

CURRICULUM VITAE

RICHARD F. SIMMERMAN

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EDUCATION

2011 M.S. Biochemistry and Cellular and Molecular Biology, Graduate School of Arts and Sciences, University of Tennessee at Knoxville.

Advisor: Dr. Barry D. Bruce

Dissertation: Examining the Roles of PsToc75 POTRA Domains in Chloroplast Protein Import

2003 B.S. Biochemistry and Cellular and Molecular Biology, College of Arts and Sciences, University of Tennessee at Knoxville.

PROFESSIONAL EXPERIENCE

2007-Present Graduate Student,
Biochemistry and Cellular and Molecular Biology Department
Laboratory of Dr. Barry D. Bruce
Bioenergy, Protein Chemistry, Molecular Biology

2006-2007 Research Technician,
Biochemistry and Cellular and Molecular Biology Department
Laboratory of Dr. Gladys Alexandre
Molecular Biology, Microbiology

2005-2006 Research Technician,
Biochemistry and Cellular and Molecular Biology Department
Laboratory of Dr. Chris Dealwis
Protein Chemistry, Crystallography

TEACHING AND INSTRUCTIONAL EXPERIENCE

Graduate Teaching Assistant - University of Tennessee at Knoxville

Biology 101, one semester

Biology 102, one semester

Biology 140, three semesters

Botany 111, one semester

BCMB 401, one semester

BCMB 402, one semester

ADVISING AND MENTORING UNDERGRADUATE STUDENTS

Research Mentor for Michelle Brown, BCMB Honors student, 2009-2012

E. coli culture, protein production and purification, Cloning, SDS-PAGE, Western Blot, Transformation, MALDI-TOF, Circular Dichroism, Pull down assay, Protein Crosslinking
Winner of Outstanding undergraduate Poster EURēCA competition
Graduated with Honors Thesis May 2012

Research Mentor for Daniel Dycus, BCMB student, 2010

E. coli culture, protein production and purification
Graduated August 2012
Accepted to Washington State Graduate School 2013

RECOGNITION AND AWARDS

2007-Current	NSF IGERT Fellowship STAIR: Sustainable Technology through Advanced Interdisciplinary Research
2013	Chosen to give oral presentation during 11 th Workshop on Cyanobacteria (among top 20%)
2012	Travel Award Tennessee Plant Research Center
2011	Travel Award Tennessee Plant Research Center
2010	Travel Award Tennessee Plant Research Center Travel Award Biochemistry Cellular and Molecular Biology

POSTERS AND PRESENTATIONS

David R Baker, **Richard F Simmerman**, James J Sumner, Barry D Bruce, Cynthia A Lundgren. (May 2014) 225th Electrochemical Society meeting. Photoelectrochemical Characterization of Photosystem I Encapsulated in Nafion. May 11-15, 2014 Orlando FL.

Richard F Simmerman, Tuo Zhu & Barry D Bruce (August 2013) Engineering Coupling of PSI to Metal-oxide Nanomaterials for Photovoltaic Applications. Poster selected for later oral presentation 11th Workshop on Cyanobacteria. Meeting August 7-11 2013 St. Louis, MO

Richard F Simmerman & Barry D Bruce. Sun-Driven Molecular Electricity Production via Metal- Oxide Coupled Photosystem I. (May 2013) TN:Score Thrust 2 1st Annual Retreat, May 20-21 2013 Montgomery Bell State Park, TN

Richard F Simmerman & Barry D Bruce (January 2013) Engineering Coupling of PSI to Metal-oxide Nanomaterials for Photovoltaic Applications. 22nd Annual Western Photosynthesis Conference. Jan 4-7 2013 Asilomar Conference Grounds, CA

Richard F Simmerman. Electric Bikes: A Shockingly Fun Way to Get Around. (April 2012) Poster for Earth Day outreach.

Richard F Simmerman & Barry D Bruce. Sun-Driven Molecular Electricity Production via Metal- Oxide Coupled Photosystem I. (June 2012) TN-SCORE Annual Conference, June 15-16 2012 Nashville, TN

Richard F Simmerman & Barry D Bruce. Sun-Driven Molecular Electricity Production via Metal- Oxide Coupled Photosystem I. (April 2012) TN:Score Thrust 1 1st Annual Retreat, April 26-28 2012 Montgomery Bell State Park, TN

Richard F Simmerman & Barry D Bruce. (March 2012) Examining Roles of PsToc75 POTRA Domains in Chloroplast Protein Import. Presentation Southern Section American Society of Plant Biologists. Meeting March 3-5 2012 Myrtle Beach, SC

Richard F Simmerman & Barry D. Bruce. Sun-Driven Molecular Electricity Production via Metal- Oxide Coupled Photosystem I. (January 2012) Poster 21st Annual Western Photosynthesis Conference. Jan 5-8 2012 Asilomar Conference Grounds, CA

Michelle E Brown, **Richard F Simmerman** & Barry D Bruce (May 2012), Determining the Role of POTRA2 and POTRA1-3 in Chloroplast Protein Transport, Poster EURēCA competition award winner. Knoxville, TN

Richard F Simmerman, Prakitchai Chotewutmontri, Ashita Dave, Michelle Brown & Barry D Bruce (January 2011), Examining Roles of PsToc75 POTRA Domains in Chloroplast Protein Import, Poster 20th Annual Western Photosynthesis Conference. Jan 6-9 2011 Asilomar Conference Grounds, CA

Michelle E Brown, **Richard F Simmerman** & Barry D Bruce (January 2011), Determining the Role of POTRA2 and POTRA1-3 in Chloroplast Protein Transport, Poster 20th Annual Western Photosynthesis Conference. Jan 6-9 2011 Asilomar Conference Grounds, CA

Richard F Simmerman, Ashita Dave, Praktikichai Chotewutmontri, Michelle Brown & Barry D Bruce (August 2010), Examining the role of psToc75 POTRA domains in chloroplast protein import, Poster Plant Biology 2010, July 31-August 4 2010 Montreal Canada

Richard F Simmerman, Ashita Dave-Wala, Praktikichai Chotewutmontri, & Barry D. Bruce. (August 2009), In vitro analysis of psToc75 POTRA domains oligomeric state. Poster UTK BCMB Retreat

PUBLICATIONS

Richard F. Simmerman, Ashita M. Dave, Michelle E. Brown, Prakitchai Chotewutmontri, and Barry D. Bruce. Characterization of the Roles for POTRA Domains of Toc75 in Chloroplast Protein Import. In preparation.

David R. Baker, **Richard F. Simmerman**, James J. Sumner, Barry D. Bruce, and Cynthia A. Lundgren. Photoelectrochemistry of Photosystem I Bound in Nafion. *Langmuir*. In submission.

Derek J. Cashman, Tuo Zhu, **Richard F. Simmerman**, Cathy Scott, Barry D. Bruce, and Jerome Baudry. Molecular Interactions between Photosystem I and Ferredoxin: An Integrated Energy Frustration and Experimental Model. *J Mol Recognit*. Submitted with revision.

Richard F. Simmerman, Ashita M. Dave, and Barry D. Bruce. (2014) Structure and Function of POTRA Domains of Omp85/TPS Superfamily. *Int Rev Cell Mol Biol*. 308:1-34.

Richard F. Simmerman (2011) Examining the Role of PsToc75 POTRA Domains in Chloroplast Protein Import. (August 2011) Masters Thesis

Brad C. Bennett, Hai Xu, **Richard F. Simmerman**, Richard E. Lee, and Chris G. Dealwis. (2007). Crystal structure of the anthrax drug target, *Bacillus anthracis* dihydrofolate reductase, *J Med Chem*, 50(18): 4374-4381.

PROFESSIONAL SOCIETIES

American Society of Plant Biologists: National and Southern Section

REFERENCES

Dr. Barry D. Bruce. Professor.
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Dr. Gladys Alexandre. Professor.
Department of Biochemistry and Cellular and Molecular Biology
University of Tennessee. Knoxville, TN.
Email: galexan2@utk.edu
Phone: (865) 974-0866

Dr. Chris Dealwis. Associate Professor.
Department of Pharmacology
Case Western Reserve University. Cleveland, OH.
Email: chris.dealwis@case.edu
Phone: (216) 368-1652

Dr. Paul Frymier. Associate Professor.
Department of Chemical and Biomolecular Engineering.
University of Tennessee. Knoxville, TN.
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Dr. Ken McFarland. Lecturer.
Department of Ecology & Evolutionary Biology
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