Curriculum Vitae for Yanna Liang

Yanna Liang, Ph.D., P.E. BCEE
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1. Professional Preparation

Suzhou University of Science and Technology	Environmental Engineering	**B.E.**	07/1992
Utah State University	Environmental Engineering	**M.S.**	05/2003
Utah State University	Environmental Engineering	**Ph.D.**	05/2006
Utah Water Research Laboratory	Environmental Engineering	**Postdoc**	06-12/2006

Thesis: Degradation and intermediates of pyrene by *Mycobacterium* sp. JLX, KMS, and MCS, isolated from soil at a former wood-preserving facility. Advisor: Dr. Ronald C. Sims

Dissertation: Pyrene degradation by *Mycobacterium* sp. KMS: biochemical pathway, enzymatic mechanisms and humic acid effect. Advisor: Dr. Ronald C. Sims

2. Appointments

09/2017-	Professor and Chair	University at Albany, SUNY
07/2016-08/2017	Professor	Southern Illinois University at Carbondale
07/2012-06/2016	Associate Professor	Southern Illinois University at Carbondale
08/2007-06/2012	Assistant Professor	Southern Illinois University at Carbondale
01/2007-07/2007	Air Quality Analyst III	Idaho Department of Environmental Quality
07/1992-08/2000	Professional Engineer	Weihai Environmental Protection Agency, China

3. Research interests

1) Biodegradation and phytoremediation of organic contaminants in subsurface and groundwater
2) Nanomaterials for environmental clean-up
3) Microbial ecology in engineered and natural systems
4) Fate and transport of engineered nanoparticles and emerging contaminants in aquatic and soil environments
5) Microbial electrochemical cells for CO_2 reduction
6) Biochemical and thermochemical conversion of renewable feedstocks to biofuels and bioproducts

7) Water reuse and wastewater treatment

4. Selected Honors and Awards

1) 2019 Outstanding Presentation Award of the ACS Spring 2019 National Meeting ENVR Symposium of Innovative & Practical Approaches for the Treatment of Per- and Polyfluoroalkyl Substances (PFAS)
2) 2019 ABET PEV
3) 2018 ABET IDEAL Scholar
4) 2015 Faculty Mentor of Excellence, Center for Undergraduate Research and Creative Activity
5) 2014 Faculty mentor for Kim Jarosz, First place (Physical Science/Engineering), SIUC Undergraduate Research Forum
6) 2013 McNair Outstanding Mentor, SIUC
7) 2011 Ruby Roknic, Saluki Research Rookies Poster Competition, Honorable mention
8) 2010- Adjunct Professor, Suzhou University of Science and Technology
9) 2009 ASCE ExCEED Teaching Fellow
10) 2009 SIUC Research, Scholarly and Creative Activity Awards
11) 2006 AWRA-Utah section graduate student paper contest, first place
12) 2005 EWRI graduate student technical paper contest, second place
13) 2004-2006 Inland Northwest Research Alliance (INRA) fellow
14) 2004 Air & Waste Management Association (AWMA) Scholarship

5. Membership in Professional Societies

- Tau Beta Pi - the Engineering honor society
- Institute of Biological Engineering
- Society for Industrial Microbiology
- Association of Environmental Engineering and Science Professors
- American Academy of Environmental Engineers & Scientists

6. Publications and Presentations

6.1. Book chapters

1) **Liang Y.-N.,** Keshdan T., Sterner C., Dombrowski L., Petrick I., Kröger M., Höfer R. 2015. Algal Biorefinery. In Industrial Biorefineries & White Biotechnology. Edited by Ashok Pandey, Rainer Höfer, Christian Larroche, Mohammad Taherzadeh, and K Madhavan Nampoothiri. Elsevier. ISBN: 9780444634535. pp. 35-84.
2) **Liang Y.-N.,** 2015. Update on research and development of microbial oils. In Commercializing Biobased Products: Opportunities, Challenges, Benefits, and Risks. Edited by Seth Snyder. The Royal Society of Chemistry. ISBN: 978-1-78262-039-6.
3) **Liang Y.-N.,** 2013. Yellow (Huang He) River. In Biomes and Ecosystems: An Encyclopedia. Salem Press, Pasadena, CA. ISBN: 978-1-4298-3813-9. pp. 1317-1320.
4) **Liang Y.-N.,** 2013. Yellow Sea. In Biomes and Ecosystems: An Encyclopedia. Salem Press, Pasadena, CA. ISBN: 978-1-4298-3813-9. pp. 1320-1322.
5) **Liang Y.-N.,** 2011. Sweet sorghum as an energy crop. In Sorghum: Cultivation, Varieties and Uses. Edited by Tomás D. Pereira, Nova Science Publishers, Inc., Hauppauge, NY. ISBN: 978-1-61209-688-9.

6) **Liang Y.-N.,** 2011. A critical review: microalgal CO_2 sequestration, which strain is the best? In Microalgae: Biotechnology, Microbiology and Energy. Nova Science Publishers, Inc., Hauppauge, NY. ISBN: 978-1-61324-625-2.
7) **Liang Y.-N.,** 2011. Utilization of xylose for producing bio-based fuels. In Xylose: Production, Consumption and Health Benefits. Nova Science Publishers, Inc., Hauppauge, NY. ISBN: 978-1-62100-809-5.

6.2. Peer-reviewed Journal Publications (*: Graduate student; **: Undergraduate student)

8) Zhang, W.L., Zhang, D-Q., Zagorevski DV., **Liang, Y.-N**., 2019. Exposure of *Juncus effusus* to seven perfluoroalkyl acids: uptake, accumulation and phytotoxicity. Chemosphere. In press.
9) Londono N., Donovan AR., Shi H., Geisler M., **Liang Y.-N**. 2019. Effects of environmentally relevant concentrations of mixtures of TiO_2, ZnO and Ag ENPs on a river bacterial community. Chemosphere. In press.
10) Zhang D-Q., Zhang W-L., **Liang Y.-N**. 2019. Bacterial community in a freshwater pond responding to the presence of perfluorooctanoic acid (PFOA). Environmental Technology. In Press.
11) El Asli, A., Mesbahi, NE., Oubakalla, R., Fels, LE., Hafidi, M., **Liang, Y.-N**. 2019. Domestic Wastewater Treatment and Lipid Accumulation for Biodiesel Production by an Isolated Heterotrophic Microalgae from an Arid Climate Zone. The Asia Journal of Applied Microbiology. 6(1): 1-9.
12) Zhang J., Yip, C.; Xia, C., **Liang, Y.-N.** 2019. Evaluation of methane release from coals from the San Juan basin and Powder River basin. Fuel. 244, 388-394.
13) Zhang, W.L., Zhang, D-Q., **Liang, Y.-N**., 2019. Nanotechnology in remediation of water contaminated by poly- and perfluoroalkyl substances: a review. Environmental Pollution. 247:266-276.
14) Park S., **Liang, Y.-N**., 2019. Bioleaching of trace elements and rare earth elements from coal fly ash. International Journal of Coal Science & Technology. 6 (1), 74-83.
15) Zhang, J*., Anderson, K*, Britt D., and **Liang, Y.-N**. 2018. Sustaining biogenic methane release from Illinois coal in a fermentor for one year. Fuel, 227: 27–34.
16) Zhang, J*., Bi, Z., **Liang, Y.-N**. 2018. Development of a nutrient recipe for enhancing methane release from coal in the Illinois basin. International Journal of Coal Geology. 187: 11-19.
17) Bi, Z., Zhang, J*., Zhu. Z*., **Liang**, **Y.-N**., Wiltowski T. 2018. Generating biocrude from partially defatted Cryptococcus curvatus yeast residues through catalytic hydrothermal liquefaction. Applied Energy. 209, 435-444.
18) Giang, H*., Zhang, J*., Zhu, Z*., Suni, I., **Liang**, **Y.-N**. 2018. Single chamber microbial electrochemical cells for CH_4 production from CO_2 utilizing a microbial consortium. International Journal of Energy Research. 42:1308–1315.
19) Xia, C., Kumar, A., Chen, X., Tucker, M., **Liang**, **Y.-N**. 2018. Conversion of corn stover hydrolysates to value-added products: comparison between *Clostridium carboxidivorans* P7 and two microbial communities. Biomass Conversion and Biorefinery. 8(1), 169-178.
20) Bi, Z., Zhang, J*., Park, S., Harpalani, S., **Liang**, **Y.-N**. 2017. A formation water-based nutrient recipe for maximizing methane release from coal in the San Juan Basin. Fuel. 209: 498-508.

21) Zhang, R*., Liu, S-M., Bahadur, J., Elsworth, D., Wang, Y., Hu, G., **Liang**, **Y.-N**. 2017. Changes in pore structure of coal caused by coal-to-gas bioconversion. Scientific Reports. 7:3840-3853.
22) Londono, N*., Donovan, A*., Shi, H., Geisler M., **Liang**, **Y.-N. 2017.** Impact of TiO_2 and ZnO nanoparticles on an aquatic microbial community: effect at environmentally relevant concentrations. Nanotoxicology. 11:1140-1156.
23) Zhang, J*., **Liang**, **Y.-N**. 2017. Evaluating approaches for sustaining methane production from coal through biogasification. Fuel. 202: 233–240.
24) Abdul, S*., Zhang, J*., Chen, D., Chen, X., Tucker, M., **Liang**, **Y.-N**. 2017. Sweet sorghum bagasse and corn stover serving as substrates for producing sophorolipids. Journal of Industrial Microbiology & Biotechnology. 44: 353–362.
25) Bi, Z., Zhang*, J., Peterson, E**., Zhu, Z*., Xia, C., **Liang**, **Y.-N**., Wiltowski, T. 2017. Biocrude from pretreated sorghum bagasse through catalytic hydrothermal liquefaction. Fuel. 188:112-120.
26) Xia C., Wiltowski, T., Harpalani, S., **Liang**, **Y.-N**. 2016. Coal depolymerization using permanganate under optimal conditions. International Journal of Coal Geology. 168: 214–221
27) Zhang, J*., **Liang, Y.-N.** Harpalani, S. 2016. Optimization of methane production from bituminous coal through biogasification. Applied Energy, 183:31–42.
28) Qin Y.H, Zhao, Z.B., Wiltowski, T., Aloqaili, M., **Liang, Y.-N.** 2016. Investigation of co-gasification reactivity of torrefied Jatropha seed cake with Illinois #6 coal char. BioResources. 11: 7624-7636.
29) Pandey R*; Harpalani, S., Feng, R*., Zhang, J*., **Liang, Y.-N.** 2016. Changes in gas storage and transport properties of coal as a result of enhanced microbial methane generation. Fuel, 179. 114–123.
30) Zhang, J.*, Park, S., **Liang, Y.-N**., Harpalani, S. 2016. Finding cost-effective nutrient solutions and evaluating environmental conditions for biogasifying bituminous coal to methane ex situ. Applied Energy. 165:559–568.
31) Park, S., **Liang, Y.-N**. 2016. Biogenic methane production from coal: A review on recent research and development on microbially enhanced coalbed methane (MECBM). Fuel. 166. 258–267.
32) Uagiliyage, A.*, Choudhary, R, **Liang**, **Y-N**., Haddock, J., Watson, D. 2015. Laboratory scale optimization of alkali pretreatment for improving enzymatic hydrolysis of sweet sorghum bagasse. Industrial Crops and Products. 74: 977–986.
33) Zhang, J.*, **Liang, Y.-N**., Yau, P.M., Pandey, R.*, Harpalani, S. 2015. A metaproteomic approach for identifying proteins in anaerobic bioreactors converting coal to methane. International Journal of Coal Geology. 146, 91–103.
34) Zhang, J.*, **Liang, Y.-N**, Pandey, R.*, Harpalani, S. 2015. Characterizing a microbial community dedicated for converting coal to methane *in situ* and *ex situ*. International Journal of Coal Geology. 146, 145–154.
35) Samad, A.*, Zhang, J.*, Chen, D., **Liang, Y-N.** 2015. Sophorolipid production from biomass hydrolysates. Applied Biochemistry and Biotechnology. 175:2246–2257.
36) Cui, Y.*, **Liang, Y.-N.** 2015. Sweet sorghum syrup as a renewable material for microbial lipid production. Biochemical Engineering Journal, 93:229–234.
37) **Liang Y.-N.**, Jarosz, K.**, Wardlow, A.T.**, Zhang, J.*, Cui, Y.* 2014. Lipid production by *Cryptococcus curvatus* on hydrolysates derived from corn fiber and sweet sorghum bagasse following dilute acid pretreatment. Applied Biochemistry and Biotechnology. 173(8):2086-98.

38) **Liang Y.-N.,** Perez, I.**, Goetzelmann, K.**, Trupia, S. 2014. Microbial lipid production from pretreated and hydrolyzed corn fiber. Biotechnology Progress. 30: 945–951.
39) Cui, Y.*, **Liang Y.-N.** 2014. Direct transesterification of wet *Cryptococcus curvatus* cell pellet to biodiesel through use of microwave irradiation. Applied Energy, 119, 438–444.
40) Yesuf, J.*, **Liang Y.-N.** 2014. Optimization of sugar release from sweet sorghum bagasse following solvation of cellulose and enzymatic hydrolysis using response surface methodology. Biotechnology Progress. 30, 367–375.
41) **Liang, Y.-N.** 2013. Producing liquid transportation fuels from heterotrophic microalgae. Applied Energy. 104: 860-868.
42) Cui, Y.*, Blackburn, J., **Liang, Y.-N.** 2012. Fermentation optimization for the production of lipid by *Cryptococcus curvatus*: use of response surface methodology. Biomass and Bioenergy. 47: 410-417.
43) **Liang, Y.-N.,** Sarkany N. 2012. Proteins expressed differently between glucose and glycerol for *Schizochytrium limacinum* SR21. Current Biotechnology. 1, 227-233.
44) Choudhary, R., Umagiliyage, AL.*, **Liang, Y**.-N., Siddaramu, T.*, Haddock, J., Markevicius, G. 2012. Microwave pretreatment for enzymatic saccharification of sweet sorghum bagasse. Biomass and Bioenergy. 39, 218-226.
45) **Liang, Y**.-N., Tang, T.*, Umagiliyage, A.L.*, Siddaramu Y.*, McCarroll, M., Choudhary, R. 2012. Utilization of sorghum bagasse hydrolysates for producing microbial lipids. Applied Energy, 91, 451-458.
46) **Liang, Y.-N.,** Tang, T.*, Siddaramu, T.*, Choudhary, R., Umagiliyage A.* 2012. Lipid production from sweet sorghum bagasse through yeast fermentation. Renewable Energy. 40:130-136.
47) **Liang, Y**.-N. 2012. Sorghum: Genetic Improvement for Biofuel. In: Dobránszki J (Ed) Sorghum. The European Journal of Plant Science and Biotechnology 6 (Special Issue 1), 1-9.
48) **Liang, Y.-N.,** Cui, Y.*, Trushenski, J., Blackburn, J. 2010. Converting crude glycerol derived from yellow grease to lipids through yeast fermentation. Bioresource Technology 101, 7581-7586.
49) **Liang, Y.-N.,** Sarkany, N.*, Cui, Y.*, Blackburn, J. 2010. Batch stage study of lipid production from crude glycerol derived from yellow grease or animal fats through microalgal fermentation. Bioresource Technology. 101(17):6745-50.
50) **Liang, Y.-N**., Siddaramu, T.*, Yesuf, J.*, Sarkany, N.* 2010. Fermentable sugar release from *Jatropha* seed cakes following lime pretreatment and enzymatic hydrolysis. Bioresource Technology. 101(16):6417-24.
51) **Liang, Y.-N**., Yesuf, J.*, Feng, Z-S.* 2010. Toward plant cell wall degradation under thermophilic condition: a unique microbial community developed originally from swine waste. Appl. Bioresource Technology. 161: 147-156.
52) **Liang, Y.-N**., Sarkany, N.*, Yesuf, J.*, Cui, Y.*, Trushenski, J.*, Blackburn, J. 2010. Use of sweet sorghum juice for lipid production by *Schizochytrium limacinum* SR21. Bioresource Technology. 101, 3623-3627.
53) **Liang, Y.-N.,** Feng, Z.-S.*, Yesuf, J.*, Blackburn, J. 2010. Optimization of growth medium and enzyme assay conditions for crude cellulases produced by a novel thermophilic and cellulolytic bacterium, *Anoxybacillus* sp. 527. Applied Biochemistry and Biotechnology 160, 1841-1852.

54) **Liang, Y.-N**., Yesuf, J.*, Schmitt, S., Bender, K., Bozzola, J. 2009. Study of cellulases from a newly-isolated thermophilic and cellulolytic *Brevibacillus* sp. strain JXL**.** Journal of Industrial Microbiology and Biotechnology. 36, (7), 961-970.
55) **Liang, Y.-N**., Sarkany, N.*, Cui, Y.* 2009. Biomass and lipid productivities of *Chlorella vulgaris* under autotrophic, heterotrophic and mixotrophic growth conditions. Biotechnology Letters. 31(7), 1043-1049.
56) Blackburn, J., **Liang, Y.-N**., Das, D. 2009. Biohydrogen from complex carbohydrate wastes as feedstocks- cellulose degraders from a unique series enrichment, International Journal of Hydrogen Energy, 34, 7428-7434.
57) **Liang, Y.-N**., Sorensen, D.L., McLean, J.E., Sims, R.C. 2008. Pyrene fate affected by humic acid amendment in soil slurry systems. Journal of Biological Engineering. 2:11.
58) **Liang, Y.-N**., Britt, D.W., McLean, J.E., Sorensen, DL., Sims, R.C. 2007. Humic acid effect on pyrene degradation: finding of an optimal range for pyrene solubility and mineralization enhancement. Applied Microbiology and Biotechnology 74 (6): 1368-1375.
59) Child, R., Miller, C.D., **Liang, Y.-N**., Sims, R.C. and Anderson A.J. 2007. Pyrene mineralization by *Mycobacterium* strain KMS in a barley rhizosphere. J. Environmental Quality. 36: 1260-1265.
60) Child, R., Miller, CD., **Liang, Y.-N**., Narasimham, G., Chatterton, J., Harrison, P., Sims, R.C., Britt, D., Anderson, A.J. 2007. Polycyclic aromatic hydrocarbon-degrading *Mycobacterium* isolates: their association with plant roots. Applied Microbiology and Biotechnology. 75 (3): 655-663.
61) **Liang, Y.-N**., Gardner, D., Miller, CD., Dong, C., Anderson, A.J., Weimer, B.C., Sims, R.C. 2006. Study of Biochemical Pathways and Enzymes Involved in Pyrene Degradation by *Mycobacterium* sp. Strain KMS. Applied Environmental Microbiology. 72 (12): 7821-7828.
62) Miller, C.D., Hall, K., **Liang, Y.-N**., Nieman, K., Sorensen, D., Issa, B., Anderson, A.J. Sims R.C. 2004. "Isolation and characterization of polycyclic aromatic hydrocarbon- degrading *Mycobacterium* isolates from soil." Microbial Ecology 48(2), 230-8.

6.3. Peer-reviewed Conference Proceedings

1) **Yanna Liang.** 2019. A Green and Practical Approach for Removing PFAS from Contaminated Environments. NJWEA, Atlantic City, NJ, May 6th.
2) **Yanna Liang,** Nathalia Londono, Ariel R. Donovan, Honglan Shi, Matthew Geisler. 2019. Impact of engineered nanoparticles on aquatic microbial communities. ACS, Orlando, FL, March 31 - April 4.
3) **Yanna Liang,** Weilan Zhang, Dongqing Zhang. 2019. Holistic approaches designed for removing PFAS from contaminated environment. ACS, Orlando, FL, March 31 - April 4.
4) **Yanna Liang**, Zheting Bi, Ji Zhang, Zeying Zhu, Tomasz Wiltowski. 2017. Producing biocrude from renewable feedstocks through hydrothermal liquefaction. AIChE Annual Meeting, Minneapolis MN, October 30 – November 3.
5) **Yanna Liang**, Hannah Jiang, Ji Zhang, Ian Suni. 2017. CO_2 Conversion to Fuels and Chemicals through Microbial Electrolysis Cells. AIChE Annual Meeting, Minneapolis MN, October 30 – November 3.
6) **Yanna Liang**. 2017. Bioleaching of Rare Earth Elements from coal-based products. Pittsburgh Coal Conference. Sep. 4-7. Pittsburgh.

7) **Yanna Liang**. 2016. Converting bituminous coal to methane: approaches to maximizing methane yield ex situ and in situ. The first CBM meeting at Jincheng, Shanxi, China. June 20-22.
8) Ji Zhang, **Yanna Liang**, Satya Harpalani. 2016. Identifying optimal parameters for converting bituminous coal to methane through biogasification. The fourth E^2E Energy Conference. Beijing, China. July 6-8.
9) Zheting Bi, Ji Zhang, Emily Peterson, Zeying Zhu, Chunjie Xia, **Yanna Liang**. 2016. Catalytic hydrothermal liquefaction for producing biocrude from pretreated sorghum bagasse. The fourth E^2E Energy Conference. Beijing, China. July 6-8.
10) Nathalia Londono, **Yanna Liang**, Ariel Donovan, Honglan Shi. 2016. Elucidating impact of nanosized TiO_2 and ZnO on microbial ecology. 21st annual conference of Institute of Biological Engineering, Greenville, SC, April 7-9.
11) Chunjie Xia, Aditi Kumar, **Yanna Liang**, Xiaowen Chen, Melvin Tucker. 2016. Anaerobic fermentation for producing biofuels and bioproducts from corn stover. 21st annual conference of Institute of Biological Engineering, Greenville, SC, April 7-9.
12) Ji Zhang, **Yanna Liang**, Satya Harpalani. 2016. Optimizing microbial coal conversion to methane for ex situ applications. 21st annual conference of Institute of Biological Engineering, Greenville, SC, April 7-9.
13) Zheting Bi, **Yanna Liang**, Tomasz Wiltowski. 2016. An integrated platform for producing biofuels from sweet sorghum bagasse. 21st annual conference of Institute of Biological Engineering, Greenville, SC, April 7-9.
14) Satya Harpalani*, Rohit Pandey, **Yanna Liang** and Ji Zhang. 2016. Bioconversion of Coal Waste to Natural Gas: Conversion of a Liability to an Asset. 3rd International Conference on Chemical, Biological and Environmental Sciences, December 31, 2015 – January 1, 2016, Bangkok, Thailand.
15) Stephen Park. 2015. Maximizing methane yield from bituminous coal through biostimulation under optimal conditions. 2015 Mid-American Environmental Engineering Conference. Columbia, MO. October 24.
16) **Yanna Liang***, Ji Zhang, Stephen Park, Satya Harpalani. 2015. Microbially enhanced coalbed methane (MECBM): identifying optimal conditions for maximizing methane yield. BIT's 4th Annual International Symposium of Clean Coal Technology. Xian, China. September 24-26.
17) **Yanna Liang***, Ji Zhang, Stephen Park, Satya Harpalani. 2015. Biostimulation for biogasification for converting coal to methane. International Pittsburgh Coal Conference, Pittsburgh, PA, USA. October 5 - 8.
18) **Yanna Liang**, Ji Zhang, Satya Harpalani. Peter Yau, Rohit Pandy. Bioconversion of coal to methane – study of microbial community, conversion pathway and property of the residual coal. The 40th International Technical Conference on Clean Coal & Fuel Systems. May 30-June 4th. 2015. Clearwater, FL.
19) Abdul Samad, **Yanna Liang**. Investigating Sophorolipid Production From Hydrolysates Derived From Different Lignocellulosic Materials. IBE 20th Annual Conference, March 6-8th, 2015, St. Louis, MO.
20) Ji Zhang, **Yanna Liang**, Robit Pandey, Satya Harpalani. Using selective bio-catalytic activities as a new route for conversion of waste coal to methane. IBE 20th Annual Conference, March 6-8th, 2015, St. Louis, MO.

21) **Yanna Liang**, Abdul Samad, Ji Zhang, Da Chen, Xiaowen Chen, Melvin Tucker. Producing advanced biofuels and high value bioproducts from sophorolipids secreted by a yeast strain grown on lignocellulosic sugars. DOE Biomass 2014. July 29 - July 30. Washington DC.
22) Kim Jarosz, Yi Cui, Ashley T. Wardlow, **Yanna Liang**. Microbial oil produced from sweet sorghum bagasse. IBE 19th Annual Conference, March 6-8, 2014, Lexington, KY.
23) Abdul Samad, **Yanna Liang**, Sophorolipid Production from Renewable Lignocellulosic Biomass. IBE 19th Annual Conference, March 6-8, 2014, Lexington, KY.
24) Ji Zhang, **Yanna Liang**. New route to convert Illinois coal waste to clean energy fuel. IBE 19th Annual Conference, March 6-8, 2014, Lexington, KY.
25) Robert Heusner, Yi Cui, **Yanna Liang**, Weilan Zhang, Samuel Ma. Effects of engineered nanoparticles on a microalgal strain *Crypthecodinium cohnii*. IBE 19th Annual Conference, March 6-8, 2014. Lexington, KY.
26) Yi Cui, **Yanna Liang**. 2013. Biodiesel production through microwave assisted transesterification of microbial cells. American Institute of Chemical Engineers Annual Conference, San Francisco, CA, Nov. 3-8th, 2013
27) **Yanna Liang**, Ivan Perez, Kyle Goetzelmann, Yi Cui, Sabrina Trupia. 2013. Corn fiber as a renewable resource for producing microbial lipids. 18th annual conference of Institute of Biological Engineering, Cary, NC, March 7-9.
28) Yi Cui, **Yanna Liang**. 2012. Microwave assisted lipid extraction and direct transesterifcation of oleaginous yeast cells to biodiesel. 17th annual conference of Institute of Biological Engineering, Indianapolis, IN, March 1-3.
29) Jemil Yesuf, **Yanna Liang**. 2012. Optimization of COSLIF pretreatment variables of sweet sorghum bagasse using a response surface method. 17th annual conference of Institute of Biological Engineering, Indianapolis, IN, March 1-3.
30) **Yanna Liang.** 2011. Sweet sorghum for biofuel production. Institute of Biological Engineering. Atlanta, GA, March 3-5.
31) Yi Cui, **Yanna Liang**, James Blackburn. 2011. Biofuel production from industrial waste crude glycerol through yeast fermentation. Institute of Biological Engineering. Atlanta, GA, March 3-5.
32) Tianyu Tang, **Yanna Liang**, Matt McCarroll. 2011. Fluorescent measurements of neutral lipids in yeast cells by using nile red. Institute of Biological Engineering. Atlanta, GA, March 3-5.
33) Yi Cui, James Blackburn, **Yanna Liang**. 2010. Identifying the optimal parameters for yeast fermentation on crude glycerol for lipid production. AIChE annual meeting, Salt Lake City, UT, November 7-12.
34) **Yanna Liang**, 2010. Biofuel production from various feedstocks through microalgal fermentation. International Bioenergy Day (IBED), Rockford, IL. Sep. 26-29.
35) **Yanna Liang,** Nick Sarkany, Yi Cui. 2010. Omega-3 fatty acid production from crude glycerol through microalgal fermentation. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL, Apr. 19-22.
36) **Yanna Liang**, Yi Cui. 2010. Hydrocarbon fuel production from microbial oils. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL, Apr. 19-22.
37) **Yanna Liang,** Jemil Yesuf. 2010. Thermostable enzymes from cellulolytic bacteria toward cellulose degradation. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL, Apr. 19-22.

38) Ruplal Choudhary, Arosha Umagiliyage, **Yanna Liang**, John Haddock, Gediminas Markevicius, Vivak Malhotra. Optimization of microwave assisted lime pretreatment of sweet sorghum bagasse for enzymatic saccharification. 32nd Symposium on Biotechnology for Fuels and Chemicals, Clearwater, FL, Apr. 19-22.
39) Xuegang Jia, Luke Tolley, **Yanna Liang** 2009. Bioassay Guided Fractionation for the Isolation of Active Proteins from Complex Mixtures. 36th ACS Northeast Regional Meeting, October 7-9, Hartford, CT.
40) **Yanna Liang**, Jemil Yesuf, Zisong Feng. 2009. Cellulose degradation: two potential novel cellulolytic bacteria able to produce thermostable cellulases. 31st Symposium on Biotechnology for Fuels and Chemicals. May 3-6, San Francisco.
41) Blackburn J. W., **Liang, Y.-N**., Das, D., 2008. Biohydrogen from Wastes. International workshop on biohydrogen production technology, Feb. 7-9, India.
42) Miller, C.D., Zhang C., **Liang, Y.-N**., Child R., Sims, R.C., and Anderson, A.J. (2007). Biosensing of Mycobacteria with the potential to degrade polycyclic aromatic hydrocarbons. Environmental Sensing Symposium, October 25-26th, Boise, ID.
43) Sorensen, D.L., McLean, J.E., **Liang, Y.-N**., Norton, J.M., Dupont, R. (2007). Bacteria in iron reducer enrichments from TCE contaminated aquifer material at Hill Air Force Base, Environmental and Subsurface Science Symposium, July 25-27th, Logan, UT.
44) Miller, C.D., Zhang, C., **Liang, Y.-N**., Pettee, B., Sims, R.C., and Anderson, A.J. (2007). Mycobacterium: Proteomics and genetics for bioremediation, Environmental and Subsurface Science Symposium, July 25-27th, Logan, UT.
45) **Yanna Liang** (2006). Can humic acid act as a flushing agent and biostimulant? AWRA Utah section 2006 34th annual conference "meeting Utah's future water needs", May 8-9, Salt Lake City, UT.
46) **Yanna Liang** (2005). Biodegradation of pyrene in soil microcosms: identification of a novel intermediate. Proceedings of EWRI World Water and Environmental Resources Congress, May 15-19, Anchorage, AL.
47) Darwin Sorensen, Jing Zhou, Jeanette Norton, Joan McLean, Ryan Dupont, **Yanna Liang**. (2007). Rhodoferax-Like Bacteria in Biostimulated Solids from TCE Contaminated Aquifers. American Society of Microbiology General Meeting, May 21-25, Toronto, Canada.
48) Darwin Sorensen, Jeanette Norton, Ryan Dupont, **Yanna Liang**, Joan McLean. (2007). TCE Contaminated Aquifer Bacteria that Reduce Fe(III) from Goethite, Poorly Crystalline Iron Oxide and/or Fe(III)NTA. American Society of Microbiology General Meeting, May 21-25, Toronto, Canada.

6.4. Non peer-reviewed oral or poster presentations

49) **Yanna Liang**, Ji Zhang, Rohit Pandey, Satya Harpalani. 2017. Optimized microbial conversion of bituminous coal to methane for in situ and ex situ applications. Pittsburgh, PA. March 21-23.
50) **Yanna Liang***, Ji Zhang, Stephen Park, Satya Harpalani. 2015. Coal biogasification: identifying ways to maximizing methane yield. Gasification Systems and Coal & Coal-Biomass to Liquids (C&CBTL) Workshop, Lakeview Conference Center, Morgantown, WV. August 10-11.
51) **Yanna Liang**. 2015. From Coal to Methane, what happens in the Black Box? Coal Research Center Board meeting. Jan. 23rd.

52) Ji Zhang, **Yanna Liang**, Rohit Pandey, Satya Harpalani. 2014. Converting Illinois coal waste to methane through biological processes. MidAmerican Environmental Engineering Conference. Nov. 15th, Rolla, MO.
53) **Yanna Liang**. 2014. Converting CO_2 to Valuable Products through Biochemical Processes. Coal Research Center Board meeting. Jan. 22nd.
54) Abdul Samad, **Yanna Liang**. 2014. Producing biosurfactant from hydrolysates developed from sweet sorghum bagasse. MidAmerican Environmental Engineering Conference. Nov. 15th, Rolla, MO.
55) **Yanna Liang**. 2013. A lipid platform for producing liquid transportation biofuels. Coal Research Center Board meeting. Jan. 23rd.
56) Ruby Roknic, Yi Cui, **Yanna Liang**. 2012. Sweet Sorghum Syrup for Biofuel Production through Yeast Fermentation. Undergraduate Research Forum. SIUC. April 16.
57) Ivan Perez, **Yanna Liang**. 2012. Optimal condition for releasing sugars from corn fiber through lime pretreatment. Undergraduate Research Forum. SIUC. April 16.
58) Ruby Roknic, **Yanna Liang**. 2011. Yeast Fermentation of soybean meal to produce ethanol. SIUC Research Rookies Poster Competition, April 11. *Honorable mention*.
59) Arosha H Loku Umagiliyage, Ruplal Choudhary, **Yanna Liang**, Thara Siddaramu, John Haddock. 2010. Optimization of lime pretreatment of sweet sorghum bagasse for enzymatic saccharification. ASABE Annual International Meeting, Pittsburgh, Pennsylvania, June 20-23.
60) Tianyu Tang, Matt McCarroll, **Yanna Liang**, 2010. Rapid and quantitative measurement of neutral lipids in yeast cells using Nile red and triglyceride determination kit. MAEE, Oct. 15-16, Rolla, MO.
61) **Yanna Liang**, 2010. Bioenergy production through different biological approaches. Suzhou University of Science and Technology. June, Suzhou, China.
62) Thara Siddaramu and **Yanna Liang**. 2010. A novel approach for using Jatropha seed cakes. Research Town meeting, April, 19. Carbondale.
63) **Yanna Liang**, Nick Sarkany, Yi Cui, Jesse Trushenski, James Blackburn. 2009. Sweet sorghum juice: an excellent feedstock for lipid production through microalgal fermentation. Technology and Innovation Expo, Oct. 9, Carbondale.
64) Jemil Yesuf and **Yanna Liang**. 2009. Characterization of a cellulolytic thermophile**.** Technology and Innovation Expo, Oct. 9, Carbondale.
65) **Yanna Liang** and Nick Sarkany. 2009. Microalgal fermentation: best use of crude glycerol for lipid production**.** Technology and Innovation Expo, Oct. 9, Carbondale.
66) Jemil Yesuf, **Yanna Liang**. 2009. Isolation and characterization of a thermophilic and aerobic cellulose-degrading bacterium. SIUC research town meeting. April 14. Carbondale.
67) Nicolas Sarkany, **Yanna Liang**. 2009. A ubiquitous green microalga- *Chlorella vulgaris*- Potential for bioenergy production. SIUC research town meeting. April 14. Carbondale.
68) **Yanna Liang**, Zhiyou Wen. 2009. Crude glycerol to lipids through microalgal fermentation. SIUC research town meeting. April 14. Carbondale.
69) **Yanna Liang.** 2009. Thermostable enzymes from thermophilc bacteria toward cellulose degradation. The consortium for plant biotechnology research, Inc. (CPBR) Bioenergy and Environment. Feb. 9-11, Washington DC.
70) **Yanna Liang.** 2009. Crude glycerol to lipids through microalgal fermentation. The consortium for plant biotechnology research, Inc. (CPBR) Bioenergy and Environment. Feb. 9-11, Washington DC.

71) Xuegang Jia, Luke Tolley, **Yanna Liang** 2009. Bioassay Guided Fractionation for the Isolation of Active Proteins from Complex Mixtures. 36th ACS Northeast Regional Meeting, October 7-9, Hartford, CT.
72) **Yanna Liang**, 2008. Potentially novel cellulose-degrading bacterium from swine waste. Center for Ecology. Nov. 12. SIUC.
73) Jemil Yesuf, **Yanna Liang**. 2008. Characterization of cellulase enzymes from a thermophilic and aerobic cellulose-degrading bacterium. Mid-American Environmental Engineering Conference, Oct. 25, Edwardsville, IL.
74) **Yanna Liang,** David Lightfoot. 2008**.** From microalgae to biodiesel - a novel approach for understanding lipid production. The consortium for plant biotechnology research, Inc. (CPBR) 2008 Bioenergy and Environment. Feb. 11-13, Washington DC.
75) Yanna Liang, Charles D. Miller, Bart C. Weimer, Chen Dong, Anne J. Anderson, Ronald C. Sims. (2006). Pyrene induced proteins in PAH-degrading *Mycobacterium* sp. KMS. Subsurface Biotechnology and Bioremediation Symposium and workshop, June 22-23, Bozeman, MT.
76) Yanna Liang, Brian Pettee, Charles D. Miller, Anne Anderson, Ronald C. Sims. (2005). Identification of proteins induced by polycyclic aromatic hydrocarbons in *Mycobacterium* KMS using 2-DE. INRA Subsurface Science Symposium, September 19-21, Big Sky, MT.
77) **Yanna Liang**, Dale R. Gardner, Charles D. Miller, Piotr Dobrowolski, and Ronald C. Sims. (2005). *Mycobacterium* sp. KMS, a novel pyrene-quinone degrader. American Chemical Society, March 13-17, San Diego, CA.
78) **Yanna Liang**, Dale R. Gardner, Charles D. Miller, Frank Olsen, and Ronald C. Sims. (2004). Mycobacterium sp. KMS, a novel pyrene-quinone degrader. INRA Subsurface Science Symposium, September 20-22, Spokane, WA.
79) **Yanna Liang**, Charles D. Miller, Ronald C. Sims (2004). Pyrene degradation pathway by *Mycobacterium* sp. KMS. Seventh Annual Intermountain Paper and Poster Symposium, Utah State University, Logan, UT.
80) **Yanna Liang**, Charles D. Miller, David W. Britt, Ronald C. Sims. (2003). Effect of humic acid on pyrene degradation. INRA Subsurface Science Symposium. October 5-8, Salt Lake City, UT.
81) **Yanna Liang**, C.D. Miller, D. Gardner, D.L. Sorensen, J.K.C. Nieman, R.C. Sims. (2002) Pyrene degradation by *Mycobacterium* sp. JLS, KMS, and MCS isolated from a former wood-preserving facility. INRA subsurface Science Symposium, October 13-16, Boise, ID.

7. Service

7.1. Service to Department at SIUC

- Faculty fair committee, 2016-2017
- Search Committee for two tenure-track faculty positions, 2015
- Graduate program committee, 2014-2017
- Equipment committee: 2011- 2013
- Graduate program committee: 2009-2011
- Member of Search Committee for a Non-tenure Track Survey Instructor, 2010

7.2. Service to College at SIUC

- Chemical Safety Committee, College of Engineering, 2017

- Ph.D. committee, College of Engineering, 2014-2017
- Energy Task Force, College of Engineering, 2015-2016
- Search Committee for Interim Associate Dean on Research and Graduate Education, 2012-2013
- Student Affair Committee, College of Engineering, 2011- 2013

7.3. Service to SIUC

- Member of Faculty Advisory Committee for Illinois Soybean Center at SIU, 2017
- Panelist on the PROMPT/Graduate Dean Fellowship panel, 2017
- Advanced Energy and Fuels Management PSM program: Internal Advisory Board, 2016-
- Environmental Resources and Policy, Internal Advisory Board, 2016-2017
- Faculty Associate, Fermentation Science Institute, 2015-2017
- Energy Task Force, College of Engineering, 2015-2016
- Member of MTC seminar committee, 2015-2017
- Faculty advisor for SIUC Sustainability Council, 2013-2015
- Member of Meyer's Institute Advisory Committee, SIUC, 2012
- Member of Undergraduate Research Advisory Committee, SIUC, 2012-2014
- Member of Search Committee for Director of Material Technology Center, SIUC, 2012

7.4. Service to Research Community

7.4.1. Member of Editorial board

Fermentation, Advances in Industrial Biotechnology
Associate Editor: Journal of Air & Waste Management

7.4.2. Evaluation of Manuscripts

1) Journal of Proteomics;
2) International Journal of Hydrogen Energy;
3) Science of the Total Environment;
4) Process Biochemistry;
5) Journal of Industrial Microbiology and Biotechnology;
6) Geoshanghai;
7) Journal of Applied Phycology;
8) Biomass and Bioenergy;
9) Journal of Advanced Research;
10) Biofuels;
11) Journal of Microbial and Biochemical Technology;
12) Energy & Fuels;
13) Bioresource Technology;
14) Antonie van Leeuwenhoek Journal of Microbiology;
15) Applied Energy;
16) Ceylon Journal of Science;
17) Applied Biochemistry and Biotechnology;
18) Waste and Biomass Valorization;
19) Applied Microbiology and Biotechnology;
20) African Journal of Biotechnology;

21) Aquaculture International;
22) Omics Publishing Group/BIOBIO;
23) Journal of Biological Engineering;
24) Industrial Crops and Products;
25) Fuel;
26) Chemical Engineering Communications;
27) Biotechnology Progress;
28) Biochemical Engineering Journal;
29) The Protein Journal;
30) Environmental Technology;
31) Biotechnology for Biofuels;
32) Water Science and Technology;
33) Current Microbiology;
34) Algal Research;
35) Environmental Progress;
36) Biological Engineering Transactions;
37) Current Microbiology;
38) Journal of Polymer and the Environment;
39) Journal of Chemical Technology and Biotechnology;
40) European Journal of Lipid Science and Technology;
41) Environmental Science and Technology
42) Fermentation
43) International Journal of Coal Geology

7.4.3. Evaluation of proposals as a panelist

1) NSF REVERSE 2019
2) NSF Graduate Fellowship, 2018
3) DOE EERE, 2017
4) Department of Education, MSEIP, 2015, 2017
5) NSF Environmental Engineering panel reviewer, 2013, 2015, 2017, 2018, 2019
6) NSF Nano Toxicity and Effects panel reviewer, 2015, 2016, 2017, 2018
7) NSF Energy for Sustainability 2016
8) NSF BBBE panel, 2012, 2015
9) NIEHS, Superfund Center panel reviewer, Bioavailability panel, 2013, 2014
10) DOD Graduate fellowship, 2014
11) NSF PFI:BIC panel, 2013
12) EPA P3 panel, 2013
13) DOE Graduate Fellowship, 2012
14) DOE Microalgal biofuel panel, 2011
15) USDA NIFA panel, 2011
16) NSF SBIR/STTR panel, 2008-2010
17) NSF Catalysis and Biocatalysis panel, 2008

7.4.4. Grant review

1) National Centre of Science and Technology Evaluation, Republic of Kazakhstan, 2018

2) King Abdulaziz City for Science and Technology, 2018
3) DOE SBIR/STTR, 2016, 2017
4) US-Israel Binational Agricultural Research and Development Fund, 2013
5) Kentucky Science & Engineering Foundation, 2013
6) SUNY 4E Network of Excellence, 2013
7) USDA SBIR Ad Hoc proposal reviewer, 2011-2012
8) Iowa NASA EPSCoR program, 2012
9) Expert reviewer for Romanian National Council for Research and Development, 2012
10) Saltonstall-Kennedy Grant Program, National Marine Fisheries Service, 2011
11) North Carolina Biotechnology C enter, Biotechnology Research Grants, 2010

8. Other

Professional Engineer (PE) License, State of Michigan, 2010-present

Board Certified Environmental Engineer, AAEES, 2018-present