

Marina D'souza

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Education

Bachelor of Science in Environmental Engineering

Minor in Materials Science and Engineering

Drexel University – Pennoni Honors College

Anticipated Graduation: June 2020

Cumulative GPA: 3.71

Philadelphia, PA, USA

Engineering Project Experience

Enhancement of PFOA Adsorbers, Drexel University

Philadelphia, PA

Undergraduate Researcher

September 2018 to March 2019

- Designed and conducted extensive experiments to compare the difference in adsorption of Perfluorooctanoic Acid (PFOA) by enhanced granular activated carbon (GAC) and virgin GAC
- Presented results of the project upon completion to the Principal Investigator and Sales Lab group members

Reactor Design for Carbamazepine Removal

Freiberg, Germany

Freiberg University of Mining and Technology

June to August 2018

Research Assistant

- Designed an organoclay packed bed reactor for the removal of carbamazepine as a fourth stage treatment of wastewater
- Tested impact of design modifications to reactor on clay runoff in filtrate
- Evaluated results of the project in a technical report which was submitted to the Young GEOMATENUM scholarship committee

STAR Scholars Research Project, Drexel University

Philadelphia, PA

Undergraduate Researcher

April to June 2016

- Investigated the effect of scaling up a 1 L High-Density Bioreactor (HDBR) to 2 L and 5 L HDBRs on the nitrogen removing ability of algae
- Collected samples, analysed data and presented results of the project as a research poster

Work Experience

Drexel University – Lindy Center

Philadelphia, PA

Teaching Assistant

January 2017 to Present

- Assisted the instructor with teaching and grading for a special course integrating community service with academic learning
- Coordinated attendance at various community service events like the Philadelphia Science Festival for classes of 50 students
- Liaised with the Lindy Center to ensure all students successfully completed administrative prerequisites for community service

Merck

West Point, PA

Associate Specialist (Co-op)

April to September 2019

- Conducted General Emergency Management Systems (GEMS) trainings for Merck personnel and established a new database for the security surveillance system at the West Point site.
- Successfully executed multiple projects for the West Point Global Safety and Environmental department.
- Presented accomplishments of internship to Senior VP and Divisional VP and their leadership teams

Gulf Center for Soap and Chemical Industries

Dubai, United Arab Emirates

Quality Assurance Engineer - Intern

April to June 2018

- Oversaw day to day handling, treatment and disposal of Industrial waste streams as per SOP's and regulatory requirements
- Successfully trained in Quality Assurance/Quality Control procedures used in the manufacture of Personal care products

Criterion Laboratories

Bensalem, PA

Lab Technician (Co-op)

April to September 2017

- Conducted microbial culturing and count tests on water samples to detect Legionella and other bacteria.
- Used polarized light microscopy (PLM) to detect asbestos fibres in construction materials and total organic carbon (TOC) analyser to find carbon content in water samples.
- Created Excel reports using results from test data and delivered to clients within/before requested turnaround time

Awards and Activities

- **President** - American Society of Civil Engineers, Drexel University - September 2018 to Present
- **Resident Assistant** - Residential Living & Student Conduct, Drexel University - September 2017 to Present
- **Engineering Leadership Scholar** - College of Engineering, Drexel University - March 2017 to Present
- **Young GEOMATENUM International scholarship** - Freiberg University of Mining and Technology - April 2018

Poster Presentations

- Regeneration of PFAS contaminated granular activated carbon using non-thermal plasma. *October 2019*. **AEHS Solids, Sediments, Water, and Energy Conference**. Amherst, MA.
- Scaling up a High-Density Bioreactor for the removal of nitrogen compounds. *April 2017*. **Colonial Academic Alliance (CAA) Undergraduate Research Conference**. Elon, NC.
- Scale up of a High-Density Bioreactor for the removal of nitrates. *February 2017*. **American Water Resources Association (AWRA) Professional Members Meeting**. Philadelphia, PA.
- Scaling up a High-Density Bioreactor for the removal of nitrogen compounds. *August 2016*. **Students Tackling Advanced Research (STAR) Summer Showcase**. Philadelphia, PA.