**BOYA XIONG**

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**EDUCATIONAL HISTORY**

**The Pennsylvania State University, Civil and Environmental Engineering, PhD Candidate** Advisor: Dr. Manish Kumar, Dr. Andrew Zydney and Dr. John Regan **2015-present**

**The Pennsylvania State University, Agricultural and Biological Engineering, Master of Science**

Advisor: Dr. Thomas Richard and Dr. Manish Kumar **2011-2014**

**East China University of Science and Technology, Biotechnology, Bachelor of Science**

**2007-2011**

**RESEARCH EXPERIENCE**

**Doctoral projects:**

Origin and characteristics of key membrane foulants in flowback and produced water from unconventional natural gas extraction

**Master’s projects:**

Carboxylic acid separation by nanofiltration for advanced lignocellulosic biofuel production using dedicated bioenergy crops, master thesis, 9/2012-6/2014

**Undergraduate project:**

Isolation, purification and identification of culturable actinobacteria from marine sponge tissue in South Australia, undergraduate thesis, 11/2010-7/2011 (*Undergraduate Research Fellow, Department of Medical Biotechnology, the Flinders University of South Australia, Adelaide, Australia)*

**AWARDS&HONORS**

Summer Tuition Assistantship Program *2014*

University Academic Excellence Scholarship (Undergraduate) *2010*

**PUBLICATIONS**

**Xiong B.**, Kumar M., Zydney A.L., Tasker T., and Burgos W. D. (2016**)** Impact of slickwater fracturing fluid composition/ fracturing interactions on membrane fouling of flowback water. *Environmental Science and Technology* (In preparation)

**Xiong B.**, Kumar M., Zydney A.L. (2016) Fouling of microfiltration and ultrafiltration membranes by flowback and produced water from Marcellus Shale gas play. *Water Research* (Under review)

**Xiong, B.**, Richard, T. L., & Kumar, M. (2015) Integrated acidogenic digestion and carboxylic acid separation by nanofiltration membranes for the lignocellulosic carboxylate platform. *Journal of Membrane Science*, *489*, 275-283.

Guha, R., **Xiong, B.**, Moorea, T., Wood, T., Velegol, D., Kumar, M. (2016) Facile Membrane Surface Activation Eliminates Fouling on demand and mitigates Concentration Polarization. *ACS Applied Materials & Interface* (In preparation)

**CONFERENCE PRESENTATIONS AND POSTERS**

**Xiong B.**, et al. Fouling of microfiltration and ultrafiltration membranes by flowback and produced water from Marcellus Shale gas play. 51st AEESP Anniversary Conference, New Haven, CT, June 2015. (poster)

**Xiong B.**, et al. Fouling of microfiltration and ultrafiltration membranes by flowback and produced water from Marcellus Shale gas play. 25th Annual North American Membrane Society Meeting, Boston, MA, June 2015. (oral)

**Xiong B.**, Kumar M, Zydney A.L. Fouling of microfiltration and ultrafiltration membranes by flowback and produced water from Marcellus Shale gas play. 249th American Chemistry Society Annual Conference, Denver, Colorado, March 2015. (oral)

**Xiong B.,** Kumar M, Richard T.L. 17th Annual Environmental Chemistry and Microbiology Student Symposium, Pennsylvania State University, March 2014. (oral and poster)

**Xiong B.,** Richard T.L. Institute of Biological Engineering, Annual Conference**,** Raleigh, North Carolina, March 2013. (oral and poster)

**PROPOSAL WRITING EXPERIENCE (involved in preliminary data collection, writing and figure preparation)**

Kumar, M. (Principal Investigator), “Particulate Contaminant Characterization, Scaling Control and Membrane Treatment of Flowback and Produced Water,” for Pennsylvania Water Resources Research Center Small grants program (PAWRRC). Awarded: $20,000 (Submitted: December 2015, funded: February 2016)

**TEACHING, OUTREACH AND SERVICE ACTIVITIES**

* Teaching Assistant for course “Engineering system analysis” for the Environmental Resource Management program. I prepared in-lab assignment lectures, held office hours and grading. I was rated as 4.6 out of 5.0 by 25 student reviewers. 08/2013-05/2014
* Mentor and volunteer for Science U Water Hero Summer Camp at Penn State. I designed and led activities for middle school students to learn about identifying water contaminants. (2015)
* Founder of Mentorship Series Seminar 09/2013-05/2014