

POLINA 'POLY' POPOVA

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EDUCATION

San Diego State University

Environmental Engineering Major

Honors Minor in Interdisciplinary Studies

GPA 3.92/4.0

Anticipated Graduation: May 2024

HONORS AND AWARDS

NIH Maximizing Access to Research Careers Fellow	2022 - Present
NSF Louis Stokes Alliance For Minority Participation Fellow	2022 - Present
STEM Advantage Scholar	2022 - Present
Weber Honors College Scholar	2019 - Present
SACNAS National Diversity in STEM Conference Research Presentation Award	2023
SACNAS National Diversity in STEM Conference Travel Scholarship Recipient	2023
Darrell P. Asquith Memorial Endowed Scholarship Recipient	2023
Summer Undergraduate Research in Engineering Program at Georgia Tech Awardee	2023
Summer Undergraduate Research Fellowship Program at UC Irvine Awardee	2023
American Council of Engineering Companies California Scholarship Recipient	2023
American Water Works Association California-Nevada Scholarship Recipient	2023
Sally Casanova Pre-Doctoral Program Honorable Mention	2023
Chinyeh Hostler Social Venture Challenge, 1st Place Women in STEM Winner	2023
Chinyeh Hostler Social Venture Challenge, 2nd Place Overall Winner	2023
College of Engineering Scholarship Recipient	2020 - 2021
William E. Leonhard, Jr. Endowment Scholarship Recipient	2020 - 2021
American Association of University Women Scholarship Recipient	2019 - 2020

RESEARCH EXPERIENCE

Research Assistant

August 2022 - Present

Water Innovation and Reuse Lab

San Diego State University

San Diego, CA

Utilizing fluorescence spectroscopy, ion chromatography, and long-term tracking of nitrogen species and total organic carbon in the establishment of two upflow anammox bioreactors for the use in studies investigating anammox bacteria capabilities to indiscriminately digest ammonium-containing compounds in wastewater.

Supervisor: Natalie Mladenov, PhD

Research Assistant

Summer 2021

Electrical and Computer Engineering Department
San Diego State University
San Diego, CA

Performed a literature review of Human-in-the-Loop Cyber-Physical Systems, Human-Machine Interface and Internet of Things for the alleviation of workforce aging crisis through tacit human knowledge capture, integration, and automatization.

Supervisor: Baris Aksanli, PhD

CONFERENCE PROCEEDINGS & PRESENTATIONS

P. Popova, N. Mladenov. (2023, oral presentation). Application of fluorescence spectroscopy in tracking enrichment of anammox bacteria in intermittent up-flow bioreactors augmented with plastic and rock media. (for submission to SDSU Student Symposium (S³)).

P. Popova, L. Astete Vasquez, N. Mladenov. (2023, poster). Startup of anammox enrichment reactors for studying the removal of ammonium-containing compounds from wastewater. 2023 SACNAS National Diversity in STEM Conference.

P. Popova, N. Mladenov. (2023, oral presentation). Fluorescence spectroscopy application for monitoring the start-up of intermittent up-flow anammox bioreactors augmented with plastic and rock media. 2023 Undergraduate Research Symposium.

P. Popova, N. Mladenov. (2023, poster). Utilization of fluorescence spectroscopy to track start-up of intermittent up-flow anammox bioreactors enhanced with plastic and rock media. UCLA CSU Symposium.

P. Popova, L. Astete Vasquez, N. Mladenov. (2023, poster). Investigating the ability of anammox bacteria to degrade nitrogen-containing chemicals in wastewater. American Water Works Association (AWWA) CA-NV Section Spring Conference.

P. Popova, L. Astete Vasquez, N. Mladenov. (2023, poster). Investigating the ability of anammox bacteria to degrade nitrogen-containing chemicals in wastewater. SDSU Student Symposium (S³).

MANUSCRIPTS IN PREPARATION

P. Popova, N. Mladenov. Utilization of fluorescence spectroscopy to track start-up of intermittent up-flow anammox bioreactors enhanced with plastic and rock media. (for submission to *Water Research*)

PROPOSALS

P. Popova. National Science Foundation Graduate Research Fellowship Program (NSF GRFP), Enrichment and Optimization of Feammox Bioreactors for PFAS Removal (pending results), 2023.

ENVIRONMENTAL ENGINEERING EXPERIENCE

Instructional Student Assistant

Fall 2023

Department of Civil, Construction, and Environmental Engineering
San Diego State University
San Diego, CA

Assessing student submissions and overseeing student records in the Environmental Engineering Introduction course (ENVE355).

Start-up Partner of *Septic Mixer*

Spring - Summer 2023

SDSU Zip Launchpad Program
San Diego, CA

Supported efforts to commercialize a patent-pending septic system sludge mixing device aimed at alleviating financial burden of septic tank owners associated with maintenance of on-site sanitation systems.

Environmental Engineering Intern

Summer 2022

TRC Companies, Inc.
San Diego, CA

Recommended improvement modifications for clients' management practices in high priority storm drain structures to ensure compliance with Phase II Small MS4 Permit.

Intern

Summer 2021

Contra Costa Resource Conservation District
San Ramon, CA

Quantified levels of anthropogenic pollution in at-risk-sites around Contra Costa County using Benthic Index of Biotic Integrity. Reported on East Bay Regional Park District's pesticide usage and proposed organic weed management methods .

OTHER WORK EXPERIENCE

Human Resources Intern

2021 - 2022

TRC Companies, Inc.
San Diego, CA

Coordinated employee training sessions and devised operational protocols for the procedure.

OUTREACH AND SERVICE

Volunteer Tutor

Fall 2023

Reality Changers
San Diego, CA

Aiding high school students who will be first-generation college graduates in their journey towards academic and professional growth.

Math Ambassador

Fall 2023

Department of Mathematics and Statistics, SDSU

San Diego, CA

Visiting Calculus I classes to talk about a situation where mathematics is being used for social good and then tell the students about resources to help them be successful.

Peer Mentor

Spring 2023 - Present

Society of Women Engineers, Weber Honors College, SDSU

San Diego, CA

Advising undergraduate engineering students at SDSU to ensure their academic success and ideal college experience.

Laboratory Outreach Lead

Fall 2022 - Present

Water Innovation and Reuse Lab, Society of Women Engineers, SDSU

San Diego, CA

Leading hands-on activities related to wastewater treatment, guiding laboratory tours, and providing insights into ongoing lab projects for high school students and SDSU freshmen, who are interested in STEM fields.

Volunteer Campus Tour Guide

Fall 2022 - Present

MESA Program, SDSU

San Diego, CA

Introducing students from a Title I High School to SDSU campus and the wealth of resources the university offers.

Trash Clean-up Organizer

2022 - 2023

Independent Trash Clean-Ups

San Diego, CA

Organized local trash clean-up events aimed at gathering, documenting, and appropriately disposing of debris near SDSU campus.

Research Archivist

Fall 2022

CleanEarth4Kids.org

San Diego, CA

Organized nonprofit's library of experts' research on PFAS in synthetic turf for convenient referencing and created a video outline for public information campaigns.

PROFESSIONAL SOCIETIES /ORGANIZATIONS

American Water Works Association

2023 - Present

Society of Women Engineers

2022 - Present

Women in Engineering/Femineer Program

2020 - 2021

LANGUAGES

English - highly proficient in both spoken and written English

Russian - native language

Spanish - working proficiency in both spoken and written Spanish

REFERENCES

Natalie Mladenov, PhD

Director of Water Innovation and Reuse Lab

Email: nmladenov@sdsu.edu

College of Engineering, E407

San Diego State University

San Diego, CA 92182

Catherine Atkins, PhD

Principal Investigator/Director of MARC Program

Email: catkins@sdsu.edu

College of Sciences, GMCS 604-H

San Diego State University

San Diego, CA 92182