

BBRL NEWS:

BRDI Project Annual Meet in Columbus



The USDA-NIFA Biomass Research and Development Initiative (BRDI) funded Project entitled "Bioenergy and Biofuels Production from Lignocellulosic Biomass via Anaerobic Digestion and Fisher-Tropsch Reaction" held its annual meeting at the Agricultural Engineering Building in Columbus, Ohio on September 13th, 2013. The project PI and Co-PIs reported the project progress and discussed the tasks for next year. The participants also toured the Zanesville quasar digester (project site) for progress on solid state anaerobic digestion tests and growing of miscanthus and corn with effluent from digester on the mine stripped land near the digester.

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BBRL MEMBER SPOTLIGHT

Fuqing Xu – Fuqing, or Stephanie, is from Xi'an, a Chinese city that is famous for its history and food. In September, 2010, one year after she received her bachelor's degree in Environmental Science from Wuhan University in China, Fuqing joined BBRL as a PhD student in the Environmental Science Graduate Program (ESGP). Fuqing's research area is solid-state anaerobic digestion (SS-AD). After two years' exploration, her major research interest is modeling of the SS-AD process to predict biogas production and to understand the process mechanisms. She is expecting to graduate next year. After graduation, she hopes to continue with research related work. In her spare time, Fuqing likes all types of sports, especially badminton.



Upcoming events, deadlines, or grants

10/7- 2014 Spring ACS Annual Meeting abstract due
10/14- Spring Course Registration Begins!!!!
 10/21-10/22 Biocycle Annual Conference
 11/30- 2014 ASABE Annual Meeting abstract due
 12/1 - 2014 Annual IBE Meeting abstract due

BBRL RESEARCH

2013 Publications

Cai, T., Ge, X. M., Park, Y. S., Li, Y. B. 2013. Comparison of *Synechocystis* sp. PCC6803 and *Nannochloropsis salina* for lipid production using artificial seawater and nutrients from anaerobic digestion effluent. *Bioresource Technology*, 144:255-260.

Wang, Z. J., Xu, F. Q., Li, Y. B. 2013. Effects of total ammonia nitrogen concentration on solid-state anaerobic digestion of corn stover. *Bioresource Technology*, 144:281-287.

Cai, T., Park S., Siam Racharaks, Li, Y. B. 2013. Cultivation of *Nannochloropsis salina* in anaerobic digestion effluent for nutrient removal and lipid production. *Applied Energy*. 108 (2013) 486-492.

Canam, T., Dumonceaux, T. J., Record E., Li, Y. B. 2013. White Rot Fungi: The key to sustainable biofuel production? *Biofuels* 4(3):247-250.

Luo, X. L., Hu, S. J., Zhang, X., Li, Y. B. 2013. Thermochemical conversion of crude glycerol to biopolyols for the production of polyurethane foams. *Bioresource Technology* 139:323-329.

Shi, J., Wang Z. J., Stiverson, J. A., Yu, Z. T., Li, Y. B. 2013. Reactor performance and microbial community dynamics during solid-state anaerobic digestion of corn stover at mesophilic and thermophilic conditions. *Bioresource Technology*. 136:574-581

Cai, T., Park, S., Li, Y. B. 2013. Nutrient recovery from wastewater streams by microalgae: status and prospects. *Renewable and Sustainable Energy Reviews* 19: 360-369.

Cherosky P., Li, Y. B. 2013. Hydrogen sulfide removal from biogas by bio-based iron sponge. *Biosystems Engineering* 114:55-59

Xu, F. Q., Shi, J., Lv, W., Yu, Z. T., Li, Y. B. 2013. Comparison of different liquid anaerobic digestion effluents as inoculum and nitrogen sources for solid-state batch anaerobic digestion of corn stover. *Waste Management* 33: 26-32.

Wan, C. X. and Li, Y. B. 2013. Solid-state biological pretreatment of lignocellulosic biomass for biofuel production. In "Green biomass pretreatment and processing methods for bioenergy production". Edited by Gu, Tingyue. Netherlands: Springer. 67-86.

Under review

Hu, S. J, Luo, X. L., Li, Y. B. 2013. Polyols and Polyurethanes from the Liquefaction of Lignocellulosic Biomass. *ChemSusChem*.

Zheng, Y., Zhao, J., Xu, F.Q., Li, Y.B. 2013. Pretreatment of lignocellulosic biomass for enhanced biogas production. *Progress in Energy and Combustion Science*:

Sheets, J., Ge, X. M., Park, Y. S., Li, Y.B. 2013. Effect of outdoor conditions on *Nannochloropsis salina* cultivation in artificial seawater using nutrients from anaerobic digestion effluent. *Bioresource Tech*.

Research Grants

Methane potential of cellulosic biomass in Hawaii. USDA, ARS, MBARC. \$55,000. 4/2013-3/2014.

Editors

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