

CURRICULUM VITAE

LESLIE P. TOLBERT

Regents' Professor
Professor of Neuroscience, and Cellular and Molecular Medicine
University of Arizona

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Education

- 1973 A.B. in Applied Mathematics, Radcliffe College/Harvard University, Cambridge, MA
1978 Ph.D. in Anatomy, Division of Medical Sciences, Harvard University, Cambridge, MA
Thesis title: "Synaptic Organization in the Anteroventral Cochlear Nucleus of the Cat"
Thesis advisor: Dr. D. Kent Morest
1978-81 Postdoctoral Fellow, Department of Neurobiology, Harvard Medical School, Boston, MA
Mentor: Dr. John G. Hildebrand
1981 Cold Spring Harbor summer course, "Neurobiology of the Leech"

Research Interests

Cellular and developmental neuroscience
- Mechanisms underlying impact of sensory input on development of brain circuitry
- Critical interactions between nerve cells and glial cells
- Development and plasticity of olfactory system
Use of experimentally advantageous insect systems to address neurobiological issues of broad relevance across animal species

Academic Appointments

Present Positions

- 2002- Regents' Professor, University of Arizona
1995- Professor, Department of Neuroscience (formerly the Arizona Research Laboratories Division of Neurobiology), and (joint appointment) Department of Cellular and Molecular Medicine, University of Arizona

Previous Positions

- 2011-13 Senior Vice President for Research, University of Arizona
2005-11 Vice President for Research, Graduate Studies, and Economic Development, University of Arizona
2010-13 Acting Director, Arizona Research Laboratories, University of Arizona
2005-06 Interim Dean of the Graduate College and Director of Graduate Interdisciplinary Programs, University of Arizona

- 1997-04 Chair, campus-wide Committee on Neuroscience and Graduate Interdisciplinary Program in Neuroscience, University of Arizona
- 1995-09 Professor, Arizona Research Laboratories Division of Neurobiology, and (joint appointment) Department of Cell Biology and Anatomy, University of Arizona
- 1990-95 Associate Professor (with tenure), Arizona Research Laboratories Division of Neurobiology, and (joint appointment) Department of Anatomy, University of Arizona
- 1987-90 Assistant Professor, Arizona Research Laboratories Division of Neurobiology, and (joint appointment) Department of Anatomy, University of Arizona, Tucson, AZ
- 1982-87 Assistant Professor, Department of Anatomy and Cell Biology, Georgetown University Schools of Medicine and Dentistry, Washington, D.C.
- 1981-82 Research Associate, Department of Cellular and Developmental Biology, Harvard University, Cambridge, MA (with Dr. Ronald Calabrese)

Honors and Awards

- 1973 A.B. *cum laude* in Applied Mathematics from Harvard University
- 1978-81 Individual NRSA postdoctoral fellowship
- 1995 Grass Lecturer, University of Mississippi Medical Center
- 1998 Mortar Board Senior Honor Society teacher award, University of Arizona
- 1999 Inducted into Omicron Delta Kappa Society (national leadership honor society)
- 1999 Outstanding Honors Faculty award, University of Arizona
- 2000 Selected as a Special Lecturer by Society for Neuroscience for annual meeting
- 2000 Mortar Board Senior Honor Society Citation Award, University of Arizona
- 2000 Graduate and Professional Student Council Award for Administrator of the Year, University of Arizona
- 2002 Awarded a Regents' Professorship (limited to no more than 3% of faculty) by Arizona Board of Regents
- 2005 Selected as a "Woman of Influence" by *Inside Tucson Business*
- 2006 Selected as a "Woman on the Move" by Tucson YWCA
- 2008 Recognized as one of twelve "Ordinary Women Doing Extraordinary Things" by UA Eller College of Management
- 2013 Graduate College award for long-standing support and leadership of Graduate Interdisciplinary Programs at University of Arizona
- 2017 Superior Teaching Award from Humanities Seminars Program for adult-education course on "The Ever-Changing Brain"

Memberships in Professional Societies

- American Association for the Advancement of Science
- Association for Chemoreception Sciences
- Society for Neuroscience
 - founding member and first president of Tucson Chapter

Intramural Professional Positions and Service

University of Arizona

- 1987-05 Coordinator, Division of Neurobiology's imaging facility
- 1988-92 Member, Electron Microscope User Group Committee for Arizona Research Laboratories (ARL) Division of Biotechnology (Head, 1991-92)
- 1988-04 Member, Executive Committee of the Committee on Neuroscience
- 1988 Head, subcommittee on Vertebrate Neuroanatomy, Department of Anatomy

1989-99 Coordinator, Division of Neurobiology's Antennal Lobe Discussion Group
 1989-92 Chair, Recruitment and Admissions Subcommittee of the Committee on Neuroscience
 1989-92 Member, School Outreach Subcommittee, Howard Hughes Biology Experiences Program, Department of Molecular and Cellular Biology
 1989 Member, Faculty Search Committee, Department of Speech and Hearing Sciences
 1989-90 Member, Provost's Search Committee for Coordinator of Interdisciplinary Programs at the University of Arizona
 1990- Active faculty participant, Undergraduate Research Biology Program
 1990-97 Member, selection committee for special scholarships, Honors Center
 1990-98 Co-organizer, campus-wide Developmental Neurobiology Journal Club
 1990-05 Member, Promotion and Tenure Committee, ARL Division of Neurobiology
 1991-00 Member, Developmental Neuroscience Training Faculty
 1991-92 Member, Faculty Search Committee, Department of Anatomy
 1992-93 Acting Director, ARL Division of Biotechnology
 1993 Member, Provost's Search Committee for Dean of Faculty of Science
 1993-94 Acting Co-Director, ARL Division of Neurobiology
 1993-00 Member, Biotechnology Advisory Committee for Vice President for Research
 1993-05 Member, Imaging Facility User Group Committee for ARL Division of Biotechnology
 1994-05 Member, Executive Committee for the Director of the ARL Division of Neurobiology
 1994 Co-organizer (with Drs. M. Tabor and T. Secomb, Applied Mathematics), workshop on "Modeling and Simulation of Biological Systems," one of a series of Medical and Biological Engineering Workshops sponsored by College of Medicine
 1994- Member, faculty of the Interdisciplinary Graduate Program in Insect Science
 1995 Member, committee on changes in natural sciences core curriculum, Faculty of Science
 1995-96 Member, Honors Center Task Force for Vice Provost for Undergraduate Programs
 1995-02 Member, Promotion and Tenure Committee, Department of Cell Biology and Anatomy
 1995-01 Member, steering committee for postdoctoral training program in Molecular Insect Science (Chair and PI, 1996-01)
 1995-00 Member, steering/admissions committee for the Flinn Initiative in Biomathematics of the Applied Mathematics Program
 1995-98 Chair, Graduate College Standing Advisory Committee on Interdisciplinary Programs
 1996 Member, Faculty Search Committee, Department of Speech and Hearing Sciences
 1996 Chair, self-study committees for Committee on Neuroscience and ARL Division of Neurobiology, charged with writing reports for Academic Performance Review
 1996-00 Member, Executive Committee, Center for Insect Science
 1997-05 Affiliate, Applied Mathematics Program
 1997-98 Member, faculty team for AACU-funded program, "Women and Scientific Literacy: Building Two-Way Streets"
 1997-98 *Ad hoc* member, Committee on Academic Freedom and Tenure for investigation of allegation of scientific misconduct
 1997 Member, *ad hoc* committee of Center for Insect Science to provide 2nd-year faculty evaluation
 1997 Member, *ad hoc* committee of Department of Women's Studies to provide 2nd-year evaluation of a faculty member
 1997-98 Member, committee conducting 5-year review of Director of the UA Honors Center
 1998 Member, search committee for Vice President for Research
 1998-05 Member, Vice-Chair, and Chair, Graduate Interdisciplinary Programs Advisory Council (elected)
 1998-05 Member, Steering Committee for Applied Mathematics
 1999-05 Member, selection committee for BRAVO! program for undergraduate research abroad
 1999-00 Member, search committee for Senior Vice President for Academic Affairs and Provost

1999-00 Member, search committee for Dean, College of Medicine (unsuccessful search)

2000-01 Member, search committee for Vice President for Health Sciences and Dean of College of Medicine (successful)

2000 Acting Director, ARL Division of Neurobiology

2000-02 Member, steering committee for Institute for Biomedical Science and Biotechnology; convener of *ad hoc* working group on molecular neuroscience

2001-02 Member, self-study committee for Academic Program Review of Applied Mathematics

2002-05 Co-chair, ARL Division of Neurobiology Promotion and Tenure Committee

2002-05 Member, University of Arizona's Finance Committee

2003 Chair, self-study committees for Committee on Neuroscience and ARL Division of Neurobiology, charged with writing reports for Academic Performance Review

2003-04 Member, Focused Excellence team on Cognitive Sciences and Neurosciences

2003-04 Representative from Neurobiology on Millenium Oversight Committee (enhancing diversity across the campus)

2004 Chair, Financial Support Services Review Committee

2005 Member, search committees for University of Arizona Federal Relations Director and for federal relations firm to represent University in Washington, DC

2005-13 Member, President's Cabinet

2005-13 Member, Provost's Leadership Team

2005-13 Member, University Space Committee

2005-06 Member, University Development Executive Committee

2006 Member, Information Technology Policy Group

2006 Member, President's Development Executive Committee

2006-09 Member, Committee on the Status of Women

2006-13 PI, NSF ADVANCE grant aimed at enhancing success of women faculty in science, technology, engineering, and math fields

2006-13 Member, President's Large Telescopes Directorate

2008-10 Member, University Corporate and Business Relations Council

2008-10 Chair, Provost's Strategic Advancement Advisory Council on Science and Engineering

2008-12 Member, President's Advisory Group (small subset of Cabinet)

2009 Chair, Search Advisory Committee for recruitment of General Counsel for the University

2009-10 Co-chair, Provost's Strategic Advisory Council on Humanities, Social Sciences, and Fine Arts

2011-12 Member, Search Advisory Committee for recruitment of University of Arizona President

2011-12 Member, Arizona Board of Regents Research Committee

2011-13 Member, President's Executive Finance Committee (financial leadership for University)

2012-13 Member, Search Advisory Committee for recruitment of Senior Vice President for Health Sciences

2012-13 Member, advisory board for Tech Launch Arizona (new technology commercialization office of the University)

2012-13 Member, 100% Student Engagement planning committee

2012-13 Member, planning committee for University Club

2012-13 Member, President's Capital Planning Committee

2012-13 Member, LCME (Liaison Committee on Medical Education) Task Force overseeing application of UA College of Medicine for continuing accreditation

2012-16 PI for Howard Hughes Medical Institute-funded Undergraduate Biology Research Program

2013-16 Co-chair of Neuroscience Advisory Council for Senior Vice President for Health Sciences, charged to develop and help implement a comprehensive plan for growth and focus in the neurosciences

2013-14 Member, search committee for faculty member in Mathematical and Computational

Physiology for Department of Physiology and Program in Applied Mathematics

- 2014- Member, strategic advisory committee for Evelyn F. McKnight Brain Institute directed by Dr. Carol Barnes
- 2014 Member, Provost's Academic Program Review committee for 7-year assessment of Department of Geosciences
- 2014-15 Faculty mentor for student in College of Science's ASEMS (Arizona's Science Engineering, and Mathematics Scholars) program
- 2014-16 Faculty mentor for students in the University of Arizona's MARC (Minority Access to Research Careers) program
- 2014- Faculty advisor for new "Alpha in Arizona" chapter of Nu Rho Psi, the national neuroscience honor society
- 2014-16 Member, search committee for inaugural Director of new Center for Innovation in Brain Science based in Arizona Health Sciences Center
- 2014-15 Chair, faculty search committee, Department of Neuroscience
- 2015-17 Faculty mentor, Flinn Scholars Program
- 2015-16 Member, faculty search committee, Department of Neuroscience
- 2016 Member, Provost's Academic Program Review committee for 7-year assessment of Department of Biomedical Engineering
- 2016- Member, scientific advisory committee for new Center for Innovation in Brain Science
- 2016- Member, College of Science Promotion and Tenure Committee

Georgetown University

- 1982-87 Member, Graduate Advisory Committee, Department of Anatomy
- 1983 Alternate member, Research Committee, School of Medicine
- 1983-84 Seminar Coordinator, Department of Anatomy
- 1986-87 Faculty Director, Georgetown University Medical Center Electron Microscopy Facility
- 1986-87 Member, University Animal Care and Use Committee

Extramural Professional Positions and Service

- 1978- Ad hoc reviewer for: Brain Research, Cell and Tissue Research, Glia, Journal of Anatomy, Journal of Comparative Neurology, Journal of Neurobiology, Journal of Neuroscience, Science, Synapse, Trends in Neuroscience, Journal of Comparative Physiology, European Journal of Neuroscience, National Science Foundation, National Sciences and Engineering Research Council of Canada
- 1985- Visitor to school-grade classrooms to discuss careers in neuroscience; development and organization of the brain; insect life cycles
- 1987 Member, NIH Search Committee for position of Chief, Laboratory of Neurobiology, NINCDS
- 1987-91 Member, National Science Foundation Advisory Panel on Biological Facilities Centers, which became Advisory Panel on Science and Technology Centers
- 1990-91 President, Arizona Society for Electron Microscopy and Microbeam Analysis
- 1990-92 Guest Editor, two issues of Microscopy Research and Technique on olfactory centers in the brain
- 1991 Member, National Science Foundation Advisory Panel, Instrumentation and Instrument Development Program
- 1991-95 Regular Member, National Institutes of Health Neurology B-1 Study Section
- 1994 Chair, NIH Behavioral and Neurosciences Special Emphasis Panel

- 1994 Invited participant, National Science Foundation Workshop on developing an international database on identified neurons
- 1995-96 President and founding member, Tucson Chapter of the Society for Neuroscience
- 1996-04 Speaker at many local civic clubs and participant in local television show (1996), in observance of Brain Awareness Week (declared by Society for Neuroscience and Dana Alliance)
- 1996-00 Member, NASA/Canadian Space Agency advisory team for design of insect accommodations for insect research in space
- 1997-00 Member, Committee on Neuroscience Literacy of Society for Neuroscience; co-organizer of Workshop for High School Students, 1998, 1999, 2000
- 1998 Member, Program Committee of the Association for Chemoreception Sciences
- 1998-99 Member, Awards Committee of the Association for Chemoreception Sciences
- 1998 Speaker on “Learning, Development, and Brain Plasticity: Recent Insights from Neuroscience,” at annual meeting of National Association of Biology Teachers, Reno, NV
- 1999, ‘02 Career panelist, “Expanding Your Horizons” conference for grade-school girls in Tucson
- 1998-01 Councilor, Association of Neuroscience Departments and Programs (elected)
- 1998-05 Member, Editorial Board, Chemical Senses
- 2000-02 Councilor, Association of Chemoreception Sciences (elected); organized AChemS’ school outreach activity for >300 Sarasota students in 2002
- 1999-00 Member, Flinn Scholarship Selection Committee, Flinn Foundation, Phoenix, AZ
- 1999-02 *Ad hoc* member, NIH Review Panel for Small Grants Program in Deafness and Communicative Disorders
- 2000-05 Member, Program Committee, Society for Neuroscience (served as chair in 2003-2004)
- 2001 External evaluator, University of Utah’s Interdisciplinary Program in Neuroscience
- 2001-05 Associate Editor, Journal of Comparative Neurology
- 2001-02 President-elect, Association of Neuroscience Departments and Programs (ANDP)
- 2002-03 President, Association of Neuroscience Departments and Programs
- 2002 External evaluator, Montana State University’s NSF-funded Integrated Graduate Education and Research Training Program in Computational Neuroscience
- 2003-06 Member, ad hoc Committee on Electronic Initiatives, Society for Neuroscience
- 2003-05 Member, Society for Neuroscience working group on the annual meeting
- 2003-06 Member, Society for Neuroscience working group on professional development
- 2003-08 Co-chair, statewide Neurosciences Platform Committee for Flinn/Battelle Bioscience Roadmap for Arizona
- 2004 Member, selection committee, Arizona Rhodes Scholar finalists
- 2005-08 Founding fellow and member of Board of Governors, Arizona Arts, Sciences, and Technology Academy
- 2005-12 Member, Arizona Center for Innovation Board of Directors
- 2005-12 Member, Critical Path Institute Operations Board
- 2005-12 Member, Campus Research Corporation Board of Directors, which oversees UA Science and Technology Park
- 2005-13 Member Representative, Large Binocular Telescope Board of Directors
- 2005-06 President-elect, Association for Chemoreception Sciences
- 2006-07 President, Association for Chemoreception Sciences
- 2006 Speaker/panelist, Arizona Women in Higher Education Southern Arizona Conference
- 2006-10 Councilor, Society for Neuroscience (member of working groups on future annual meetings, membership enhancement, relationship with Association of Neuroscience Departments and Programs, ADVANCE grant)
- 2006-13 Member, Southern Arizona Leadership Council (member of Executive Committee, 2008-13)

- 2006-14 Member, Arizona Bioscience Roadmap Steering Committee
- 2006-08 Member, Arizona Governor’s Council on Innovation and Technology
- 2006-08 Member, Southern Arizona Biosciences Steering Committee
- 2006-10 Member-at-Large, Neuroscience Section, AAAS (elected)
- 2006-13 Active member, American Association of Universities’ Senior Research Officers group
(at various times, member of working groups on protection of animal researchers and
on Conflict of Interest, and of annual meeting organizing committee)
- 2006-13 Active member, APLU’s (Association of Public and Land-grant Universities - formerly
NASULGC) Council on Research Policy and Graduate Education (member of working
group on protection of animal researchers, 2007, and of Executive Committee, 2008-13,
and Chair, 2011-2012)
- 2006-13 Board member, Arizona Alzheimer’s Research Consortium
- 2007 External consultant, Ohio Board of Regents, Innovation Incentive Program
- 2007-12 Member, Arizona Technology Council Board of Directors
- 2007-12 Member, Downtown Tucson Partnership Board of Directors
- 2008-09 Member, U.S. Representative Gabrielle Giffords’ (D-AZ) Solar Energy Advisory
Committee
- 2008-09 Member, Scientific Steering Committee of the Autonomous University of Guadalajara
Medical Science Project
- 2008-09 Member, Research Park Development Corporation Board of Directors
- 2008-14 Co-chair, Biosciences Leadership Council of Southern Arizona
- 2010 Provided, by invitation, written and oral testimony for hearing on “The State of Research
Infrastructure at U.S. Universities” before the Subcommittee on Research and Science
Education of the Committee on Science and Technology of the U.S. House of
Representatives; coordinated with AAU and APLU
- 2010 Speaker/panelist on “Why Academia?” for Society for Neuroscience annual meeting
workshop
- 2010-14 Member, Society for Neuroscience Committee on Committees and Awards Committee
(chairing Achievement Awards Selection Committee)
- 2010-13 Co-chair, Southern Arizona Leadership Council Science and Innovation Task Force
- 2011-12 Member, Tucson Regional Economic Opportunities (TREO) Board of Directors
- 2011-12 Member, APLU Board of Directors
- 2012 Member, external advisory committee for the enhancement of social, behavioral, and
economic sciences at Montana State University
- 2012 Provided, by invitation, written and oral testimony for hearing on “The Role of Research
Universities in Securing America’s Future Prosperity: Challenges and Expectations”
before the Subcommittee on Research and Science Education of the Committee on
Science and Technology of the U.S. House of Representatives; coordinated with AAU
and APLU and timed to coincide with release of NRC report of the same name
- 2012- Chair, selection committee for national Golden Goose Awards for high-impact science that
initially seemed arcane, through Association of American Universities (AAU) and
American Association for the Advancement of Science (AAAS)
- 2012 “Maintaining a Positive Research Enterprise to Address the Grand Global Challenges – A
Land-Grant University Perspective” presentation to Council of Scientific Society
Presidents at their biannual meeting on science and science policy, Washington DC
- 2013 Member of organizing committee and convener for “Southwestern Regional Conference to
Renew the Partnership for Innovation, Prosperity, and Security,” held in Oro Valley,
Arizona, as a follow-up to the 2012 NRC report on “Research Universities and the
Future of America”
- 2013 Chair, external advisory committee for review of Vice President for Research
Administration, Emory University

- 2013 Moderator, press conference on “Learning about the Human Brain from Studies in Other Species,” Society for Neuroscience annual meeting, San Diego, CA
- 2013-17 Reviewer of nominations for Howard Hughes Medical Institute Exceptional Research Opportunities Program (EXROP)
- 2014 Speaker, “Federally Funded Research: Expect the Unexpected,” in symposium on Golden Goose Award, AAAS Annual Meeting, Chicago, IL
- 2014 Keynote speaker and judge of student posters for Northern Arizona University’s annual Undergraduate Research Symposium, Flagstaff, AZ
- 2014 Interviewed on public television’s “Arizona Illustrated” program about regional advances in bioscience
- 2014 Member, Society for Neuroscience Advisory Group for Member Value
- 2014 Reviewer of scientific abstracts for “newsworthiness” for press office of Society for Neuroscience
- 2014 Panelist, Society for Neuroscience webinar on “Communicating Your Science to the Non-expert” (140 participants)
- 2014 Reviewer of neuroethology book manuscript for Harvard University Press
- 2014- Member of Finance Committee, Society for Neuroscience
- 2015- Vice President for Western Region and member of the national board of Nu Rho Psi, the national honor society for neuroscience
- 2016 Organizer and chair, Society for Neuroscience’s first virtual (internet-based) conference, on “The other brain cells: New insights into what glial cells do” (over 2500 participants)
- 2017- Elected member, Harvard University Board of Overseers

Community Service/Engagement (recent)

- 2008-11 Member, Board of Directors, Opening Minds Through the Arts Foundation (advocating arts integration into the elementary school curriculum to improve student performance)
- 2009-11 Member, Women’s Board of United Way of Southern Arizona
- 2013- Reading tutor for students at Pueblo Gardens Elementary School through the Reading Seed literacy program of Literacy Connects
- 2015- Member, Board of Directors, Arizona Friends of Chamber Music
- 2015- Host, Arizona Public Media radio interviews of area scientists for “Arizona Science” in local time slot in NPR’s weekly “Science Friday” show (podcasts available at <https://radio.azpm.org/arizonascience/>)

Publications

Refereed journal articles:

- Tolbert LP, Hildebrand JG (1981) Organization and synaptic ultrastructure of glomeruli in the antennal lobes of the moth *Manduca sexta*: a study using thin sections and freeze-fracture. Proc. R. Soc. Lond. B 213:279-301
- Tolbert LP, Morest DK (1982) The neuronal architecture of the anteroventral cochlear nucleus of the cat in the region of the cochlear nerve root: Golgi and Nissl methods. Neuroscience 7:3013-3030
- Tolbert LP, Morest DK, Yurgelun-Todd D (1982) The neuronal architecture of the anteroventral cochlear nucleus of the cat in the region of the cochlear nerve root: horseradish peroxidase labelling of identified cell types. Neuroscience 7:3031-3052
- Tolbert LP, Morest DK (1982) The neuronal architecture of the anteroventral cochlear nucleus of the cat in the region of the cochlear nerve root: electron microscopy. Neuroscience 7:3053-3067

- Tolbert LP, Matsumoto SG, Hildebrand JG (1983) The development of synapses in the antennal lobes of the moth *Manduca sexta*. J. Neurosci. 3:1158-1175
- Tolbert LP, Calabrese RL (1985) Anatomical analysis of contacts between identified neurons that control heartbeat in the leech *Hirudo medicinalis*. Cell Tissue Res. 242:257-267
- Arbas EA, Tolbert LP (1986) Presynaptic terminals persist following degeneration of "flight muscle" in a flightless grasshopper. J. Neurobiol. 17:627-636
- Oland LA, Tolbert LP (1987) Glial patterns during early development of antennal lobes of *Manduca sexta*: A comparison between normal lobes and lobes deprived of antennal axons. J. Comp. Neurol. 255:196-207
- Oland LA, Tolbert LP, Mossman KL (1988) Radiation-induced reduction of the glial population during development disrupts the formation of olfactory glomeruli in an insect. J. Neurosci. 8:353-367
- Oland LA, Tolbert LP (1988) The effects of hydroxyurea parallel the effects of radiation in developing olfactory glomeruli. J. Comp. Neurol. 27:377-387
- Tolbert LP (1988) Afferent axons from the antenna influence the number and placement of intrinsic synapses in the antennal lobes of *Manduca sexta*. Synapse 3:83-95
- Oland LA, Tolbert LP (1989) Patterns of glial proliferation during formation of olfactory glomeruli in an insect. Glia 2:10-24
- Oland LA, Orr G, Tolbert LP (1990) Construction of a protoglomerular template by olfactory axons initiates the formation of olfactory glomeruli in the insect brain. J. Neurosci. 10:2096-2112
- Tolbert LP, Sirianni PA (1990) The requirement for olfactory axons in the induction and stabilization of olfactory glomeruli in an insect. J. Comp. Neurol. 298:69-82
- Sun XJ, Tolbert LP, Hildebrand JG (1993) Ramification pattern and ultrastructural characteristics of the serotonin immunoreactive neuron in the antennal lobe of the moth *Manduca sexta*: a laser-scanning confocal and electron microscopic study. J. Comp. Neurol. 338:5-16 (with cover picture)
- Alonso-Pimentel H, Tolbert LP, Heed WB (1994) Re-examination of the concept of the insemination reaction in *Drosophila*. Cell Tiss. Res. 275:467-479
- Krull CE, Morton DB, Faissner A, Schachner M, Tolbert LP (1994) Spatiotemporal pattern of expression of tenascin-like molecules in a developing insect olfactory system. J. Neurobiol. 25:515-534
- Krull CE, Oland LA, Faissner A, Schachner M, Tolbert LP (1994) *In vitro* analyses indicate a potential role for tenascin-like molecules in the development of insect olfactory glomeruli. J. Neurobiol. 25:989-1004
- Malun D, Oland LA, Tolbert LP (1994) Uniglomerular projection neurons participate in early development of olfactory glomeruli in the moth *Manduca sexta*. J. Comp. Neurol. 347:1-22 (with cover picture)
- Willis MA, Butler MA, Tolbert LP (1995) Normal glomerular organization of the olfactory lobe is not necessary for odor guided locomotion. J. Comp. Physiol. A 176:205-216
- Sun XJ, Tolbert LP, Hildebrand JG (1995) Using laser scanning confocal microscopy as a guide for electron microscopic study of labeled neurons. J. Histochem. Cytochem. 43:329-335
- Kirschenbaum SR, Higgins M, Tveten M, Tolbert LP (1995) 20-hydroxyecdysone stimulates proliferation of glial cells in the developing brain of the moth *Manduca sexta*. J. Neurobiol. 28:234-247
- Oland LA, SR Kirschenbaum, WM Pott, AR Mercer, LP Tolbert (1995) Development of an identified serotonergic neuron in the antennal lobe of the moth and effects of reduction in serotonin during construction of olfactory glomeruli. J. Neurobiol. 28:248-267
- Oland LA, WM Pott, GY Bukhman, XJ Sun, LP Tolbert (1996) Activity blockade does not prevent the construction of olfactory glomeruli in the moth *Manduca sexta*. Int. J. Dev. Neurosci. 14:983-996
- Baumann PM, LA Oland, LP Tolbert (1996) Glial cells stabilize axonal protoglomeruli in the developing olfactory lobe of the moth *Manduca sexta*. J. Comp. Neurol. 373:118-128

- Sun XJ, Tolbert LP, Hildebrand JG (1997) Synaptic organization of the uniglomerular projection neurons of the antennal lobe of the moth *Manduca sexta*: a laser scanning confocal and electron microscopic study. J. Comp. Neurol. 379:2-20
- Oland LA, LP Tolbert (1998) Glomerulus development in the absence of a set of mitral-like neurons in the insect olfactory lobe. J. Neurobiol. 36:41-52
- Rössler W, Tolbert LP, Hildebrand JG (1998) Early formation of sexually dimorphic glomeruli in the developing olfactory lobe of the brain of the moth *Manduca sexta*. J. Comp. Neurol. 396:415-428
- Oland LA, WM Pott, MR Higgins, LP Tolbert (1998) Targeted ingrowth and axon-glia relationships of olfactory receptor axons in the primary olfactory pathway of an insect. J. Comp. Neurol. 398:119-138
- Sun XJ, LP Tolbert, JG Hildebrand, IA Meinertzhagen (1998) A rapid method for combined laser scanning confocal microscopic and electron microscopic visualization of biocytin or neurobiotin-labeled neurons. J. Histochem. Cytochem. 46:263-273
- Rössler W, Randolph PW, Tolbert LP, Hildebrand JG (1999) Axons of olfactory receptor cells of transsexually grafted antennae induce development of sexually dimorphic glomeruli in *Manduca sexta*. J. Neurobiol. 38:521-541
- Rössler W, Oland LA, Higgins MR, Hildebrand JG, Tolbert LP (1999) Development of a glia-rich axon-sorting zone in the olfactory pathway of the moth *Manduca sexta*. J. Neurosci. 19:9865-9877
- Rössler W, Tolbert LP, Hildebrand JG (2000) Importance of timing of olfactory receptor-axon outgrowth for glomerulus development in *Manduca sexta*. J. Comp. Neurol. 425:233-243
- Wegerhoff R, Rössler W, Higgins MR, Oland LA, Tolbert LP (2001) Fenvalerate treatment affects development of olfactory glomeruli in *Manduca sexta*. J. Comp. Neurol. 430:533-541
- Lohr C, Oland LA, Tolbert LP (2001) Olfactory receptor axons influence the development of glial potassium currents in the antennal lobe of the moth *Manduca sexta*. Glia 36:309-320
- Dubouque SH, Schachtner J, Nighorn AJ, Menon K, Zinn K, Tolbert LP (2001) Immunolocalization of synaptotagmin for the study of synapses in the developing antennal lobe of *Manduca sexta*. J. Comp. Neurol. 441:277-287
- Gibson NJ, Rössler W, Nighorn AJ, Oland LA, Hildebrand JG, Tolbert LP (2001) Neuron-glia communication via nitric oxide is essential in establishing antennal-lobe structure in *Manduca sexta*. Dev. Biol. 240:326-39
- Goriely A, Secomb T, Tolbert LP (2002) Effect of the glial envelope on extracellular K⁺ diffusion in olfactory glomeruli. J. Neurophysiol. 87:1712-1722
- Higgins MR, Gibson NJ, Eckholdt PA, Nighorn A, Copenhagen P, Nardi J, Tolbert LP (2002) Different isoforms of fasciclin II are expressed by a subset of developing olfactory receptor neurons and by olfactory-nerve glial cells during formation of glomeruli in the moth *Manduca sexta*. Dev. Biol. 244:134-154
- Lohr C, Tucker E, Oland LA, Tolbert LP (2002) Development of depolarization-induced calcium transients in insect glial cells is dependent on the presence of afferent axons. J. Neurobiol. 52:85-98
- Tucker ES, Tolbert LP (2003) Reciprocal interactions between olfactory receptor axons and olfactory nerve glia cultured from the developing moth *Manduca sexta*. Dev. Biol. 260:9-30
- Tucker ES, Oland LA, Tolbert LP (2004) *In vitro* analyses of interactions between olfactory receptor growth cones and glial cells that mediate axon sorting and glomerulus development. J. Comp. Neurol. 472:478-495
- Gibson NJ, Hildebrand JG, Tolbert LP (2004) Glycosylation patterns are sexually dimorphic throughout development of the olfactory system in *Manduca sexta*. J. Comp. Neurol. 476:1-18
- Oland LA, Gibson NJ, Tolbert LP (2005) NO-mediated signaling from olfactory receptor axons to peripheral ensheathing glia in the moth olfactory pathway. Chemical Senses 30:265-278
- Gibson NJ, Tolbert LP (2006) Activation of epidermal growth factor receptor mediates receptor axon sorting and extension in the developing olfactory system of the moth *Manduca sexta*. J. Comp. Neurol. 495:554-572

- Lipscomb B, Tolbert LP (2006) Temporally staggered development of glomeruli in the moth *Manduca sexta*. Chem. Senses 31:237-247
- Oland LA, Biebelhausen JP, Tolbert LP (2008) Glial investment of the adult and developing antennal lobe of *Drosophila*. J. Comp. Neurol. 509:526-550
- Gibson NJ, Tolbert LP, Oland LA (2009) Roles of specific membrane lipid domains in EGF receptor activation and cell adhesion molecule stabilization in a developing olfactory system. PLoS One 4(9):e7222
- Oland LA, Gibson NJ, Tolbert LP (2010) Localization of a GABA transporter to glial cells in the developing and adult olfactory pathway of the moth *Manduca sexta*. J. Comp. Neurol. 15:815-838
- Koussa MA, Tolbert LP, Oland LA (2010) Development of a glial network in the olfactory nerve: role of calcium and neuronal activity. Neuron Glia Biol. 6:245-261
- Gibson NJ, Tolbert LP, Oland LA (2012) Activation of glial FGFRs is essential in glial migration, proliferation, and survival and in glia-neuron signaling during olfactory system development. PLoS ONE 7(4):e33828
- MacNamee SE, Liu KE, Gerhard S, Tran CT, Fetter RD, Cardona A, Tolbert LP, Oland LA (2016) Astrocytic glutamate transport regulates a *Drosophila* CNS synapse that lacks astrocyte ensheathment. J. Comp. Neurol. 524:1979-1998

Chapters and reviews:

- Hildebrand JG, Matsumoto SG, Camazine SM, Tolbert LP, Blank S, Ferguson H, Ecker V (1979) Organization and physiology of antennal centers in the brain of the moth *Manduca sexta*. In: Insect Neurobiology and Pesticide Action, pp. 375-382
- Hildebrand JG, Matsumoto SG, Tolbert LP, Schneiderman AS, Camazine SM (1982) Postembryonic development of the antennal lobes in the moth *Manduca sexta*. Neuroscience Research Program Bulletin. MIT Press 20:891-900
- Tolbert LP (1988) Review of Synapse. Quart. Rev. Biol. 63:243
- Tolbert LP, Oland LA (1989) A role for glia in the development of organized neuropilar structures. Trends Neurosci. 12:70-75 (invited contribution)
- Tolbert LP (1989) Intercellular interactions in the construction of olfactory glomeruli in an insect. ISOT X: Proceedings of the Tenth International Conference on Olfaction and Taste. (K. Doving, ed.), Univ. of Oslo Press, pp. 236-245
- Tolbert LP, Oland LA (1990) Glial cells form boundaries for developing insect olfactory glomeruli: a review. Exp. Neurol. 109:19-28 (Invited contribution to special issue devoted to boundaries in the developing brain)
- Boeckh J, Tolbert LP (1993) Synaptic organization and development of the insect antennal lobe. Micros. Res. Techn. 24:260-280
- Oland LA, Krull CE, Tolbert LP (1995) Glial cells play a key role in the construction of insect olfactory glomeruli. In Neuron-Glia Interrelations During Phylogeny: II. Plasticity and Regeneration, A. Vernadakis and B. Roots (eds), Humana Press, Inc.
- Oland LA, Tolbert LP (1996) Multiple factors shape the development of olfactory glomeruli: insights from an insect model system. J. Neurobiol. 30:92-109 (invited contribution for special issue on olfaction)
- Tolbert LP, Sun XJ, Hildebrand JG (1996) Combining laser scanning confocal microscopy and electron microscopy in studies of the insect nervous system. J. Neurosci. Methods 69:25-32 (invited contribution to issue on "Methods for Studying the Nervous Systems of Invertebrates")
- Hildebrand JG, Rössler W, Tolbert LP (1997) Postembryonic development of the olfactory system in the moth *Manduca sexta*: primary-afferent control of glomerular development. Seminars in Cell & Developmental Biology 8:163-170 (invited contribution to issue on olfactory development)
- Edwards JS, Tolbert LP (1998) Chapter 19: Insect Neuroglia. In Microscopic Anatomy of the Invertebrates, M. Locke (ed.), Wiley-Liss Inc., Vol 1 IB: Insecta, pp. 449-466 (invited chapter)

- Tolbert LP (1998) Olfactory development in invertebrates: on the scent of central developmental issues. In "Olfaction and Taste XII: An International Symposium," Annals NY Acad. Sci. 855:95-103
- Burd GD, Tolbert LP (2000) Development of the Olfactory System. In Neurobiology of Taste and Smell, T.E. Finger, W.L. Silver, and D. Restrepo (eds.), John Wiley and Sons, pp. 233-255
- Oland LA, Tolbert LP (2003) Key interactions between neurons and glial cells during neural development in insects. Ann. Rev. Entomology 48:89-110 (electronic version published 8/19/02)
- Tolbert LP, Oland LA, Christensen TC, Goriely AR (2003) Neuronal and glial morphology in olfactory systems: Significance for information processing and underlying developmental mechanisms. Brain and Mind 4:27-49
- Tolbert LP, Oland LA, Tucker ES, Gibson NJ, Higgins M, Lipscomb B (2004) Bidirectional influences between neurons and glial cells in the developing olfactory system. Prog. Neurobio. 73:73-105
- Oland LA, Tolbert LP (2010) Role of glial cells in neural circuit formation: Insights from research in insects. Glia: PMID: 21125646.

Scholarly scientific presentations

Invited presentations at national and international meetings:

- 1989 Tenth International Symposium on Olfaction and Taste, Oslo, Norway
- 1990 Winter Conference on Brain Research, Panel on "Roles for Glial Cells in Development," Snowmass, CO
- 1990 European Chemoreception Research Organization, Satellite Symposium on "Development and Plasticity of the Olfactory System: A Comparative View," Luminy, France
- 1991 MIND (Meeting in Neural Development), New York, NY
- 1992 Glomerulus Meeting, Tegernsee, Germany
- 1992 Cajal Club, American Association of Anatomists, New York, NY
- 1993 Association for Chemoreception Sciences, Workshop on "Comparative Aspects of Olfaction," Sarasota, FL
- 1994 Gordon Conference on Olfaction and Taste, Plymouth, NH
- 1995 Conference on the Smallest Brains, Free University of Berlin, Berlin, Germany
- 1995 Fourth International Congress on Neuroethology, Symposium on "Olfactory Development" (organizer and speaker), Cambridge, England
- 1997 International Symposium on Olfaction and Taste XII/Association for Chemoreception Sciences XIX, Symposium on "Olfactory Development," San Diego, CA
- 2000 International Symposium on Olfaction and Taste XV, Symposium on "Olfactory Plasticity," Brighton, England
- 2000 XXI International Congress of Entomology, plenary speaker, Iguassu Falls, Brazil
- 2000 Society for Neuroscience, Special Lecturer, New Orleans, LA
- 2002 International Society for Developmental Neuroscience, symposium on "Olfactory Development," Sydney, Australia
- 2003 European Symposium on Insect Taste and Olfaction, Harstad, Norway
- 2003 Association for Chemoreception Sciences, symposium on "Patterning in Olfactory Systems: How Much Is Pre-Specified?," Sarasota, FL
- 2007 Göttingen Meeting of the German Neuroscience Society 2007, Göttingen, Germany
- 2008 Magisterial Speaker, "Brain Development and Plasticity," Third Pan-American Symposium on Neurovirology, Guadalajara, Mexico

Invited presentations at universities and local societies:

- 1984 Research seminar, Department of Oral Biology, University of Connecticut
- 1985 Research seminar, Department of Zoology, University of Maryland
- 1985 Research seminar, Section on Neurobiology and Behavior, Cornell University

- 1986 Research seminar, Department of Anatomy, Uniformed Services University of the Health Sciences
- 1986 Research seminar, ARL Division of Neurobiology, University of Arizona
- 1987 Research seminar, Department of Biology, State University of New York at Albany
- 1987 Research seminar, Department of Anatomy, University of Arizona
- 1989 Research seminar, Arizona Society for Electron Microscopy and Microbeam Analysis
- 1990 Research seminar, Institute for Zoology, University of Regensburg, Regensburg, Germany
- 1990 Research seminar, Department of Biology, University of Konstanz, Konstanz, Germany
- 1991 Research seminar, Cancer Biology Group, University of Arizona
- 1991 Research seminar, Department of Neurobiology and Physiology, Northwestern University
- 1991 Research seminar, Department of Anatomy, University of Tennessee
- 1992 Research seminar, Institute of Neuroscience, University of Oregon
- 1992 Research seminar, Neuroscience Program, Ohio State University
- 1992 Research seminar, Department of Pathology, University of Arizona
- 1993 Research seminar, Barrow Neurological Institute, Phoenix, AZ
- 1993 Short research presentation, Undergraduate Research Biology Program, University of Arizona
- 1994 Workshop on Biological Imaging, College of Medicine, University of Arizona
- 1995 Grass Lecture, University of Mississippi Medical Center, Jackson, MS
- 1995 Series of three lectures as Visiting Professor, Institute for Zoology, University of Regensburg, Regensburg, Germany
- 1995 Research seminar, Neurobiology Division, University of Heidelberg, Heidelberg, Germany
- 1996 Research seminar, Department of Biology, Pima Community College, Tucson, AZ
- 1996 Research seminar, Neuroscience Program, University of Illinois, Urbana-Champaign, IL
- 1997 Research seminar, Department of Zoology, University of Maryland, College Park, MD
- 1997 Research seminar, Neuroscience Program, University of Utah, Salt Lake City, UT
- 1998 Research seminar, Department of Neuroscience, Case Western Reserve University, Cleveland, OH
- 1999 Research seminar, Department of Physiology, University of Arizona
- 1999 Research seminar, Department of Biology, University of Missouri, Columbia, MO
- 1999 Lecture on neural development for Senior Academy, Tucson, AZ
- 2000 Research seminar, Hexapodium, Center for Insect Science, U. AZ
- 2000 Presentation on U. of Arizona's IGERT training grant on the interface between math, physics, and biology, Association of Neuroscience Departments and Programs, Washington, DC
- 2001 Research seminar, Biochemistry Department, St. Mary's University, San Antonio, TX
- 2001 Research seminar, Department of Biology, Georgia State University, Atlanta, GA
- 2001 Presentation on mechanisms of neural plasticity, Holtzman Education Series, St. Joseph's Hospital, Tucson, AZ
- 2002 Research seminar, Program in Neuroscience, Michigan State University, East Lansing, MI
- 2003 Research seminar, Neuroscience Program, Yale University, New Haven, CT
- 2004 "Neuron-glia interactions in development," Neurology & Neurosurgery Grand Rounds, U. AZ
- 2004 Research seminar, Biocenter, University of Würzburg, Würzburg, Germany
- 2005 Research seminar, Cell & Structural Biology, University of Illinois, Urbana-Champaign, IL
- 2005 Research seminar, Women in Neuroscience Program, Rutgers University, NJ
- 2006 Speaker, Arizona Women in Higher Education conference
- 2007 Research seminar, Center for Smell and Taste, University of Florida, Gainesville, FL
- 2008 Research seminar as Helen Cserr Lecturer, Mt. Desert Island Biological Laboratory, Mt. Desert Island, ME
- 2008 Invited speaker, President's Forum on "The Role of Universities in the 21st Century," Toyota Technological Institute, Nagoya, Japan

- 2010 Public lecture on "The Plastic Brain" for College of Science lecture series on "Mind and Brain," University of Arizona
- 2010 Invited presentation on developmental neuroplasticity for Opening Minds Through the Arts, Arts Integration Academy, Tucson, AZ
- 2012 Research seminar, Rutgers University Women in Neuroscience program, Piscataway, NJ
- 2012 Research seminar, Miami University Chapter of Society for Neuroscience, Oxford, OH
- 2013 Speaker, "Olfaction: An Acquired Taste," for Science Café series of public talks, U. AZ School of Mind, Brain, and Behavior, Tucson, AZ
- 2014 Presentation on "Big Data and the Brain" to the local Harvard Club, Tucson, AZ
- 2014 Keynote speaker and judge, Northern Arizona University annual Undergraduate Research Symposium, Flagstaff, AZ
- 2014 Presentation on "Recent Breakthroughs in Neuroscience Research" to a large local retirement community, Tucson, AZ
- 2017 Presentation on "The Neuroscience of Good Taste" to the Yale Club of Southern Arizona and to the Senior Academy at Academy Village, Tucson, AZ

Short course:

- 2016 5-week short course for Humanities Seminars Program at University of Arizona on "Your Ever-Changing Brain," a review of modern ideas about brain plasticity (approximately 180 participants)

Grants and Contracts Awarded

Research grants:

- 2000-05 NIH: Program Project Grant for "Neural development: intercellular and humoral control," competitive renewal. R.B. Levine, overall P.I.; L.A. Oland, L.L. Restifo, N.J. Strausfeld, L.P. Tolbert, Co-P.I's. L.P. Tolbert, P.I. of Project #5, "Development of sexually dimorphic olfactory glomeruli," and of Imaging Core, and co-investigator on Project #2, "Glial development during glomerulus formation." Total direct costs for Project #5: \$579,839; for Project #2: \$481,348.
- 1999-05 NIH R01 Grant, "Intercellular interactions in developing glomeruli," competitive renewal. L.P. Tolbert, P.I. Total direct costs: \$987,842.
- 1997-98 NIH Shared Instrumentation Grant for confocal microscope and Ca⁺⁺-imaging system for neurobiology. L.P. Tolbert, P.I.; J.G. Hildebrand, R.B. Levine, L.A. Oland, N.J. Strausfeld, co-investigators. \$230,000.
- 1995-99 NIH RO1 Grant, now entitled "Intercellular interactions in developing glomeruli," competitive renewal. L.P. Tolbert, P.I. Total direct costs: \$374,222.
- 1995-00 NIH: Program Project Grant for "Neural development: intercellular and humoral control," competitive renewal. R.B. Levine, overall P.I.; J.G. Hildebrand, D.B. Morton, L.A. Oland, L.L. Restifo, L.P. Tolbert, Co-P.I's. Total direct costs: \$3,514,017 plus \$100,000 equipment supplement. L.P. Tolbert Co-P.I. for Project #2, "Glial development during glomerulus formation;" Co-P.I. for Project #5, "Development of sexually dimorphic olfactory glomeruli;" and P.I. for Core A, "Confocal and electron microscopy core facility."
- 1990-95 NIH: Program Project Grant for "Neural development: intercellular and humoral control," J.G. Hildebrand, overall P.I. Total direct costs: \$1,868,084. L.P. Tolbert P.I. for Project #5, "Hormonal control of olfactory lobe development"; Co-P.I. for Project #2, "Developmental influences on cultured olfactory neurons"; and P.I. for Core A, "Electron and light microscopy core facility".
- 1990-94 NIH RO1 Grant: "Ultrastructural development of antennal center," competitive renewal. L.P. Tolbert, P.I. Total direct costs: \$321,999.

- 1990-91 NIH: BRSF funds from University of Arizona in amount of \$4,560 for "Investigations of the function of olfactory glomeruli."
- 1989-90 University of Arizona Small Grant: "Possible roles for extracellular matrix in the development of the insect olfactory system." \$3,900.
- 1988-90 NSF: Shared Equipment Grant for "Computer-based system to analyze, reconstruct, and display neurons." N. Strausfeld, P.I.; J. Hildebrand, E. Arbas, R. Levine, G. Burd, L. Tolbert, co-P.I's. Total direct costs: \$100,000.
- 1987-90 NIH RO1 Grant: "Ultrastructural development of the antennal center," competitive renewal. L.P. Tolbert, P.I. Total direct costs: \$231,103.
- 1987-88 NIH: BRSF funds from University of Arizona in amount of \$5,000 for "*In vitro* analysis of neuron-glia interactions in the moth system."
- 1984-87 NIH RO1 Grant: "Ultrastructural development of the antennal center," RO1-NS20040. L.P. Tolbert, P.I. Total direct costs: \$145,336.
- 1981-84 NSF: "Characterization of neurons in the heartbeat circuit of leeches," BNS-81-08837. R. L. Calabrese, P.I. In last year, subcontract from Harvard University to L.P. Tolbert (Georgetown University).
- 1980-81 NIH Postdoctoral Trainee in Neurobiology
- 1978-80 NIH Postdoctoral Fellowship: "Anatomy and biochemistry of developing moth brain," F32-NS05891, to L.P. Tolbert (awarded for 3 years, accepted for 2).
- 1976-78 NIH Predoctoral Trainee in Psychobiology
- 1973-76 NIH Predoctoral Trainee in Anatomy
- 1972 Smithsonian Undergraduate Research Appointment (competitive funding for summer research at the Smithsonian Institution, Washington, D.C.)

Other grants:

- 2012-15 Howard Hughes Medical Institute Precollege and Undergraduate Science Education Program Grant, L.P. Tolbert, PI. Total direct costs: \$1,800,000.
- 2012-13 NIH Infrastructure Grant: "College of Medicine Phoenix Campus Vivarium Phase I Construction," L.P. Tolbert, PI for last year of ARRA grant, while facility was completed. \$14,996,000 total award.
- 2006-13 NSF: "Eradicating Subtle Discrimination," ADVANCE Program for Institutional Transformation (to promote success of women faculty in science, engineering, and math), L.P. Tolbert, PI; L. Gerken, R. Richardson, A. Vaillancourt, co-PI's. Total direct costs: \$3,200,000.
- 2005-10 Department of Energy: "Environmental and Natural Resources Facility – Phase II Planning," L.P. Tolbert, PI. \$1,637,000 total award.

Training grants in which I participated as training faculty:

- 2004-09 NIH Training Grant T32 AG007434: "Predoctoral Training Program in Neuroscience," R.B. Levine, PI. Direct costs per year: \$112,516.
- 2000-04 NIH Training Grant: "Postdoctoral excellence in research and training," T. Markow, PI. Total direct costs: \$3,802,635. L.P. Tolbert, member of steering/selection committee.
- 1998-04 NSF IGERT Training Grant: "Multidisciplinary training at the interface of biology, mathematics, and physics," M. Tabor, PI. L.P. Tolbert, one of 4 Co-PI's. Total direct costs: \$1,833,848.
- 1995-00 Flinn Foundation Training Grant: "Biomathematics and dynamics initiative," M. Tabor, PI. L.P. Tolbert, one of 19 participating faculty members. \$100,000 annually.
- 1994-01 NIH Training Grant: "Training program in molecular insect science." J. Law, PI. 1994-98; L.P. Tolbert, PI 1998-01.
- 1993-98 NIH Training Grant: "Training program in developmental neuroscience." R.B. Levine, PI. L.P. Tolbert, one of 15 participating faculty members. Total direct costs: \$721,020.

1993-98 Flinn Foundation Training Grant: "Training in developmental neurobiology," R.B. Levine, PI.
L.P. Tolbert, one of 15 participating faculty members. \$91,340 annually.

Current Formal Course Responsibilities

NROS 330 – “Principles of Organization of the Brain,” 3 credits + weekly discussion section, fall semester. Sole instructor. (Fall 2014 - present)

NSCS 450 – “Neurons and Glia in Health and Disease,” 3 credits, spring semester. Co-instructor with Dr. Lynne Oland. (Spring 2016 - present)