Department of Civil, and
Environmental Engineering
The University of Texas at Austin
301 E. Dean Keeton St. Stop C1786
Austin, TX 78712-1173

Email: bryantchambers@gmail.com
Phone: (+1) 832.589.7918
Skype: bryantchambers
U.S. Citizen

EDUCATION

THE UNIVERSITY OF TEXAS AT AUSTIN	Spring 2018
Ph.D. in Civil Engineering	Fall 2013
M.S. in Environmental Engineering	Spring 2007
Advisor: Mary Jo Kirisits	
Areas of focus:	
Microbiology	
Systems biology	
Bioinformatics	
Statistical modeling	
Nanoparticle fate and toxicology	
THE UNIVERSITY OF TEXAS AT AUSTIN	
B.S. in Biochemistry	

PUBLICATIONS

*denotes undergraduate mentee

PREPARATION

Chambers, B. A., Hofmann, H., Kirisits, M. J., Silver and silver nanoparticles cause and select for antibiotic resistance in *Pseudomonas aeruginosa. Manuscript in preparation for Proceedings of the National Academy of Science*

Chambers, B. A., D'Alton, S., *Smith, S. K., Kirisits, M. J., A molecular biological model for the surface attachment action of silver nanoparticles. *Manuscript in preparation for American Chemical Society Nano*

Chambers, B. A., Sabaraya, I. V., Saleh, N.B., Kirisits, M. J. Cohort adoption: The effect of a four-year pre-college STEM outreach program. *Manuscript in preparation for the Journal of Science Education and Technology*

CIRCULATION

Chambers, B. A. A molecular biological model describing silver nanoparticle mechanisms of toxicity and associated antibiotic resistance. *Dissertation Published by The University of Texas at Austin.* **2018**

Saleh, N. B., **Chambers, B. A.,** Aich N. Kirisits, M. J. Mechanistic lessons learned from studies of planktonic bacteria with metallic nanomaterials: implications for interactions between nanomaterials and biofilm bacteria, *Frontiers in Microbiology.* **2015**

Chambers, B. A., Afrooz A. R. M. N., Bae S., Aich N., Katz, L. E., Saleh N. B., Kirisits, M. J. Effects of Chloride and Ionic Strength on Physical Morphology, Dissolution, and Bacterial Toxicity of Silver Nanoparticles. *Environmental Science and Technology.* **2014** *48 (1)* 761-769. DOI: 10.1021/es403969x.

Saleh, N. B., Aich, N., **Chambers, B. A.**, Afrooz, A. R. M., Kirisits, M. J. Influence of tin doping on environmental interactions of nano indium oxides in aqueous systems. *Abstracts of Papers of the American Chemical Society.* **2014**

C.B. Mendez, S. Bae, **B. A. Chambers**, S. Fakhreddine, T. Gloyna, S. Keithley, L. Untung, M.E. Barrett, K. Kinney, and M. J. Kirisits, Effect of Roof Material on Water Quality for Rainwater Harvesting Systems Additional Physical, Chemical, and Microbiological Data. *Texas Water Development Board* **2010**

PRESENTATIONS

Landsman M. R**., Chambers B.A**., Kirisits M. J., Contaminant transport in an Austin Urban Watershed: approaches to isolate human influence. Waller Creek Consortium. Austin Texas, May 2019

Chambers B. A., Smith, S. K., Kirisits M. J., Silver nanoparticles induce antibiotic resistance in *Pseudomonas aeruginosa.* American Chemical Society National Meeting, New Orleans March 18-22, 2018

Chambers B. A., Smith S. K., Kirisits M. J., Resistance is not futile: Metals generate antibiotic resistance in engineered systems. Sustainability Conference. University of Texas, November 8-11, 2016

Chambers B. A., Kirisits M. J., Antibiotic resistance consequences of silver nanoparticle use. Gordon Microbial Stress Response. Mount Holyoke, July 17 -26, 2016

Chambers B. A., Kirisits, M, Chloride drive low fractal dimension silver nanoparticle formation, controlling toxicity and stress response. University of Texas, March 20, 2014

Chambers B. A., Katz L. E., Kirisits M. J., Chloride concentrations and ionic strength impact the toxicity and stability of silver nanoparticles in bacterial exposure media. 87th American Chemical Society Colloid and Surface Science Symposium. University of California Riverside, June 23-June 26, 2013

Chambers B., Nguyen H. Kirisits, M.J. Microarray Analysis of Nanosilver Tolerance Strategies in *Pseudomonas aeruginosa* and *Escherichia coli.* Environmental Nanotechnology Gordon Conference, 2011, Waterville Valley, NH. Poster Presentation.

PROFESSIONAL EXPERIENCE

POSTDOCTORAL RESEARCH FELLOW, AUSTIN TEXAS - bioinformatics and modeling training program a - modeled urban watershed contaminant flux - characterized long-term evolution to metal stress	2019-2018
PHARMAFORM L.L.C., AUSTIN TEXAS Research and Development Scientist II - designed new drug formulations - modeled chemical interaction during processing	2009-2008
Analytical Chemist II - created methods to analyze new drug products	2007
HUNG-WEN (BEN) LIU ANTIBIOTIC RESEARCH LAB, AUSTIN TEXAS - characterized novel antibiotic biosynthesis - protein isolation - clonal engineering	2006-2004

PROFESSIONAL SKILLS

Lab: bioinformatics, transcriptomics, metagenomics, proteomics, RNA and DNA, mutational analysis, microbiology, network analysis, nanosynthesis, biofilm formation, various microscopy including phase contrast and SEM, various analytical chemistry techniques including HPLC, GC, NFIR Spectroscopy, AA-ICP Spectroscopy
Various informatics tools including: InParanoid, BioConductor, BowTie, Qiime and Qiime2, DESeq2
Programing: R, Matlab, Fortran, some Python, MinTeq/MinEQ
Languages: English – native, Spanish – conversational, Danish – intermediate

OUTREACH LEADERSHIP ROLES

ENGINEERS WITHOUT BORDERS, UNIVERSITY OF TEXAS CHAPTER	2015-2014 2014-2011 2014-2011
Professional mentor	2014-2011
Filter design team leader	2017, 2016
ENVIRONMENTAL ENGINEERING OUTREACH PROGRAM AT SAN JUAN DIEGO HIGH SCHOOL	
Program coordinator	
OFF ROAD SCIENCE WITH THE ENVIRONMENTAL SCIENCE INSTITUTE	
Hot Science Cool Talks pre-lecture demo coordinator	
INTRODUCE A GIRL TO ENGINEERING DAY	
Exhibit operator	

TEACHING EXPERIENCE

CLUBES DE CIENCIAS,	January 2015
UNIVERSITY OF GUANAJUATO,	2016, 2017
MEXICO	2017
From trash to treasure:	2016
Using bacteria to power	2015
the future	2015
Self-written course	2014
THE UNIVERSITY OF TEXAS AT	2011, 2013
AUSTIN	2015
Scientific Inquiry Across	2014
the Disciplines	2011
Stuart Reichler and	2010
Self-written	2006
Cell Biology	2005
Arturo De Lozanne and	
Self-written	
Introduction to	
Environmental	
Engineering	
Mary Jo Kirisits	
Hydraulic Engineering	
John Burgin	
Microbiology	
Pratibha Saxena	
Marvin Whiteley	
Mary Jo Kirisits	
Molecular Biology	
Scott Stevens	
Ellen Gottlieb	
Mary Jo Kirisits	
General Engineering	
Chemistry	
Self-written course	
Organic Chemistry and	
Biochemistry for Nursing	
Students	
Fatima Fahkreddine	
General Chemistry	
Sarah Sutcliffe	
Average rating: 4.57 out of 5	

WORKSHOPS AND CERTIFICATES

TRANSLATING GRADUATE NANO-EXPERIENCE TO AN ACADEMIC CAREER: INTEGRATING SOCIAL ASPECTS IN ENGINEERING EDUCATION THROUGH ACTIVE LEARNING Active learning certification program	October 2016 Fall 2016
INTERDISCIPLINARY EDUCATION CERTIFICATE School of Undergraduate Education, University of Texas at Austin	

AWARDS

Ben D. Geeslin Endowed Presidential Scholarship	2017-2015, 2013
Kolodzey Travel Grant	2017, 2016
American Water Works Association Scholarship	2016
University of Texas at Austin Legacy Fellowship	2015
Earnest Gloyna Presidential Scholarship	2015-2014
Texas American Water Works Association Fellowship	2014
Gus Fruh Memorial Fellowship	2012-2011

GRADUATE MENTEES

Sierra Jensen	M.S. Environmental Engineering Expected 2019

UNDERGRADUATE MENTEES

Eddalee Hochwalt Naumann	B.S. Chemical Engineering Expected
Alison Zamsky	2020
Savanna K. Smith	B.S. Environmental Engineering
Able Ingle	Expected 2020
Anvita Jain	B.S. Civil Engineering Expected 2019
Kathleen L. Speights	B.S. Civil Engineering 2017
	B.S. Civil Engineering 2015
	B.S. Chemical Engineering 2014

PROFESSIONAL AFFILIATIONS

American Water Works Association
American Chemical Society

PERSONAL

Bicycle touring, hiking/camping, Language and history enthusiast, swing dancing