

Jacob R. Price

CONTACT INFORMATION

██████████ jrp273@gmail.com
http://jacobrprice.github.io/

EDUCATION

Drexel University, Philadelphia, PA

Ph.D., Environmental Engineering, 2018

- Thesis Topic: *Linking Complex Nutrient Kinetics and Ecological Processes within a Photosynthetic Mixed Microbial Community*
- Advisor: Christopher M. Sales, Ph.D

Temple University, Philadelphia, PA

M.S., Civil & Environmental Engineering, 2013

- Thesis Topic: *The effects of urbanization on stream channel morphology in southeastern Pennsylvania*
- Advisor: Robert J. Ryan, Ph.D, P.E.

Graduate Certificate in Stormwater Management, 2013

The Pennsylvania State University, University Park, PA

B.S., Mathematics, 2007

Minor, Statistics, 2007

RESEARCH EXPERIENCE

Research Assistant

2013 to 2018

Department of Civil, Architectural, and Environmental Engineering,
Drexel University

Supervisor: Christopher M. Sales, Ph.D

- Nutrient transformation and uptake within photosynthetic mixed microbial communities for bioremediation and resource recovery
- Characterization of microbial community composition and their response to changes in environmental regimes
- Physical, chemical, and ecological impact of wastewater treatment plant effluent on receiving streams
- Shifts in community structure within EBPRs during startup and the biological/ecological causes of reactor failure

Research Assistant

2012 to 2013

Department of Civil and Environmental Engineering,
Temple University

Supervisor: Robert J. Ryan, Ph.D, P.E.

- Implications of urbanization and increased impervious surface cover on stream channel morphology and flow regimes

Technical Advisor

2012 to 2013

Center for Natural Resource Development and Protection,
Department of Civil and Environmental Engineering,
New Jersey Institute of Technology

Supervisor: Michel C. Boufadel, Ph.D, P.E.

- Relocated NRDP laboratory equipment from Temple University to the New Jersey Institute of Technology
- Packaging, transportation, installation, and function checking analytical instruments.
- Training on instrument operation and general laboratory and safety methods.

Research Assistant

2010 to 2012

Center for Natural Resource Development and Protection,
 Department of Civil and Environmental Engineering,
 Temple University

Supervisor: Michel C. Boufadel, Ph.D, P.E.

- Evaluated the efficacy of treating recalcitrant oil found within beaches as a result of the Exxon Valdez Oil Spill
- Provided independent observational reports to the United States Coast Guard in response to the British Petroleum Deepwater Horizon Oil Spill
- Assessed the nutrient composition of river and pore-water in Delaware River shorelines

AWARDS**Travel Awards**

- International Society for Microbial Ecology, Montreal, Canada 2016

Student Awards — Drexel University

- Claudio Elia Memorial Fellowship 2015 to 2016
- Graduate Assistance in Areas of National Need (GAANN) 2014 to 2015
- Grand Challenges Fellowship
- The Koerner Family Award in 2014 to 2015
- Civil, Architectural, and Environmental Engineering

Student Awards — Temple University

- Scientists as Teachers; Teachers as Scientists Graduate Fellowship 2012 to 2013
- National Science Foundation Award Number 0841377

**REFEREED
JOURNAL
PUBLICATIONS**

1. **Price, J. R.** & Sales, C. M. “Quantifying the influence of nutrient loading and availability on microbial community dynamics and subsequent kinetic behavior.” **(IN REVIEW 2018).**
2. **Nan, Y. & Price, J. R.**, Wang, Y., Cheng, M., Keshani Langroodi, S., Woloszynek, S., Rosen, G.L., & Sales, C. M. “Evidence of predation and parasitism affecting EBPR performance through microbial community instability.” **(IN REVIEW 2018).**
3. **Price, J. R.**, Ledford, S. H., Ryan, M. O., Toran, L. & Sales, C. M. “Wastewater treatment plant effluent introduces recoverable shifts in microbial community composition in receiving streams.” *Sci Total Environ* 613-614, 1104-1116, doi:10.1016/j.scitotenv.2017.09.162 (2018).
4. Sniffen, K. D., **Price, J. R.**, Sales, C. M. & Olson, M. S. “Influence of Scale on Biomass Growth and Nutrient Removal in an Algal-Bacterial Leachate Treatment System.” *Environ Sci Technol* 51, 13344-13352, doi:10.1021/acs.est.7b03975 (2017).
5. **Price, J. R.**, Keshani Langroodi, S., Lan, Y., Becker, J.M., Shieh, W.K., Rosen, G.L., & Sales, C.M. “Untangling the microbial ecosystem and kinetics in a nitrogen removing photosynthetic high density bioreactor.” *Environ. Sci.: Water Res. Technol.* 2, 705-716, doi:10.1039/c6ew00078a (2016).
 - **Emerging Investigators Series**
6. **Price, J. R.**, Shieh, W. K. & Sales, C. M. “A Novel Bioreactor for High Density Cultivation of Diverse Microbial Communities.” *J Vis Exp* e53443, doi:10.3791/53443 (2015).

BOOK CHAPTERS	1. Woloszynek, S., Zhao, Z., Ditzler, G., Price, J.R. , Reichenberger, E., Lan, Y., Chen, J., Earl, J., Keshani Langroodi, S., Ehrlich, G., & Rosen, G.L. "Analysis Methods for Shotgun Metagenomics in <i>Computational Biology: Theoretical and Applied Aspects of Systems Biology</i> Eds F. Alves Barbosa da Silva, N. Carels, & F. Paes Silva Junior. Springer International Publishing. (IN PRESS 2018).
SOFTWARE	1. Price, J. R. Woloszynek, S., Rosen, G. L. & Sales, C. M. "theseus - An R package for the analysis and visualization of microbial community data." <i>bioRxiv</i> , doi:10.1101/295675 (2018).
TECHNICAL NOTES	1. Price, J. R. , Thompson, T. J., & Parish, J. "Automated Parsing of a LabSolutions Batch Results File (ASCII Output) When Using a Spreadsheet or Statistical Package to Summarize Data." Technical Note. Shimadzu Scientific Instruments. doi: 10.13140/RG.2.1.2746.3447. (2015).
PRESENTATIONS	<p>Oral Presentations</p> <ul style="list-style-type: none"> • American Chemical Society National Meeting, 2018 New Orleans, LA • Delaware Watershed Research Conference, 2017 Philadelphia, PA • Annual Meeting of the Phycological Society of America, 2015 Philadelphia, PA <p>Poster Presentations</p> <ul style="list-style-type: none"> • 2018 Meeting of The International Society for Microbial Ecology, 2018 Leipzig, Germany • Fall Meeting of The American Geophysical Union, 2017 New Orleans, LA • Annual Meeting of The American Society for Microbiology, 2017 New Orleans, LA • 2016 Meeting of The International Society for Microbial Ecology, 2016 Montreal, Canada • Drexel University: Hess Undergraduate Scholars Research, 2016 Philadelphia, PA • Annual Meeting of the Association of Environmental Engineering & Science Professors, New Haven, CT 2015 • Drexel University Research Day, Philadelphia, PA 2015 • Annual Meeting of the American Wastewater Association: 2015 Hershey Section, Hershey, PA • Schuylkill Watershed Congress, Pottstown, PA 2012 • Temple University Research Day, Philadelphia, PA 2011
TEACHING EXPERIENCE	<p>Teaching Assistant - Drexel University</p> <ul style="list-style-type: none"> • Engineering Process Lab I & II 2014 to 2017 • Introduction to Infrastructure Engineering 2014 • Groundwater Remediation 2014 • Hydraulics 2013 to 2014 • Hydrology 2013 <p>Teaching Assistant - Temple University</p> <ul style="list-style-type: none"> • Introduction to Engineering 2012 • Probability, Statistics, and the Stochastic Method 2011 • Mechanics of Fluids 2011

	Graduate Fellow, Scientists as Teachers Teachers as Scientists	
	• Temple University and W.B. Saul Agricultural High School	2012 to 2013
MENTORING EXPERIENCE	Undergraduate Students	
	Drexel Students Tackling Advanced Research (STAR) Scholars	
	• Sudipti Attri (BS. CHEME, exp. 2021, Drexel University)	2017
	• Shannon Belfield (BS ENVE exp. 2021, Drexel University)	2017
	• Marina DSousa (BS ENVE exp. 2020, Drexel University)	2016 to 2017
	Hess Undergraduate Research Scholarship Program	
	• Daniel Navin (BS ME 2017, Drexel University)	2016
	Freshman Design Project	
	• Marina DSousa (BS ENVE exp. 2020, Drexel University)	2016
	• Fatima Hassan (BS ENVE exp. 2020, Drexel University)	2016
	Co-op & Volunteer Program	
	• Jonas Becker (BS BIO, 2016, Hochschule Bremen, Germany)	2015 to 2016
	• Thomas Thompson (BS/MS ENVE 2016, Drexel University)	2015
	• Aspen Walker (BS/MS ENVE 2015, The University of Pennsylvania)	2014 to 2015
	High School Students	
	Franklin Institute STEM Scholars	
	• Bafode Keita	2016
	• Hasan Talouli	2016
	• Semir Ibrahim	2015
	• Kayin Bankole	2014
PROFESSIONAL ACTIVITIES	Service Positions	
	• Drexel University Point of Contact	2017 to Present
	• Northeast Graduate Student Water Symposium	
	• ReadCube Ambassador Program	2015 to Present
	• Advising Panelist and Task Force Member	2014 to 2015
	• Watershed Action Through Engineered Response (W.A.T.E.R.)	
	• W.B. Saul High School of Agricultural Sciences	
	Ad hoc Outreach Presentations	
	• Sales, C.M., Price, J.R. , Hamilton, K., Rackes, A., & Perez, L. Environmental Engineering Workshop. Franklin Institute STEM Scholars. Franklin Institute, Philadelphia, PA. (2016).	
	• J.R. Price. Potential Uses of Algae in Wastewater Treatment. Gwynedd-Mercy Academy. Ambler, PA. (2015).	
	• J.R. Price. Investigation of Algal Communities. Walter Biddle Saul Agricultural High School. Philadelphia, PA. (2013).	
	Associations and Memberships	
	• American Association for the Advancement of Science (AAAS)	
	• American Chemical Society (ACS)	
	• Association of Environmental Engineering and Science Professionals (AEESP)	
	• American Geophysical Union (AGU)	
	• American Society for Microbiology (ASM)	
	• American Water Resources Association (AWRA)	
	• American Water Works Association (AWWA)	
	• International Society for Microbial Ecology (ISME)	

OTHER EXPERIENCE	<p>Data Analyst Arkema Incorporated, Philadelphia, PA</p> <p>Actuarial (Intern followed by) Technician Penn Mutual Life Insurance Company, Horsham, PA</p>	<p>2009 to 2010</p> <p>2006 to 2009</p>
REFERENCES	<p>Christopher M. Sales Associate Professor Civil, Architectural, and Environmental Engineering Drexel University</p> <p style="text-align: right;">Phone: 215-895-2155 E-mail: cms566@drexel.edu</p> <p>Gail L. Rosen Associate Professor Electrical and Computer Engineering Drexel University</p> <p style="text-align: right;">Phone: 215-895-0400 E-mail: gailr@coe.drexel.edu</p> <p>Wen K. Shieh Professor Chemical and Biomolecular Engineering University of Pennsylvania</p> <p style="text-align: right;">Phone: 215-898-4634 E-mail: shieh@seas.upenn.edu</p> <p>Mira S. Olson Associate Professor Civil, Architectural, and Environmental Engineering Drexel University</p> <p style="text-align: right;">Phone: 215-895-2987 E-mail: mso28@drexel.edu</p> <p>Robert J. Ryan Associate Professor Civil and Environmental Engineering Temple University</p> <p style="text-align: right;">Phone: 215-204-3054 E-mail: rjryan@temple.edu</p>	