

D. Vale Cofer-Shabica

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CURRENT POSITION

Brown University Department of Chemistry	Providence, RI
Graduate Student, Ph.D. Theoretical Physical Chemistry	2012–Present

EDUCATION & TRAINING

Brown University , H. W. Sheridan Center for Teaching and Learning	Providence, RI
Certificate program, <i>Reflective Teaching</i>	2013–2014
Brown University	Providence, RI
Ph.D. Physical Chemistry (expected 2018)	2012–Present
Brown University	Providence, RI
Sc.B. Chemical Physics	2005–2009

RESEARCH

Brown University, Chemistry	Providence, RI
Graduate Researcher; Advisor: Richard Stratt	2013–Present
<i>Geodesic description of the inherent dynamics of the roaming mechanism in formaldehyde.</i>	
Brown University, Chemistry	Providence, RI
Research Associate; Advisor: Peter Weber	2011–2013
<i>Rydberg photo-electron spectroscopy and pump-probe x-ray diffraction of 1,3-cyclohexadiene.</i>	
Brown University, Chemistry	Providence, RI
Undergraduate Researcher; Advisor: Richard Stratt	2008–2009
<i>Direct simulation of the diffusion-percolation transition in the 2D Lorentz gas.</i>	
Brown University, Engineering & Ecology and Evolutionary Biology	Providence, RI
Undergraduate Researcher; Advisors: Sharon Schwartz, Kenny Breuer	2006–2008
<i>Bio-mechanics of mammalian flight in fruit bats and flying squirrels.</i>	

AWARDS

Elaine Chase Award for Leadership and Service	2017
Brown University Department of Chemistry, Providence RI	
Teaching Fellow	2013–2015
Brown University Department of Chemistry, Providence RI	
William T. King Prize for Teaching	2014
Brown University Department of Chemistry, Providence RI	
Thinker In Residence	2010
Academic Magnet High School, Charleston, SC	

Undergraduate Teaching and Research Award 2008
Brown University, Providence RI

SERVICE

Diversity and inclusion Action Committee 2016–Present
Brown University Department of Chemistry

WE Teach STEM Discussion Group 2015–Present
About teaching by, for, and as women in STEM fields, Brown University

Stand Up for Graduate Student Employees 2013–2017
Graduate Student Union Organizer, Brown University

Exhibition Night Judge 2013–Present
Blackstone Academy High School, Pawtucket, RI

Graduate Student Recruitment 2012–2017
Brown University Department of Chemistry

TEACHING

Brown University Providence, RI
Problem Session Facilitator, Equilibrium, Rate, and Structure 2014, 2015
Problem Session Facilitator, Introductory Chemistry 2013, 2014
Tutorial Assistant, Equilibrium, Rate, and Structure 2013
Laboratory Teaching Assistant, Equilibrium, Rate, and Structure 2012

Kaplan Tutoring Services Barrington, RI
Science, Math, & Language Tutor 2008–Present

Blackstone Academy Charter School Pawtucket, RI
Full-Time High School Math Teacher 2010–2011

The Metropolitan Regional Career and Technical Center Providence, RI
Full-Time High School Math Teacher 2009–2010

Camp Ho Non Wah, BSA Wadmalaw Island, SC
Various positions incl. Program Director, Ecology Director 2001–2006

PUBLICATIONS & POSTERS

D. Vale Cofer-Shabica and Richard M. Stratt. What is special about how roaming chemical reactions traverse their potential surfaces? Differences in geodesic paths between roaming and non-roaming events. *The Journal of Chemical Physics*, 146(21):214303, 2017. doi:10.1063/1.4984617.

J. M. Budarz, M. P. Minitti, **D. V. Cofer-Shabica**, B. Stankus, A. Kirrander, J. B. Hastings, and P. M. Weber. Observation of femtosecond molecular dynamics via pump-probe gas phase

x-ray scattering. *Journal of Physics B: Atomic Molecular and Optical Physics*, 49(3), 2016. doi:10.1088/0953-4075/49/3/034001.

D. Vale Cofer-Shabica and Richard M. Stratt. The geometries of potential energy landscapes imply dynamical signatures for roaming reactions. Boston, MA, 2015. American Chemical Society, 250th National Meeting. PHYS 554.

Michael P. Minitti, James M. Budarz, Adam Kirrander, Joseph Robinson, Thomas J. Lane, Daniel Ratner, Kenichiro Saita, Thomas Northey, Brian Stankus, **Vale Cofer-Shabica**, Jerome Hastings, and Peter M. Weber. Toward structural femtosecond chemical dynamics: Imaging chemistry in space and time. *Faraday Discussions*, 171:81–91, 2014. doi:10.1039/c4fd00030g.

TALKS - INVITED

D. Vale Cofer-Shabica. Wandering molecules. Providence, RI, 2014. Brown University, Research Matters. <https://www.youtube.com/watch?v=X3xyMP9EAco>.

D. Vale Cofer-Shabica. Finding your way through service. Charleston, SC, 2010. Academic Magnet High School, Commencement Address.

TALKS - SUBMITTED

D. Vale Cofer-Shabica. What is special about how roaming chemical reactions traverse their potential surfaces? differences in geodesic paths between roaming and non-roaming events. Providence, RI, March 2017. Brown University, Physical Chemistry Tea Session.

D. Vale Cofer-Shabica. Global energy landscape perspectives on roaming: Geodesics paths on the formaldehyde photodissociation landscape. Providence, RI, February 2016. Brown University, Physical Chemistry Tea Session.

D. Vale Cofer-Shabica. Roaming formaldehyde photodissociation: Shining a light on a novel reaction mechanism with geodesics. Providence, RI, January 2015. Brown University, Physical Chemistry Tea Session.

D. Vale Cofer-Shabica. Roaming formaldehyde photodissociation: Novel reaction mechanism explained by geodesics? Providence, RI, December 2013. Brown University, Physical Chemistry Tea Session.

AFFILIATIONS

Member of the *American Chemical Society*

2015–Present