**Asa Lewis**

Drexel University, Philadelphia, PA 19104

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**EDUCATION**

**Doctor of Philosophy in Environmental Engineering** Expected 2022

Drexel University, Philadelphia, PA

Research Focus: Accumulation and behavior of PFAS in the environment

Advisor: Professor Christopher M. Sales

**Master of Science in Undergraduate STEM Education** Expected 2021

Drexel University, Philadelphia, PA

Research Focus: Improving student involvement equity in STEM lab courses

Advisor: Professor N. John DiNardo

**Master of Science in Environmental Engineering**  2020

Drexel University, Philadelphia, PA

**Bachelor of Science in Biology** 2018

Temple University - Honors Program, Philadelphia PA

Temple University, Rome, Italy

**Bachelor of Arts in Spanish: Language and Professional Studies with Distinction** 2018

Temple University - Honors Program, Philadelphia PA

**PUBLICATIONS**

1. **Lewis, A.J**., Joyce, T., Hadaya, M., Ebrahimi, F., Dragiev, I., Giardetti, N., Yang, J., Fridman, G., Rabinovich, A., Fridman, A.A., McKenzie, E.R., and Sales, C.M., 2020. “Rapid and Energy Efficient Degradation of PFAS in Aqueous Solutions by Reverse Vortex Flow Gliding Arc Plasma.” Environmental Science: Water Research & Technology. 6 (4): 1044-57.
2. Ebrahimi, F., **Lewis, A.J.**, Sales, C.M., Suri, R., and E.R. McKenzie. 2020. Linking PFAS partitioning behavior in sewage sludge to solution chemistry and treatment processes. (in review)
3. Yin, H., Jin, L., Qian, Y., Li, X., Wu, Y., Bowen, M.S., Kaan, D., He, C., Wozniak, D.I., Xu, B., **Lewis, A.J.**, Shen, W., Chen, K., Dobereiner, G.E., Zhao, Y., Wayland, B.B., and Rao, 2018. “Excitonic and Confinement Effects of 2D Layered (C10H21NH3)2PbBr4 Single Crystals”. ACS Applied Energy Materials 1 (4): 1476–92.
4. Pearsall, H., De Roos, A.J., Dickinson, S., Gurian, P.L., Kato, Y., Kondo, M., and **Lewis, A.J**., 2020. “The Benefits and Costs of Urban Public Spaces.” William Penn Foundation.

**RESEARCH EXPERIENCE**

**Graduate Researcher** 2018-Present

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

*PI: Dr. Christopher M. Sales*

* Investigate adsorptive and destructive methods for treatment of water contaminated with emerging contaminants (PFAS). Study accumulation of emerging contaminants (PFAS) in warm water aquatic ecosystems and other environmental matrices.
* Collaborate with faculty, fellow graduate students, and undergraduate students across departments and universities to complete large scale research projects.
* Act as a mentor to undergraduate researchers and provide them the platform to address their research questions.

**Graduate Researcher** 2018-2020

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

*PI: Dr. Patrick L. Gurian*

* Worked with a mixed team of multiple universities, governmental agencies, and a funding agency to develop a report looking at the costs and benefits of public spaces to better inform city planners.

**Undergraduate Researcher** 2016-2018

*Department of Chemistry, Temple University*

*PI Dr. Hai Lung Dai*

* Worked on solar cell fabrication and characterization for tuning of thin-film performance for enhancement of optoelectronic properties for solar cell applications.

**TEACHING AND MENTORING EXPERIENCE**

**Teaching Assistant, Environmental Engineering Processes Laboratory** 2019-Present

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

* Instruct laboratory experiments for senior level undergraduates encompassing water treatment processes with a pedagogical approach to address issues of gender equity in laboratory settings.
* Created assessments and assignments to improve understanding of core concepts.
* Developed and improved guidelines a large scale student research project.

**Teaching Assistant, Introduction to College of Architectural, Environmental, and Environmental Engineering** 2019

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

* Led student run laboratories focusing on the different research interests of the department for classes of 20-25 sophomore level undergraduates.

**Graduate Mentor, Drexel University** 2018-Present

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

* Mentored seven undergraduate students to date in data collection, experimental design, and preparation and presentation of their research findings.

**Lesson Instructor, Drexel University Summer Camp** 2019-Present

*Girl’s Inc: Eureka! Program*

* Develop lesson plans and instructional techniques to teach science, technology, engineering, and math (STEM) topics to groups of 30-40 8th and 9th grade girls from the Philadelphia area.
* Work with a group of graduate students, faculty, and Girl’s Inc., staff to develop curriculum to help young women build confidence and skills through hands-on opportunities in STEM.

**FUNDING, HONORS, AWARDS**

Temple University Presidential Scholar 2014-2018

* Awarded a full-tuition scholarship to attend Temple University as well as three $4,000 stipends for study abroad, internships, or research experiences.

Dean’s List, Temple University 2017-2018

* Achieved a GPA level greater than 3.63 at Temple University.

Agilent Best Poster Presentation Award 2019

* Awarded best poster presentation at ISPTS 2019 Conference in Hoboken

**CONFERENCE PRESENTATIONS**

**Lewis, A.J.** and Sales, C.M. (2019, April) *Biotransformation of Precursor PFAS and its Effect on the Fate and Transport of PFAS Compounds in the Environment*. Fresh Ideas Young Professionals Poster Competition at the 2019 annual meeting the Pennsylvania American Water Works Association in Hershey, Pennsylvania.

**Lewis, A.J.** and Sales, C.M. (2019, October) *Applications of Non-Thermal Plasma Technologies in PFAS Contaminated Investigation Derived Wastes.* Poster session at the 16th International Symposium on Persistent Toxic Substances in Hoboken, New Jersey.

**Lewis, A.J.** and Sales, C.M. (2019, December) *Application of Non-Thermal Plasma Technology for the Removal of Poly- and Perfluorinated Substances from Investigation-Derived Wastes.* Poster session at the 2019 Strategic Environmental Research and Development Program (SERDP) – Environmental Security Technology Certification Program (ESTCP) Symposium in Washington, D.C.

**PROFESSIONAL MEMBERSHIPS**

American Chemical Society 2019-Present

American Water Works Association 2019-Present

American Water Works Association – Pennsylvania 2019-Present

**INSTITUTIONAL SERVICES**

College of Engineering Strategic Planning Committee 2019-Present

**LANGUAGES**

English: Fluent

Spanish: Conversational

**REFERENCES**

Dr. Christopher M. Sales, Associate Professor

Civil, Architectural, and Environmental Engineering

Drexel University

(215) 895-2155, cms566@drexel.edu

Dr. Patrick L. Gurian, Associate Professor and Director of First Year Experience

Civil, Architectural, and Environmental Engineering

Drexel University

(215) 895-2889, pgurian@drexel.edu

Dr. Yi. Rao, Assistant Professor

Department of Chemistry & Biology

Utah State University

(435) 797-0640, yi.rao@usu.edu