

TRAVIS AARON HOPPE

Curriculum Vitæ
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PhD Physics
(775) 287-4033

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

Bachelor of Science, Mathematics

University of Nevada

publications

Bibliometrics

2017

Additional support for RCR: A validated article-level measure of scientific influence, Ian Hutchins, Travis Hoppe, Rebecca Meseroll, James Anderson, & George Santangelo, *PLoS Biology*.

Protein-Protein Interaction

2019

Non-specific Interactions Between Macromolecular Solutes in Concentrated Solution: Physico-Chemical Manifestations and Biochemical Consequences, Travis Hoppe & Allen Minton, *Frontiers in Molecular Biosciences*.

2016

Incorporation of Hard and Soft Protein-Protein Interactions into Models for Crowding Effects in Binary and Ternary Protein Mixtures, Travis Hoppe & Allen Minton, *Journal of the Physical Chemistry B*.

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, *Discrete Applied Mathematics*.
- 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-pinch at 1 MA-pinch Generators**, Alla Safronova, Travis Hoppe, et al., *IEEE Transactions on Plasma Science*.

conferences

- 2016 **Biophysical Society: Los Angeles**
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

awards

- 2017 **Office of the Director's Honor Award**
Outstanding support for the Grants Support Index & Next Generation Research Initiative Analytical Team
- 2014 **Top 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 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**

**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.