
EDUCATION

The Pennsylvania State University PhD Student, Chemical Engineering Advisor: Dr. Enrique Gomez	2017 - Present
The Pennsylvania State University Bachelor of Science, Chemical Engineering Schreyer Honors College Cum Laude with Honors in Chemical Engineering	2013 - 2017

ACADEMIC EXPERIENCE**Graduate Projects**

- Morphological characterization of reverse osmosis and nanofiltration membranes
- Development of hypochlorite-resistant reverse osmosis membranes
- Catalytic membranes for degradation of emerging contaminants during wastewater recycling while eliminating concentration polarization

Undergraduate Projects

- Modified catalytic membranes for combatting fouling and concentration polarization with reactive micromixing
- Efforts to achieve displacement of established biofilms from membrane surfaces via an engineered biofilm [Undergraduate Honors Thesis, [Link](#)]
- Mitigation of biofouling in crossflow reverse osmosis via an engineered biofilm

INDUSTRIAL EXPERIENCE

Dow Water & Process Solutions (Edina, MN) Visiting Scholar	Nov. 5, 2018 - Mar. 30, 2019
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AWARDS & HONORS

- Semi-Finalist, AbbVie Immunology Scholarship, 2019
- Third Prize, Best Poster Competition, Membranes: Materials & Processes, Gordon Research Seminar, New London, NH, USA, Aug. 2018.
- Discussion Leader, Membranes: Materials & Processes, Gordon Research Seminar, New London, NH, USA, Aug. 2018.
- NWRI-AMTA Fellowship for Membrane Technology, 2018 - 2020
- Honorable Mention, NSF GRFP, 2018
- PPG Undergraduate Research Fellowship, 2016

PUBLICATIONS

1. Culp, T.E., Shen Y-x, **Geitner, M.**, Paul, M., Roy, A., Behr, M., Rosenberg, S., Gu, J., Kumar, M., Gomez, E.D. Electron tomography reveals details of the internal microstructure of desalination membranes. *Proceedings of the National Academy of Sciences*. 115, 8694-8699 (2018). [[Link](#)]

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2. Guha, R., Xiong, B., **Geitner, M.**, Moore, T., Wood, T. K., Velegol, D., Kumar, M. Reactive micromixing eliminates fouling and concentration polarization in reverse osmosis membranes. *Journal of Membrane Science*. 542, 8-17 (2017). [[Link](#)]
 3. Wood, T. L., Guha, R., Tang, L., **Geitner, M.**, Kumar, M., Wood, T. K. Living biofouling-resistant membranes as a model for the beneficial use of engineered biofilms. *Proceedings of the National Academy of Sciences*. 113, E2802-E2811 (2016). [[Link](#)]

INVITED PRESENTATIONS

1. **Geitner, M.**, Christian, S., Conte, E., Koninckx, E., Sharma, S., Sorondo, E., Lang, C., Saboe, P., Johnsen, A., Kumar, M. Bioinspired hypochlorite-resistant reverse osmosis membranes. AMTA Technology Transfer Workshop (Board Meeting), State College, PA, USA, Oct. 2018 (Oral).

CONFERENCE PRESENTATIONS & POSTERS

1. **Geitner, M.**, Christian, S., Conte, E., Koninckx, E., Sharma, S., Sorondo, E., Lang, C., Saboe, P., Johnsen, A., Kumar, M. Bioinspired hypochlorite-resistant reverse osmosis membranes. 2019 Membrane Technology Conference & Exposition, New Orleans, LA, USA, Feb. 2019 (Oral).
2. **Geitner, M.**, Son, M., Xiong, B., Yang, W., Christian, S., Sharma, S., Sorondo, E., Velegol, D., Logan, B. E., Kumar, M. Reactive membranes for the degradation of emerging wastewater contaminants. 2018 AIChE Annual Meeting, Pittsburgh, PA, USA, Oct. 2018 (Oral).
3. **Geitner, M.**, Son, M., Xiong, B., Yang, W., Christian, S., Sharma, S., Sorondo, E., Velegol, D., Logan, B. E., Kumar, M. Reactive membranes for the degradation of emerging wastewater contaminants. Membranes: Materials & Processes, Gordon Research Seminar & Conference, New London, NH, USA, Aug. 2018 (Poster).

TEACHING & MENTORSHIP ACTIVITIES

Teaching Assistant, Bioseparations (2018)

- Responsible for holding office hours, exam reviews, and teaching several lectures

Co-Director and Volunteer, Science-U Water Heroes! Camp at Penn State (2017 - 2018)

- Co-Director (with Brad Newlin) in 2018, 27 K-12 campers in attendance
- Participated as a volunteer instructor in 2017, responsible for reverse osmosis demonstration and assisting students with experiments and activities

Mentor for REU Undergraduate Students (2016 - Present)

- Trained and oversaw 5 REU students at Penn State beginning during my undergraduate career
- Coordinated annual REU student outreach booth at Penn State during The Central Pennsylvania Festival of the Arts Children and Youth Day (2017 – 2018); co-coordinated with Ashley Masucci (2019)

PROFESSIONAL MEMBERSHIPS, SERVICE & ACTIVITIES

American Institute of Chemical Engineers, Member (2018 - Present)

American Membrane Technology Association, Member (2018 - Present)

Central Region Emergency Strike Team (2018 - Present)

Volunteer search and rescue technician; National Association for Search and Rescue certified SARTech II

Safety Representative (2017 - 2019), Kumar Research Group, Department of Chemical Engineering, The Pennsylvania State University

ClearWater Conservancy Volunteer (2017 - Present)

Assist with fundraising events and as a group leader at watershed cleanup events