulu, HI

Date of Presentation: Nov 8-11, 2009

Title: Simultaneous saccharification and fermentation of ultrasonically treated corn slurry

Authors: Montalbo-Lomboy, M.\*, Khanal, S.K., Van Leeuwen, J., Raman, D.R., Dunn Jr., L., and Grewell, D.

Name of Conference: American Society of Agricultural and Biological Engineers Annual International Meeting

Location: Reno, NV

Date of Presentation: Jun 21-24, 2009

Title: Ultrasonic pretreatment of corn slurry in batch and continuous systems

Authors: Montalbo-Lomboy, M., Khanal, S.K., Van Leeuwen, J., Raman, D.R., Dunn Jr., L., and Grewell, D.\*

Name of Conference: American Society of Agricultural and Biological Engineers Annual International Meeting

Location: Reno, NV

Date of Presentation: Jun 21-24, 2009

Title: Ultrasonic enhanced liquefaction and saccharification of corn for biofuel production

Authors: Khanal, S.K., Montalbo, M\*, Van Leeuwen, J., Srinivasan, G., and Grewell, D.

Name of Conference: American Society of Agricultural and Biological Engineers Annual International Meeting

Location: Minneapolis, MN

Date of Presentation: Jun 17-20, 2007

Title: Ultrasonication in soy processing for enhanced protein and sugar yields and subsequent bacterial nisin production

Authors: Karki, B\*, Lamsal, B.P., Grewell, D., Van Leeuwen, J., and Khanal, S.K.

Name of Conference: American Society of Agricultural and Biological Engineers Annual International Meeting

Location: Minneapolis, MN

Date of Presentation: Jun 17-20, 2007

Title: Thin stillage treatment from dry grind ethanol plants with fungi

Authors: Rasmussen, M\*, Khanal, S.K., Pometto, A.L., and Van Leeuwen, J.

Name of Conference: American Society of Agricultural and Biological Engineers Annual International Meeting

Location: Minneapolis, MN

Date of Presentation: Jun 17-20, 2007

Title: Fungal fermentation of corn fiber to enhance ethanol production  
Authors: Shrestha, P\*, Vincent, M., Khanal, S.K., Pometto, A.L., and Van Leeuwen, J.  
Name of Conference: American Society of Agricultural and Biological Engineers Annual International Meeting  
Location: Minneapolis, MN  
Date of Presentation: Jun 17-20, 2007

Title: Effect of total solids concentration on ultrasonic disintegration of waste activated sludge  
Authors: Akin, B\*, Khanal, S.K., Sung, S., Grewell, D., and Van Leeuwen, J.  
Name of Conference: IWA Specialized Conference – Facing Sludge Diversities: Challenges, Risks, and Opportunities  
Location: Antalya, Turkey  
Date of Presentation: Mar 28-30, 2007

Title: Ultrasound pretreatment of waste activated sludge: evaluation of sludge disintegration and aerobic digestibility  
Authors: Khanal, S.K\*, Isik, H., Sung, S., and Van Leeuwen, J.  
Name of Conference: IWA World Water Congress and Exhibition  
Location: Beijing, China  
Date of Presentation: Sep 10-14, 2006

Title: Ultrasonic conditioning of waste activated sludge for enhanced aerobic digestion  
Authors: Khanal, S.K\*, Isik, H., Sung, S., and Van Leeuwen, J.  
Name of Conference: IWA Specialized Conference - Sustainable Sludge Management: State of the Art, Challenges and Perspectives  
Location: Moscow, Russia  
Date of Presentation: May 29-31, 2006

Title: Effects of ultrasound pretreatment on aerobic digestibility of thickened waste activated sludge  
Authors: Khanal, S.K\*, Isik, H., and Sung, S.  
Name of Conference: 7th Specialized Conference on Small Water and Wastewater Systems  
Location: Mexico City, Mexico  
Date of Presentation: Mar 7-10, 2006

Title: Anaerobic membrane bioreactor for treatment of synthetic municipal wastewater at ambient temperature  
Authors: Ho, J., Khanal, S.K\*, and Sung, S.  
Name of Conference: 7th Specialized Conference on Small Water and Wastewater Systems  
Location: Mexico City, Mexico  
Date of Presentation: Mar 7-10, 2006

Title: Biological odor control technology for high sulfate wastes  
Authors: Huang, J.-C\*, and Khanal, S.K.

Name of Conference: 4<sup>th</sup> Symposium on Anaerobic Digestion of Solid Waste

Location: Copenhagen, Denmark

Date of Presentation: Aug 31-Sept 2, 2005

Title: Attached growth fungal system for food processing wastewater treatment and high value protein recovery

Authors: Jasti, N\*., Khanal, S.K., Pometto, A.L., and Van Leeuwen, J.

Name of Conference: 78th Annual Conference & Exposition (WEFTEC)

Location: Washington, D.C.

Date of Presentation: Oct 29-Nov 2, 2005

Title: Treatment of food processing wastewater using attached growth fungal system.

Authors: Jasti, N\*., Khanal, S.K., Pometto, A.L., and Van Leeuwen, J.

Name of Conference: 1st IWA-ASPIRE (Asia Pacific Regional Group) Conference & Exhibition

Location: Singapore

Date of Presentation: Jul 10-15, 2005

Title: Biological hydrogen production potential of cellulose-derived sugars

Authors: Huang, Y.-T., Chen, S.-Y., Khanal, S.K\*., and Sung, S.

Name of Conference: 1st IWA-ASPIRE (Asia Pacific Regional Group) Conference & Exhibition

Location: Singapore

Date of Presentation: Jul 10-15, 2005

Title: Production of aerobic yeast from industrial process stream

Authors: Wongkarnka, M., Khanal, S.K\*., Elisosov, B., Leeuwen, J., and Ellis, T.G.

Name of Conference: 1st IWA-ASPIRE (Asia Pacific Regional Group) Conference & Exhibition

Location: Singapore

Date of Presentation: Jul 10-15, 2005

Title: Treatment of high sulfate wastewater in upflow anaerobic filter

Authors: Khanal, S. K\*., and Huang, J.-C.

Name of Conference: Asian Water Qual, 2003

Location: Bangkok, Thailand

Date of Presentation: Oct 19-23, 2003

Title: Temperature-phased anaerobic digestion (TPAD) of food waste together with wax-coated cardboard

Authors: Li, C., Ho, J.H., Khanal, S.K., and Sung, S.\*

Name of Conference: Asian Water Qual, 2003

Location: Bangkok, Thailand

Date of Presentation: Oct 19-23, 2003

Title: Bioconversion of sulfide to elemental sulfur in trickling filter

Authors: Sung, S., Khanal, S.K., Chen, W.-H\*., and Cao, Q.

Name of Conference: Asian Water Qual, 2003

Location: Bangkok, Thailand

Date of Presentation: Oct 19-23, 2003

Title: Use of ORP to control oxygen dosing for online sulfide oxidation in anaerobic treatment of high sulfate wastewater

Authors: Khanal, S.K., Shang, C\*., and Huang, J.-C.

Name of Conference: IWA 3rd World Water Congress

Location: Melbourne, Australia

Date of Presentation: Apr 7-12, 2002

Title: Anaerobic biotechnology for the treatment of sulfate-laden wastewater

Authors: Khanal, S.K\*., and Huang, J.-C.

Name of Conference: IWA-WISA sponsored conference on Managing Water and Waste in the New Millennium

Location: Midrand, Johannesburg, South Africa

Date of Presentation: May 23-26, 2000

## **TECHNICAL PRESENTATIONS/POSTERS, MEETINGS AND WORKSHOPS**

Title: Nitrogen transformations in floating-raft aquaponic systems.

Authors: Wongkiew, S\*., and Khanal, S.K.

Name of Conference: 30th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium (*Poster presentation*)

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 6-7, 2018

Title: Oxidation reduction potential (ORP)-based micro-aeration system for anaerobic digestion.

Authors: Nguyen D\*., and Khanal, S.K.

Name of Conference: 30th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 6-7, 2018

Title: Anaerobic treatment of sulfate-laden wastewater with simultaneous removal of sulfide using biochar.

Authors: Oliveira, F\*., and Khanal, S.K.

Name of Conference: 30th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 6-7, 2018

Title: Automated micro-aeration system for enhancing the process stability of anaerobic digestion at high organic loading rates. (*Awarded Outstanding Poster Award*)

Authors: Nyugen, D., and Khanal, S.K.\*

Name of Conference: 15th World Congress on Anaerobic Digestion

Location: Beijing, China

Date of Presentation: Oct 18-20, 2017

Title: Effects of hyperthermophilic temperature on biomethanation efficiency and microbial community during hydrogenotrophic methanogenesis. (*Awarded Outstanding Poster Award*)

Authors: Dong, N\*., Bu, F., Khanal, S.K., Xie, L., and Zhou, Q.

Name of Conference: 15th World Congress on Anaerobic Digestion

Location: Beijing, China

Date of Presentation: Oct 18-20, 2017

Title: Natural strategies for enhanced biogas production from anaerobic digestion of lignocellulosic biomass.

Authors: Shrestha, S\*., Fonoll, X., Dosta, J., Mata-Alvarez, J., Khanal, S.K., and Lutgarde R.

Name of Conference: 3rd International Conference on Biogas Microbiology (ICBM-3)

Location: May 1-3, 2017

Date of Presentation: Wageningen, The Netherlands

Title: Recovery of high-value fungal protein from agri--processing wastewater with simultaneous water reclamation. (*Poster presentation*)

Authors: Batsaikhan, M\*., and Khanal, S.K.

Name of Conference: 29th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 7-8, 2017

Title: Effects of high-pressure pretreatment on anaerobic digestion of Napier grass. (*Poster presentation*)

Authors: Phuttaro, C\*., Chaiprapat, S., and Khanal, S.K.

Name of Conference: 29th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 7-8, 2017

Title: Reduction of inhibitory compounds generated from high pressure treatment of Gracilaria Salicornia.



Authors: Wakizawa, B\*, and Khanal, S.K.

Name of Conference: 29th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 7-8, 2017

Title: Enhanced volatile fatty acids production with micro-oxygenation during anaerobic digestion of lignocellulosic biomass. (*Poster presentation*)

Authors: Sawatdeenarunat, C\*., and Khanal, S.K.

Name of Conference: 28th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 8-9, 2016

Title: Nitrogen transformations in floating-raft aquaponic systems. (*Poster presentation*)

Authors: Wongkiew, S\*., and Khanal, S.K.

Name of Conference: 28th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 9-10, 2016

Title: Oxidation reduction potential (ORP)-based micro-aeration system for anaerobic digestion. (*Poster presentation*)

Authors: Nguyen D\*., and Khanal, S.K.

Name of Conference: 28th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 8-9, 2016

Title: Anaerobic digestion of lignocellulosic biomass using rumen content as inoculum for enhanced biogas production. (*Poster presentation*)

Authors: Shrestha, S\*., Fonoll, X., Mata-Alvarez, J., Raskin, L., and Khanal, S.K.

Name of Conference: S-1041: Science and Engineering for a Biobased Industry and Economy, Research Meeting

Location: Wooster, OH

Date of Presentation: Aug 10-11, 2015

Title: Oxidation reduction potential (ORP)-based micro-aeration system for anaerobic digestion. (*Poster presentation*)

Authors: Nguyen, D\*., and Khanal, S.K.

Name of Conference: S-1041: Science and Engineering for a Biobased Industry and Economy, Research Meeting

Location: Wooster, OH

Date of Presentation: Aug 10-11, 2015

Title: Dilute acid pretreatment: investigation of acid concentration, time, temperature and solid to

liquid ratio on total sugar release from Napier grass. (*Poster presentation*)

Authors: Drielak, E\*., and Khanal, S.K.

Name of Conference: S-1041: Science and Engineering for a Biobased Industry and Economy,  
Research Meeting

Location: Wooster, OH

Date of Presentation: Aug 10-11, 2015

Title: Enhanced volatile fatty acids production with oxygenation during anaerobic digestion of lignocellulosic biomass. (*Poster presentation*)

Authors: Sawatdeenarunat, C\*., and Khanal, S.K.

Name of Conference: S-1041: Science and Engineering for a Biobased Industry and Economy,  
Research Meeting

Location: Wooster, OH

Date of Presentation: Aug 10-11, 2015

Title: Enhanced volatile fatty acids production with oxygenation during anaerobic digestion of lignocellulosic biomass. (*Poster presentation*)

Authors: Sawatdeenarunat, C\*., and Khanal, S.K.

Name of Conference: 27th Annual College of Tropical Agriculture and Human Resources (CTAHR)  
and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 10-11, 2015

Title: Nitrogen transformations in floating-raft aquaponic systems. (*Poster presentation*)

Authors: Wongkiew, S\*., and Khanal, S.K.

Name of Conference: 27th Annual College of Tropical Agriculture and Human Resources (CTAHR)  
and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 10-11, 2015

Title: Bioconversion of food wastes to biodiesel and animal feed through insect farming. (*Poster presentation*)

Authors: Surendra, K.C\*., Olivier, R., Tomberlin, J. K., and Khanal, S.K.

Name of Conference: 27th Annual College of Tropical Agriculture and Human Resources (CTAHR)  
and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 10-11, 2015

Title: Oxidation reduction potential (ORP)-based micro-aeration system for anaerobic digestion. (*Poster presentation*)

Authors: Nguyen D\*., and Khanal, S.K.

Name of Conference: 27th Annual College of Tropical Agriculture and Human Resources (CTAHR)  
and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 10-11, 2015

Title: Anaerobic digestion of lignocellulosic biomass using rumen content as inoculum for enhanced biogas production.

Authors: Shrestha, S\*., Fonoll, X., Mata-Alvarez, J., Raskin, L., and Khanal, S.K.

Name of Conference: 27th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 10-11, 2015

Title: Hydrogen sulfide (H<sub>2</sub>S) removal by using biochar. (*Poster presentation*)

Authors: Kanjanarong, J\*., Boonsawang, P., and Khanal, S.K.

Name of Conference: 27th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 10-11, 2015

Title: High-yield tropical feedstocks for bioenergy production. (*Poster presentation*)

Authors: Hashimoto, A\*, Ogoshi, R., Takara, D., Khanal, S.K., and Crow, S.

Name of Conference: European Biomass Energy Conference

Location: Hamburg, Germany

Date of Presentation: Jun 23-26, 2014

Title: Examination of factors affecting sugar release from Napier grass during dilute acid pretreatment.

Authors: Drielak, E\*., and Khanal, S.K.

Name of Conference: 26th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 13-14, 2014

Title: Co-product potential of biofuel residue streams generated from green processing of Napier grass.

Authors: Martinez, L\*., Drielak, E., and Khanal, S.K.

Name of Conference: 26th Annual College of Tropical Agriculture and Human Resources (CTAHR) and College of Engineering (COE) Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: Apr 13-14, 2014

Title: Green processing of high yield tropical grass for biofuel and biobased products.

Authors: Takara, D., Hashimoto, A.G., and Khanal, S.K\*.

Name of Conference: S-1041-The Science and Engineering for a Biobased Industry and Economy Annual Meeting and Symposium

Location: Waterfront Center (USDA), Washington, DC

Date of Presentation: Aug 6-7, 2012

Title: Green processing of tropical feedstocks for biofuel and biobased products.  
Authors: Takara, D\*. and Khanal, S.K.  
Name of Conference: College of Tropical Agriculture and Human Resources Research (CTAHR)  
Symposium  
Location: University of Hawai'i at Mānoa  
Date of Presentation: Apr 13-14, 2012

Title: Green processing of tropical feedstocks for biofuel and biobased products.  
Authors: Nitayavardhana, S\*. and Khanal, S.K.  
Name of Conference: College of Tropical Agriculture and Human Resources Research (CTAHR)  
Symposium  
Location: University of Hawai'i at Mānoa  
Date of Presentation: Apr 13-14, 2012

Title: Green processing of tropical feedstocks for biofuel and biobased products.  
Authors: Munasinghe, P.C\*. and Khanal, S.K.  
Name of Conference: College of Tropical Agriculture and Human Resources Research (CTAHR)  
Symposium  
Location: University of Hawai'i at Mānoa  
Date of Presentation: Apr 13-14, 2012

## **KEYNOTE/INVITED SPEAKER**

Title: Nanobubble Technology Applications in Environment and Agriculture  
Name of Conference: International Conference on New Horizons in Biotechnology  
Location: Trivendrum, India  
Date of Presentation: Nov 20-23, 2019

Title: Bioenergy and biobased products from biowastes/agri-residues.  
Name of Conference: Sun Grant Center Western Regional Center  
Location: Oregon State University, Corvallis  
Date of Presentation: Aug 21, 2019

Title: Recovery of resources from wastes.  
Name of Conference: Invited speaker  
Location: Shandong University, Qingdao  
Date of Presentation: July 9, 2019

Title: Can micro-aeration improve anaerobic digestion process?  
Name of Conference: The 3rd International Conference on Bioresources, Energy, Environment and Materials Technology (BEEM 2019)  
Location: Hong Kong, SAR  
Date of Presentation: Jun 13-15, 2019

Title: Recovery of resources from wastes (water): some perspectives.

Name of Conference: Invited speaker

Location: Hong Kong University of Science and Technology

Date of Presentation: Jun 12, 2019

Title: Organic wastes bioconversion via insect farming: opportunities and challenges.

Name of Conference: International Conference on Sustainable Solid Waste Treatments and Managements

Location: Yangling, China

Date of Presentation: May 6-9, 2019

Title: Waste-to-resources: Some perspectives.

Name of Conference: Invited speaker

Location: Prince of Songkla University, Songkhla, Thailand

Date of Presentation: Apr 19, 2019

Title: Aquaponic system for resource recovery: understanding the role of microbial communities in nitrogen transformations.

Name of Conference: International Conference on Biotechnological Research and Innovation for Sustainable Development (BioSD-2018)

Location: Hyderabad, India

Date of Presentation: Nov 22-25, 2018

Title: Anaerobic digestion with micro-aeration for enhanced methane yield at high organic loading rates.

Name of Conference: International Conference on Advanced Technologies in Energy, Environmental and Electrical Engineering (AT3E 2018)

Location: Shandong University, Qingdao, China

Date of Presentation: Oct 26-28, 2018

Title: Micro-aeration-based anaerobic digestion process for enhanced biomethane yield.

Name of Conference: 6th S2NU-K2U Symposium on Waste-to-Energy

Location: Seoul National University, Seoul Korea

Date of Presentation: Sep 28, 2018

Title: Biogas and biorefinery.

Name of Conference: Global Perspectives in Bioresource Technology for Water–Food–Energy Sustainability

Location: Gadjah Mada University, Yogyakarta, Indonesia

Date of Presentation: Aug 7-16, 2018

Title: Bioresources and their utilization.

Name of Conference: Global Perspectives in Bioresource Technology for Water–Food–Energy

Sustainability

Location: Gadjah Mada University, Yogyakarta, Indonesia

Date of Presentation: Aug 7-16, 2018

Title: Hypothesis driven research and student mentoring.

Name of Conference: Global Perspectives in Bioresource Technology for Water–Food–Energy Sustainability

Location: Gadjah Mada University, Yogyakarta, Indonesia

Date of Presentation: Aug 7-16, 2018

Title: Anaerobic digestion biorefinery: Integrating biochemical conversion and thermochemical conversion.

Name of Conference: Northwest A & F University

Location: Yangling, China

Date of Presentation: Jun 29, 2018

Title: Bioenergy and Bio-based Products from Bioresources: Energy and Environmental Sustainability.

Name of Conference: In celebration of 150 years of establishment of Oregon State University (Western Regional Sun Grant Center)

Location: Corvallis, OR

Date of Presentation: Apr 16-17, 2018

Title: Anaerobic digestion biorefinery for bioenergy and biobased products.

Name of Conference: International Conference on Alternative Fuels and Energy – ICAFE-2017

Location: Daegu, South Korea

Date of Presentation: Oct 23-25, 2017

Title: Anaerobic digestion process control via oxidation-reduction potential (ORP)-based micro-aeration.

Name of Conference: International Conference on Emerging Trends in Biotechnology for Waste Conversion (ETBWC-2017) and XIV Convention of the Biotech Research Society, CSIR-National Environmental Engineering Research Institute

Location: Nagpur, India

Date of Presentation: Oct 8-10, 2017

Title: Oxidation-reduction potential (ORP)-based micro-aeration for anaerobic digestion process stability at high organic loading rate.

Name of Conference: Faculty of Engineering, Prince of Songkla University

Location: Hat Yai, Thailand

Date of Presentation: Jul 31, 2017

Title: Anaerobic biorefinery of lignocellulosic feedstock to produce bioenergy and biobased products.

Name of Conference: The 7th International Conference on Fermentation Technology for Value-added Agricultural Products and the 12th Asian Biohydrogen & Biorefinery Symposium

Location: Khon Kaen, Thailand

Date of Presentation: Jul 26-28, 2017

Title: Waste to energy: Current status and perspectives.

Name of Conference: Water Environment Association of the Philippines Convention 2017

Location: Manila, Philippines

Date of Presentation: Jul 19-21, 2017

Title: Anaerobic digestion process control using oxidation-reduction potential (ORP).

Name of Conference: School of Environmental Engineering and Science, Tongji University,

Location: Tongji, China

Date of Presentation: Jun 27, 2017

Title: Biochar application in hydrogen sulfide removal from biogas.

Name of Conference: 2nd International Conference on Biological Waste as Resource (BWR2017)

Location: Hong Kong

Date of Presentation: May 25–28, 2017

Title: Anaerobic digestion of lignocellulosic biomass using horizontal bioreactor with focus on decentralized biorefinery.

Name of Conference: 7th International Industrial Bioprocessing

Location: Wuxi, China

Date of Presentation: May 21-24, 2017

Title: Oxidation-reduction potential (ORP)-based micro-aeration for anaerobic digestion process stability at high organic loading rate.

Name of Conference: Montana Tech of the University of Montana

Location: Butte, MT

Date of Presentation: Apr 28, 2017

Title: Renewable energy and climate change.

Name of Conference: Joint Workshop - University of Hawaii and Tokyo University of Agriculture and Technology

Location: Honolulu

Date of Presentation: Feb 21, 2017

Title: Anaerobic digestion of lignocellulosic biomass using horizontal bioreactor: Evaluation of long-term digester performance.

Name of Conference: International conference on Bioprocessing India 2016, Center of Innovative and Applied Bioprocessing

Location: Mohali, India

Date of Presentation: Dec 15-17, 2016

Title: Waste-to-resources: opportunities and challenges.

Name of Conference: International Conference on Strategies for Environmental Protection and Management and 29th Annual meeting of National Environmental Science Academy, Jawaharlal Nehru University

Location: New Delhi, India  
Date of Presentation: Dec 11-13, 2016

Title: Anaerobic digestion of high yield energy crops for bioenergy production.  
Name of Conference: International Conference on Current Trends in Biotechnology  
Location: Vellore, India  
Date of Presentation: Dec 8-10, 2016

Title: Anaerobic digestion of high yield energy crops.  
Name of Conference: Dept. of Environmental Engineering and Science, National University of Singapore  
Location: Singapore  
Date of Presentation: Dec 5, 2016

Title: Converting biofuel process residues/wastes into protein-rich aquatic feed with simultaneous reclamation of treated effluent.  
Name of Conference: 1st International Conference on Bioenergy, Bioproducts & Environmental Sustainability  
Location: Sitges, Spain  
Date of Presentation: Oct 23-26, 2016

Title: Tips on writing research paper.  
Name of Conference: School of Environmental Science and Engineering, Sun Yat-Sen University  
Location: Guangzhou, China  
Date of Presentation: Aug 2, 2016

Title: Bioconversion of organic wastes into biofuel via insect farming.  
Name of Conference: 4th S2NU-K2U Symposium on Waste-to-Energy, Seoul National University  
Location: Seoul Korea  
Date of Presentation: July 1, 2016

Title: Research and development in anaerobic biotechnology.  
Name of Conference: College of Environmental Science and Engineering, Tongji University  
Location: Shanghai, China  
Date of Presentation: June 9, 2016

Title: Resource recovery from wastes/residues.  
Name of Conference: College of Environmental Science and Engineering, Shandong University  
Location: Jinan, China  
Date of Presentation: June 17, 2016

Title: Research and development: Interfacing energy and environment.  
Name of Conference: Shiv Nadar University  
Location: Gautam Nagar, India  
Date of Presentation: April 21, 2016



Title: Resource recovery from wastes/residues.

Name of Conference: Dept. of Environmental Engineering, National Ilan University

Location: Ilan, Taiwan

Date of Presentation: April 19, 2016

Title: Anaerobic waste treatment and bioenergy production.

Name of Conference: Dept. of Environmental Engineering, National Ilan University

Location: Ilan, Taiwan

Date of Presentation: April 19, 2016

Title: Bioenergy and resource recovery.

Name of Conference: Dept. of International Environmental and Agricultural Science, Tokyo University of Agriculture and Technology

Location: Tokyo, Japan

Date of Presentation: Dec 15, 2015

Title: Anaerobic biorefinery for biofuel and biobased products.

Name of Conference: International Conference on New Horizons in Biotechnology

Location: Trivendrum, India

Date of Presentation: (Nov 23-25, 2015)

Title: Bioconversion of waste/residues into resources.

Name of Conference: Swedish Centre for Resource Recovery, University of Borås

Location: Borås, Sweden

Date of Presentation: Oct 27, 2015

Title: My 12 years of research journey with Thai students and visiting scholars on energy and environment.

Name of Conference: The Sixteenth Royal Golden Jubilee - Ph. D. Congress (RGJ-Ph.D. Congress XVI)

Location: Pattaya, Thailand

Date of Presentation: Jun 11-13, 2015

Title: Environmental biotechnology and anaerobic digestion.

Name of Conference: Faculty of Agro-Industry, Prince of Songkla University

Location: Hat Yai, Thailand

Date of Presentation: Jun 8, 2015

Title: Anaerobic process for waste treatment.

Name of Conference: Dept. of Environmental Science

Location: Royal University of Phnom Penh

Date of Presentation: Jun 5, 2015

Title: Bioenergy-Anaerobic digestion.

Name of Conference: 3-hr workshop to engineers, scientists and field workers

Location: Ministry of Agriculture, Forestry and Fisheries, Kingdom of Cambodia

Date of Presentation: Jun 5, 2015

Title: Resource recovery from wastes.

Name of Conference: School of Energy and Environment, City University of Hong Kong

Location: Hong Kong

Date of Presentation: Jun 1, 2015

Title: Co-treatment of organic solid wastes in the sewage treatment facilities for waste reduction and energy recovery.

Name of Conference: Leading Edge Technology 2015 (LET-2015), International Water Association, Food Waste Workshop

Location: Hong Kong

Date of Presentation: May 31st, 2015

Title: Research interfacing energy and environment.

Name of Conference: Dept. of Environmental Engineering, Chulalongkorn University

Location: Bangkok, Thailand

Date of Presentation: May 29, 2015

Title: Utilization of local agri-processing by-products to produce fungal protein for aquatic feed production.

Name of Conference: Local Feed Workshop, Aquatic Feeds and Nutrition Department Oceanic Institute of Hawaii Pacific University

Location: Waimanalo, HI

Date of Presentation: Nov 21, 2014

Title: Bioenergy and environment research.

Name of Conference: Dept. of Civil Engineering, Malaviya National Institute of Technology

Location: Jaipur, India

Date of Presentation: Nov 11, 2014

Title: How can we build a circular society?

Name of Conference: Dept. of Civil Engineering, Malaviya National Institute of Technology

Location: Jaipur, India

Date of Presentation: Nov 10, 2014

Title: Fractionation of tropical feedstocks for bioenergy and biobased products.

Name of Conference: International Conference on Emerging Trends in Biotechnology (ICETB-2014)

Location: New Delhi, India

Date of Presentation: Nov 6-9, 2014

Title: Resource recovery from wastes/residues.

Name of Conference: Department of Biotechnology, BOKU University of Natural Resources and Life Sciences

Location: Vienna, Austria

Date of Presentation: Aug 29, 2014

Title: Bioconversion of water (water) into resources.

Name of Conference: Dept. of Civil and Environmental Engineering, Technion University – Israel  
Institute of Technology

Location: Haifa, Israel

Date of Presentation: Jul 17, 2014

Title: Biotechnology for resource recovery from waste (water).

Name of Conference: School of Biochemical Engineering, Addis Ababa Institute of Technology

Location: Ababa, Ethiopia

Date of Presentation: Jun 27, 2014

Title: Converting waste (water) into value-added products.

Name of Conference: Dept. of Civil and Environmental Engineering, Hong Kong University of  
Science and Technology

Location: Hong Kong

Date of Presentation: May 16, 2014

Title: Emerging trends in environmental biotechnology for waste valorization.

Name of Conference: Dept. of Civil and Environmental Engineering, Hong Kong University of  
Science and Technology

Location: Hong Kong

Date of Presentation: May 15, 2014

Title: Resource recovery from waste (water).

Name of Conference: Dept. of Environmental Engineering, Fudan University

Location: Shanghai, China

Date of Presentation: May 13, 2014

Title: Resource recovery from waste (water).

Name of Conference: College of Environmental Science and Engineering, Tongji University

Location: Shanghai, China

Date of Presentation: May 12, 2014

Title: Examine the effects of crop maturity and size reduction on digestibility of energy crop for  
biomethane production.

Name of Conference: International Conference on Progress on Biogas III

Location: Stuttgart, Germany

Date of Presentation: Sep 10-11, 2014

Title: Green processing of tropical feedstocks for biofuels and high value co-products.

Name of Conference: 10th European Symposium on Biochemical Engineering Sciences

Location: Lille, France

Date of Presentation: Sep 8-10, 2014

Title: Biogas production from tropical crops.

Name of Conference: State Institute of Agricultural Engineering and Bioenergy, Hohenheim

University

Location: Stuttgart, Germany

Date of Presentation: Jul 10, 2014

Title: Sustainable bioenergy production: Opportunities and challenges.

Name of Conference: Universidad de Santander

Location: Cucuta, Colombia

Date of Presentation: Apr 4, 2014

Title: Fractionation of tropical feedstocks for bioenergy and biobased products.

Name of Conference: Chonnam National University

Location: Gwanju, South Korea

Date of Presentation: Feb 27, 2014

Title: Sustainability: interfacing energy and environment.

Name of Conference: Sustainability Center

Location: University of Wisconsin

Date of Presentation: Dec 11, 2013

Title: Biorefinery concept for sugarcane-to-ethanol industries: production of protein-rich fungal biomass on vinasse as a protein ingredient for animal feed and organic food production.

Name of Conference: International Conference on Advances in Biotechnology & Bioinformatics.  
10th Convention of the Biotech Research Society

Location: Pune, India

Date of Presentation: Nov 25-27, 2013

Title: Technological alternatives for conversion of biomass to energy.

Name of Conference: Centre for Environmental Science and Engineering (CESE)

Location: Indian Institute of Technology Bombay (IIT-B)

Date of Presentation: Nov 21, 2013

Title: International education and research experience.

Name of Conference: Research Internships in Science and Engineering Scholar (RISE) Meeting

Location: Heidelberg University, Heidelberg, Germany

Date of Presentation: Jul 4, 2013

Title: Bioenergy/biobased product and environmental biotechnology research.

Name of Conference: West Virginia State University

Location: Charleston, WV, USA

Date of Presentation: Jun 6, 2013

Title: High-rate anaerobic digestion of energy crops.

Name of Conference: State Institute of Agricultural Engineering and Bioenergy, Hohenheim University

Location: Stuttgart, Germany

Date of Presentation: Jun 4, 2013

Title: Current status of bioenergy research in the United States.  
Name of Conference: Center for Energy and Environment Policy, Imperial College  
Location: London  
Date of Presentation: Oct 26, 2012

Title: Green processing of a tropical grass for advanced biofuel and biobased products.  
Name of Conference: New Horizons in Biotechnology, Mini Symposia in Biofuels - Current perspectives and challenges for commercialization at conference,  
Location: Trivendrum, India  
Date of Presentation: Nov 21-24, 2011

Title: Biotechnology for energy, environment and food security.  
Name of Conference: Malaviya National Institute of Technology (MNIT)  
Location: Jaipur, India  
Date of Presentation: Nov 25-26, 2011

Title: Biorefinery for Hawaii.  
Name of Conference: NC 1023: Engineering for Food Safety and Quality, USDA Multi-state Committee Meeting  
Location: Honolulu, HI  
Date of Presentation: Oct 3, 2011

Title: Biofuel/bioenergy from renewable bioresources.  
Name of Conference: Bioengineering Workshop for Middle Schools  
Location: Honolulu, HI  
Date of Presentation: Apr 23, 2011

Title: Green growth: energy, environment and food.  
Name of Conference: Korea University  
Location: Sejong, South Korea  
Date of Presentation: Oct. 30, 2010

Title: Integrated education and research in renewable energy: biofuel  
Name of Conference: 2010 Asian Pacific Clean Energy Summit and Workshop  
Location: Honolulu, HI  
Date of Presentation: Aug 31, 2010

Title: Ultrasound applications in biofuel and biobased products.  
Name of Conference: Bangor University  
Location: Gwynedd, United Kingdom  
Date of Presentation: Jul 12, 2010

Title: Biomass conversion to biofuels.  
Name of Conference: Chonnam National University  
Location: Gwanju, South Korea

Date of Presentation: May 4, 2010

Title: Anaerobic biotechnology for bioenergy production: challenges and opportunities.

Name of Conference: National Academy of Agriculture,

Location: Suwon, South Korea

Date of Presentation: Apr 30, 2010

Title: Biomass conversion to biofuels and biobased products.

Name of Conference: Renewable Energy and Island Sustainability (REIS), University of Hawaii at Manoa

Location: Honolulu, HI

Date of Presentation: Oct 22, 2009

Title: Conversion of biomass into biofuels and biobased products.

Name of Conference: Hawaii Institute of Food Technologists (HIFT)

Location: Honolulu, HI

Date of Presentation: Feb 17, 2009

Title: Conversion of agri-residues to biofuels and biobased products.

Name of Conference: Hawaii Natural Energy Institute, University of Hawaii at Manoa

Location: Honolulu, HI

Date of Presentation: Sep 30, 2008

Title: Ultrasound application in biorenewables for enhanced biofuel/bioenergy production.

Name of Conference: The Hong Kong University of Science and technology

Location: Hong Kong

Date of Presentation: June 23-27, 2008

Title: Fungal process for biobased product recovery and water reclamation.

Name of Conference: University of Hawai'i at Mānoa (Civil and Environmental Engineering Dept.)

Location: Honolulu, HI

Date of Presentation: Feb 8, 2008

Title: Biofuels from solid, liquid and gaseous feedstocks.

Name of Conference: University of Hawai'i at Mānoa (Bioenergy Research Group)

Location: Honolulu, HI

Date of Presentation: Feb 28, 2008

Title: Fermentation of solid, liquid and gaseous feedstocks for biofuel, and biochemical recovery.

Name of Conference: Oklahoma State University (Biosystems and Agricultural Engineering Dept.)

Location: Stillwater, OK

Date of Presentation: Oct 4, 2007

Title: Microbial systems for bioenergy production and energy balance.

Name of Conference: University of Hawai'i at Manoa (Molecular Biosciences and Bioengineering

Dept.)

Location: Honolulu, HI

Date of Presentation: Oct 18, 2007

Title: Bioprocessing for bioenergy and value-added product recovery from solid, liquid and gaseous feedstocks.

Name of Conference: University of Hawai'i at Manoa (Molecular Biosciences and Bioengineering Dept.)

Location: Honolulu, HI

Date of Presentation: Oct 19, 2007

Title: Changing paradigm in environmental engineering research: from waste treatment to bioenergy and value-added product recovery.

Name of Conference: Asian Institute of Technology (Environmental Engineering Program)

Location: Bangkok, Thailand

Date of Presentation: Sep 14, 2007

Title: Energy issue.

Name of Conference: The Fifth International Starch Technology Conference, University of Illinois

Location: Urbana-Champaign, IL

Date of Presentation: Jun 3-6, 2007

Title: Renewable energy from agro-based feedstocks: A key to sustainability.

Name of Conference: Cornell University

Location: Ithaca, NY

Date of Presentation: May 10, 2007

Title: Biomass: A renewable energy source.

Name of Conference: Cornell University

Location: Ithaca, NY

Date of Presentation: May 11, 2007

Title: Microbial bioconversion of agro-based feedstocks to bioenergy and biobased products.

Name of Conference: Ohio State University

Location: Columbus, OH

Date of Presentation: Feb 5, 2007

Title: Anaerobic membrane bioreactor (AMBR) for treatment of low strength wastewater.

Name of Conference: University of New Mexico

Location: Albuquerque, NM

Date of Presentation: Mar 6, 2007

Title: Bioenergy and value-added bioproducts from agro-based feedstock: An emerging research frontier.

Name of Conference: Joint Graduate School of Energy and Environment, King Mongkut's University of Technology

Location: Bangkok, Thailand  
Date of Presentation: Jan 17, 2007

Title: Bioenergy production from cellulose-to-ethanol plants-derived stillage.  
Name of Conference: Biorenewables Meeting, Iowa State University  
Location: Iowa  
Date of Presentation: Dec 19, 2006

Title: Use of poly-tetrafluoroethylene (PTFE) laminated non-woven filter for municipal wastewater treatment.  
Name of Conference: Hong Kong University of Science and Technology  
Location: Hong Kong  
Date of Presentation: Sep 19, 2006

Title: Ultrasonic pretreatment of waste activated sludge.  
Name of Conference: Advanced Science Institute, Hong Kong University of Science and Technology  
Location: Hong Kong  
Date of Presentation: Sep 20, 2006

Title: Recovery of high-value fungal bio-products from wet corn milling liquid stream.  
Name of Conference: Beijing Normal University  
Location: Beijing  
Date of Presentation: Sep 14, 2006

Title: Alternative energy: Energy engineering  
Name of Conference: The Society for Engineering in Agricultural, Food, and Biological Systems, Society of Manufacturing Engineering, Society of Mechanical Engineering, Society of Automotive Engineering  
Location: Waterloo, IA  
Date of Presentation: Nov 10, 2005

Title: Converting agri-residues to biofuels and bio-products.  
Name of Conference: Department of Agricultural and Biosystems Engineering, North Dakota State University  
Location: Fargo, ND  
Date of Presentation: Aug 31, 2005

Title: Anaerobic digestion of thin stillage to produce methane and Class-A biosolids.  
Name of Conference: Biobased Industry Outlook Conference  
Location: Ames, IA  
Date of Presentation: Aug 29, 2005

Title: Anaerobic membrane bioreactor for municipal sewage treatment.  
Name of Conference: Hacettepe University



Location: Ankara, Turkey  
Date of Presentation: Aug 17, 2005

Title: Integrated waste biomass-based biorefinery.  
Name of Conference: Asian Institute of Technology  
Location: Bangkok, Thailand  
Date of Presentation: Aug 11, 2005

Title: Emerging research frontiers: coupling waste treatment with bio-products and bioenergy recovery.  
Name of Conference: Malaysia University of Science and Technology  
Location: Malaysia  
Date of Presentation: Jul 15, 2005

Name of Conference: Department of Civil and Environmental Engineering, Massachusetts Institute of Technology  
Location: Cambridge, MA  
Date of Presentation: Apr 26, 2005

Title: Bioconversion for sustainability.  
Name of Conference: Department of Agricultural and Biosystems Engineering, Iowa State University  
Location: Ames, IA  
Date of Presentation: Mar 24, 2005

Title: New directions in anaerobic biotechnology.  
Name of Conference: Department of Civil, Construction and Environmental Engineering, Iowa State University  
Location: Ames, IA  
Date of Presentation: Feb 3, 2004

Title: Anaerobic biotechnology for waste treatment and resource recovery.  
Name of Conference: Dept. of Civil Engineering, University of Canterbury  
Location: Christchurch, New Zealand  
Date of Presentation: Dec 6, 2003

Title: Oxygenated anaerobic treatment of high sulfate wastewater.  
Name of Conference: Department of Civil and Environmental Engineering, University of Missouri-Columbia  
Location: MO  
Date of Presentation: Oct 31, 2002