TRAVIS AARON HOPPE

Curriculum Vitæ
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PhD Physics
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education

2014-current **Postdoctoral**
Theoretical Biophysics with Robert Best at the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), part of the National Institutes of Health (NIH).

2011-2014 **Postdoctoral**
Physical Biochemistry with Allen Minton at the NIH, NIDDK.

2011 **Doctor of Philosophy**
Physics, Drexel University with Jian-Min Yuan. Thesis, *On the Role of Entropy in the Protein Folding Process*.

2008 **Master of Science**
Physics, Drexel University

2005 **Bachelor of Science**
Physics, University of Nevada

2005 **Bachelor of Science**
Mathematics, University of Nevada

publications

Protein-Protein Interaction

2015 **Dependence of Internal Friction on Folding Mechanism**, *Wenwei Zheng, David De Sancho, Travis Hoppe & Robert B. Best*, Journal of the American Chemical Society.

2015 **An Equilibrium Model for the Combined Effect of Macromolecular Crowding and Surface Adsorption on the Formation of Linear Protein Fibrils**, *Travis Hoppe, Allen Minton*, Biophysical Journal.

2013 **A Simplified Representation of Anisotropic Charge Distributions in Proteins**, *Travis Hoppe*, Journal of Chemical Physics.

2013 **Singular Value Decomposition of the Radial Distribution Function for Hard Sphere and Square Well Potentials**, *Travis Hoppe*, PLoS ONE.

2010 **Protein Folding with Implicit Crowders: A Study of Conformational States Using the Wang-Landau Method**, *Travis Hoppe, Jian-Min Yuan*, Journal of Physical Chemistry B.

Protein Topology & Graph theory

2014 **Integer Sequence Discovery from Small Graphs**, *Travis Hoppe, Anna Petrone*, arXiv.

2009 **Entropic Flows, Crowding Effects, and Stability of Asymmetric Proteins**, *Travis Hoppe, Jian-Min Yuan*, Physical Review E.

Experimental Modeling

2014 **Programmable Nanoscaffolds that Control Ligand Display to a G-Protein Coupled-Receptor in Membranes allow Dissection of Multivalent Effects**, *Andrew Dix, Daniel Appella, Travis Hoppe, et al.*, Journal of the American Chemical Society.

2014 **Quantification of Plasma HIV RNA Using Chemically Engineered Peptide Nucleic Acids**, *Chao Zhao, Daniel Appella, Travis Hoppe, et al.*, Nature Communications.

2008 **The Importance of EBIT Data for Z-Pinch Plasma Diagnostics**, *A S Safronova, Travis Hoppe, et al.*, Canadian Journal of Physics.

2006 **Spectroscopic and Imaging Study of Combined W and Mo-Pinches at 1 MA-Pinch Generators**, *Alla Safronova, Travis Hoppe, et al.*, IEEE Transactions on Plasma Science.

research in progress

Enhancing the Coevolutionary Signal, *Travis Hoppe, Robert Best*.

Stabilizing Membrane Proteins from Thermophilic Evolution, *Travis Hoppe, Robert Best*.

Enchanting the Coevolutionary Signal, *Travis Hoppe, Robert Best*.

Effect of Charge Anisotropy and the Theoretical Prediction of Phase Separation of Ionic Solutions, *Travis Hoppe, Allen Minton*.

Rise of the Coauthor: Editorial on the Systematic Trends of Coauthorship, *Travis Hoppe, Daniel Appella*.

Entropic Microscopes of PNA on Membranes, *Travis Hoppe, Daniel Appella*.

Dual-Graph Representation of RNA Structure, *Travis Hoppe, Tamar Schlick*.

conferences

2016 **Biophysical Society: LosAngeles**
Poster: Coevolutionary signal enhancement

2015 **Biophysical Society: Baltimore**
Seminar: Mean-field lattice-model IDPs, Binding Affinity & Specificity

2014 **Advances in Enhanced Sampling Algorithms: Telluride**
Seminar: Topological considerations in the Wang-Landau algorithm

2013 **Biophysical Society: Philadelphia**
Seminar: Coarse-grained Electrostatic Models for Protein Solutions

2010 **Biophysical Society: San Francisco**
Poster: Wang-Landau Density of States in Crowded Protein Environments

2009 **Drexel University Libraries' Communication Symposium: The Hidden Costs of Scholarly Communication**
Invited Panel Member

2009 **Biophysical Society: Boston**
Poster: Exhaustive Properties of Simple Lattice Peptides

teaching (drexel)

2011 **PHYS 305**, Computational Physics II*

2010 **PHYS 304**, Computational Physics I*

PHYS 160, Introduction to Scientific Computing*

PHYS 305, Computational Physics II*

2009 **PHYS 304**, Computational Physics I*

PHYS 160, Introduction to Scientific Computing*

DSP 099, Dragon Summer Program: Remedial Mathematics

PHYS 100, Preparation for Engineering Studies

PHYS 305, Computational Physics II*

2008 **PHYS 304**, Computational Physics I*

PHYS 102, Fundamentals of Physics II*

PHYS 115, Contemporary Physics III*

PHYS 114, Contemporary Physics II*

2007 **PHYS 113**, Contemporary Physics I*

PHYS 102, Fundamentals of Physics II, Lab

PHYS 115, Contemporary Physics III*

PHYS 114, Contemporary Physics II*

2006 **PHYS 113**, Contemporary Physics I*

TDEC 101, Fundamentals of Physics I, Lab

TDEC 103, Fundamentals of Physics III*

TDEC 102, Fundamentals of Physics II*

2005 **TDEC 101**, Fundamentals of Physics I*

*Developed new curricula and modernized the Computational Physics, Contemporary Physics and Introduction to Scientific Computing courses at Drexel.

awards

2014 **Best Presentation Award**
Institution-wide recognition during the NIDDK Annual Conference.

2010 **Research Assistant Grant**
Competitive grant from Drexel Physics Department on the basis of outstanding research and teaching.

2010 **Student Research Achievement Award (SRAA)**
Top poster (out of 3000*) at the Biophysical Society 2010 meeting.*

2009 **Department Research Award (Senior Division)**
Given by the Drexel Physics Department, this award recognized a high proficiency in both original research and synthesis of results into publications.

2008 **Department Research Award (Junior Division)**
Restricted to the first two years of study, the junior division award was awarded for early achievements in research.

2007 **Teaching Assistant of the Year**

Recognition by Drexel University as the top Teaching Assistant in the College of Arts and Sciences.