

CURRICULUM VITAE
(as of 19 January 2017)

Name: Kristen M. Harris, PhD
Address: 915 Wild Basin LDG
Austin, TX 78746
Place of Birth: Fargo, North Dakota USA

Education:

1976 B.S. Minnesota State University Moorhead, MN (Summa cum Laude,
Biology Major, Chemistry & Math Minors)
1979 M.S. in Neurobiology University of Illinois (Advisor: WT Greenough, PhD)
1982 Ph.D. in Neurobiology, Northeastern Ohio Universities College of
Medicine and Kent State University (Advisor: Timothy Teyler, PhD)

Postdoctoral Training:

1982-84 Department of Neurology, Neurocytology Laboratory, Massachusetts
General Hospital, Harvard Medical School, Boston, MA (Sponsor, Dennis
Landis, MD; Collaborator, John Stevens, PhD, University of Toronto)

Academic Appointments:

1984 Instructor, Department of Neuropathology, Harvard Medical School, and
Neuroscience Division, Children's Hospital, Boston, MA
1985 Assistant Professor, Dept. of Neurology at Children's Hospital, and the
Program in Neuroscience, Harvard Medical School.
1996-99 Associate Professor, Dept. of Neurology at Children's Hospital and the
Program in Neuroscience at Harvard Medical School, Boston, MA
1999-02 Professor, Biology Department, Boston University, Boston, MA
2000-02 Co-Director, Program in Neuroscience, Boston University, Boston, MA
2002-04 Adjunct Professor, Biology Department, Boston University, Boston, MA
2002-06 Professor and Georgia Research Alliance Eminent Scholar, Neurology,
Medical College of Georgia, Augusta, GA
2002-04 Chief, Synapses and Cell Signaling Program, Institute of Molecular
Medicine and Genetics, Medical College of Georgia, Augusta, GA
2004-06 Director, Synapses and Cognitive Neuroscience Center, Medical College
of Georgia, GA
2006-08 Adjunct Professor, Department of Neurology, Medical College of Georgia,
GA
2013-15 Associate Chair for Undergraduate Education, Department of
Neuroscience, University of Texas at Austin, TX
2006- Professor, Department of Neuroscience and Institute for Neuroscience;
Fellow, Center for Learning & Memory, University of Texas at Austin, TX

Awards and Honors:

1980 NIH Individual Predoctoral Fellowship,
1980 Scholarship, Neurobiology Course, Woods Hole, MA
1980 Sigma Xi Grant in Aid of Research

1982	NIH Individual Postdoctoral Fellowship
1987	Milton Fund Grant, Harvard Medical School
1987	Outstanding Young Alumna Award, Minnesota State University Moorhead
1987	Sloan Research Fellowship, Alfred P. Sloan Foundation
1992	Finalist, Computerworld Smithsonian Award, Image Graphics Laboratory
1993-94	Judge, Computerworld Smithsonian Awards
1999-2004	Packard Foundation Grant
2002-04	Councilor, Society for Neuroscience
2002-06	Georgia Research Alliance Eminent Scholar
2003	Weirsmas Visiting Professor, Cal Tech, CA
2003	Distinguished Alumna Award, Minnesota State University Moorhead
2005-2013	Javits Merit Award, NINDS
2010	Bauer Colloquium Speaker, Brandeis University, MA
2011	Neuroscience External Advisory Committee, Northwestern University
2012-cur	Scientific Advisory Board, Max Planck Institute for Brain Research, Frankfurt, Germany
2014-cur	Scientific Advisory Board, HHMI – Janelia Research Campus, Virginia
2014-16	Kavli Foundation, Brain Initiative Development Funds
2014	Outstanding Speaker Award, American Association for Clinical Chemistry
2015-cur	Scientific Advisory Board, Allen Institute for Brain Research, Seattle, WA
2015-cur	Brain Research Foundation Fellow
2015-cur	Texas Brain Initiative – Co-I with Dr. Andrew Dunn in Biomedical Engineering, UT at Austin
2016	Elected Fellow, AAAS

Service:

National Institutes of Health and National Institutes of Mental Health:

1990-95	Consultant, Neurology Study Section B - Program Project Grants
1992-95	Consultant, National Resource Center Grants
1996-97	Member, Cognitive Functional Neuroscience Review Committee, NIMH
1997-99	Member, Molecular and Cellular Developmental Neurosciences 1 Study Section, NIH
2000-	Ad Hoc Reviewer on multiple Study Sections
2006	Participant, NIH Blueprint Informatics Workshop, Linking Informatics of Neuroscience Communities
2008-10	Charter Member, Neurotechnology Study Section
2011-15	NIH Study Section Member, Synapses, Cytoskeleton and Trafficking
2014	Chair, NIH Study Section, Brain Initiative: Transformative Approaches for Cell-Type Classification in the Brain

USA National Science Foundation:

1988-	Ad Hoc Reviewer
-------	-----------------

Swiss National Science Foundation

2016	Grant Reviewer
------	----------------

Professional Societies:

Society for Neuroscience (SFN)

1976-	Active Member number 000002259
1993	SFN: Organizer, Social on Neuroanatomical Methods,
1998	SFN: Chair and Speaker, Symposium on Dendritic Spines
2000-04	SFN: Councilor
2000	SFN: Member, Search Committee for new Executive Director of
2002-04	SFN: Co-chair Professional Development Working Group
2004-08	SFN: Founding member, Neuroinformatics Committee
2005-06	SFN: "Meet the Expert" Speaker at two SFN Annual meetings
2006	SFN: Chair and Speaker, Symposium: "How Synapse Structure Teaches Us about Function and Vice Versa".
1997-04	Women in Neuroscience (WIN)
2001	Chair, Mika Salpeter WIN Lifetime Achievement Award committee
2004	SFN: As a Councilor I fostered the WIN merger into the SFN
2013	SFN: Special Lecture, Society for Neuroscience International Meeting, San Diego
2016	SFN: Chair and Speaker, Symposium: "The Ultrastructural Basis of Synaptic Transmission and Plasticity"

Other Professional Societies and Functions:

1978-	Sigma Xi
1980-1999	Association for Women in Science
1985-1999	New England Society for Electron Microscopy
1991-	American Association of Anatomists
1991-1999	Microscopy Society of America
1993-	American Association for University Women
1998	Organizing Chair, Keystone Symposium on Synapse Formation and Function
2000	Organizing Chair, Gordon Research Conference on Cell Biology of the Neuron
2002-06	Steering Committee, Gordon Research Conference on Neural Plasticity
2011-	Member, American Physiological Society
2016-	Organizing Vice-chair, Gordon Research Conference on Synaptic Transmission, 2018 - Chair-elect
2016	Member, Electorate Nominating Committee, Section on Neuroscience, AAAS

University of Texas at Austin:

2006- 2011	Chair, Graduate Student Admissions Committee – Institute for Neuroscience
2006-2011	Member, Executive Committee – Institute for Neuroscience
2006-	Member, Qualifying Exam committees - Institute for Neuroscience
2006-2011	Member, Search Committee – Center for Learning and Memory
2006-	Assistant Graduate Student Advisor – Institute for Neuroscience (INS)
2007-	Co-PI, Institute for Neuroscience Training Grant
2006-2009	Initiator and organizer, Institute for Neuroscience Faculty Research Lunches

2008-2009 Member, Search Committee – Director of the Dell Pediatric Research Center

2006 Member, Curriculum Committee – Institute for Neuroscience

2009, 12 Member, Post Tenure review Committees, Austin Riggs, Richard Aldrich

2010-12 Chair (2011) and Member, College of Natural Sciences, Promotion and Tenure Committee

2011 Member, Committee to advise Dean on New Section Chair

2011, 13 Steering committee, Austin Conference on Learning and Memory

2011-2013 Chair, Neuroscience Task force, and Strategic Planning Committee

2013 Member, Committee to advise Provost on reappointment of Dean, College of Liberal Arts

2013 Member, Curriculum Development Task force advisory to the Dean, College of Natural Sciences

2013 Member, UT- Dell Medical School Pre-Clinical Training Working Group

2013-15 Associate Chair for Undergraduate Education, Department of Neuroscience.

2015 Chair, Ad Hoc P and T committee for Flawn Endowed Chair

2015- Member, Center for Learning and Memory training grant steering committee.

2015- Member, Department Promotion and Tenure committee

2015 Member, Search Committee, Dept. Neuroscience Chair

2015 Member, Search Committee, Joint search for Computational Neuroscientist with the Department of Computer Science.

2016 Member, *Selection Panel for the 2017 Brain Research Foundation's Scientific Innovations Award*

2016- Member, Campus Concealed Carry Appeals Sub Committee

Outside Advisory Boards:

2011 - *Northwestern University* – Neuroscience Department, External Advisory Board for Neuroscience of Information Storage Training Program, IL

2012 - *Max Planck Institute for Brain Research* – Scientific Advisory Board, Frankfurt/Main, Germany

2014 - *Janelia Farm Research Campus (HHMI)* – Scientific Advisory Board, Ashburn, VA, USA

2015 *CalBrain* – California Brain Initiative, Advisory Board

2015 - *Allen Brain Science Institute* - Scientific Advisory Board, Seattle, WA

Georgia Regents University:

2004-06 Member, Steering Committee, Residency Program in Psychiatry

2004-06 Member, Steering Committee, Institute of Neuroscience

2004-06 Member, Executive Committee, Program in Neuroscience PhD

2004-06 Chair, Search Committee, Synapses and Cognitive Neuroscience Center

2002-06 Member, Leadership Council, Georgia Regents University Neuroscience Center of Excellence

2002-04 Member, Neuroscience Eminent Scholar Search Committee

2002-04 Judge, Postdoctoral Fellow Research Day Seminars

2002-04 Chair, Program in Neuroscience PhD Development Committee

2004-06 Member, Executive Committee, PhD Program in Neuroscience

2004-06 Member, Steering Committee, Institute for Neuroscience

Boston University:

1999-02 Member, Neuroscience Faculty Search Committee
2000-02 Chair, Neuroscience Seminar Series
2000-02 Member and then Chair, Biology Library Committee
2000-01 Co-Chair, Neuroscience and Cell Molecular Search Committee
2000-02 Member, Search Committee for Dean of the College of Arts and Sciences
2000-02 Member, Academic Promotions and Tenure Committee, Biology
2000-02 Member, Steering Committee, Biomedical Engineering Training Grant
2000-02 Member, Steering Committee, Whitaker Foundation Grant, Biomedical Engineering Department
2002 Member, "Faculty Roundtable" for Boston University View book

Harvard Medical School:

1987, 90, 93 Admissions Committee, Program in Neuroscience

Children's Hospital:

1989-92 Neurology Training Grant Executive Committee
1990-99 Leadership Role in establishing the Department of Research Computing, Member Steering committee
1992, 94, 97 Search Committee Member for Director of Research Computing
1994-95 Enders Faculty Council, Alternate member for Neuroscience
1994 Neuroscience Seminar Series Coordinator
1991-99 Director, Image Graphics Core Laboratory, Children's Hospital
1994-99 Director, Electron Microscopy Core Laboratory, Department of Neurology/Neuroscience

Editorial Boards:

2002- Neuroinformatics
2002- Hippocampus
2004- Brain Cell Biology, Formerly Neurocytology
2007-2014 Associate Editor, Frontiers in Neuroanatomy
2014- Journal of Comparative Neurology
2015- Guest Reviewing Editor, eLIFE

Journal Ad Hoc Reviewer:

1982- Journal of Neuroscience Methods
1987- Journal of Comparative Neurology
1989- Brain Research
1990- Journal of Neuroscience
1992- Hippocampus
1993- Science
1993- Journal of Electron Microscopy Techniques
1994- Proceedings National Academy of Sciences
1995- Nature
1998- Nature Neuroscience
1999- Neuron
2004- PLOS
2004- Cerebral Cortex

2004- Histology and histopathology
2004- European Journal of Neuroscience
2015- Scientific Reports (and NPG journal)

Grant Support:

Current:

09/26/2014-07/31/2019 PI, Synapse growth and elimination in mature CNS. R01MH104319
07/09/2012-06/30/2018 PI, Developmental Control of Synapse Structure with LTP. R01MH095980 (*planned renewal 2017*)
09/30/1997 - 12/31/2017 PI, 3-D Structure and Function of Synapses in the Brain. R01 EB002170 (*Planned Renewal 2017*)
09/01/2015 – 08/31/2017 Co-I with Prof. Andrew Dunn, UT Brain seed grant: “Super resolution microscopy of dendritic spines with multiphoton mode mixing.”
01/01/2015 – 12/31/2017 PI, Brain Research Foundation, Scientific Innovations Award, BRF SIA-2014-01. “Synaptome of a Memory”.
08/01/2004 – 06/30/2020 Robert Adron Harris and Kristen M. Harris (Co-PIs) “Pre-Doctoral Training in Interdisciplinary Neuroscience” 5T32DA018926-08, Training grant for the Institute for Neuroscience at the University of Texas at Austin.

Submitted Proposals:

2017-2022 PI, NSF NeuroNex Neurotechnology Hub, “Enhanced resolution for 3DEM analysis of synapses across brain regions and taxa”. Collaborative proposal with Texas Advanced Computing Center and The Salk Institute. (Requested budget, \$9,799,850, requested start date 05/01/2017).

Completed Projects (since 2005):

07/01/1984 – 06/30/2013 PI, Spine & Synaptic Plasticity in Mature Hippocampus. Javits Investigator award (07/01/05-13) R01 NS21184
05/01/1996 – 05/31/2010 PI, Ontogeny of Structure and Function at Hippocampal Synapses R01 NS033574
07/01/05-06/30/10 Robert K. Yu and Kristen Harris (Co-PIs), “Neurodegenerative Diseases and Neural Repair”, T32 NS045543
2006-13 Daniel Johnston, PI, Kristen Harris, Recipient Texas Emerging Technologies Fund

Teaching:

a) University Courses

1976-77 Premedical Biology, University of Illinois
1980 Functional Neuroanatomy, Northeastern Ohio Universities College of Medicine
1982 Workshop on Hippocampal Slices, Fred Haer Institute, Maine.
1987-88 Information Processing and Behavior, Harvard Medical School (HMS)
1988 Advanced Neurobiology, Program in Neuroscience, HMS.
1989-90 Introduction to Neuroscience Research, Program in Neuroscience, HMS
1990 Conduct of Science, Graduate Studies, Division of Medical Sciences, HMS

1992 Advanced Topics in Neurobiology, "Structure of Synaptic Function", HMS
 2001 Neurobiology of the Synapse, Biology, BU
 1999-2004 Selected lectures in Fundamental Neuroscience courses, BU and Georgia Regents University
 2008-2013 Neurobiology/Infrastructure of Synaptic Circuits, writing flag, UT-Austin (Implemented computer imaging laboratory and human brain dissections).
 2009, 10, 14 Seminar in Neuroscience, UT-Austin
 2013- Freshman Research Initiative – Neuroscience of Synapses, UT-Austin
 2014- Functional and Synaptic Neuroanatomy, UT-Austin (Writing flag and serial EM imaging lab where undergraduate students collect research data and often join our lab or other labs thereafter to complete their honors theses.)

b) Postdoctoral Fellows and Research or Visiting Professors:

2016 Lyndsey Kirk, PhD, Postdoctoral Fellow, obtained PhD from the University of California, Davis.
 2009-2015 Guan Cao, PhD, Research Assistant Professor: Development of LTP and producing new approaches for understanding the structural basis of LTP using refined electrophysiological and optogenetics approaches.
 2008- Masaki Kuwajima, PhD, Postdoctoral Fellow promoted to Research Associate (2013): Developing new electron microscopy and preparative approaches to localize LTP-specific molecules and understand their roles in ultrastructural synaptic plasticity.
 1993- Dr. Josef Spacek, Professor of Pathology, Charles University Medical Faculty, Hradec Kralove, Czech Rep. Fogarty Fellow and Visiting Professor, and Current Collaborator: Many discoveries regarding the ultrastructural composition of dendritic spines and their synapses. He provides tutorials and original research contributions to our Neuroinformatics Synapse database.
 2011–15 Jared Bowden, PhD, Postdoctoral Fellow: Structural basis of LTP in the dentate gyrus of the awake and behaving rat. Research Educator: Freshman Research Initiative at UT-Austin.
 2009–15 Deborah Watson, PhD, Postdoctoral Fellow: Background in the onset of development of hippocampal dependent behaviors; using ultrastructural approaches to development of LTP. Completed NRSA fellowship. Current Position: Research Scientist, QPS, LLC – Newark, Delaware
 2012-14 Maria Beth Bell, PhD, Postdoctoral Fellow: Nascent zones as synapse building blocks at mature synapses. Current Position: Senior Data Scientist at Electronic Arts, Austin, TX.
 2004-12 Jennifer Bourne, PhD Postdoctoral Research Fellow, promoted to Research Associate (2010): Discovered structural synaptic scaling as a basis for synaptic plasticity in mature hippocampus. NIH Training Grant Fellowship and NIH R03 grant recipient. Currently, Research Scientist at University of Colorado, Boulder
 1999-00 Carlos Portera-Cailliau, MD-PhD Neurology Fellow: investigated the role of dendritic filopodia in synapse formation in CA1. Currently, Associate Professor-in-Residence at the David Geffen School of Medicine at UCLA
 2000-01 Matthew Xu-Friedman, PhD, Visiting Postdoctoral Fellow, from Dr. Wade Regehr's laboratory at Harvard Medical School: Co-authored an elegant J. Neuroscience paper.

- 1997-2002 John Fiala, PhD, Research Assistant Professor, Postdoctoral Research Associate, developed our freely available reconstruction software (entitled "RECONSTRUCT").
- 1997-2002 Sergei Kirov, PhD, Research Assistant Professor, Postdoctoral Research Associate, recipient of an NIH – KO1 award during his last year in my laboratory and then an RO1 in his own laboratory, 2005. Currently, he is a tenured Associate Professor in Neurosurgery at the Georgia Health Sciences University.
- 1997-98 Gordon MG Shepherd, MD/PhD Postdoctoral/Neurology Fellow: Co-authored elegant paper demonstrating the variation and composition of presynaptic axons through 3-dimensional reconstructions. He is currently an Associate Professor in the Department of Physiology at Northwestern University.
- 1997-99 David Selig, MD, Postdoctoral Fellow: received NRSA to investigate structural basis of synaptic transmission and co-authored paper and then returned to medical practice.
- 1996-97 Viktor Popov, PhD, Visiting Professor: Senior Scientist at Institute of Cell Biophysics, Russian Academy of Sciences in Pushchino, Russia.
- 1991 Patricia Suppes, MD/PhD, Postdoctoral fellow: co-authored paper before assuming full-time clinical and research duties at the UT-Dallas.
- 1986-87 Frances Jensen, MD Postdoctoral Fellow: co-authored several papers, initially obtained K01 funding based on application written in my laboratory. Promoted to Full Professor in the Div. of Neuroscience, Dept. of Neurology, Children's Hospital, winner of an NIH Pioneer Award. In 2012, named Professor and Chair, Department of Neurology, Perelman School of Medicine, University of Pennsylvania.

c) Predoctoral Graduate students:

- 2006- *Thesis advisor or Rotation supervisor, Graduate Students at UT- Austin*
- Seth Weisberg, PhD student in INS (T), current
 - Heather Smith, MD/PhD student in INS (T), graduated 2015
 - Michael Chirillo, MD/PhD student in INS (T), graduated 2015
 - Ann Clemens, PhD student in INS (T), graduated 2013
(Co-advisor, with Dr. Daniel Johnston),
 - Larry Lindsey, MS in Electrical and Computer Engineering, graduated 2013 (Co-advisor, Dr. Alan Bovik)
 - Maria Beth Bell, PhD student in INS (T), graduated 2012
 - Andrea Haessly, PhD student in INS (R), graduated 2012
 - Priyanka Godbole, MS student with Dr. Chandrajit Bajaj (R)
 - Masson Weems, PhD student with Dr. Chandrajit Bajaj (R)
- 2006- *Visiting Students or Research Staff*
- Cailey Bromer, current PhD candidate, Salk Institute, CA
From Laboratory of Dr. Terrance Sejnowski
 - Davi Bock, PhD candidate, Harvard Medical School,
From the laboratory of Dr. Clay Reid
 - Cam Robinson, Staff Scientist, Duke University Medical Center,
From the laboratory of Dr. Michael Ehlers
 - Justin Kinney, PhD candidate, Salk Institute, CA,
From the laboratory of Dr. Terrance Sejnowski

- 2003-06 *Thesis (T) advisor or Rotation (R) supervisor, Graduate Students at the Georgia Regents University*
- Mark Witcher (T, MD/PhD student co-authored 2 papers, Current: Assistant Professor, Dept. Neuroscience, Functional Neurosurgery, Carilion Clinic Neurosurgery, Virginia Tech/Carilion Research Institute, Roanoke, VA).
 - William Risher (PhD Neuroscience student – co-mentored with Sergei Kirov), currently Postdoctoral Fellow at Duke University.
 - Jennifer Salgado (PhD Neuroscience student; co-authored paper in Neuron)
 - Jackie Tilsner, Seungshin Ma, Vanessa Bundy (R, PhD Neuroscience)
- 2000-2006 Thesis advisor (T) or Rotation (R) supervisor, Graduate Students at Boston University (BU)
- Linnaea Ostroff (T, Ph.D. Prog. in Neuroscience BU, Postdoc with Joe LeDoux, Research Scientist Allen Brain Institute). Currently Research Faculty, NYU, New York.
 - Mark Seid (T, PhD, Co-Advisor with Dr. James Traniello, BU; Major first author paper in J. Comp. Neurology). Became a Postdoctoral Fellow with Rüdiger Wehner in Switzerland; faculty at Smithsonian Tropical Research Institute, Panama, Currently Assistant Professor, The University of Scranton, Pennsylvania.
 - Linda Caparell (Master's Thesis advisor, Biology/Neuroscience at BU)
 - Tom Giove (R, MCBB Program at BU)
- 1988-99 Thesis advisor (T) or Rotation (R) supervisor, Graduate Students at Harvard Medical School (HMS)
- Karin Sorra (T, Ph.D. Prog. In Neuroscience, Recipient Canadian foreign fellowship, several first author papers; Founder ArroScience)
 - Marina Chicurel (R, Ph.D. Prog. in Neuroscience, Hughes Fellowship awarded while in my lab, first author paper)
 - Paul Jackson (R, M.D. Ph.D. Prog. in Neuroscience, first author paper)
 - Alo Basu (R, Ph.D., Prog. in Neuroscience)
 - Alex Carter (R, MD/Ph.D., Prog. in Neuroscience)
 - Bruce Peters (R, Ph.D. Prog. in Neuroscience)
 - Mary Morris (R, Ph.D. Prog. in Neuroscience)
 - Michael Levin (R, Ph.D., Cell and Dev. Biol.)
 - Gerri Martin (R, Ph.D. Prog. in Neuroscience)
 - David MacMahon, Visiting graduate student from University of Pittsburgh, co-authored a paper.
- 1993-2000 *Outside examiner for Ph.D. Thesis:*
- C. Woolley (B. McEwen, Advisor, Rockefeller Univ., New York, 1993).
 - Member of an International Committee to examine 6 Ph.D. candidates in the Laboratory of Prof. Per Andersen, Univ. Oslo, Norway (1995), including M Trommald, M-B Moser, E Moser and others.
 - K. Leslie (G. Turrigiano, Advisor, Brandeis Univ., Boston, MA, 2000)

c) *Undergraduate Honors Students, Research Assistants:*

University of Texas – Austin

- 2015-curr Dusten Hubbard, undergraduate research assistant in Neuroscience, currently post-bac research assistant.
- 2015-curr Marshall Drake, undergraduate research assistant, Neuroscience, Course Writing Specialist for NEU466G lab course.
- 2015-curr Dakota Hanka, undergraduate research assistant, Neuroscience
- 2015-curr Sindy Ventura, undergraduate research assistant Neuroscience, undergraduate Teaching Assistant for NEU466G lab course
- 2015-curr Masha Aseeva, undergraduate research assistant, Computer Science
- 2014-curr Paola Gonzalez, undergraduate research assistant, Neuroscience
- 2014-curr Kate Dembny, undergraduate research assistant, Neuroscience
- 2013-curr Corey Haines, undergraduate research assistant, undergraduate Teaching Assistant for NEU466G lab course, and Freshman Research Initiative.
- 2013-16 Mikayla Waters, undergraduate research assistant, undergraduate Teaching Assistant for NEU466G lab course, and Freshman Research Initiative. Currently, MD/PhD candidate UT-Houston.
- 2012 Michael Musslewhite, undergraduate research assistant.
- 2013 Fernanda Argudo, undergraduate research assistant, completed work on hippocampal development in 3DEM.
- 2010-13 Yelena Kulik, Honors Student, Twice Winner of UT-Undergraduate research poster competitions (\$500 prize, 2013); Currently Graduate School, UCSF in Neuroscience; Dean's Honored Undergraduate (1 of 18 to sit on stage during graduation ceremonies).
 - Ryan Ellis, Honors Student, Winner of Summer Research grant support; Freshman Research Initiative undergraduate teaching Assistant.
 - Michael Chirillo, Research Assistant became MD/PhD student in INS
 - Sean Behounek, Honors Student, currently in Medical School
 - Amy Pohodich, Honors Student; Winner of UT-Undergraduate Summer Research Fellowship, and Poster Competition.

2002-04 Georgia Regents University

- Anusha Mishra, Research Assistant, PhD student at the Univ. of Minnesota, co-authored 1 paper
- Jeremy Smalley, Summer STAR student
- Jamie Hurlburt, Research Project Manager, attended DO medical School, co-authored 2 papers.

2000-02 Boston University

- Priya George, Biology honors student, co-authored a paper.
- James Cooney, Biology, Undergraduate Research Opportunity research grant (UROP), Work for Distinction – Honors Thesis on endosomes in dendrites, First author, J. Neurosci. 2002. Enrolled in Medical School.
- Victoria Hui, Biomedical Engineering, had a UROP in my lab
- Lara Petrak, now at Harvard Medical School imaging core.

- Alex Goddard, completed Harvard Medical School PhD in Neuroscience.

1987-99 *Harvard University*

- Rachel Ventura (Currently at Columbia, First authored paper)
- Beatrice Tsao (Radcliffe Project Grant, Medical School, NYU, co-authored 2 papers, now a practicing physician)
- Peter Sultan (Medical School, Cornell, NY, co-authored paper)
- Katrien Neukermans (Medical school, Johns Hopkins)
- Greg Belmont (Graduate school in Neuroscience, MIT)
- Andrew Nguyen (MD/Ph.D. Program, Univ. Calif., San Diego).

1996-98 *Judge and Mentor*, Center for Excellence in Education - The Research Science Institute Summer Program for Talented High School Students, Sponsored Ms. Connie Kim in my laboratory during this program.

Regional, National and International Seminars and Contributions

1985-97 Gave 43 invited seminars.

- 1998 Organizer, Boston Area Hippocampus Club – January, 1998 Meeting
 Organizer, Keystone Symposium on Synapse Formation and Function.
 Discussant, NIH workshop on Brain Molecular Anatomy Project
 Speaker, SUNY Health Science Center
 Speaker, Spring Meeting on the Human Brain Project
 Speaker, Gordon Conference on the Cell Biology of the Neuron
 Lecturer, Cold Spring Harbor: Brain Development & Function
 Lecturer, Cold Spring Harbor: Imaging Structure and Function in the Nervous system
 Lecturer, Neurobiology Course, Marine Biological Laboratories, Woods Hole MA
 Symposium Organizer and Speaker: Dendritic Spines, Society for Neuroscience
- 1999 Lecturer, Harvard Medical School Course in Neuroanatomy
 Speaker, Northeastern Ohio College of Medicine
 Speaker, Mount Sinai Medical School
 Speaker, Baylor College of Medicine
 Speaker, Boston University Neuroscience Day
 Speaker, Biology Department Retreat
 Chair of session, Gordon Conference on Neural Plasticity
 Speaker, Massachusetts Institute of Technology, Brain and Cognitive Neuroscience
- 2000 Speaker, Harvard Medical School, Neurobiology Seminar Series
 Speaker, NYU - Neuroscience Seminar
 Organizer and Speaker, Boston Area Hippocampus Club
 Chair, Gordon Conference on the Cell Biology of the Neuron
 Lecturer, Marine Biological Laboratory Summer Neurobiology Course
 Speaker, Cold Spring Harbor, Neuroscience Seminars
 Speaker, Georgia Regents University
- 2001 Speaker, Gordon Research Conference on Excitatory Amino Acids - Italy
 Speaker, Conference on Data Basing in the Brain, Norway
 Speaker, Gordon Research Conference on Neuroplasticity, Rhode Island
 Lecturer, Marine Biological Laboratory Summer Neurobiology Course
 Speaker, Brown University, Neuroscience, Dept., RI
 Speaker, Cognitive and Neural Systems Dept., Boston University

- 2002 Keynote Speaker, Wash. Univ. Neuroscience Retreat, St. Louis
 Speaker, Anatomy and Neurobiology Department, Boston University
 Speaker, Winter Conference on Brain Research, Snow Mass, Colorado
 Helen Molinari Memorial Lecturer, Albany, NY
 Speaker, Neurobiology and Behavior, University of California, Irvine, CA
 Speaker, Columbia Neuroscience, NY
 Speaker, Georgia Regents University
 Speaker, University of Pittsburgh
 Speaker, Gordon Research Conference on Synaptic Transmission, New Hampshire
 Speaker, NIDA Satellite Symposium, Frontiers in Addiction Research
 Speaker, Human Brain Project Symposium, Society for Neuroscience
- 2003 Speaker, AAAS meeting in Denver, CO.
 Speaker, Department of Neurobiology, Yale University
 Weirisma Visiting Professor, California Institute of Technology, Pasadena, CA
 Speaker, MIT Center for Learning and Memory, MA
 Speaker, 30th Anniversary: Discovery of LTP, Meeting Royal Society in London
 Speaker, Satellite Symposium on Synaptogenesis, Austrian Neuroscience Association, Vienna
 Speaker, Symposium on the Molecular Dynamics of Synapse Assembly and Plasticity, Intl. Brain Research Org. Meeting, Prague Czech Republic
 Speaker, University of Maryland, Baltimore
 Speaker, Rutgers University, New Jersey
 Speaker, Human Brain Project, Satellite Symposium, Society for Neuroscience Meetings, New Orleans
 Speaker, Emory University, Atlanta
- 2004 Speaker, Synapse: Molecular Mechanisms of Plasticity, Symposium to celebrate opening of the Porter Neuroscience Research Center at the NIH
 Speaker, Gordon Research Conference: "Cell Biology of the Neuron", New Hampshire
 Speaker, University of Maryland Baltimore, Baltimore, MD
 Speaker, 14th Neuropharmacology conference on "The Cytoskeleton & Neuronal Plasticity" San Diego, CA
- 2005 Speaker, UCLA Joint Seminar in Neurosciences Series, University of California, Los Angeles
 Speaker, Emory University, Yerkes Primate Center, Atlanta, GA
 Speaker, "Ultrastructure of dendritic spines and long-term potentiation", University of Texas, Austin, TX
 Speaker, University of Washington, Seattle, WA (I)
 Speaker, Cold Spring Harbor Meeting on Learning and Memory, CSHL, New York
 Speaker, Commencement, Minnesota State University, Moorhead Minnesota
 Course Lecturer, Neurobiology Summer Course Lectures, Woods Hole, MA
 Speaker, Gordon Research Conference, Excitatory Amino Acids, Aussois, France
- 2006 Speaker, Winter Conference on Learning and Memory, Park City, Utah
 Speaker, Neuroscience Seminar, Stanford University, CA
 Speaker, Neuroscience 2006 Symposium, Neuroscience Dept. Farmington CT
 Speaker, Cold Spring Harbor Labs - Meeting on Channels, Receptors, and Synapses
 Speaker, Neuroscience Seminar Series, UBC, Vancouver

- Speaker, Brain Research Centre Research Day UBC, Vancouver
 Speaker, Neuroscience Institute, University of Michigan, Ann Arbor, MI
 Course Lecturer, MBL Neurobiology Course, Woods Hole, MA
 Speaker, Institute of Neuroscience Seminar Series, UT-Austin, TX
 Speaker, 16th Neuropharmacology conference "LTP: Forty Unforgettable Years"
 Satellite meeting at the Society for Neuroscience, Atlanta.
 Symposium Chair and Speaker, "How Synapse Structure Teaches Us about
 Function, and Vice Versa" Society for Neuroscience
 Invited Participant in an event at the Society for Neuroscience headquarters co-
 sponsored by the Spanish Embassy to commemorate the Centennial of
 the 1906 Nobel Prize shared by Cajal and Golgi.
- 2007 Symposium Chair, Structural Plasticity underlying Learning and Memory
 Mechanisms: Winter Conference on Learning and Memory, Park city,
 Utah
 Speaker, Structural Plasticity of Dendrites, Gordon Research Conference on
 Dendrites: Molecules, Structure, and Function, Ventura Beach, CA
 Speaker, Brown University, Providence, RI
 Speaker, Yale University, New Haven, CT
 Speaker, "Neuronal morphological plasticity: Mechanism and Meaning,
 "Foundation des Treilles in Tourtour, France
 Symposium Speaker and Author: Structural and Functional Organization of the
 Synapse, Iowa City, IA
 Co-organizer, conference on "High-Throughput Neuroanatomy", Howard Hughes
 Medical Institute, Janelia Farm Research Campus, MD
 Speaker, conference on "Translation at the Synapse", Howard Hughes Medical
 Institute, Janelia Farm Research Campus, MD
- 2008 Course Lecturer: Neurobiology Summer Course at the Marine Biological
 Laboratories, Woods Hole, MA
 Speaker, First World Neuroinformatics Congress, Stockholm Sweden
 Speaker, 66th Harden Conference on Ion channels and synaptic function,
 Chester, England
 Speaker, Texas A and M University Neuroscience Seminar Series
 Keynote Symposium Speaker, Grass Lectureship, Front Range Neuroscience,
 Fort Collins, CO
- 2009 Speaker, Grass Traveling Scientist Program, UT- Dallas Neuroscience group
 NIMH Training Grant Workshop
 Plenary Speaker, CoLab Mathematics Workshop, UT – Austin
 Speaker, New York University School of Medicine
 Distinguished Speaker, Department of Physiology Retreat, UT- San Antonio
 Speaker, University of Chicago
 Co-Organizer, Max Planck Gesellschaft - Janelia Farm Meeting on Dense Neural-
 Circuit Reconstruction, Berlin, Max Planck Society
- 2010 Speaker and Organizer of Session, Winter Conference on Neuroplasticity
 Speaker, Structural Plasticity in the Mammalian Brain, Janelia
 Speaker, Department of Neurobiology and Anatomy, UT-Houston
 Speaker, Department of Neurology, UT- Southwestern
 Public Speaker and Course Lecturer: Neurobiology Summer Course at the
 Marine Biological Laboratories, Woods Hole, MA
 Bauer Colloquium Speaker, Brandeis University, Waltham, MA
- 2011 Speaker, Gordon Research Conference on Dendrites, Ventura, CA
 Speaker and Co-Chair, Austin Conference on Learning and Memory

- Speaker, Princeton Neuroscience, Princeton NJ
 Speaker, Nansen Symposium, Oslo Norway
 Speaker, Sloan-Schwartz Conf. on Theoretical & Computational Neurobiology
 Speaker, High Resolution Circuit Reconstruction, Janelia Farm, VA
 Speaker, Northwestern University, Chicago (Evans), IL
 Speaker and Workshop Organizer, Univ. Otago, Dunedin, New Zealand
- 2012 Speaker, Dendrites: Substrates for Information Processing, Janelia Farm, VA
 Speaker, Neuroscience Department, University of California – Davis
 Speaker, Neuroscience Spring Symposium, Univ. Michigan, Ann Arbor, MI
 Speaker, Neuroscience Lectures Series, Max Planck Institute for Brain Research and the International Research School, Frankfurt Germany
 Speaker, University of Bergen, Bergen, Norway
 Speaker, Gordon Research Conference on Excitatory Synaptic Transmission, Waterville Valley, NH
 Speaker, Duke University, Raleigh/Durham, NC
 Speaker, Vollum Institute, Oregon Health Sciences University, Portland, OR
- 2013 Speaker, University of Texas Neuroscience Seminar Series, Austin, Texas
 Speaker, University of California, Santa Barbara
 Speaker, Architects of the Mind, World Science Festival, New York
http://worldsciencefestival.com/events/architects_of_the_mind
- 2014 Special Lecture, Society for Neuroscience International Meeting, San Diego
 Online Speaker, Bioconference Live Neuroscience Event, American Association for Clinical Chemistry, INC.
 Speaker, Virginia Tech Carilion Research Institute, Roanoke, VA
 Speaker, Dendrites 2014, Foundation for Research and Technology-Hellas (Forth), Heraklion, Crete, Greece
 Speaker, Participant, Department of Energy and Kavli Foundation Workshop regarding the BRAIN initiative, Washington, DC
 Speaker and Graduate Student Seminar advisor and participant, Gordon Research Conference on Excitatory Synaptic Transmission, Waterville Valley, NH
 Speaker, Connectomics 2014 sponsored by the Max-Planck Institute and Janelia Farms, Berlin, Germany
 Speaker, Seminar in Neuroscience, Max Planck Institute of Neurobiology, University of Munich, Munich, Germany
 Panel Member, Brain Mapping, New Yorker Science Festival, New York, NY
 Speaker, Seminar Series, Allen Institute for Brain Research, Seattle, WA
- 2015 Speaker, Nonlinear Dynamics Seminar Series, UT-Austin, Dept. Physics
 Speaker, Gordon Research Conference on Dendrites, Ventura, CA
 Speaker, California Institute of Technology, Pasadena, CA
 Speaker, Lecture and Life Path, Neuroscience Roadmap Scholars, University of Alabama, Birmingham AL
 Speaker, Neuroimaging Seminar, Marine Biological Lab., Woods Hole MA
 Speaker, Forty Years of Structural Neuroscience at the MBL – a symposium in honor of Tom Reese, Woods Hole MA
 Speaker, Tiputini Field Station, Ecuador
- 2016 Speaker, Bordeaux Neurocampus, France,
“Silent synaptic growth and the augmentation of hippocampal plasticity”

- Speaker, Neuroscience Department, Institute de Biologie de l'Ecole Normale Superieure, Paris France
- Speaker, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland
- Speaker, Fingerlanduv Dept. Pathology, Medical Faculty of Charles University in Hradec Kralove, Czech Republic.
- Speaker, Department of Neuroscience, UT Southwestern
- Speaker, Symposium: "Francis Crick: the Astonishing Hypothesis" – Rockefeller University, New York
- Speaker, Conference, High-Resolution Circuit Reconstruction, HHMI Janelia Research Campus
- Speaker, Center for Neuroscience, UC Davis, California
- Speaker, Conference, "Molecular Mechanisms in the Synapse" Conference, HHMI Janelia Research campus
- Vice-chair, Gordon Research Conference, Synaptic Transmission (Chair-elect, 2018), Waterville Valley, NH
- Faculty Speaker, Laboratory of Synapse Structure and Function "Synaptome of Memory", Institute for Neuroscience Graduate Student Bootcamp.
- Speaker, Department of Neuroscience, Einstein College of Medicine, NYC, NY
- Feature speaker, International Conferences on Brain Informatics & Health (BIH'16) Omaha, NE
- Speaker, Dept. Neurobiology and Anatomy, UC, Irvine
- Symposium Chair and Speaker, "The Ultrastructural Basis of Synaptic Transmission and Plasticity", Soc.for Neurosci, San Diego
- 2017 Invited Speaker, Winter Brain Research Conference, Montana (1/28/2017)
- Invited Speaker, Neuroscience, Max Planck Institute, Gottingen (3/21/2017)
- Invited Speaker, German Neuroscience Symposium, Gottingen (3/23/2017)
- Invited Speaker, Neuroscience, UC-San Diego (5/16/2017)
- Invited Speaker, Neurophotonics Meeting, Bordeaux, (10/15-18/2017)

BIBLIOGRAPHY

(Overall years H-index: 56; i10-index 86; Since 2011: H-index:39, i10-index 74):

- Harris KM, Cruce WLR, Greenough WT, and Teyler TJ. (1980) A Golgi impregnation technique for thin brain slices maintained *in vitro*. J. Neurosci. Methods, 2:363371.
- Harris KM. (1980) Relationships between dendrite and spine neck diameters in freeze-fractured rat hippocampal formation. The Biol. Bull. 159:470471.
- Harris KM, Teyler TJ. (1983) Age differences in a circadian influence on hippocampal LTP. Brain Res., 261:6971.
- Harris KM, Teyler TJ. (1983) Evidence for late development of inhibition in area CA1 of the rat hippocampus. Brain Res., 268:339343.
- Harris KM, Teyler TJ. (1984) Developmental onset of long-term potentiation in area CA1 of the rat hippocampus. J. Physiol., 346:2748. PMID: PMC1199482.
- Harris KM, Marshall PE, Landis DMD. (1985) Ultrastructural study of cholecystokinin-immunoreactive cells and processes in area CA1 of the rat hippocampus. J. Comp. Neurol., 233:147158.
- Harris KM, Landis DMD. (1986) Membrane structure at synaptic junctions in area CA1 of the rat hippocampus. Neuroscience 19:857872.

- Harris KM, Stevens JK. (1988) Dendritic spines of rat cerebellar Purkinje cells: Serial electron microscopy with reference to their biophysical characteristics. *Journal of Neuroscience*, 8:4455-4469.
- Harris KM, Stevens JK. (1988) Study of dendritic spines by serial electron microscopy and three-dimensional reconstructions. *Neurol. and Neurobiol.* 37:179-199.
- Teyler TJ, Perkins AT IV, Harris KM. (1989) The development of long-term potentiation in hippocampus and neocortex. *Neuropsychologia*, 27:31-39.
- Harris, KM, Jensen FE, and Tsao B. (1989) Ultrastructure and Plasticity of spine synapses in area CA1 of the rat hippocampus: Extending our vision with serial electron microscopy and quantitative three dimensional analyses. *Neurol. and Neurobiol.* 52:33-52.
- Harris, KM and Stevens, JK (1989) Dendritic spines of CA1 pyramidal cells in the rat hippocampus: serial electron microscopy with reference to their biophysical properties. *Journal of Neuroscience* 9:2982-2997. (Cover Illustration)
- Jensen, FE and Harris, KM (1989) Preservation of neuronal ultrastructure in hippocampal slices using rapid microwave-enhanced fixation. *J. Neurosci. Methods*, 29:217-230.
- Carlboni I, Terzopoulos D. and Harris KM. (1991) Reconstructing and visualizing models of neuronal dendrites. In: Patrikalakis, NM (Ed.) *Scientific Visualization of Physical Phenomena*. Springer-Verlag, New York.
- Harris KM, Jensen FE, and Tsao B. (1992) Three-dimensional structure of dendritic spines and synapses in rat hippocampus (CA1) at postnatal day 15 and young adult ages: Implications for the maturation of synaptic physiology and long term potentiation. *Journal of Neuroscience*, 12:2685-2705.
- Chicurel M and Harris KM. (1992) Three-dimensional analysis of the structure and composition of CA3 branched dendritic spines and their synaptic relationships with mossy fiber boutons in the rat hippocampus. *J. Comp. Neurol.* 325:169-182.
- Harris KM, Rosenberg PA. (1993) Localization of Synapses in Rat Cortical Cultures. *Neuroscience* 53:495-508.
- Lisman, J. and Harris, KM (1993) Quantal analysis and synaptic anatomy - integrating two views of hippocampal plasticity. *Trends in Neuroscience*, 16:141-147. (Cover Illustration)
- Sorra K and Harris KM (1993) Occurrence and three-dimensional structure of multiple synapses between individual radiatum axons and their target pyramidal cells in Hippocampal area CA1. *Journal of Neuroscience*, 13(9): 3736-3748.
- Jackson PS, Suppes T and Harris KM (1993) Stereotypical changes in the pattern and duration of long-term potentiation expressed at postnatal days 11 and 15 in the rat hippocampus. *J. Neurophysiology*, 70(4):1412-1419.
- Carlboni I, Terzopoulos D, and Harris KM (1994) Computer-assisted registration, segmentation, and 3D reconstruction from images of neuronal tissue sections. *IEEE Transactions on Medical Imaging*, 13:351-362.
- Lisman, J. and Harris, KM (1994) Who's been nibbling on my PSD; is it LTD? *J. Physiol. (Paris)*, 88:193-195.
- Harris, KM and Kater, S. (1994) Dendritic spines: Cellular specializations that impart stability and flexibility to synaptic function. *Ann. Rev. Neurosci.* 17:341-371.
- Harris, KM (1994) Serial Electron Microscopy as an Alternative or Complement to Confocal Microscopy. In: Stevens, J.K., Mills, L.R., and Trogadis, J.E. (Eds.) *Three Dimensional*

Confocal Microscopy: Volume Investigation of Biological Specimens, Academic Press: New York, pp 421-445, and color section 4.

- Harris, KM (1995) How Multiple Synapse Boutons Could Preserve Input Specificity During an Interneuronal Spread Of Long-term Potentiation. *Trends in Neuroscience* 18:365-369.
- Harris KM and Sultan P (1995) Variation in the Number, Location and Size of Synaptic Vesicles Provides an Anatomical Basis for the Nonuniform Probability of Release at Hippocampal CA1 Slices. *J. Neuropharm.* 34(11):1387-1395.
- Harris KM (1999) Dendritic Spines. *Encyclopedia of Neuroscience*, 2nd Edition. G. Adelman and B. Smith Editors. Elsevier, New York.
- Spacek J and Harris KM (1997) Three-Dimensional Organization of Smooth Endoplasmic Reticulum in Hippocampal CA1 Dendrites and Dendritic Spines of the Immature and Mature Rat. *J. Neurosci.* 17: 190-203. (Cover Illustration)
- Ouyang, Y, Schuman, EM, Harris, KM and Kennedy, MB (1997) Visualization of the distribution of autophosphorylated calcium/calmodulin-dependent protein kinase II after tetanic stimulation in the CA1 area of the hippocampus. *J. Neuroscience* 17:5416-5427.
- Finkbeiner S, Tavazoie S, Maloratsky A., Harris KM and Greenberg ME. (1997) CREB: A Major Mediator of Neuronal Neurotrophin Responses. *Neuron*, 19:1031-1047.
- Sorra KE, and Harris, KM (1998) Stability in synapse number and size at two hours after long-term potentiation in hippocampal area CA1. *J. Neuroscience* 18(2): 658-671.
- Spacek, J. and Harris KM. (1998) Three dimensional organization of cell adhesion junctions at synapses and dendritic spines in area CA1 of the Rat Hippocampus. *J. Comp. Neurol.* 393:58-68.
- Fiala JC, Feinberg M, Popov V, Harris KM (1998) Synaptogenesis via dendritic filopodia in developing hippocampal area CA1. *J. Neurosci.* 18:8900-8911.
- Sorra, KE Fiala, JC and Harris, KM (1998) Critical assessment of the involvement of perforations, spinules, and spine branching in hippocampal synapse formation. *J. Comp. Neurol.* 398:225-240.
- Shepherd, GMG and Harris, KM (1998) Three-dimensional structure and composition of CA3→CA1 Axons in rat hippocampal slices: Implications for presynaptic connectivity and compartmentalization. *J Neurosci.* 18: 8300-8310.
- Zumowski KM, Harris KM. (1999) Three-dimensional reconstruction of synaptic ultrastructures. *Pictures in cell biology. Trends Cell Biol.* 9:205.
- Kirov, SA, Sorra, KE, Harris, KM (1999) Slices have more synapses than perfusion-fixed hippocampus from both young and mature rats. *J Neurosci.* 19(8):2876-2886.
- Ventura R, and Harris KM (1999) Three-Dimensional Relationships between Hippocampal Synapses and Astrocytes. *J Neurosci.* 19(16):6897-6906.
- Kirov SA and Harris KM (1999) Dendrites are more spiny on mature hippocampal neurons when synapses are inactivated. *Nat Neurosci* 2(10):878-883.
- Harris, KM (1999) Structure, Development, and Plasticity of Dendritic Spines. *Current Opinion in Neurobiology* 9:343-348. (Cover Illustration)
- Fiala, JC and Harris, KM (1999) Structure of Dendrites and Spines. In: Stuart G., Spruston, N and Häusser, M., (Eds) *Dendrites*. Oxford University Press, Oxford UK.
- Harris, KM (1999) Calcium from internal stores modifies dendritic spine shape. *Proc. Natl. Acad. Sci.* Vol. 96: 12213-12215. PMID: PMC34250.

- Eichenbaum, HE and Harris, KM (2000) Toying with memory in the hippocampus. *News and Views, Nature Neuroscience* 3:205-206.
- Sorra KE and Harris, KM (2000) Overview on the Structure, Composition, Function, Development, and Plasticity of Hippocampal Dendritic Spines. In: Eichenbaum HB (Ed.) with Harris KM and Sorra KE (Special Issue Eds.) *Dendritic Spines of the Hippocampus. Hippocampus* 10: 501-511. ([Cover Illustration](#))
- Fiala JC, Harris KM (2001) Extending unbiased stereology of brain ultrastructure to three-dimensional volumes. *J Amer Med Inform Assoc.* 8(1):1-16. PMID: PMC134588.
- Fiala JC, Harris KM (2001) Cylindrical diameters method for calibrating section thickness in serial electron microscopy. *J of Microscopy.* 202(Pt 3):468-72.
- Xu-Friedman MA, Harris KM, Regehr WG. (2001) Three-Dimensional Comparison of Ultrastructural Characteristics at Depressing and Facilitating Synapses onto Cerebellar Purkinje Cells. *J Neurosci.* 21(17): 6666-72.
- Feinberg, MD, Szumowski KM, Harris KM (2001) Microwave fixation of rat hippocampal slices. In: RT Giberson, RS DeMaree Jr. (eds.) *Microwave Techniques and Protocols.* Humana Press: Totowa, New Jersey. pp. 75-88.
- Cooney J, Hurlburt J, Selig D, Harris KM and Fiala JC (2002) Endosomal compartments serve multiple hippocampal dendritic spines from a widespread rather than a local store of recycling membrane. *J Neurosci.* 22(6):2215-24.
- Harris, KM (2002) Dendritic Spines. *Encyclopedia of Life Sciences.* Macmillan Reference Ltd, London. pp 363-369
- Fiala JC, Allwardt B, and Harris KM (2002) Dendritic spines do not split during hippocampal LTP or maturation. *Nat Neurosci.* 5(4): 297-8.
- Ostroff LE, Fiala JC, Allwardt B, Harris KM (2002) Polyribosomes redistribute from dendritic shafts into spines with enlarged synapses during LTP in developing rat hippocampal slices. *Neuron.* 35(3):535-545.
- Fiala JC, and Harris KM (2002) Computer-based alignment and reconstruction of serial sections. *Microscopy and Analysis.* 87:5-8.
- Fiala JC, Spacek J, Harris KM (2002) Dendritic spine pathology: cause or consequence of neurological disorders? *Brain Res Rev.* 39(1):29-54. ([Cover Illustration](#))
- Henze DA, McMahon, DBT, Harris KM, and Barrionuevo G (2002) Giant miniature EPSCs at the hippocampal mossy fiber to CA3 pyramidal cell synapse are monoquantal. *J Neurophysiol.* 87(1):15-29.
- Harris KM, Fiala JC, Ostroff L. (2003) Structural changes at dendritic spine synapses during long-term potentiation. *Philos Trans R Soc Lond B Biol Sci.* 358:745-8. PMID: PMC1693146.
- Fiala JC, Kirov SA, Feinberg MD, Petrak LJ, George P, Goddard CA, and Harris KM (2003) Timing of Neuronal and Glial Ultrastructure Disruption During Brain Slice Preparation and Recovery *In Vitro.* *J Comp Neurol* 465:90-103.
- Harris, KM. (2004) Dendritic Spines. *Encyclopedia of Neuroscience*, 3rd Edition. Ed. G. Adelman and B. Smith. Elsevier, New York.
- Spacek, J and Harris, KM (2004) Trans-endocytosis via Spinules in Adult Rat Hippocampus. *J Neuroscience* 24(17):4233-41; and featured in "This week in the journal."
- Kirov, S.A., Harris K.M. (2004) Serial electron microscopy, confocal microscopy and two-photon microscopy as complementary tools for the study of synapses and dendritic

- spines in the central nervous system. *Microscopy and Microanalysis* 10 (Suppl. 2), 222-223.
- Kirov SA, Petrak LJ, Fiala JC, and Harris KM (2004) Dendritic Spines Disappear When Mature Hippocampal Slices Are Chilled But Proliferate Excessively Upon Re-warming. *Neuroscience* 127:69-80.
- Kirov SA, Goddard, CA and Harris KM (2004) Age-Dependence in the Homeostatic Up-regulation of Hippocampal Dendritic Spine Number During Blocked Synaptic Transmission. *Neuropharmacology* 47:640-648.
- Petrak LJ, Harris KM, Kirov SA (2005) Synaptogenesis on mature hippocampal dendrites occurs via filopodia and immature spines during blocked synaptic transmission. *J. Comp. Neurol.* 484:183-90.
- Seid, MA, Harris, KM and Traniello JFA (2005) Age-related changes in the number and structure of synapses in the lip region of the mushroom bodies in the ant *Pheidole dentata*. *J. Comp. Neurol.* 488:269-277.
- Sorra, KE, Mishra, A, Kirov SA and Harris, KM (2006) Dense core vesicles resemble active-zone transport vesicles and are diminished following synaptogenesis in mature hippocampal slices. *Neuroscience* 141:2097-2106.
- Park M, Salgado JM, Ostroff LE, Helton TD, Robinson CG, Harris KM and Ehlers ME (2006) Plasticity-induced growth of dendritic spines by exocytic trafficking from recycling endosomes. *Neuron* 52(5):817-30. Featured: *Science Perspectives*: Kopec and Malinow (2006) "Matters of Size", *Science* 314:1554-55, and Halpain (2006) "They're Plastic, but they Recycle" *Neuron* 52:817-30. PMID: PMC1899130. (Cover Illustration)
- Harris KM, Perry E, Bourne J, Feinberg M, Ostroff L, Hurlburt J (2006) Uniform serial sectioning for transmission electron microscopy. *Journal of Neuroscience* 26(47):12101-3. (Cover Illustration)
- Bourne JN and Harris KM (2007) Dendritic Spines. *Encyclopedia of Life Sciences*. DOI:10.1002/9780470015902.a0000093.pub2, John Wiley and Sons, Copyright 2001.
- Witcher MR, Kirov SA and Harris KM (2007) Plasticity of perisynaptic astroglia during synaptogenesis in the mature rat hippocampus. *Glia* 55(1):13-23. (Cover Illustration)
- Bourne JN, Sorra KE, Hurlburt J and Harris KM (2007) Polyribosomes are increased in spines of CA1 dendrites 2 h after the induction of LTP in mature rat hippocampal slices. *Hippocampus* 17(1):1-4.
- Bourne JN, Kirov SA, Sorra KE, Harris KM (2007) Warmer preparation of hippocampal slices prevents synapse proliferation that might obscure LTP-related structural plasticity, *Neuropharmacology* 52(1):55-9.
- Harris KM (2008) Diversity in synapse structure and composition. In: Hell JW and Ehlers MD (Eds.) *Structural and Functional Organization of the Synapse*, Springer Science and Business Media, New York. P. 1.
- Bourne J, Harris KM. (2008) Do thin spines learn to be mushroom spines that remember? *Curr. Opin. Neurobiol.*; 17(3):381-6.
- Bourne JN, Harris KM. (2008) Balancing structure and function at hippocampal dendritic spines. *Annu. Rev. Neurosci.* 31:47-67. PMID: PMC2561948.
- Fiala JC, Spacek J, and Harris KM. (2008) Dendrite Structure. In: Stuart et al., (Eds) *Dendrites*. 2nd Edition, Oxford University Press, Oxford UK. P. 1
- Bourne JN, Harris KM. (2009) Ultrastructural Analysis of Spine Plasticity. *Encyclopedia of Neuroscience*, 4th Edition, Squire LR (Editor in Chief), Elsevier, New York, pp. 11-17.

- Routh BN, Johnston D, Harris KM, and Chitwood RA (2009) Anatomical and Electrophysiological Comparison of CA1 Pyramidal Neurons of the Rat and Mouse. *J Neurophysiol*, 102: 2288–2302. PMID: PMC2775381.
- Witcher MR, Park YD, Lee MR, Sharma S, Harris KM, Kirov SA (2010) Three-dimensional relationships between perisynaptic astroglia and human hippocampal synapses. *Glia*, 58(5):572-87. PMID: PMC2845925. ([Cover Illustration](#))
- Jacobs G, Claiborne B, and Harris KM (2010) Reconstruction of neuronal morphology. In: De Schutter E. (Ed.) *Computational Modeling Methods for Neuroscientists*, The MIT Press, Cambridge, MA. P. 187.
- Jain V, Bollmann B, Richardson M, Berger DR, Helmstaedter MN, Briggman KL, Denk W, Bowden JB, Mendenhall JM, Abraham WC, Harris KM, Kasthuri N, Hayworth KJ, Schalek R, Tapia JC, Lichtman JW, Seung HS (2010) Boundary learning by optimization with topological constraints. *Proceedings of the IEEE 23rd Conference on Computer Vision and Pattern Recognition (CVPR '10)*.
- Ivannikov, MV Harris, KM and Macleod GT (2010) Mitochondria: enigmatic stewards of the Synaptic vesicle reserve pool. *Front. Syn. Neurosci.*, doi: 10.3389/fnsyn.2010.00145. PMID: PMC3059713.
- Mishchenko Y, Hu T, Spacek J, Mendenhall J, Harris KM, Chklovskii DB (2010) Ultrastructural analysis of hippocampal neuropil from the connectomics perspective. *Neuron*, 67:1009-1020. PMID: NIHMS314318. (Harris and Chklovskii, co-corresponding authors).
- Kuwajima M and Harris KM (2010) GABAA receptor diversity revealed in freeze-fracture replica (commentary on Kasugai et al.). *European J. Neuro.*, 32:1866-1867.
- Shi B, Bourne JN, and Harris KM (2011) SynapticDB, Effective Web-based Management and Sharing of Data from Serial Section Electron Microscopy. *Neuroinformatics*. 9(1):39-57 PMID: PMC3063557.
- Bourne, J. N. and Harris, K. M. (2011) Coordination of size and number of excitatory and inhibitory synapses results in a balanced structural plasticity along mature hippocampal CA1 dendrites during LTP. *Hippocampus* 21(4):354-73. PMID: PMC2891364. ([Cover Illustration](#))
- Cui-Wang T, Hanus C, Cui T, Helton T, Bourne JN, Watson DJ, Harris KM and Ehlers MD (2012). Local zones of endoplasmic reticulum complexity confine cargo in neuronal dendrites. *Cell* 148(1-2):309-21 PMID: PMC3266556
- (Lewis S. (2012) Commentary on Local zones of endoplasmic reticulum complexity confine cargo in neuronal dendrites. *Nat Rev Neurosci.*, 13(3):152-3.)
- Cao G and Harris KM. (2012) Developmental regulation of the late phase of long-term potentiation (L-LTP) and metaplasticity in hippocampal area CA1 of the rat. *J Neurophysiol*. 107(3):902-12. PMID: PMC3289468
- Harris KM and Weinberg RJ (2012) "Ultrastructure of Synapses in the Mammalian Brain", in "The Synapse" edited by Sheng M, Sabatini B, Sudhof TC. Cold Spring Harbor Perspectives in Biology, 4(5). PMID: PMC3331701.
- Bourne JN and Harris KM (2012) Nanoscale Analysis of Structural Synaptic Plasticity. *Current Opinion of Neurobiology*, 22(3):372-82. PMID: PMC3292623
- Bowden JB, Abraham WC, and Harris KM (2012) Differential effects of strain, circadian cycle, and stimulation pattern on LTP and concurrent LTD in the dentate gyrus of freely moving rats. *Hippocampus*, 22(6):1363-70. PMID: PMC3292688.

- Kuwajima M, Mendenhall JM, Lindsey LF, Harris KM (2013) Automated Transmission-Mode Scanning Electron Microscopy (tSEM) for Large Volume Analysis at Nanoscale Resolution. *PLoS One*, 8(3):e59573. PMID: PMC3608656.
- Kuwajima M, Mendenhall JM, Harris KM (2013) Large-volume reconstruction of brain tissue from high-resolution serial section images acquired by SEM-based scanning transmission electron microscopy. *Methods Mol. Biol.*, 950:253-273. PMID: PMC3716574
- Kinney JP, Spacek J, Bartol TM, Bajaj CL, Harris KM Sejnowski TJ (2013) Extracellular sheets and tunnels modulate glutamate diffusion in hippocampal neuropil. *J. Comp. Neurology*, 521:448-464. PMID: PMC3540825
- Kuwajima M, Spacek J, and Harris KM (2013) Beyond counts and shapes: Studying pathology of dendritic spines in the context of the surrounding neuropil through serial section electron microscopy. *Neuroscience* 251:75-89. PMID: PMC3535574. (Cover illustration)
- Bourne JN, Chirillo MA, Harris KM. (2013) Presynaptic ultrastructural plasticity along CA3→CA1 axons during LTP in mature hippocampus. *J Comp Neurol*. 521(17):3898-912. PMID: PMC3838200
- Edwards J, Daniel E, Kinney J, Bartol T, Sejnowski T, Johnston D, Harris K, Bajaj C. (2013) VolRoverN: Enhancing surface and volumetric reconstruction for realistic dynamical simulation of cellular and subcellular function. *Neuroinformatics* 12(2):277-89. PMID: PMC4033674.
- Cao G, Harris KM. (2014) Augmenting saturated LTP by broadly spaced episodes of theta-burst stimulation in hippocampal area CA1 of adult rats and mice. *J Neurophysiol*. 112(8):1916-24 PMID: PMC4200006.
- Bell ME, Bourne JN, Chirillo MA, Mendenhall JM, Kuwajima M, Harris KM. (2014) Dynamics of nascent and active zone ultrastructure as synapses enlarge during long-term potentiation in mature hippocampus. *J Comp Neurol*. 522(17):3861-84. PMID: PMC4167938.
- Bailey CH, Kandel ER, Harris KM. (2015) Structural Components of Synaptic Plasticity and Memory Consolidation. *Cold Spring Harb Perspect Biol*. 2015 Jul 1;7(7). pii: a021758. doi: 10.1101/cshperspect.a021758. PMID: 26134321.
- Harris KM, Spacek J, Bell ME, Parker PH, Lindsey LF, Baden AD, Vogelstein JT, Burns R. (2015) A resource from 3D electron microscopy of hippocampal neuropil for user training and tool development. *Scientific Data (Nature Publishing Group)* 2:150046. PMID: PMC4555877.
- Bartol TM, Bromer C, Kinney JP, Chirillo MA, Bourne JN, Harris KM, Sejnowski TJ. (2015) Nanoconnectomic upper bound on the variability of synaptic plasticity. doi: 10.7554/eLife.10778. PMID: PMC4737657 (Bartol, Harris, and Sejnowski, co-corresponding authors, 3,321 pdf downloads as of 10/1/2016).
- Bartol TM, Keller DX, Kinney JP, Bajaj CL, Harris KM, Sejnowski TJ, Kennedy MB (2015) Computational reconstitution of spine calcium transients from individual proteins. *Front. Synaptic Neuroscience* doi:10.3389/fnsyn.2015.00017. PMID: PMC4595661
- Harris KM and Spacek J (2016) Dendrite Structure. In: Stuart et al. (Eds) *Dendrites*. 3rd Edition, Oxford University Press, Oxford UK.
- Watson DJ, Ostroff L, Cao G, Parker PH, Smith H, Harris KM (2016) LTP enhances synaptogenesis in the developing hippocampus. *Hippocampus*, 26(5):560-76. PMID: PMC4811749

Kirk LM and Harris KM (2016) Dendritic Spines. In: eLS. John Wiley & Sons, Ltd: Chichester.
DOI: 10.1002/9780470015902.a0000093.pub3

Smith HL, Bourne JN, Cao G, Chirillo MA, Ostroff LE, Watson DJ, Harris KM (2016)
Mitochondrial support of persistent presynaptic vesicle mobilization with age-dependent
synaptic growth after LTP. <http://dx.doi.org/10.7554/eLife.15275>. eLife 2016;5:e15275

Under review:

Chirillo M, Bourne J, Lindsey L, Harris K (2015) Complexity of dendritic SER increases at
enlarging synapses during LTP. bioRxiv doi: <http://dx.doi.org/10.1101/015974>,

(Under review at (Nature) Sci. Reports, 2016)

Database entitled **SynapseWeb** funded by NIH/NIBIB/NIMH (KM Harris, PI):
synapseweb.clm.utexas.edu