Barbara Lom — *Curriculum Vitae*

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EDUCATION

1985-1989 **BA in Biology** *cum laude*
Lawrence University • Appleton, WI

1989-1995 **PhD in Neuroscience**
Northwestern University Institute for Neuroscience • Chicago, IL

1997-1999 **Postdoctoral Fellow**
UNIVERSITY OF CALIFORNIA, LOS ANGELES • Mental Retardation Research Center • Los Angeles, CA

1995-1997 **Postdoctoral Fellow**
UNIVERSITY OF CALIFORNIA, SAN DIEGO • Biology Department • La Jolla, CA

ACADEMIC POSITIONS

2009-present **Chair of Biology**
2013-present **Professor of Biology**
2006-2013 **Associate Professor of Biology**
2000-2006 **Assistant Professor of Biology**
DAVIDSON COLLEGE • Biology Department & Neuroscience Program • Davidson, NC

1999-2000 **Visiting Assistant Professor of Biology**
BOWDOIN COLLEGE • Biology Department & Neuroscience Program • Brunswick, ME

1999 **Adjunct Assistant Professor**
ANTIOCH UNIVERSITY OF SOUTHERN CALIFORNIA • Marina del Rey**,** CA

1997 **Adjunct Assistant Professor**
SAN DIEGO MESA COMMUNITY COLLEGE • Biology Department • San Diego, CA

SELECTED LEADERSHIP & PROFESSIONAL EXPERIENCE

2009-2014 **Director**
2003-present **Staff Facilitator**
ASSOCIATED COLLEGES OF THE SOUTH TEACHING & LEARNING WORKSHOP

2011-present **Editorial Board Member**
2007-2010 **Senior Editor**
2002-2006 **Founding Editor-in-Chief**
THE JOURNAL OF UNDERGRADUATE NEUROSCIENCE EDUCATION (JUNE)

2003-present **Steering Committee**
2006 & 2007 **Meeting Organizer**
SYMPOSIUM FOR YOUNG NEUROSCIENTISTS & PROFESSORS OF THE SOUTHEAST

2011-2014 **Committee on Neuroscience Departments & Programs (cNDP) Member** (appointed)
2013-2015 **Scientific Rigor Working Group** (appointed)
SOCIETY FOR NEUROSCIENCE

2011-2013 **Councilor** (elected)
2001-2006 **Education Committee Member** (appointed)
FACULTY FOR UNDERGRADUATE NEUROSCIENCE

HONORS & AWARDS

2014	**Distinguished Mentor Award** – Faculty for Undergraduate Neuroscience
2010	**Honor -** *Journal of Undergraduate Neuroscience Education*
2009	**Distinguished Service Award** – Faculty for Undergraduate Neuroscience
2005	**Neuroscientist-Teacher Partner Travel Award** – Society for Neuroscience
2004	**Faculty for the 21st Century** (F21) - Project Kaleidoscope
2004	**Teaching Faculty Travel Award** - Society for Developmental Biology
2002	**Educator of the Year Award** - Faculty for Undergraduate Neuroscience
2001	**Ohaus Award for Innovation** - National Science Teachers Association
1995-1996	**Developmental Biology Institutional Postdoctoral Fellowship** - NIH
1994	**Graduate Student Travel Award** - Nanofabrication & Biosystems
1993 & 1996	**Travel Award** - Women in Neuroscience
1991-1994	**Scholar** - Northwestern University

EXTERNAL GRANTS AWARDED (TOTAL =~$1,525,000)

2014 - 2015	**Associated Colleges of the South Faculty Advancement Grant** ($12,000) *Faculty Development: Strengthening Collaborative, Reflective Teaching & Learning Communities*
2011 – 2015	**National Science Foundation Research Award** ($429,000) *Elucidating Roles for Slitrks in the Developing Zebrafish Central Nervous System*
2012 - 2013	**Associated Colleges of the South Faculty Advancement Grant** ($9,950) *Extending the Benefits of the ACS Teaching and Learning Workshop to the Home Campus*
2012 – 2013	**Associated Colleges of the South Faculty Advancement Grant** ($9,255) *Enhancing the ACS Teaching & Learning Workshop: SoTL Professional Development*
2011	**Associated Colleges of the South Mellon Faculty Renewal Grant** ($8,000) *Strategic Planning to Assess & Improve the ACS Summer Teaching & Learning Workshop*
2009 – 2011	**Associated Colleges of the South Mellon Faculty Renewal Grant** ($10,000) *Preparing for EPICS: Educational Practices Informed by Cognitive Science*
2008 - 2009	**Associated Colleges of the South Mellon Faculty Renewal Grant** ($4,000) *The Memory Group: Multi-disciplinary Discourse & Curricular Development at Davidson College*
2004 - 2011	**National Science Foundation CAREER Award** ($605,477) *Factors Regulating Dendritic Arborization in the* Xenopus *Visual System*
2004 – 2007	**National Science Foundation Major Research Instrumentation Award** ($237,752) *Acquisition of a Laser Scanning Confocal Microscope at Davidson College*
2005	**Fantastic Frog** ($900) *In kind grant of* Xenopus laevis *frogs*
2003 - 2004	**Whitehall Foundation Grant-in-Aid** ($30,000) *Growth Factor Regulation of Dendritic Arborization In Vivo*
2002 - 2005	**National Science Foundation Course, Curriculum, & Lab Improvement** ($43,449) *Two Heads are Better than One: Merging Classical Embryology & Modern Developmental Biology*
2002	**Council for Undergraduate Research (CUR)** ($4,000) Summer Research Fellowship: *How Does FGF Regulate Retinal Neuron Dendritic Arborization?*
2001	**Associated Colleges of the South Mellon Technology Fellowship** ($2,500) *The 4D Brain*
2000	**American Association of University Women Publication Grant** ($5,500) *Wiring the Brain: How Do Neurotrophins Influence Retinal Neuron Development?*
1996-1999	**NIH Postdoctoral National Research Service Award** (~$78,000) *Collapsin-2 in Retinotectal Projection Development*
1991-1994	**NIH Predoctoral National Research Service Award** ($35,400) *Multi-modal Imaging of Neurons on Patterned Substrates*

PUBLICATIONS ** indicates undergraduate co-author*

Andersen KS, **Lom** B, Sandlin BA (in press) The challenges of promoting instructional improvement: Teaching behaviors and teaching cultures at liberal arts institutions in the Associated Colleges of the South. *To Improve the Academy: A Journal of Educational Development.*

Lom B (2015) iNeuro Conference Report. *https://mdcune.psych.ucla.edu/modules/ineuro*

Round J, **Lom** B (2015) *In situ* teaching: Fusing labs and lectures in undergraduate science courses to enhance immersion in scientific research. *Journal of Undergraduate Neuroscience Education* 13: A206-214. *http://www.funjournal.org/images/stories/downloads/2015_Volume_13_Issue_3/june-13-206.pdf*

Harrington IA, Grisham W, Brasier DJ, Gallagher SP, Gizerian SS, Gordon RG, Hagenauer M, Linden M, **Lom B**, Olivo R, Sandstrom NJ, Stough S, Stuart A, Vilinsky I, Wiest M (2015) Review: An instructor's guide to (some of) the most amazing papers in neuroscience. *Journal of Undergraduate Neuroscience Education* 14: R3-14. *http://www.funjournal.org/wp-content/uploads/2015/10/june-14-r3-14.pdf*

Lom B (2015) Book Review: *Looking Inside the Brain: The Power of Neuroimaging*. *Journal of Undergraduate Neuroscience Education* 14: R1-R2. *http://www.funjournal.org/wp-content/uploads/2015/10/june-14-r1.pdf*

Round JE, Ross BA, *Angel M, *Shields K, **Lom** B (2014) Slitrk gene duplication and expression in the developing zebrafish nervous system. *Developmental Dynamics* 243: 339-349. *http://onlinelibrary.wiley.com/doi/10.1002/dvdy.24076/abstract*

Lom B (2014) Book Review: *Portraits of the Mind: Visualizing the Brain from Antiquity to the 21st Century*. *Journal of Undergraduate Neuroscience Education* 13: R7-R8. *http://www.funjournal.org/images/stories/downloads/2014_Volume_13_Issue_1/june-13-r7.pdf*

*Grant AD, **Lom** B (2013) A dozen "don'ts" for a successful career in research. FUN Newsletter 1:1. *http://www.funfaculty.org/drupal/node/4107*

Lom B (2012) Classroom activities: Simple strategies to incorporate student-centered activities within undergraduate science lectures. *Journal of Undergraduate Neuroscience Education* 11: A64-71. *http://www.funjournal.org/images/stories/downloads/2012_Volume_11_Issue_1/lom%20_%2011_1_a64_a71.pdf*

McFarlane S, **Lom** B (2012) The *Xenopus* retinal ganglion cell as a model neuron to study the establishment of neuronal connectivity. *Developmental Neurobiology* 72:520-536. *http://onlinelibrary.wiley.com/doi/10.1002/dneu.20928/pdf*

Multhaup KS, Denham S, Kelly H, **Lom** B (2011) A mechanism for multidisciplinary dialogue: The *Memory & ...* series. *Journal of Undergraduate Neuroscience Education* 10: A9-13. *http://www.funjournal.org/wp-content/uploads/2015/09/multhaup_10_1_a9_a13-km.pdf*

Hurd MW, **Lom** B, Silver WL (2011) SYNAPSE, Symposium for Young Neuroscientists and Professors of the Southeast: A one-day, regional neuroscience meeting focusing on undergraduate research. *Journal of Undergraduate Neuroscience Education* 9: A75-83. *http://www.funjournal.org/wp-content/uploads/2015/09/hurd_etal_9_2_a75_a83.pdf*

Dunbar G, **Lom** B, Grisham W, Ramirez JR (2009) The Journal of Undergraduate Neuroscience Education: history, challenges, and future developments. *Journal of Undergraduate Neuroscience Education* 8:A78-81. *http://www.funjournal.org/wp-content/uploads/2015/09/dunbaretal81.pdf*

Lom B (2009) mRNA targeting: growth cone guidance. *Encyclopedia of Neuroscience* 13: 2453-56. *http://link.springer.com/referenceworkentry/10.1007%2F978-3-540-29678-2_3629*

*Ruble JE, **Lom** B (2008) Online protocol annotation: A method to enhance undergraduate laboratory research skills. *CBE - Life Sciences Education* 7: 296-301. *http://www.lifescied.org/cgi/reprintframed/7/3/296*

Watson FL, **Lom** B (2008) More than a picture: helping undergraduates learn to communicate through scientific images. *CBE-Life Sciences Education* 7: 27-35. *http://www.lifescied.org/content/7/1/27.short*

*Chemotti DC, *Davis SN, *Cook LW, Willoughby IR, Paradise CJ, **Lom** B (2006) The pesticide malathion disrupts *Xenopus* and zebrafish embryogenesis: an investigative laboratory exercise in developmental toxicology. *Bioscene, Journal of College Biology Teaching* 32: 4-18. *http://www.acube.org/files/4413/5328/1034/2006_3.pdf*

Campbell AM, **Lom** B (2006) A simple e-mail mechanism to enhance reflection, independence, and communication in young researchers. *CBE—Life Sciences Education* 5: 318-22. *http://www.lifescied.org/content/5/4/318.short*

Hardwick JC, Kerchner M, **Lom** B, Ramirez JJ, Wiertelak EP (2006) Encouraging innovation in undergraduate neuroscience education by supporting student research and faculty development. *Cell Biology Education* 5: 86-90. *http://www.lifescied.org/content/5/2/86.short*

*Cook LW, Paradise CJ, **Lom** B (2005) The pesticide malathion reduces growth and survival in the development of zebrafish, *Danio rerio*. *Environmental Toxicology & Chemistry* 24(7): 1745-50. *http://onlinelibrary.wiley.com/doi/10.1897/04-331R.1/abstract*

Lom B (2005) An interview with neurogeneticst Rudolph Tanzi. *Journal of Undergraduate Neuroscience Education* 4: E3-5. *http://www.funjournal.org/2005-volume-4-issue-1/*

Lom B (2005) Of note: brief reviews of resources for undergraduate neuroscience educators. *Journal of Undergraduate Neuroscience Education* 3(2): R3-4. *http://www.funjournal.org/wp-content/uploads/2015/09/OfNote.pdf*

Cohen-Cory S, **Lom** B (2004) Neurotrophic regulation of retinal ganglion cell synaptic connectivity: from axons and dendrites to synapses. *The International Journal of Developmental Biology* 48: 947-56. *http://www.ijdb.ehu.es/web/paper.php?doi=10.1387/ijdb.041883sc*

*Rigel R, **Lom** B (2004) *Xenopus laevis* retinal ganglion cell dendritic arbors develop independently of visual stimulation. *Impulse* 1: 51-58. *http://impulse.appstate.edu/sites/impulse.appstate.edu/files/2004_01_01_rigel.pdf*

*Graham W, Willoughby IR, **Lom** B (2003) Pictorial atlas of *Xenopus laevis* development, Stages 1-50 *http://www.bio.davidson.edu/people/balom/StagingTable/xenopushome.html*

Willoughby IR, **Lom** B (2003) Media review: undergraduate publishing opportunities. *The Journal of Undergraduate Neuroscience Education* 2(1):R1-2. *http://www.funjournal.org/wp-content/uploads/2015/09/WilloughbyR1.pdf*

Lom B (2003) "The Journal of Neuroscience Education." In *What Is Learned A Neuroscience Portfolio*, ed. JJ Ramirez. Project Kaleidoscope *http://www.pkal.org/template2.cfm?c_id=800*

Lom B (2002) Introducing the Journal of Undergraduate Neuroscience. *Journal of Undergraduate Neuroscience Education* 1(1): E1. *http://www.funjournal.org/wp-content/uploads/2015/09/LomE1.pdf*

Lom B, Cogen J, Sanchez AL, Vu T, Cohen-Cory S (2002) Local and target-derived brain-derived neurotrophic factor exert opposing effects on the dendritic arborization of retinal ganglion cells *in vivo*. *Journal of Neuroscience* 22: 7639-49. *http://www.jneurosci.org/content/22/17/7639.long*

Lom B, Cohen-Cory S (1999) Brain-derived neurotrophic factor differentially regulates retinal ganglion cell dendritic and axonal arborization *in vivo*. *Journal of Neuroscience* 19: 9928-9938. *http://www.jneurosci.org/content/19/22/9928.long*

Lom B, Hopker V, McFarlane S, Bixby JL, Holt CE (1998) Fibroblast growth factor receptor signaling in *Xenopus* retinal axon extension. *Journal of Neurobiology* 37: 633-641. *http://www.ncbi.nlm.nih.gov/pubmed/9858264*

Lom B, Hockberger PE (1997) Does laminin-1 guide cerebellar granule cell migration? *Journal of Neurobiology* 33: 72-84. *http://www.ncbi.nlm.nih.gov/pubmed/9212071*

Healy KE, Thomas CH, Rezania A, Kim, McKeown PJ, **Lom** B, Hockberger PE (1996) Kinetics of primary bone cell organization and mineralization on materials with patterned surface chemistry. *Biomaterials* 17: 195-208. *http://www.sciencedirect.com/science/article/pii/0142961296857644*

Hockberger PE, **Lom** B, Soekarno A, Thomas CH, Healy KE (1996) "Cellular engineering: control of cell-substrate interactions." In *Nanofabrication and Biosystems: Integrating Materials Science, Engineering, and Biology*, ed. HC Hoch, LW Jelinski, H Craighead. New York: Cambridge University Press, p. 276-299.

Healy KE, **Lom** B, Hockberger PE (1994) Spatial distribution of mammalian cells dictated by material surface chemistry. *Biotechnology and Bioengineering* 43: 792-800. *http://onlinelibrary.wiley.com/doi/10.1002/bit.260430814/abstract*

Lom B, Healy KE, Hockberger PE (1993) A versatile technique for patterning biomolecules onto glass coverslips. *Journal of Neuroscience Methods* 50: 385-97. *http://www.ncbi.nlm.nih.gov/pubmed/8152246*

Soekarno A, **Lom** B, Hockberger PE (1993) Pathfinding by neuroblastoma cells in culture is directed by preferential adhesion to positively charged surfaces. *NeuroImage* 1: 129-44. *http://www.sciencedirect.com/science/article/pii/S1053811983710062*