D. Vale Cofer-Shabica, Ph.D.

vale.cofershabica@gmail.com * 843.870.0226 * valecs.github.io

139 9th Street, Providence, RI 02906

Appointments

Brown University Department of Chemistry — Providence, RI
Visiting Scientist — 2018–*Present*

Education & Training

Brown University — Providence, RI
Ph.D. Physical Chemistry — 2012–2018
Potential landscape perspectives on roaming: Insights on formaldehyde from geodesic paths

Brown University, H. W. Sheridan Center for Teaching and Learning — Providence, RI
Certificate program: *Reflective Teaching* — 2013–2014

Brown University — Providence, RI
Sc.B. Chemical Physics — 2005–2009

Selected Honors & Awards

William R. Potter Prize for Doctoral Thesis of Outstanding Merit — 2018
Brown University Department of Chemistry award for best dissertation

2017 Editors' Choice article: Cofer-Shabica and Stratt [2017] — 2018
Journal of Chemical Physics selection of the most innovative and influential articles of 2017

Elaine Chase Award for Leadership and Service — 2017
Brown University Department of Chemistry award for outstanding student leadership

William T. King Prize for Teaching Excellence — 2014
Brown University Department of Chemistry award for best graduate teaching assistant

Research Matters Speaker, Brown University's 250th anniversary — 2014
Selected in University-wide competition for best graduate student talk for general audiences

Teaching Fellowship — 2013–2015
Brown University Department of Chemistry award for excellence in teaching

Karen T. Romer Undergraduate Teaching and Research Award — 2008
Brown University competitive award to fund undergraduate research

Publications & Posters

D. Vale Cofer-Shabica and Richard M. Stratt. Entropic mediation of roaming chemical reactions: Energy dependence of distributions of geodesic paths and dynamical features in formaldehyde. *In Preparation*, 2019.

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 poster.

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

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. Wandering molecules. Providence, RI, 2014. Brown University, Research Matters. **Invited**.

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

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

TEACHING

Banneker and Aztlán Institute, Harvard University — Cambridge, MA
Instructor: *How to think about programming for astrophysicists* — 2018

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

Blackstone Academy Charter School — Pawtucket, RI
High School Math Teacher: *Calculus, Pre-calculus, Statistics* — 2010–2011

The Metropolitan Regional Career and Technical Center — Providence, RI
High School Math Teacher: *Algebra, Arithmetic* — 2009–2010

Kaplan Tutoring Services Inc. — Barrington, RI
Science, Math, & Language Tutor — 2008–*Present*

Camp Ho Non Wah, BSA — Wadmalaw Island, SC
Various positions including Program Director — 2001–2006

SERVICE

Inclusive Teaching Workshops — 2018–*Present*
Brown University Department of Physics — Spring 2018

Diversity and Inclusion Action Committee — 2016–2018
Brown University Department of Chemistry

WE Teach STEM Discussion Group — 2015–2018
Teaching for and/or 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

AFFILIATIONS

American Physical Society — 2018–*Present*
American Chemical Society — 2015–*Present*

REFERENCES

Dr. Richard M. Stratt, Brown University Newport Rogers Professor in Chemistry
Dissertation advisor, richard_stratt@brown.edu

Dr. Brenda M. Rubenstein, Brown University Assistant Professor of Chemistry
Committee member, brenda_rubenstein@brown.edu

Dr. Matthew B. Zimmt, Brown University Professor of Chemistry
Department chair and teaching supervisor, matthew_zimmt@brown.edu