

CURRICULUM VITAE

Adam D. Hoppe, Ph.D.
Associate Professor
Department Chemistry and Biochemistry
South Dakota State University
Avera Health and Science Center 373
Brookings, SD 57007-896

phone: 605688-5315

fax: 605688-6364

email: Adam.Hoppe@state.edu

Previous Appointments

2005-2008 University of Michigan Ann Arbor, MI
Research Investigator

Education

1999-2003 University of Michigan, Ph.D., Biophysics
“Development of Quantitative FRET Microscopy for Study of Rho GTPase and
Phosphoinositide Signaling in Phagocytosis”
Advisor: Joel A. Swanson

1997-1999 University of Wisconsin-Madison, M.S., Medical Physics
Specialty: Positron emission tomography
Advisor: Robert J. Nickles

1993-1997 Concordia College, Moorhead MN, B.A., Physics & Mathematics, minor
Chemistry

Postdoctoral Training

2003-2005 University of Michigan Ann Arbor, MI
Postdoctoral Research
Fluorescence lifetime imaging for measuring intracellular protein interactions &
development of fluorescence resonance energy transfer (FRET) analysis
algorithms

Senior Postdoctoral Training

2004 Pasteur Institute Paris, France
Postdoctoral Research
Four-dimensional (x,y,z,t) FRET microscopy for high resolution imaging of
subcellular protein interactions

Scientific Activities

- 2013-present South Dakota Research Innovation Center South Dakota
Director – Biochemical Spatiotemporal Network Resource (BioSNTR)
- 2012-present South Dakota State University Brookings, SD
Director – Center for the Biological Control and Analysis By Applied Photonics
(BCAAP)
- 2005-2008 University of Michigan Ann Arbor, MI
Research Director of Center for Live Cell Imaging
- 2004-2005 University of Michigan Ann Arbor, MI
NIH - Rheumatology Fellowship
- 2000-2003 University of Michigan Ann Arbor, MI
NIH - Cellular Biotechnology Training Program Fellowship
- 2012-present Ad hoc reviewer for NIH Cell, Computational and Molecular Biology
(SBIR/STTR)
- 2012 Ad hoc reviewer for the British Medical Research Council
- 2012 NSF Panel Reviewer for Instrument Development for Biological Research
(IDBR)
- 2013 NIH Institute for Drug Abuse Special Emphasis Panel CEBRA: Cutting Edge
Basic Research Awards (R21)
- 2014-Present Guest Editor for BioMed Research International
- 2014-Present Reviewer for Biochem Biophys Acta, Molecular Cell Research
- 2013-Present Reviewer for Nature Communications
- 2013-Present Reviewer for Science Reports
- 2013-Present Reviewer for Journal of Microscopy
- 2013-Present Reviewer for Cytometry A
- 2013-Present Reviewer for the Journal of Luminescence
- 2012-Present Reviewer for Methods
- 2012-present Reviewer for PLoS ONE
- 2012-present Reviewer for Microscopy and Microanalysis
- 2007-present Reviewer for The Journal of Theoretical Biology
- 2004-present Reviewer for Molecular Biology of the Cell
- 2004-present Reviewer for Biophysical Journal

Honors and Awards

- 2011 Dr. Sherwood and Elizabeth Berg Young Scientist Award (SDSU)

Memberships in Professional Societies

- 2004-present Member of the Biophysical Society

Fargo, ND (Host: Kent Rodgers), Imaging Signaling Biochemistry in Living Cells by

“Cdc42, Rac1 and Rac2 Display Distinct Patterns of Activation during Phagocytosis.”

Other Platform Presentations

The Biophysical Society, March 2013, Baltimore, MD, "N-Way FRET Microscopy for Imaging Multiple Molecular Interactions Within a Single Living Cell"

Sioux Valley American Chemical Society Undergraduate Poster Competition, September 2009, Augustana College, Sioux Falls, SD (Host: Matt Miller) "Imaging Biochemistry in Living Cells by Fluorescence Resonance Energy Transfer"

South Dakota State University Department of Pharmacy, 2009, Brookings, SD (Host: Mathanu Perumal) "Exploring New Frontiers in Receptor Control of Macrophage Function by Novel Live-Cell Imaging Approaches"

South Dakota State University Board of Trustees, 2009, Brookings, SD "The New Microscopy: Seeing the Biochemistry of Immune Response."

Society of General Physiologists, September 2006, Woods Hole, MA, (Chairs: Sergio Grinstein
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Henry, R., Hoppe, A. D., Joshi, N., and Swanson, J. A. (2004). The Uniformity of Phagosome Maturation in Macrophages. *J Cell Biol.* 164(2), 185-194.

Hoppe, A., Christensen, K., and Swanson, J. A. (2002). Fluorescence Resonance Energy Transfer-Based Stoichiometry in Living Cells. *Biophys. J.* 83, 3652-3664.

Marlowe, R. L., Hoppe, A., Rupprecht, A., and Lee, S. A. (1999). Mediation of a phase transition in hyaluronate films by the counterions Li, Cs, Mg and Ca as observed by infrared spectroscopy, optical microscopy and optical birefringence. *Biomol Struct Dyn* 17, 607-616.

Invited Book Chapters:

Hoppe, A. D. and Low-Nam, S. L., Live-Cell TIRF Imaging of Molecular Assembly and Plasma Membrane Topography (eds. A. Cambi and D. Lidke), *Cell Membrane Nanodomains: From Biochemistry to Nanoscopy* (in Press, October 2014).

Hoppe, A. D. (2012) FRET-based imaging of Rac and Cdc42 activation during receptor mediated phagocytosis in macrophages (ed. Francisco Rivero) *Meth. Mol. Bio.* 827;827:235-51.

Hoppe, A. D. (2007) 'Quantitative FRET Microscopy in Live Cells' in *Imaging Cellular and Molecular Biological Function*, (eds. Frischknecht and Shorte, S. L) Pub. Springer-Verlog.

Additional non-peer review publications

Iverson, Bradley E., and Hoppe A. D., (2012). 'Establishment of Photoactivated Localization Microscopy (PALM) for Imaging Signaling Complexes on the Surfaces of Cells' *Undergraduate Research, SDSU*, 7585.