Asghar Razavi

Curriculum Vitae

Education

2011–present **Doctor of Philosophy**, *Department of Chemistry*, Temple University, Philadelphia, expected graduation: summer 2015.
GPA – 3.96

Advisor Prof. Vincent Voelz

2008–2010 **Master of Science**, *Department of Chemistry*, Sharif University of Technology, Tehran, Iran.
GPA – 3.43

Advisor Prof. Gholamabbas Parsafar

2004–2008 **Bachelor of Science**, *Department of Chemistry*, University of Tabriz, Tabriz, Iran.
GPA – 3.18

Research Experience

Graduate Research Assistant, *Temple University*, Philadelphia.

2012-present Computational: Protein Folding, Membrane Transporters, Markov State Models, Small Molecule Drug Design

Advisor Prof. Vincent Voelz

2011-2012 Experimental: Ultrafast Lasers, Atomic Force Microscopy

Advisor Prof. Eric Borguet

Graduate Research Assistant, *Sharif University of Technology*, Tehran, Iran.

2008-2010 Theoretical: Ionic Liquids, Equations of State

Advisor Prof. Gholamabbas Parsafar

Teaching/Mentoring Experience

Graduate Teaching Assistant, *Temple University*, Philadelphia.

2011-present General Chemistry One

2014 Physical Chemistry of Biomolecules

2013 Physical Chemistry of Biomolecules, Physical Chemistry One

2012 General Chemistry Two

Research Mentor, *Temple University*, Philadelphia.

Institute for Computational Molecular Science, 701B SERC
1925 N. 12 th street Philadelphia, PA 19122
☎ (215) 204 4216 • ✉ asgharr@temple.edu • asgharrazavi.net

2012-2014 Helped new members of the Voelz lab with Molecular Dynamics simulations and analysis techniques including Python programming language and building Markov State Models

Teaching Mentor, *Sharif University of Technology*, Tehran, Iran.

2009 Statistical Thermodynamics

Professional Organizations

2015-present Member of Biophysical Society

2014-present Member of American Chemical Society

Awards

2015 Biophysical Society Educational Committee Travel Award

2015 XSEDE15 Student Program Travel Grant award

2015 Daniel Swern Fellowship for Outstanding Research

Programming Skills

Basic OpenMM

Intermediate LaTeX, Matlab

Advanced Python,Unix

Molecular Dynamics Simulations Skills

- Wide-range use of MD simulation and visualization software such as GROMACS, NAMD, VMD, Chimera, PyMol for small molecules and membrane proteins studies.
- Extensive use of kinetic network models such as Markov State Models for analyzing MD simulations data.
- Familiar with state-of-art simulation techniques such as metadynamics, Free Energy Perturbation, Steered Molecular dynamics for studying membrane proteins.
- Experience with high performance computing platforms such as Stampede (XSEDE), Bluewaters (IBM), Folding@home, Owlsnest (Temple), Hopper/Edison (NERSC).

Journal Publications

Asghar M Razavi, Lucie Delemotte, Vincenzo Carnevale, Vincent A. Voelz: Switching Between Protonation States Strongly Determines Na,K-ATPase Selectivity, To be submitted

Asghar M Razavi, Vincent A Voelz: Kinetic network models of tryptophan mutations in β-hairpins reveal the importance of non-native interactions, *Journal of Chemical Theory and Computation* , Vol. 11, pp 2801-2812, 2015

Vincent A Voelz, Brandon Elmon, **Asghar M Razavi**, Guangfeng Zhou: Surprisal Metrics for Quantifying Perturbed Conformational Dynamics in Markov State Models. *Journal of Chemical Theory and Computation* , Vol. 10, pp 5716-5728, 2014

Asghar M Razavi, William M Wuest, Vincent A Voelz: Computational Screening and Selection of Cyclic Peptide Hairpin Mimetics by Molecular Simulation and Kinetic Network Models. *Journal of Chemical Information and Modeling*, Vol. 54, pp 1425-1432, 2014.

Conference Presentations

Talks

Asghar M Razavi⋆, Lucie Delemotte, Vincenzo Carnevale, Vincent A Voelz: Understanding Ion Selectivity of Na^+,K^+/ATPase by Computational Approach, *Biophysical Society 59th Annual Meeting*, 02/2015

⋆ Recipient of BPS travel award

Posters

Asghar M. Razavi, Heinrich Roder, Vincent A. Voelz : Early Stages of Apomyoglobin Folding Probed by Experiment and H/D Restrained Simulations, *XSEDE15*, 07/2015

Asghar M Razavi, Lucie Delemotte, Vincenzo Carnevale, Vincent A Voelz: Understanding Ion Selectivity of Na^+,K^+/ATPase by Computational Approach, *Mechanisms of Membrane Transport, Gordon Research Conference* , 06/2015

Asghar M Razavi, Lucie Delemotte, Vincenzo Carnevale, Vincent A Voelz: Understanding Ion Selectivity of Na^+,K^+/ATPase by Computational Approach, *Protein Folding Consortium*, 05/2015

Vincent A Voelz, Asghar M Razavi: Using Kinetic Network Models to Understand Folding Mechanisms of GB1 Hairpin and its Trpzip Variants, *Biophysical Society 59th Annual Meeting*, 02/2015

Asghar M Razavi, William M Wuest, Vincent A Voelz: Computational Screening and Selection of Cyclic Peptide Hairpin Mimetics by Molecular Simulation and Kinetic Network Models, *248th ACS National Meeting* 08/2014

M. H. Dinpajooh, A. Razavi Majarashin, and G. A. Parsafar: Equation of State of Nanoscale Solids and Macroscopic Solids, *5th Iranian Nanotechnology Conference* 07/2009

Invited Talks

Understanding Folding Landscapes Using the tICA Approach, Temple University, Philadelphia 04/2014

Markov State Models and Their Applications in Protein Folding, Temple University, Philadelphia 04/2013

Distillation and Vaporization Mechanisms of Ionic Liquids, Sharif University of Technology, Tehran, Iran 05/2009

Languages

Azeri **Mother language**

English **Fluent**

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☎ *(215) 204 4216* • ✉ *asgharr@temple.edu* • *asgharrazavi.net*

Farsi **Fluent**

References

Prof. Vincent Voelz

130 Beury Hall, Department of Chemistry, Temple University

Phone 215-204-1973

Email voelz@temple.edu

Prof. Vincenzo Carnevale

704C SERC, Institute for Computational Molecular Science, Temple University

Phone 215-204-4214

Email vcarneva@temple.edu

Prof. Joshua Berlin

Department of Pharmacology and Physiology, New Jersey Medical School, Rutgers University

Phone 973-972-1618

Email josh.berlin@rutgers.edu