

# B. Scott Perrin Jr.

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## Education

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Ph.D., Chemistry, Georgetown University, 2011. Thesis: *Electron Transfer and Assembly of FeS Proteins*

B.S., Chemistry, University of Connecticut, 2005. Thesis: *Computational Modeling of Zinc Binding to Proteins*

## Research Experience

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IRTA Postdoctoral Fellow for Richard Pastor, Membrane Biophysics Section, NHLBI, NIH, 2011 – Present

Research Assistant for Professor Toshiko Ichiye, Department of Chemistry, Georgetown University, 2005 – 2011

Intern for Graham Poindexter, Ph.D., Bristol-Myers Squibb, 2004 – 2005

Undergraduate Researcher for Professor Challa V. Kumar, Department of Chemistry, University of Connecticut, 2003 – 2005

Work-Study Student for Professor Robert Brueggemeier, Division of Medicinal Chemistry and Pharmacognosy, Ohio State University, 2002 – 2003

## Awards & Achievements

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Redox methodology from Ph.D. thesis is implemented in CHARMM Interface and Graphics at [www.charmming.org](http://www.charmming.org)

President, Graduate Student Organization of Chemistry, 2008-2009 Academic Year

Espenscheid Fellowship, Summer 2006

Roland Ward Thesis Award, 2004-2005 Academic Year

CBIA/Pfizer Fellowship for Summer Undergraduate Research, Summer 2004

Raymond Hammond Chemical Engineering Scholarship, 2002-2003 Academic Year

## Publications

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10. B. S. Perrin Jr. and T. Ichiye. *The Reduction Potential in Rubredoxins. In Preparation.*
9. Y. Luo, B. S. Perrin Jr. and T. Ichiye. *Intermolecular Electron Transfer in Ferredoxin: A Continuum Electrostatics Study. In Preparation.*
8. B. S. Perrin Jr. and T. Ichiye. *The Role of a Conserved Aspartic Acid in IscU. In Preparation.*
7. B. S. Perrin Jr. and T. Ichiye. *Effective Radius and Polarization of Redox Proteins. In Preparation.*
6. B. S. Perrin Jr. and T. Ichiye. *Accurate Calculations of [4Fe-4S] Protein Reduction Potentials. In Preparation.*
5. B. S. Perrin Jr., T. Miller, B.R. Brooks, and T. Ichiye. *Redox Calculations in CHARMMing. In Preparation.*
4. B. S. Perrin Jr. and T. Ichiye. *Fold versus Sequence Effects on the Driving Force for Protein Mediated Electron Transfer. Proteins. 2010. 78, 2798-2808.*
3. M.R. Duff, W.B. Tan, A. Bhambhani, B.S. Perrin Jr., J. Thota, A. Rogers, and C.V. Kumar. *Contributions of Hydroxyethyl Groups to the DNA Binding Affinities of Anthracene Probes. J. Phys. Chem., B. 2006. 110, 20693-20701.*
2. N. K. Modukuru, K. J. Snow, B. S. Perrin Jr., J. Thota, and C. V. Kumar. *The Contributions of a Long Side Chain to the Binding Affinity of an Anthracene Derivative to DNA, J. Phys. Chem., B. 2005. 109, 11810-11818.*
1. N. K. Modukuru, K. J. Snow, B. S. Perrin Jr., A. Bhambhani, M. Duff, and C. V. Kumar. *Tuning The DNA Binding Modes of An Anthracene Derivative with Salt, J. Photochem. Photobiol. 2005. 177, 43-54.*

## Societies

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Biophysical Society, Student Member, 2006 – Present

American Chemical Society, Student Member, 2005 – Present

American Chemical Society/SAACS, Student Affiliate, 2004 – 2005

## Workshops

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Q-Chem Workshop; August 2009; Washington, DC

Open Science Grid Workshop; April 2008; Washington, DC

TeraGrid Planning Workshop; August 2007; Chicago, IL

## Presentations

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Iron-sulfur Enzymes Gordon Research Conference; Poster, June 2010

Title: *Characterizing the Protein Environmental Effects on the Reduction Potential*

American Chemical Society Fall 2009 National Meeting; Poster, August 2009

Title: *Protein Adjustment of Redox Properties of [4Fe-4S] Clusters*

Brooks/Pastor Group Meeting at the National Institutes of Health; Talk, December 2008

Title: *Fold vs. Sequence: Nature's Tuning of Fe-S Protein Reduction Potentials*

Iron-sulfur Enzymes Gordon Research Conference; Talk, June 2008

Title: *Fold vs. Sequence: Nature's Tuning of Fe-S Protein Reduction Potentials*

Brooks/Pastor Group Meeting at the National Institutes of Health; Talk, June 2007

Title: *Reduction Potentials of Iron-Sulfur Proteins by Continuum Electrostatics*

Biophysical Society 51<sup>st</sup> Annual Meeting; Poster, March 2007

Title: *Molecular Dynamics Study on the Role of IscA in Iron-Sulfur Cluster Assembly*

Iron-sulfur Enzymes Gordon Research Conference; Poster, June 2006

Title: *Molecular Dynamics Study on the Role of IscA in Iron-Sulfur Cluster Assembly*

American Chemical Society Nation Meeting, Poster, August 2005

Title: *Computational Modeling of Zinc Binding to Proteins*

## Teaching Experience

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Tutor, Organic Chemistry, Fall 2006 – Spring 2009

Teaching Assistant, General Chemistry, 2005/2006 Academic Year

## Technical Skills

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Computational Methods: Continuum Electrostatics, Molecular Dynamics, Semi-empirical Methods, Normal Modes Analysis, some Quantum Mechanics and Protein Docking experience

Software Programs: CHARMM, APBS, CAChe, MOPAC, Gaussian, Q-Chem, ClusPro

Programming Skills: Familiar with FORTRAN, Python, Shell Scripting, C, C++

Web Design Skills: Familiar with Django, Adobe CS4, PHP, JavaScript, MySQL

Operating Systems: Linux, Windows, Mac

Instrumentation: GC-MS, NMR, UV-Vis, Fluorescence Spectroscopy, CD, HPLC