Shane W. Flynn

University of California, Irvine
Department of Chemistry
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Education

Ph.D Chemistry (Anticipated 2021) 2017-Present
Advisor: Vladimir Mandelshtam
University of California, Irvine

M.S. Chemistry 2015-2017
Advisor: William A. Goddard (III)
California Institute of Technology, Pasadena

B.S. Chemistry (Honors), B.S. Biology (Honors), Minor Mathematics 2010-2015
University Honors College Graduate
University of Massachusetts, Boston

Publications

Shane W. Flynn, Vladimir A. Mandelshtam, "Molecular spectra calculations using an optimized quasi-regular Gaussian basis and the collocation method." *In Prep.* **2021**

Shane W. Flynn, Vladimir A. Mandelshtam, "Sampling general distributions with quasi-regular grids: Application to the vibrational spectra calculations" *J. Chem. Phys. Comm.* **2019** 151(24) p.241105

Jonathan Nichols, **Shane W. Flynn**, Jason R. Green, "Order and disorder in irreversible decay processes" *J. Chem. Phys.* **2015** 142(6) p. 064113

Shane W. Flynn, Helen C. Zhao, Jason R. Green, "Measuring Disorder in irreversible decay processes" *J. Chem. Phys.* **2014** 141(10) p. 104107.

Experience

Data Scientist Intern 2021-Present
Aioi Insurance Services USA
Machine learning, deep learning, computer vision, risk modeling.

Graduate Researcher, Chemistry 2017-Present
University of California, Irvine
Advisor: Vladimir Mandelshtam
Research: Numerical Methods; Quantum Statistical Mechanics.

Graduate Researcher, Chemistry 2015-2017
California Institute of Technology, Pasadena
Advisor: William A. Goddard (III)
Research: Soft Condensed Matter; Simulations and Method development for analyzing Polymer and Protein Dynamics.

Undergraduate Researcher, Chemistry 2013-2015
University of Massachusetts, Boston
Advisor: Jason R. Green
Research: Complex Kinetics from the perspective of Non-Equilibrium Mechanics and Information Theory.

Undergraduate Researcher, Biology 2010-2015
University of Massachusetts, Boston
Advisor: Steve Ackerman
Research: Transcription Factors and Immune Response in Arabidopsis Thaliana.

Research Presentations (Select)

Shane W. Flynn, Vladimir A. Mandelshtam, "Sampling general distributions with quasi-regular grids: Application to the vibrational spectra calculations", July **2020**, "Virtual Conference on Theoretical Chemistry", Stanford University.

Shane W. Flynn, William A. Goddard (III), "Thermodynamic Characterization of Polymer Electrolytes", May **2016**, "Caltech. Graduate Research Conference.", California Institute of Technology.

Shane W. Flynn, Jason R. Green, "Molecular Populations", April **2015**, "Northeast Student Chemistry Research Conference, sponsored by the Northeastern Section of the Younger Chemist Committee", Tufts University.

Shane W. Flynn, Helen C. Zhao, Jason R. Green, "Information in a rate coefficient: When are rate coefficients constant?", July **2014**, American Conference in Theoretical Chemistry, Telluride, CO.

Teaching Experience (Select)

Teaching Assistant 2020
University of California, Irvine
Course: Mathematical Methods in Chemistry (Graduate Level,Ch.237)

Teaching Assistant 2018, 2019
University of California, Irvine
Course: Thermodynamics and Introduction to Statistical Mechanics (Graduate Level,Ch.232A)

Teaching Assistant 2016
California Institute of Technology, Pasadena
Course: Nature of the Chemical Bond (Graduate Level, Ch.120A)

Teaching Assistant 2016
California Institute of Technology, Pasadena
Course: General Chemistry (Undergraduate Level, Ch.1B)

Teaching Assistant 2015-2016
California Institute of Technology, Pasadena
Course: Experimental Methods in Solar Energy Conversion (Undergradate Level Ch.3x)

Undergraduate Teaching Assistant 2014
University of Massachusetts, Boston
Course: Linear Algebra (Undergraduate Level, Ma.260)

Undergraduate Teaching Assistant 2012-2013
University of Massachusetts, Boston
Course: Molecular Biology (Undergraduate Level, Bio.370)

Undergraduate Teaching Assistant 2013-2015
Courses: Chemical Principles (Undergraduate Level, Ch.115,116)

Awards and Honors (Select)

Outstanding Graduate Student Presentation
Virtual Conference on Theoretical Chemistry
Stanford University, Stanford 2020

Annual Award in Theoretical Chemistry
Hypercube Modeling Software
University of Massachusetts, Boston 2015

Annual Award in Physical Chemistry
Department of Chemistry,
University of Massachusetts, Boston 2014

Annual Research Grant Competition for Undergraduate Students
The Office of the Provost, Vice Chancellor for Academic Affairs, ($933)
University Honors Program, University of Massachusetts, Boston 2013-2014

Annual Research Grant Competition for Undergraduate Students
The Office of the Provost, Vice Chancellor for Academic Affairs, ($500)
University Honors Program, University of Massachusetts, Boston 2011-2012

Chancellor's Scholarship for Excellence
Full Tuition and Fees
University Honors Program, University of Massachusetts, Boston 2010-2015