

K. GRACE JOHNSON

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Education

- Stanford University** — Stanford, CA 2017 - Present
Ph.D. in Theoretical Chemistry
- Loyola Marymount University** — Los Angeles, CA 2013 - 2017
Degree: B.S. in Biochemistry, Summa Cum Laude
Minor: Applied Mathematics
University Honors Program
Major/Minor GPA: 4.00 Overall GPA: 3.99

Research Experience

- Stanford University, Department of Chemistry** — Stanford, CA Aug 2017 - Present
Graduate Research Assistant (Quantum chemistry on GPUs, biological light harvesting)
Advisor: Prof. Todd Martinez
- Loyola Marymount University, Dpt of Chemistry and Biochemistry** — Los Angeles, CA Jan 2016 - May 2017
Undergraduate Research Assistant (Computational chemistry of photoelectrochemical surfaces)
Advisor: Prof. Emily Jarvis
- Loyola Marymount University, Dpts of Mathematics and Biology** — Los Angeles, CA Jan 2015 - May 2016
Undergraduate Research Assistant (Computational models of gene regulatory network dynamics)
Advisors: Prof. Kam Dahlquist and Prof. Ben Fitzpatrick

Scholarships and Fellowships

- Department of Energy Computational Science Graduate Fellowship** — USA 2018-2022
- Stanford Graduate Fellowship in Science and Engineering** — Stanford, CA 2017-2020
- Loyola Marymount University Trustee Scholar** — Los Angeles, CA 2013-2017
- Seaver College of Science and Engineering Summer Fellowship** — Los Angeles, CA 2016
- University Honors Program Summer Research Fellowship** — Los Angeles, CA 2015
- Energy Solutions Foundation Scholar** — Salt Lake City, UT 2011

Publications and Presentations

- Vykhodets, V. B.; Johnson, K. G.; Kurennykh, T. E.; Beketov, I. V.; Samatov, O. M.; Medvedev, A. I.; Jarvis, E. A. Direct Observation of Tunable Surface Structure and Reactivity in TiO₂ Nanopowders. *Surface Science* 2017, 665, 10-19.
- Northern California Theoretical Chemistry Meeting** — Berkeley, CA May 2019
Stefan Seritan, K. Grace Johnson, Edward G. Hohenstein, Keiran Thompson, and Todd J. Martinez, *Frameworks for distributing a GPU-accelerated ab initio exciton model*
- West Coast Theoretical Chemistry Symposium** — Stanford, CA April 2018
K. Grace Johnson and Todd J. Martinez, *Elucidating excitation energy transport in LHCII using a GPU-accelerated ab initio exciton model*
- American Chemical Society National Meeting** — San Francisco, CA Spring 2017
K. Grace Johnson and Emily A. Jarvis, *Photocatalytic and electronic implications from first principles characterization of oxygen depletion localized on TiO₂ brookite nanoparticle surfaces*
- Southern California Conferences for Undergraduate Research** — UC Riverside, CA Fall 2016
K. Grace Johnson and Emily A. Jarvis, *Oxygen depletion on TiO₂ brookite nanoparticle surfaces and implications for photocatalysis and solar energy conversion*
- American Society for Biochemistry and Molecular Biology Annual Conference** — San Diego, CA Spring 2016

K. Grace Johnson, Natalie E. Williams, Ben G. Fitzpatrick, and Kam D. Dahlquist, *Modeling the dynamics of a 21-gene, 50-edge gene regulatory network controlling the transcriptional response to cold shock in Saccharomyces cerevisiae using GRNmap*

West Coast Biological Sciences Undergraduate Research Conference — San Diego, CA Spring 2015
K. Grace Johnson, Natalie E. Williams, Kam D. Dahlquist, and Ben G. Fitzpatrick, *Comparing the dynamics of the cold shock gene regulatory network in yeast with a random network*

Awards and Honors

Outstanding Undergraduate Research and poster presentation, ACS COMP — San Francisco, CA 2017
Program Scholar Award, Biochemistry — Loyola Marymount University, CA 2017
Presidential Citation — Loyola Marymount University, CA 2017
Alpha Sigma Nu, Jesuit Honors Society — Loyola Marymount University, CA 2016
ACS Division of Physical Chemistry Award — Loyola Marymount University, CA 2016
LMYOU Campaign Honoree — Loyola Marymount University, CA 2016
PolyEd Undergraduate Award in Organic Chemistry — Loyola Marymount University, CA 2015
National Collegiate Honors Conference Representative — Loyola Marymount University, CA 2015
CRC Press Annual Freshman Chemistry Achievement Award — Loyola Marymount University, CA 2014

Technical Skills

Primary Programming Languages: C++, Python
Computer Skills: bash terminal, Linux

Teaching Experience

Teaching Assistant for Advanced Biochemistry — Department of Chemistry, Stanford University Spring 2018
Discussion section head

General Chemistry Tutor — Academic Resource Center, LMU 2014 - 2017
Reviewed course and lab material, successfully demonstrated problem solving and studying habits, encouraged student curiosity and self-reliance for improved performance in General Chemistry courses at Loyola Marymount University.

Teaching Assistant for Physical Chemistry — Dpt of Chemistry and Biochemistry, LMU 2016 - 2017
Prepared laboratory experiments, facilitated group discussion, aided in students' exploration and understanding of concepts in physical chemistry, and provided feedback on lab reports that strengthened students' scientific writing style.