

Salwan Butrus

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EDUCATION

- University of California, Berkeley, CA** **August 2019-Present**
Ph.D. Chemical and Biomolecular Engineering
Designated Emphasis in Computational Biology
- University of Michigan, Ann Arbor, MI** **September 2015-April 2019**
B.S.E. Chemical Engineering, *Summa Cum Laude*

AWARDS AND HONORS

Individual

- NSF Graduate Research Fellowship (2019)
- 1st place, ChE UG Research Poster Competition. Ann Arbor, MI (2019)
- Sinnott Prize, Outstanding ChE Senior for academics and leadership. Ann Arbor, MI (2019)
- 1st place, Oral Presentation in Biomaterials. GCURS. Houston, TX (2018)
- 2nd place, AIChE Undergraduate Poster Competition. Pittsburgh, PA (2018)
- Facilitator of the Year, Organic Chemistry II, Science Learning Center. Ann Arbor, MI (2018) ([Student testimonials](#))
- 2nd Place, EBICS Conference Poster Competition. Atlanta, GA (2017)
- 1st place, UROP Summer Symposium Poster Competition. Ann Arbor, MI (2016)

Team

- 1st Place Award, The Landes Contest in Technical Communication, Best ChE 488/489 Final Report, Poster, and Presentation. Ann Arbor, MI (2019)
- 1st Place Award, Best All-Around ChE 342 Project. Ann Arbor, MI (2018)
- 1st Place Award, Best All-Around ChE 230 Project. Ann Arbor, MI (2016)

RESEARCH EXPERIENCE

- University of California, Berkeley | Shekhar Lab** **October 2019-Present**
Graduate Student Researcher
Mentoring an undergraduate student, Srikant Sagireddy (March 2020- Present)
- University of California, Berkeley | Landry Lab** **May-August 2018**
Amgen Scholar
- Massachusetts Institute of Technology | Hammond Lab** **June-August 2017**
EBICS REU Intern
- University of Michigan Biointerfaces Institute | Lahann Lab** **September 2016-October 2018**
Undergraduate Researcher

PUBLICATIONS

- 1) Kölsch, Y., Hahn, J., Sappington, A., Stemmer, M., Fernandes, A.M., Helmbrecht, T.O., Lele, S., **Butrus, S.**, Laurell, E., Arnold, I., Shekhar, K., Sanes, J.R., Baier, H. Molecular classification of zebrafish retinal ganglion cells links genes to cell types to behavior. *Accepted at Neuron.*
- 2) **Butrus, S.**, Greenman, K., Kopyeva, I., Khera, Eshita., Nishii, A. An Undergraduate-Led, Research-Based Course that Complements a Traditional Chemical Engineering Curriculum. *Chemical Engineering Education* (2020) 54, 2; pp. 97-106.
- 3) Wang, J.W., Grandio, E.G., Newkirk, G.M., Demirer, G.S., **Butrus, S.**, Giraldo, J.P., Landry, M.P. Nanoparticle-mediated genetic engineering of plants. *Molecular Plant* (2019) 12; pp. 1037-1040.

SELECTED PRESENTATIONS

- 1) **Butrus, S.**, Shekhar, K. *Single-Cell Transcriptional Dynamics of Retinal Ganglion Cell Diversification*. 2020 AIChE Meeting.
- 2) **Butrus, S.**, Demirer, G., Goh, N., Zhang, H., Cunningham, F., Landry, M. *Development and Characterization of Gold Nanoparticles for Plant Genetic Engineering*
 - **Oral:** UC Berkeley Amgen Scholars Program Symposium, Berkeley, CA (2018); ABRCMS Annual Meeting, Indianapolis, IN (2018); GCURS Rice University, Houston, TX (2018)
 - **Poster:** UC Berkeley Amgen Scholars Program Symposium, Berkeley, CA (2018); BMES Annual Meeting, Atlanta, GA (2018); AIChE Annual Meeting, Pittsburgh, PA (2018)
- 3) **Butrus, S.**, Geiger, B., Grodzinsky, A.J., Hammond, P.T., *Tuning Size and Charge of a Multivalent Polymer Library for Enhanced Drug Delivery to Cartilage*
 - **Oral:** AIChE Annual Conference, Minneapolis, MN (2017)
 - **Poster:** MIT Summer Research Programs Annual Poster Session, Cambridge, MA (2017); EBICS Annual Conference, Atlanta, GA (2017); BMES Annual Conference, Phoenix, AZ (2017); NanoDDS Annual Meeting, Ann Arbor, MI (2017)

TEACHING EXPERIENCE

UC Berkeley Chemical and Biomolecular Engineering Department | *Graduate Student Instructor*
ChemEng 142: Chemical Kinetics and Reaction Engineering **August 2019-December 2019**

University of Michigan Chemical Engineering Department | *Teaching Assistant*
ChE 496: Introduction to Experimental and Computational Research in ChE **March 2018-May 2019**
ChE 344: Reactor Design and Engineering **September 2018-May 2019**

University of Michigan Science Learning Center **January 2017-May 2019**
Organic Chemistry II Course Leader
Organic Chemistry II Study Group Facilitator (4.9/5 rating, 86 students)

SERVICE EXPERIENCE

Undergraduate Research Symposium Committee | *Founder* **November 2018-May 2019**

- Assembled a team of 8 undergraduate peers to organize the first campus-wide undergraduate research symposium at the University of Michigan
- Fundraised over \$12,000 from 16 entities on campus to support an event of 150 presenters and 100 judges

Camp Kesem | *Camp Counselor and Unit Leader* **July 2016-August 2019**

- Fundraised \$500 annually to send children whose families are affected by cancer to a free, one-week summer camp; maintained the health and well-being of several children and counselors throughout a week of camp activities

ChemE Undergraduate Program Committee | *Member* **October 2017-May 2019**

- Discussed and voted on improvements to the ChemE program and funding requests for students and organizations

University of Michigan Student Life Housing **August 2017-May 2018**

Residential Advisor, First Generation Student Theme Community

- Designed weekly social and educational activities to foster an inclusive and cohesive community of residents; advised residents on academic, personal, and professional matters