Taylor Medina

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EDUCATION

Master of Environmental Science and Management, 3.75 GPA (Expected June 2023)
Pollution Prevention and Remediation Specialization
Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)
Highlighted Coursework: ESM 244: Advanced Data Analysis, ESM 288: Energy, Tech, and the Environment

Bachelor of Science, Engineering in Chemical Engineering, minor in Mathematics, 3.7 GPA (May 2021)
Barrett, the Honors College at Arizona State University (ASU), Tempe, Arizona
Thesis: Kinetic analysis of ozone over titanium dioxide photocatalyst for urban air pollution control.
Honors/Awards: American Chemical Society Scholar (8/17-5/21); Western Association to Expand Student Opportunities (WAESO) Scholar (5/20-5/21), Engineering Deans List

SKILLS

R Programming: RStudio, Shiny, Time-Series Analysis, Spatial Data, Tidy Data, Machine Learning, Data Visualization
Computer: Microsoft (Word, Excel, PowerPoint), ArcGIS Pro, Python (VS Code), CHEMCAD, MATLAB, SIMULINK, GitHub
Language: Spanish (fluent), Portuguese (proficient), French (elementary)

EXPERIENCE

Associate Researcher – Keller Research Team, UCSB, Santa Barbara, CA (June 2021-Present)
Principal Investigator: Arturo Keller, PhD
- Researched the chemical and physical properties of 14 polyfluorinated alkyl compounds found in significant concentrations in Southern California.
- Investigated the transport of PFAs in Southern California watersheds using CHEMFATE software (Python) , Excel, and R to determine their fate and transport in the environment.
- Mapped PFA concentrations, SoCal watersheds, land use data, and associated water treatment plants on ArcGIS for the visualization of the potential sources and effects on humans of PFAs in Southern California.

Undergraduate Engineering Researcher – AIR Lab, ASU, Tempe, AZ (May 2020-May 2021)
Principal Investigator: Jean Andino, PhD
- Designed experiments to quantify ozone decomposition over titanium dioxide inside of a photoreactor connected to an ozone monitor and mass flow meter.
- Developed a photocatalytic paint containing titanium dioxide to be coated over concrete.
- Quantified ozone decomposition over the coated concrete on Excel to assess the potential efficacy of this project in passively removing urban ozone pollution on a large scale.

Process Engineering Intern – Intel Corporation, Chandler, AZ (October 2019-May 2021)
- Analyzed surface error on transistor production layers over silicon using Excel to make corrections on the orientation and direction of the associated laser for each layer.
- Created statistical models of each type of error to adjust production tools in the fabrication units at Intel's largest fabrication unit.
- Trained extensively in workplace and fabrication unit safety in an industrial setting.

Research Intern – SINAPSE, National University of Singapore, Singapore (May 2019-July 2019)
Principal Investigator: Nitish Thakor, PhD
- Obtained heat flux and temperature data during clinical trials of cryo-compression gloves on cancer patients undergoing chemotherapy to prevent neuropathy at the National University Hospital.
- Developed a math model on MATLAB of heat flux between the hand and the cryo-compression glove to determine the optimal thickness and material.