

CURRICULUM VITAE

MITRA RAY, PhD

Personal Information

Date of Birth: 14 July 1964
Nationality: U. S. Citizen

Education

1991 Doctor of Philosophy in Cell Biology, Stanford University, Stanford, CA.
Advisor: Dr. Lubert Stryer; Thesis: "Recoverin: A calcium-binding regulatory protein in vision."
1986 Bachelor of Science in Electrical Engineering, Cornell University, Ithaca, NY.

Professional Experience

1996-present Health Consultant / International Speaker

1994-1995 Postdoctoral Fellow with Dr. Mark Cooper, Department of Zoology, University of Washington, Seattle, WA.

Interest: Signal transduction involved in lamellipodial dynamics of motile cells.

Techniques: Motility of cultured cells viewed under confocal, phase and video-enhanced Nomarski microscopy. Permeabilization methods used to load second messengers, their analogs and fluorescent dyes into living, motile cells in order to alter signal transduction pathways involved in lamellipodial dynamics.

1991-1993 Postdoctoral Fellow with Dr. Jonathon Howard, Department of Physiology and Biophysics, University of Washington, Seattle, WA.

Interest: Intracellular motility; properties of microtubules, the motor protein kinesin and its putative receptor on organelles.

Techniques: In vitro motility assays using microscopy (video-enhanced Nomarski, epifluorescence, darkfield), electron microscopy of various tubulin structures and biochemical assays with kinesin.

1986-1991 Graduate Student, Cell Biology, Stanford University, Stanford, CA.

Interest: Photoreceptor recovery from light activation.

Techniques: Rod outer segment preparations; chromatography; autoradiography; immunochemistry; protein purification; fluorescence spectroscopy; calcium-buffering; cloning, high-yield expression and crystallization of novel photoreceptor calcium-binding protein; developed many enzyme activity assays (G-proteins, guanylate cyclase, phosphodiesterase) using fluorescent indicators and nucleotide analogs; electrophysiology; peptide synthesis.

1987 Teaching Assistant, Stanford University. Laboratory course on enzyme kinetics.

1985-1986 Math Tutor, Math Support Center, Cornell University.

1985 Electrical Engineer, Co-op Program, Hewlett Packard/Cornell University.
Development and testing of hardware/software package to interface lab equipment with personal computers.

1983-1985 Lab Assistant, National Research and Resource Facility for Submicron Structures, Cornell University.
Maintenance of photomasking equipment including writing software for computer-aided design.

Fellowships, Grants, Honors and Awards

1995 – 2006	Invited Speaker for Prevention Plus conferences in Germany, Canada and the United States, received numerous speaker awards
1993-1994	American Cancer Society Grant, University of Washington (co-author with Dr. Mark S. Cooper).
1992-1994	Alzheimer's Disease Feasibility Study Grant, University of Washington (co-author with Dr. Jonathon Howard).
1991-1993	National Institute of Health Training Grant in Neurobiology, University of Washington.
1991	Invited Speaker, Vision Conference, Federation of American Societies for Experimental Biology, Colorado Springs.
1989	Young Investigators Award, Vision Conference, Federation of American Societies for Experimental Biology
1987-1990	National Institute of Health Training Grant, Stanford University.
1983-1986	Dean McMullen's Engineering Scholarship, Cornell University.
1982-1983	Rutgers Scholar, Rutgers University.

Organizations

American Society for Cell Biology
Biophysical Society
Federation of American Society for Experimental Biology
American Association for the Advancement of Science
American Association of University Women
American Nutraceutical Association
Institute for Functional Medicine

Other Related Activities

2006 Chairperson for UK European Nutraceutical Association
Co-chair, 1993 Annual Symposium of the Pacific Cascades Chapter in Seattle, Society for Neuroscience
1990-1991 Initiated and organized Graduate Student Seminars, Department of Cell Biology, Stanford University.

Publications

Books and Educational Cassettes

Do You Have the Guts to Be Beautiful? (Shining Star Publishing, 2008)
From Here to Longevity : Your Complete Guide For A Long And Healthy Life.(Shining Star Publishing, 2002)
From Here to Longevity by Mitra Ray (2000)
Fountain of Health Revisited by Mitra Ray (1998)
Fountain of Health, Anti-aging and the Future of Medicine (1996)
Call me In the Morning (1996)

Papers

Ray, S., Wolf, S. G., Howard, J. and Downing, K. (1994) Kinesin does not support the motility of zinc-microtubules. *Cell Motil Cytoskeleton* 30:146-152.

Ray, S., Meyhöfer, E., Milligan, R. A. and Howard, J. (1993) Kinesin follows the microtubule's protofilament axis. *J. Cell Biol.* 121:1083-1093.

Ray, S., Zozulya, S., Niemi, G., Flaherty, K. M., Brolley, D., Dizhoor, A. M., McKay, D. B., Hurley, J. and Stryer, L. (1992) Cloning, expression and crystallization of recoverin, a calcium sensor in photoreceptors. *Proc. Natl. Acad. Sci.* 89: 5705-5709.

Ray, S.*, Dizhoor, A. M.*, Kumar, S., Niemi, G., Spencer, M., Brolley, D., Walsh, K. A., Philipov, P. P., Hurley, J. and Stryer, L. (1991) Recoverin: a calcium sensitive activator of retinal rod guanylate cyclase. *Science* 251: 915-918 (* equal contributors).

Abstracts

Ray, S. and Cooper, M.S. (1994) Effects of calcium on lamellipodial dynamics in permeabilized fish epidermal cells. *J. Cell Biol.*

Ray, S. and Cooper, M.S. (1994) GTP γ S inhibits ruffling but not retrograde waves in live, permeabilized fish epidermal cells. *J. Cell Biol.*

Ray, S., Wolf, S. G., Downing, K. and Howard, J. (1994) Kinesin does not move along zinc-microtubules. *Biophys. J.*, 66:A312.

Ray, S., Meyhöfer, E. and Howard, J. (1993) Kinesin follows the microtubule's protofilament axis. *Biophys. J.* 64: A263.

Meyhöfer, E., Ray, S., Milligan, R. A. and Howard, J. (1993) Microtubules accommodate different numbers of protofilaments by rotations of their surface lattices. *Biophys. J.* 64: A263.

Ray, S., Dizhoor, A. M., Kumar, S., Spencer, M., Niemi, G., Walsh, K. A., Hurley, J. and Stryer, L. (1991) Recoverin: a 26 kD calcium-sensitive activator of retinal rod guanylate cyclase. *Biophys. J.* 49: 408a.

Ray, S., Dizhoor, A. M., Kumar, S., Walsh, K. A., Hurley, J. and Stryer, L. (1991) A cooperative calcium-sensitive activation of retinal rod guanylate cyclase by recoverin, a new 26 kD protein isolated from bovine rod outer segments. *J. Cell Biol.* 111: 438a.

Ray, S., Dizhoor, A. M., Kumar, S., Walsh, K. A., Hurley, J. and Stryer, L. (1990) A cooperative calcium-sensitive activation of retinal rod guanylate cyclase by recoverin, a 26 kD protein isolated from bovine rod outer segments. *Signal Transduction in Photoreceptor Cells*, August, 1990, Jülich, Germany.