Peter J. Espenshade

December 10, 2012

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointment

Johns Hopkins University School of Medicine

March 1, 2008 to present Associate Professor, Department of Cell Biology

Personal Data

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Baltimore, MD 21205
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EDUCATION AND TRAINING

Undergraduate

1990 Bachelor of Arts, Princeton University; Molecular Biology

Doctoral/Graduate

1998 Doctor of Philosophy, Massachusetts Institute of Technology; Biology

Postdoctoral

1997 – 2002 University of Texas-Southwestern Medical Center; Molecular Cell Biology

Professional Development Courses Attended

2002 Course in Scientific Management, Burroughs Wellcome Fund and Howard Hughes Medical Institute

2003 Leadership Skills Pilot Course, National Institutes of Health and Howard Hughes Medical Institute

2004 "Working Together: Getting to Know Yourself and Others," JHU Center for Education and Training, Presentation for Espenshade Lab, JHU-SOM

2008 "Crucial Conversations-Faculty Course" Center for Training and Development, Johns Hopkins University, November 2008.

2009 Johns Hopkins Medical Institutions 2009 Leadership Development Program

PROFESSIONAL EXPERIENCE

1988	Summer Research Assistant, Lab of B. Weintraub; NIADDK-NIH
1989 - 1990	Undergraduate Thesis Research, Lab of M. Cole; Princeton University
1990 - 1991	Research Assistant, Lab of M. Cole; Princeton University
1991 - 1997	Graduate Student, Lab of C. Kaiser; Massachusetts Institute of Technology
1997 - 2002	Postdoctoral Fellow, Lab of M. Brown and J. Goldstein; University of Texas-Southwestern Medical Center
2002 - 2008	Assistant Professor, Department of Cell Biology, Johns Hopkins University School of Medicine
2008 - date	Associate Professor, Department of Cell Biology, Johns Hopkins University School of Medicine

RESEARCH ACTIVITIES

Publications, Peer-Reviewed Original Research

1. Berberich S, Hyde-DeRuyscher N, **Espenshade PJ**, Cole M. *max* encodes a sequence-specific DNA-binding protein and is not regulated by serum growth factors. 1992. *Oncogene* 7:775-79.
2. Gimeno RE, **Espenshade PJ**, Kaiser CA. *SED4* encodes a yeast endoplasmic reticulum protein that binds Sec16p and participates in vesicle formation. 1995. *J. Cell Biol.* 131:325-38.
3. **Espenshade PJ**, Gimeno RE, Holzmacher E, Teung P, Kaiser CA. Yeast *SEC16* gene encodes a multidomain vesicle coat protein that interacts with Sec23p. 1995. *J. Cell Biol.* 131:311-24.
4. *Gimeno RE, * **Espenshade PJ**, Kaiser CA. COPII coat subunit interactions: Sec24p and Sec23p bind to adjacent regions of Sec16p. 1996. *Mol. Biol. Cell* 7:1815-23. *These authors contributed equally to the experiments in this paper.
5. Shaywitz DA, **Espenshade PJ**, Gimeno RE, Kaiser CA. COPII subunit interactions in the assembly of the vesicle coat. 1997. *J. Biol. Chem.* 272:25413-16.
6. Sakai J, Rawson RB, **Espenshade PJ**, Cheng D, Seegmiller AC, Goldstein JL, Brown MS. Molecular identification of the sterol-regulated luminal protease that cleaves SREBPs and controls lipid composition of animal cells. 1998. *Mol. Cell*. 2:505-14.
7. Roberg KJ, Crotwell M, **Espenshade PJ**, Gimeno RE, Kaiser CA. *LST1* is a *SEC24* homolog used for selective export of the plasma membrane ATPase from the ER. 1999. *J. Cell Biol.* 145:659-72.
8. Cheng D, **Espenshade PJ**, Slaughter CA, Brown MS, Goldstein JL. Secreted Site-1 protease cleaves peptides corresponding to luminal loop of sterol regulatory-element binding proteins. 1999. *J. Biol. Chem.* 274:22805-12.
9. **Espenshade PJ**, Cheng D, Goldstein JL, Brown MS. Autocatalytic processing of Site-1 protease removes propeptide and permits cleavage of sterol regulatory element-binding proteins. 1999. *J. Biol. Chem.* 274:22795-804.
10. DeBose-Boyd RA, Brown MS, Li WP, Nohturfft A, Goldstein JL, **Espenshade PJ**. Transport-dependent proteolysis of SREBP: relocation of site-1 protease from Golgi to ER obviates the need for SREBP transport to Golgi. 1999. *Cell* 99:703-12.
11. Nohturfft A, Yabe D, Goldstein JL, Brown MS, **Espenshade PJ**. Regulated step in cholesterol feedback localized to budding of SCAP from ER membranes. 2000. *Cell* 102:315-23.
12. Yang T, **Espenshade PJ**, Wright ME, Yabe D, Gong Y, Aebersold R, Goldstein JL, Brown MS. Crucial step in cholesterol homeostasis: sterols promote binding of SCAP to INSIG-1, a membrane protein that facilitates retention of SREBPs in the ER. 2002. *Cell* 110:489-500.
13. **Espenshade PJ**, Li WP, Yabe D. Sterols block binding of COPII proteins to SCAP, thereby controlling SCAP sorting in ER. 2002. *PNAS* 99:11694-99.
14. Hughes AL, Todd BL, **Espenshade PJ**. SREBP pathway responds to sterols and functions as an oxygen sensor in fission yeast. 2005. *Cell* 120:831-42.
15. Todd BL, Stewart EV, Burg JS, Hughes AL, **Espenshade PJ**. SREBP is a principal regulator of anaerobic gene expression in fission yeast. 2006. *Mol. Cell. Biol.* 26:2817-31.
16. Hughes AL, Powell DW, Bard M, Eckstein J, Barbuch R, Link AJ, **Espenshade PJ**. Dap1/PGRMC1 binds and regulates cytochrome P450 enzymes. 2007. *Cell Metabolism* 5:143-49.
17. Chang YC, Bien CM, Lee H, **Espenshade PJ** *, Kwon-Chung KJ*. Sre1p, a regulator of oxygen sensing and sterol homeostasis, is required for virulence in *Cryptococcus neoformans*. 2007. *Mol. Microbiol.* 64:614-29. *Corresponding authors.
18. Hughes AL, Lee CY, Bien CM **Espenshade PJ**. 4-Methyl sterols regulate fission yeast SREBP-Scap under low oxygen and cell stress. 2007. *J. Biol. Chem.* 282:24388-96.
19. Lee H, Bien CM, Hughes AL, **Espenshade PJ**, Kwon-Chung KJ, Chang YC. Cobalt chloride, a hypoxia-mimicking agent, targets sterol synthesis in the pathogenic fungus *Cryptococcus neoformans*. 2007. *Mol. Microbiol.* 65:1018-33.
20. Sehgal A, Lee CY, **Espenshade PJ**. SREBP controls oxygen-dependent mobilization of retrotransposons in fission yeast. 2007. *PLoS Genet.* 3:1389-96.
21. Sehgal A, Hughes BT, **Espenshade PJ**. 2008. Oxygen-dependent, alternative promoter controls translation of *tco1*$^{+}$ in fission yeast. *Nucl. Acids Res.* 36:2024-2031.
22. Hughes BT, **Espenshade PJ**. 2008. Oxygen-regulated degradation of fission yeast SREBP by Ofd1, a prolyl hydroxylase family member. *EMBO J*. 27:1491-1501.

23. Hughes AL, Stewart EV, **Espenshade PJ**. 2008. Identification of 23 mutations in fission yeast Scap that constitutively activate SREBP. *J. Lipid Res.* 49:2001-12.
24. Burg JS, Powell DW, Chai R, Hughes AL, Link AJ, **Espenshade PJ**. 2008. Insig regulates HMG-CoA reductase by controlling enzyme phosphorylation in fission yeast. *Cell Metabolism* 8:522-31.
25. Lee CY, Stewart EV, Hughes BT, **Espenshade PJ**. 2009. Oxygen-dependent binding of Nro1 to the prolyl hydroxylase Ofd1 regulates SREBP degradation in yeast. *EMBO J.* 28:135-43.
26. Hughes BT, Nwosu CC, **Espenshade PJ**. 2009. Degradation of SREBP precursor requires the ERAD components UBC7 and HRD1 in fission yeast. *J. Biol. Chem.* 284:20512-21.
27. Chang YC, Ingavale SS, Bien CM, **Espenshade PJ**, Kwon-Chung KJ. 2009. Conservation of the SREBP pathway and its pathobiological importance in *Cryptococcus neoformans*. *Eukaryot Cell.* 8:1770-79.
28. Bien CM, Chang YC, Nes WD, Kwon-Chung KJ, **Espenshade PJ**. 2009. *C. neoformans* Site-2 protease is required for virulence and survival in the presence of azole drugs.*Mol Microbiol.*74:672-90
29. Porter JR, Burg JS, **Espenshade PJ** *, Iglesias PA*. 2010. Ergosterol regulates SREBP cleavage in fission yeast. *J. Biol. Chem.* 285:41051-61. *Corresponding authors.
30. Stewart EV, Nwosu CC, Tong Z, Roguev A, Cummins TD, Kim DU, Hayles J, Park HO, Hoe KL, Powell DW, Krogan NJ, **Espenshade PJ**. 2011. Yeast SREBP cleavage activation requires the Golgi Dsc E3 ligase complex. *Mol. Cell* 42:160-71.
31. Yeh TL, Lee CSY, Amzel LM, **Espenshade PJ** *, Bianchet MB*. 2011. The hypoxic regulator of sterol synthesis Nro1 is a nuclear import adaptor. *Structure* 19:503-14. *Corresponding authors.
32. Burg JS, **Espenshade PJ**. 2011. Glucose controls phosphoregulation of HMG-COA reductase through the PP2A-related phosphatase Ppe1 and Insig in fission yeast. *J. Biol. Chem.* 286:27139-46
33. Lee CSY, Yeh TL, Hughes BT, **Espenshade PJ**. 2011. Regulation of the Sre1 hypoxic transcription factor by oxygen-dependent control of DNA binding. *Mol. Cell* 44:225-234.
34. Stewart EV, Lloyd SJ, Burg JS, Nwosu CC, Lintner RE, Daza R, Russ C, Ponchner K, Nusbaum C, **Espenshade PJ**. 2011. Yeast SREBP cleavage requires Cdc48 and Dsc5, a ubiquitin regulatory X domain-containing subunit of the Golgi Dsc E3 ligase. *J. Biol. Chem.* 287:672-81.
35. Porter JR, Burg JS, **Espenshade PJ**, Iglesias PA. 2012. Identifying a static nonlinear structure in a biological system using noisy, sparse data. *J. Theoretical Biol.* 300:232-41.
36. Ryan CJ, Roguev A, Patrick K, Xu J, Jahari H, Tong Z, Beltrao P, Shales M, Qu H, Collins SR, Kliegman, JI, Jiang L, Kuo D, Tosti E, Kim H, Edelmann W, Keogh M, Greene D, Tang C, Cunningham P, Shokat KM, Cagney G, Svensson JP, Guthrie C, **Espenshade PJ**, Ideker T, Krogan NJ. 2012. Hierarchical modularity and the evolution of genetic interactomes across species. *Mol Cell.* 46:691-704.
37. Porter JR, Lee CSY, **Espenshade PJ***, Iglesias PA*. 2012. Regulation of SREBP during hypoxia requires Ofd1-mediated control of both DNA binding and degradation. *Mol. Biol. Cell* 23:3764-3774. *Corresponding authors.

Inventions, Patents, Copyrights

Invention Disclosures

1. **D05023**. Filed July 20, 2006. PGRMC1: A Novel Regulator of Cytochrome P450 Enzymes.

Provisional Patents

1. **61/441,071**. Filed February 9, 2011. Dsc Complex as a Target for Antifungal Therapy.

Patents Pending

1. **PCT/US2010/046601**. Filed August 20, 2010. Fungal SREBP Pathway as a Target for Anti-fungal Therapeutics.

Extramural Funding

GRANTS (Current)

7/1/04 – 4/30/14	Regulation of cellular cholesterol homeostasis R01 HL77588 National Institutes of Health – NHLBI $2,519,421 Role: PI; 40%
1/1/08 – 12/31/12	Regulation of cellular sterol homeostasis in eukaryotes Established Investigator Award 0840100N American Heart Association $500,000 Role: PI; 20%
2/1/08 - 1/31/13	Baltimore Diabetes Research and Training Center P60 DK79637 National Institutes of Health - NIDDK $7,037,940 PI: Wondisford FE, Department of Pediatrics and Medicine, JHU-SOM Role: Investigator; 0%
1/1/12 - 12/31/12	SREBP pathway as a target for pancreatic cancer therapy Pilot Project - Sol Goldman Pancreatic Cancer Research Center $50,000 Role: PI; 5%
7/1/12 - 6/30/14	SREBP pathway as a target for pancreatic cancer therapy Pancreatic Cancer Action Network – AACR Innovative Grant $200,000 Role: PI; 5%

GRANTS (Pending)

1/1/13 – 6/30/13	Methodology for identification of direct E3 ubiquitin ligase substrates Midi-Driving Biological Projects Technology Center for Networks, Pathways and Dynamics of Lysine Modification $57,637 Role: PI; 5%
7/1/13 – 6/30/17	Role of the prolyl hydroxylase Ofd1 in translation R01 National Institutes of Health – NIGMS $1,400,572 Role: PI; 33%
7/1/13 - 6/30/15	Mechanisms of host adaptation for *Candida albicans* R21 National Institutes of Health – NIAID $275,000 Role: PI; 12%
9/1/13 – 8/31/18	2013 HHMI Investigator Competition Howard Hughes Medical Institute Role: PI; Investigator

GRANTS (Previous)

4/01/98 – 3/31/01
Isolation of a key regulator of cholesterol homeostasis
F32 HL009993
National Institutes of Health – NHLBI
$94,236
Role: PI

9/01/01 – 12/31/06
Molecular mechanism of cholesterol homeostasis in mammalian cells
Institutional Proposal #03020215
Burroughs Wellcome Fund
$403,348
Role: PI

7/01/04 – 6/30/05
Regulation of cellular cholesterol homeostasis
Institutional Proposal #04051766
W.M. Keck Foundation
$10,000
Role: PI

4/01/07 - 3/31/08
FEI Tecnai 12 BioTWIN transmission electron microscope
S10 RR023454
National Institutes of Health - NCRR
$476,000
PI: McCaffery JM, Department of Biology, JHU
Role: Major-user

7/01/07 – 6/31/09
Oxygen sensing and adaptation to host tissue hypoxia in *C. neoformans*
R21 AI072186
National Institutes of Health – NIAID
$275,000
Role: PI

7/15/09 – 6/30/11
ARRA Supplement - Regulation of cellular cholesterol homeostasis
R01 HL77588
National Institutes of Health – NHLBI
$205,192
Role: PI

8/01/09 - 7/31/11
Functional studies of PGRMC1 in cholesterol homeostasis
R21 HL094774
National Institutes of Health – NHLBI
$275,000
Role: PI

9/01/11 – 2/29/12
Methodology for identification of E3 ubiquitin ligase substrates
Mini-Driving Biological Projects
Technology Center for Networks, Pathways and Dynamics of Lysine Modification
$20,000
Role: PI

7/01/06 – 6/30/12
Oxygen-sensing and adaptation to host tissue hypoxia in the human fungal pathogen *Cryptococcus neoformans*
Investigator in Pathogenesis of infectious Disease - Institutional Proposal #06041690
Burroughs Wellcome Fund
$450,000
Role: PI

Research Program Building / Leadership None

EDUCATIONAL ACTIVITIES

Educational Publications

Invited Review Articles

1. **Espenshade PJ**. SREBPs: Sterol-regulated transcription factors. 2006. *J. Cell Sci.* 119:973-976.
2. **Espenshade PJ**, Hughes AL. Regulation of sterol synthesis in eukaryotes. 2007. *Annu. Rev. Genet.* 41:401-427.
3. Osborne TO, **Espenshade PJ**. 2009. Evolutionary conservation and adaptation in the mechanism that regulates SREBP action: what a long strange tRIP it's been. *Genes and Dev*. 23: 2578-2591.
4. Bien CM, **Espenshade PJ**. 2010. SREBP in fungi - Hypoxic transcription factors linked to pathogenesis. *Eukaryotic Cell*. 9:352-9.
5. Burg JS, **Espenshade PJ**. 2011. Regulation of HMG-CoA reductase in mammals and yeast. *Prog. Lipid Res.* 50:403-10.
6. Raychaudhuri S, Young BP, **Espenshade PJ***, Loewen CJR*. 2012. Regulation of lipid metabolism: a tale of two yeasts. *Curr. Opin. Cell Bio.* 24:502-508. *Corresponding authors.
7. Shao W, **Espenshade PJ**. 2012. Expanding roles for SREBP in metabolism. *Cell Met.* 16:414-419.

Book Chapters

1. **Espenshade PJ**, Goldstein JL, and Brown MS. SREBPs: Gene regulation through controlled protein trafficking. 2003. In Handbook of Cellular Signaling (Bradshaw R, Dennis E, eds). Academic Press, San Diego, CA.
2. Radhakrishnan A, Sun LP, **Espenshade PJ**, Goldstein JL, Brown MS. 2009. "Chapter 298: The SREBP pathway: Gene regulation through sterol sensing and gated protein trafficking." In Handbook of Cell Signaling, 2nd edition (Bradshaw R, Dennis E, eds). Academic Press, San Diego.
3. Kwiterovich PO, **Espenshade PJ**. 2009. "Chapter 8:Disorders of LDL Metabolism," pp. 88-104. In The Johns Hopkins University Textbook of Dyslipidemia (Kwiterovich PO, ed.) Wolters Kluwer/Lippincott Williams & Wilkens, Philadelphia, PA.
4. **Espenshade PJ**. Cholesterol Synthesis and Regulation. In: W.J. Lennarz and M.D. Lane (eds.) The Encyclopedia of Biological Chemistry, Elsevier Inc., Oxford. In press.

Conference Papers

1. Porter JR, Iglesias PA, Burg JS, **Espenshade PJ**. 2011. Overcoming Data Limitations to Identify a Static Nonlinearity in a Biological Signaling Cascade. 45th Annual Conference on Information Sciences and Systems, Baltimore, MD. March 23-25, 2011.

Other Media

1. **Espenshade PJ**. Sterols Regulate ER-to-Golgi Transport of SREBP Cleavage Activating Protein (SCAP). ASCB Image & Video Library. June 2007:VID-32.

Teaching

Classroom Instruction Medical Students

2005 – 2009 Faculty Instructor, Organ Systems – Organ Histology Lab, 11 lab sessions, Spring, JHU-SOM

2010, 2011 Faculty Instructor, Genes to Society curriculum, Renal Histology Lab, 1 lab session, JHU-SOM

2011, 2012 Faculty Instructor, Cell Physiology Block, Scientific Foundations of Medicine, Direct 7 small group discussions, direct 5 lab sessions, attend 17 lectures, Fall, JHU-SOM

Classroom Instruction Graduate Students

2004 – 2009 Lecturer, Cell Structure and Dynamics – BCMB Program Core Course, 1 lecture, February, JHU-SOM
2005-present Lecturer, Cellular and Molecular Basis of Disease – CMM Program, 1 lecture, April, JHU-SOM
2007, 2009 Group discussion leader, Introduction to Research Ethics, Dr. Mark Hughes, Director, 1 discussion, October, JHU-SOM
2007- 2010 BCMB Core discussion leader, Genetics, 1 discussion, November (2007, 2008, 2010)
2008 CMM Core discussion leader, 1 discussion, March
2009-present Director, Cell Structure and Dynamics, 16 Lecture BCMB Program Core Course, Enrollment >100 students, JHU-SOM
2010-present Lecturer, Cell Structure and Dynamics – BCMB Program Core Course, 2 lectures, February, JHU-SOM
2012 BCMB Core discussion leader, Cell Structure and Dynamics, 1 discussion, February
2012 BCMB Ethics Course, Conflict of Interest and Intellectual Property, Discussion leader, April
2012 Department of Cell Biology, Responsible Conduct of Research "Peer Review", Organizer and Discussion Leader

Continuing Medical Education Instruction

2005 Lecturer, "Update on the Molecular Pathways of Cholesterol and Lipid Metabolism Including the Sterol Regulatory Element Binding Proteins"; 14th Annual Lipid Disorders Training Program Advanced Update, November, JHU-SOM
2007 - 2009 Lecturer, "Pathophysiology of Disorders of LDL Metabolism"; Annual Lipid Disorders Training Program basic Course, Lecturer, October, JHU-SOM

Professional Development for Graduate Students and Postdoctoral Fellows

2004-2008 Mentor, First year grant proposal writing exercise – BCMB Program, September (2004, 2005, 2006, 2008), JHU-SOM
11/4/04 Panelist, "Obtaining an Academic Job," JHU Professional Development Office, JHU-SOM

Professional Development for Graduate Students and Postdoctoral Fellows (continued)

7/20/04 Lecturer, "Career and Job Management," JHU Professional Development Office, JHU-SOM
10/12/06 Panelist, "Academic Research Faculty Career," JHU Professional Development Office JHU-SOM

Mentoring

Predoctoral Advisees

2003 – 2008 Adam Hughes Ph.D., BCMB Program
2005 American Heart Association Predoctoral Fellowship,
Total costs: $40,000
2007 Young Investigator's Day David I. Macht Award
Current position: Postdoctoral fellow, Gottschling Lab, Fred Hutchison Cancer Research Center, Seattle, WA

2003 – 2008 Bridget Todd Hughes Ph.D., BCMB Program
2006 American Heart Association Predoctoral Fellowship,
Total costs: $40,000
2008 Young Investigator's Day Alicia Showalter Reynolds Award
Current position: Postdoctoral fellow, Clurman Lab, Fred Hutchison Cancer Research Center, Seattle, WA

2004 – 2011 John Burg Ph.D., BCMB Program
2006 Poster prize ASBMB Annual Meeting
2007 Progress in Lipids Research Young Investigator Award, Molecular and Cellular Biology of Lipids Gordon Research Conference
Current position: Postdoctoral fellow, Garcia Lab, Stanford University, Stanford, CA

2004 – 2011 Emerson Stewart Ph.D., BCMB Program
2011 Young Investigator's Day Bae Gyo Jung Award
Current position: Postdoctoral fellow, Shen Lab, Stanford University, Stanford, CA

2005 – 2010 Clara Bien Ph.D., BCMB Program
2010 Young Investigator's Day Paul Ehrlich Research Award
Current position: Postdoctoral fellow, Bass Lab, Northwestern University, Evanston, IL

2006 – 2011 Chih-Yung Lee Ph.D., BCMB Program
2008 American Heart Association Predoctoral Fellowship,
Total costs: $40,000
2012 Young Investigator's Day Paul Erlich Award
Current position: Postdoctoral fellow, Seydoux Lab, Johns Hopkins University School of Medicine, Baltimore, MD

2007 – 2010 Christine Nwosu MS, BCMB Program
2009 Isaac Morris Hay and Lucille Elizabeth Hay Graduate Fellowship,
Total costs: $30,000
Current position: Doctoral student, University of Toronto, Ontario

2009 – present S. Julie-Ann Lloyd, CMM Program
2009 Kirschstein-NRSA F31 NIH Predoctoral Fellowship,
Total costs: $184,704

2009 – present Rocky Cheung, CMM Program
2011 Isaac Morris Hay and Lucille Elizabeth Hay Graduate Fellowship,
Total costs: $30,000

2010 – present Diedre Ribbens, BCMB Program

2011 – present Sara Clasen, BCMB Program

2012 – present Risa Burr, BCMB Program

Predoctoral Student Rotation Advisees

2004 Michelle Kim (BCMB), Nicole Rapicavoli (BCMB), Ben Jilek (BCMB)
2005 Andrew Goodwin (CMM)
2007 Changhee Lee (CMM), Xiaoou Pan (BCMB)
2008 Erin Poth (BCMB), Pamela Ronco (BCMB), Justin Cidado (CMM)
2009 Damy Oladosu (BCMB)
2011 Brandon McClary (BCMB)
2012 Jieun Lee (BCMB)

Postdoctoral Advisees

2004 – 2008 Alfica Sehgal, Ph.D.
2007 Poster prize ASBMB Annual Meeting.
Department of Cell Biology Lewis Travel Award
Current position: Senior Scientist, Alnylam Pharmaceuticals, Cambridge, MA
2008 – present Wei Shao, Ph.D.
2009 – present Zongtian Tong, Ph.D.
2009 – present Rita Brookheart, Ph.D.
2010 Kirschstein-NRSA F32 NIH Postdoctoral Fellowship,
Total costs: $150,234
2010 – present Sumana Raychaudhuri, Ph.D.

Department of Cell Biology Postdoctoral Committee Advisees

2009 – 2011 Zhongyan Zhang, Ph.D., Lab of Hiromi Sesaki
2009 – present Rebecca Fox, Ph.D., Lab of Debbie Andrew
2010 – present Kevin Cheung, Ph.D., Lab of Andrew Ewald
2011 – present Chun-Lin Chen, Ph.D., Lab of Hiromi Sesaki
2011 – present Jianyang Wang, Ph.D., Lab of Rob Jensen

Thesis Committees

2003 – 2006	Cory Dunn, Ph.D., Lab of Rob Jensen, Department of Cell Biology, Thesis Committee Member and Reader
2003 – 2005	Stuart Hicks, Ph.D., Lab of Carolyn Machamer, Department of Cell Biology, Thesis Committee Member
2004 – 2008	David Zuckerman, Ph.D., Lab of Carolyn Machamer, Department of Cell Biology, Thesis Committee Member and Reader
2004 – 2008	Tiffany Frey, Ph.D., Lab of Roger Reeves, Department of Physiology, Thesis Committee Member and Reader
2004 – 2009	Meredith Boyle, Ph.D., Lab of Susan Michaelis, Department of Cell Biology, Thesis Committee Member and Reader
2006 – 2010	Suchismita Chandran, Ph.D., Lab of Carolyn Machamer, Department of Cell Biology, Thesis Committee Member
2007 – 2009	Sabina Muend, Ph.D., Lab of Rajini Rao, Department of Physiology, Thesis Committee Member
2007 – 2009	Jing Xu, Ph.D., Lab of Jun Liu, Department of Pharmacology, Thesis Committee Member
2007 – 2012	Matt Mauer, Lab of Susan Michaelis, Department of Cell Biology, Thesis Committee Member and Reader
2008 – present	Stephanie Lew, Lab of Joel Pomerantz, Department of Biological Chemistry, Thesis Committee Member
2009 – 2010	Chris Cherry, Ph.D., Lab of Erika Matunis, Department of Cell Biology, Thesis Committee Member
2009 – 2011	Miranda Darby, Ph.D., Lab of Jeff Corden, Department of Molecular Biology and Genetics, Thesis Committee Member and Reader
2009 – 2012	Tzu-Lan Yeh, Lab of Mario Amzel, Department of Biophysics and Biophysical Chemistry, Thesis Committee Member and Reader
2010	Leslie Kung-Tran, Lab of Elizabeth Miller, Columbia University, New York, NY, Thesis Defense Committee
2010 – 2011	Chris Shoemaker, Ph.D., Lab of Rachel Green, Department of Molecular Biology and Genetics, Thesis Committee Member
2010 – 2012	Ha Won Lee, Lab of William Guggino, Department of Physiology, Thesis Committee Member
2011 – present	Waipan Chan, Lab of Joel Pomerantz, Department of Biological Chemistry, Thesis Committee Member
2011 – present	Yijie Li, Lab of Erika Matunis, Department of Cell Biology, Thesis Committee Member
2011 – present	Elizabeth Hwang, Lab of Brendan Cormack, Department of Molecular Biology and Genetics, Thesis Committee Member
2011 – present	Ouma Onguka, Lab of Steve Claypool, Department of Physiology, Thesis Committee Member
2011 - present	Carlos Gomez, Lab of Brendan Cormack, Department of Molecular Biology and Genetics, Thesis Committee Member
2012 – present	Jackie McCabe, Lab of Dan Leahy, Department of Biophysics, Thesis Committee Member
2012 – present	Kristie Wrasman, Lab of Beverly Wendland, Department of Biology, Thesis Committee Member
2013 – present	Sarah Head, Lab of Jun Liu, Department of Pharmacology, Thesis Committee Member
2013	Teegan Delli-Bovi, Lab of Sean Prigge, Dept. Biochemistry and Molecular Biology, JHUSPH – Alternate thesis reader.

Training Grant Participation

2002 – present	T32 GM007445 Biochemistry, Cellular and Molecular Biology, Program Faculty
2004 – present	T32 GM008752 Cellular and Molecular Medicine, Program Faculty

Educational Program Building / Leadership None

Educational Extramural Funding None

CLINICAL ACTIVITIES None

SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES None

ORGANIZATIONAL ACTIVITES

Institutional Administrative Appointments

2011-present Associate Director, Scientific Foundations of Medicine, Genes to Society Curriculum, Fall

Institutional Service Activities

School of Medicine

2004-present Committee on MA/PhD Programs, Cell Biology Program representative
2005-present Young Investigator's Day Award Selection Committee (2005-2009, 2012)
2005, 2006 Task Force for Scientific Integration
2006 LCME SOM Accreditation, Junior Faculty Panel member
2007, 2008 IBBS Center for Metabolism and Obesity Research Faculty Search Committee
2011 Graduate Education Vision Committee
2011 Time to Graduation Policy Development Committee, Chair, MA/PhD Subcommittee
2011-present IBBS Center for Chemoprotection Director Search Committee
2011-present High Throughput Biology Center, Affiliated Faculty
2012 Advisory Board Member, Center for Innovation in Graduate Biomedical Education
2012 Enhancing Career Training and Opportunities Committee, Chair, MA/PhD Subcommittee
2012 JHM Collaborative Planning Team, Subject Matter Expert Team #6

Department of Cell Biology

2006-present Lewis Travel Award Selection Committee
2007 Space Utilization Committee
2009-present Hay Graduate Fellowship Selection Committee, Chair
2010 Departmental Administrator Search Committee

BCMB Graduate Program

2003-present Graduate admissions interviews (61)
2008, 2009 Organizer, Program Annual Retreat, Rocky Gap Resort and Lodge

CMM Graduate Program

2005-present Graduate admissions interviews (27)
2006, 2007 Graduate admission committee

Medical School Admissions

2004 Luncheons with medical student applicants

Graduate Board Oral Examination Committee Member

2004-present JHU-SOM: BCMB (20), CMM (14), Pharmacology (6), Functional Anatomy (5), Immunology (3), Biological Chemistry (3), Pathobiology (1), Physiology (1) JHU-Homewood: Biology (3), Electrical and Computer Engineering (1), Chemistry-Biology Interface (1) JHU-SPH: Biochemistry and Molecular Biology (2)

Editorial Activities

2002-present Journal peer reviewer, 84 manuscripts for 32 journals, including: *Cell, Science, Nature, J. Cell Biol., PNAS, EMBO, Mol. Biol. Cell, J. Biol. Chem, Genes and Development, Mol. Microbiol., PLoS Genetics, PLoS Pathogens*

Scientific Review Groups

2001- present Ad hoc grant reviewer for US Army Research Office (1), Austrian Science Fund (2), Israel Science Foundation (1), and Swiss National Science Foundation (1), Ireland Health Research Board (1)

2005 International Research Scholars Program (Baltics, Central and Eastern Europe, Russia, and Ukraine), Howard Hughes Medical Institute
2008 JHU-Weizmann Partnership Proposal
2008 NIH INMP Study Section, Temporary Member, October 2008
2009 NIH INMP Study Section, Temporary Member, June 2009
2009-2012 NIH INMP Study Section, Permanent Member

Professional Societies

2000-present American Society for Cell Biology
2004, 2005 Annual Meeting Abstract Programming Committee member
2004 Annual Meeting Local Arrangement Committee member
2004 Capitol Hill Day participant, Joint Steering Committee for Public Policy
2003-present American Association for the Advancement of Science
2003-present American Heart Association
2005-present American Society for Biochemistry and Molecular Biology
2006-present American Society for Microbiology

Conference Organizer / Session Chair

2012 American Society for Biochemistry and Molecular Biology Annual Meeting, Session Chair

Consultantships None

RECOGNITION

Awards and Honors

1990 Phi Beta Kappa Honor Society, Princeton University
1990 Summa cum laude, Department of Molecular Biology, Princeton University
1992 Predoctoral fellowship, National Science Foundation
1998 National Research Service Award, National Institutes of Health – NHLBI
1998 Postdoctoral fellowship finalist, Life Science Research Foundation
2001 Career Award in the Biomedical Sciences, Burroughs Wellcome Fund
2003 JHU Nominee for Searle Scholars award
2004 JHU Nominee for Packard Foundation Fellowship for Science and Engineering
2004 Finalist for Distinguished Young Scholars in Medical Research Program, Keck Foundation, $10,000 prize
2006 Investigator in Pathogenesis of Infectious Disease, Burroughs Wellcome Fund
2006 Dean's Discretionary Fund Award, JHU-SOM, $50,000
2008 American Heart Association Established Investigator Award
2009 Finalist for HHMI Early Career Investigator Award
2010 Speaker, Johns Hopkins University Alliance for Science and Technology Development
2012 American Society for Biochemistry and Molecular Biology, Avanti Young Investigator Award in Lipid Research

Invited Talks at National and International Meetings

2000 Gordon Research Conference, Hormonal and Neural Peptide Biosynthesis, New London, CT
2002 Japanese Biochemical Society annual meeting, Kyoto, Japan. Symposium: "Intersection of Lipid Metabolism and Membrane Trafficking."
2003 KinMet 2003, Symposium: "Cellular Lipid and Sterol Metabolism, Trafficking and Signaling." Washington, D.C.
2004 Pombe 2004: Third International Fission Yeast Meeting, San Diego, CA
2005 US Pombe 2005 Fission Yeast Meeting, Miami, FL
2005 Gordon Research Conference, Mol. and Cellular Biology of Lipids, Waterville, NH
2006 Gordon Research Conference, Chemistry and Biology of Tetrapyrroles, Newport, RI
2006 Deuel Conference, Frontiers in Lipid Biology, Monterey, CA
2006 DARPA Workshop, State-Dependent Delays in Gene Regulatory Networks, Piscataway, NJ
2006 Keystone Conference, "Hypoxia and Development, Physiology and Disease," Breckenridge, CO
2007 Gordon Research Conference, Molecular Membrane Biology, Andover, NH
2007 4th International Fission Yeast Meeting, Copenhagen, Denmark
2008 48th Annual ASCB Meeting, "Stress Responses" Minisymposium Speaker, San Francisco, CA

2008 6th Temasek Life Sciences Laboratory Symposium "Biotechnology: Innovative Applications from Basic Research," Singapore
2009 5th International Fission Yeast Meeting, Tokyo, Japan
2009 ASBMB Annual Meeting, "Novel Lipid-Mediated Signaling Events," New Orleans, LA
2010 ER EMBO Conference, Girona, Spain
2010 Keystone Conference, "Hypoxia: Molecular Mechanisms of Oxygen Sensing and Response Pathways," Keystone, CO
2011 6th International Fission Yeast Meeting, Boston, MA
2011 FASEB Summer Research Conference, "From Unfolded Proteins in the ER to Disease," Saxton River, VT
2011 The Ubiquitin Family – 6th Cold Spring Harbor Meeting, Cold Spring Harbor, NY
2011 8th International Conference on Cryptococcus and Cryptococcosis, Charleston, SC
2012 ASBMB Avanti Young Investigator Award in Lipid Research Lecture, Annual Meeting, San Diego, CA

Other Invited Talks

2000 Amgen, Inc., Division of Metabolic Disorders, Thousand Oaks, CA
2001 University of Texas-Southwestern Medical Center, Dept. of Cell Biology, Dallas, TX
2001 The Scripps Research Institute, Department of Cell Biology, La Jolla, CA
2002 Yale University School of Medicine, Department of Cell Biology, New Haven, CT
2002 Harvard Medical School, Department of Cell Biology, Boston, MA
2003 JHU School of Public Health, Dept. of Biochemistry and Mol. Biology, Baltimore, MD
2003 JHU School of Medicine, Department of Cell Biology, Baltimore, MD
2003 JHU School of Medicine Yeast Meeting, Baltimore, MD
2003 5th Annual JHU-NIH Protein Trafficking Workshop, Baltimore, MD
2003 Merck Research Labs, Dept. of Atherosclerosis and Endocrinology, Rahway, NJ
2004 JHU School of Medicine, Department of Biological Chemistry, Baltimore, MD
2004 JHU School of Medicine, BCMB Day of Science, Keynote Speaker, Baltimore, MD
2004 Carnegie Mellon University, Department of Biological Sciences, Pittsburgh, PA
2004 JHU School of Medicine, Department of Cell Biology, Baltimore, MD
2004 College of Physicians and Surgeons, Columbia University, Dept. of Pathology, New York, NY
2004 Georgetown University, Department of Biology, Washington, DC
2005 Uniformed Services University of Health Sciences, Bethesda, MD
2005 JHU School of Medicine MD-PhD Retreat, Hershey, PA
2005 NIAID, NIH, Laboratory of Infectious Disease, Bethesda, MD
2005 Washington Area Yeast Meeting, NIH, Bethesda, MD
2006 University of Oklahoma Health Sciences Center, Dept. of Microbiology & Immunology, Oklahoma City, OK
2006 University of Georgia, Dept. of Biochemistry and Molecular Biology, Athens, GA
2006 JHU School of Medicine, Department of Medicine, Division of Endocrinology and Metabolism, Baltimore, MD
2006 NIDDK, NIH, Laboratory of Molecular Biology, Bethesda, MD
2006 New York City Pombe Club, New York, NY
2007 University of Kentucky College of Medicine, Department of Molecular and Biomedical Pharmacology, Lexington, KY
2007 Albert Einstein College of Medicine, Dept Developmental and Molecular Biology, New York, NY
2007 University of Washington, Department of Biochemistry, Seattle, WA
2007 Johns Hopkins University, Department of Biology, Baltimore, MD
2007 University of Michigan Medical School, Dept Cell and Developmental Biology, Ann Arbor, MI
2007 UT-Southwestern Medical Center, Department of Biochemistry, Dallas, TX
2008 Carnegie Institution, Department of Embryology, Baltimore, MD
2008 JHU School of Medicine, JH Asthma and Allergy Center, Bayview Campus, Baltimore, MD
2008 Burnham Institute for Medical Research, Lake Nona, FL
2008 Burnham Institute for Medical Research, La Jolla, CA
2008 University of Louisville School of Medicine, Department of Medicine and Biochemistry and Molecular Biology, Louisville, KY
2008 Columbia University, Department of Biology, New York, NY

2008 University of Pennsylvania School of Medicine, Department of Cell and Developmental Biology, Philadelphia, PA
2009 University of Tokyo, Research Center for Advanced Science and Technology, Tokyo, Japan
2009 University of Maryland, Dept. of Animal and Avian Sciences, College Park, MD
2010 Nemours Biomedical Research, A.I. DuPont Hospital for Children, Wilmington, DE
2010 UT-Southwestern Medical Center, Department of Cell Biology, Dallas, TX
2010 Cancer Research UK, London Research Institute, London, England
2010 JHU School of Public Health, Department of Biochemistry and Molecular Biology
2010 Albert Einstein College of Medicine, Dept Developmental and Molecular Biology, New York, NY
2010 Weill Cornell Medical College, Department of Biochemistry, New York, NY
2010 JHU School of Medicine, Department of Cell Biology, Baltimore, MD
2010 Tufts University School of Medicine, Department of Physiology, Boston, MA
2011 University of Delaware, Department of Chemistry and Biochemistry
2011 Duke University Medical Center, Department of Pharmacology and Cancer Biology, Durham, NC
2011 JHU School of Medicine, Technology Center for Networks and Pathways, Baltimore, MD
2012 University of Utah, Department of Biochemistry, Salt Lake City, UT
2012 JHU School of Medicine, Department of Cell Biology, Baltimore, MD

Invited Panels

2004 "Bridges to Independence: Fostering the Independence of New Investigators in the Life Sciences." National Academy of Sciences, Workshop Panelist, Washington, DC

OTHER PROFESSIONAL ACCOMPLISHMENTS

Scientific Poster Presentations

1999 Gordon Research Conference, Molecular Membrane Biology, Andover, NH
1999 Kern Aspen Lipid Conference, Aspen, CO
2001 Gordon Research Conference, Molecular Membrane Biology, Andover, NH
2001 Burroughs Wellcome Fund New Awardees Meeting, RTP, NC
2006 Burroughs Wellcome Fund Summer Conference, Vancouver, Canada
2007 Gordon Research Conference, Mol. and Cellular Biology of Lipids, Waterville, NH
2007 ASBMB 2007 Annual Meeting, Washington, DC
2009 Keystone Conference, "The Many Faces of Ubiquitin," Copper Mountain, CO
2012 Pancreatic Cancer Action Network, Annual Meeting, Los Angeles, CA

Meetings Attended

2004 American Society for Cell Biology Annual Meeting, Washington, DC
2004 Keystone Symposium, Biology of Hypoxia, Steamboat Springs, CO
2005 American Heart Association, ATVB Annual Meeting, Washington, DC
2009 Gordon Research Conference, Mol. and Cellular Biology of Lipids, Waterville, NH
2009 Gordon Research Conference, Molecular Membrane Biology, Andover, NH
2009 NIDDK Meeting "Protein Misfolding and Misprocessing in Disease," Bethesda, MD
2012 AACR Pancreatic Cancer: Progress and Challenges, Lake Tahoe, NV
2012 Genetics Society of America, Yeast Genetics and Molecular Biology Meeting