

## CURRICULUM VITAE

**NAME:** John H. Byrne

**PRESENT TITLE:** June and Virgil Waggoner Chair  
Professor and Chairman  
Department of Neurobiology and Anatomy  
McGovern Medical School at The University of Texas Health  
Science Center at Houston  
P. O. Box 20708, Houston, Texas 77225  
(713) 500-5602

**CITIZENSHIP:** U.S.

### UNDERGRADUATE EDUCATION:

1963-1968 New York University Tandon School of Engineering  
B.S., 1968 (Electrical Engineering)

### GRADUATE EDUCATION:

1968-1970 New York University Tandon School of Engineering  
M.S., 1970 (Bioengineering)  
Advisor: Sid Deutsch

1970-1973 New York University Tandon School of Engineering  
Ph.D., 1973 (Bioengineering)  
Advisor: Eric Kandel

### POSTGRADUATE TRAINING:

6/73-9/74 Research Fellow, Department of Neurobiology and Behavior  
Public Health Research Institute, New York  
Advisor: Eric Kandel

8/73-6/75 Research Fellow, Department of Psychiatry  
College of Physicians & Surgeons of Columbia University, New York, and  
Department of Behavioral Physiology, New York State Psychiatric Institute,  
New York  
Advisor: Eric Kandel

6/75-12/75 Research Fellow, Division of Neurobiology and Behavior  
Department of Physiology, College of Physicians & Surgeons of Columbia  
University, New York  
Advisor: Eric Kandel

**ACADEMIC APPOINTMENTS:**

1976-1981	Assistant Professor, Department of Physiology, School of Medicine, University of Pittsburgh
1981-1982	Associate Professor, Department of Physiology, School of Medicine, University of Pittsburgh
1981-1982	Vice Chairman (Neuroscience), Department of Physiology, School of Medicine, University of Pittsburgh
1982-1985	Associate Professor, Department of Physiology and Cell Biology, McGovern Medical School (formerly The University of Texas Medical School at Houston)
1982-present	Member, Graduate School of Biomedical Sciences, The University of Texas Health Science Center at Houston
1985-1987	Professor, Department of Physiology and Cell Biology, McGovern Medical School
1987-present	Professor and Chairman, Department of Neurobiology and Anatomy, McGovern Medical School
1992-present	Director, Neuroscience Research Center, The University of Texas Health Science Center at Houston
1994-present	Adjunct Professor, Department of Psychology, Rice University, Houston, Texas
1994-present	Adjunct Professor, Department of Electrical and Computer Engineering, Rice University, Houston, Texas
2001-2003	June and Virgil Waggoner Distinguished Professor of Neurobiology and Anatomy, McGovern Medical School
2003-present	June and Virgil Waggoner Chair of Neurobiology and Anatomy, McGovern Medical School
2004-2011	Assistant Dean for Research, McGovern Medical School
2005-present	Director, Office of Postdoctoral Affairs, The University of Texas Health Science Center at Houston
2008-present	Adjunct Professor, Department of Biomedical Engineering, The University of Texas at Austin
2011-present	Associate Dean for Research, McGovern Medical School

**PROFESSIONAL ORGANIZATIONS:**

1973-present	American Association for the Advancement of Science (Chair, Section on Neuroscience, 2008-2009)
1973-present	Sigma Xi
1974-present	Society for Neuroscience (Treasurer, 1992-1993)
1976-present	American Physiological Society
1976-present	Biophysical Society
1987-present	Association of Anatomy, Cell Biology, and Neurobiology Chairpersons (Councilor, 2006-2008)
1992-present	International Neural Network Society
1994-present	Dana Alliance for Brain Initiatives
1995-present	International Society for Neuroethology
1995-2009	Society for Research on Biological Rhythms
2003-present	Association of Medical School Neuroscience Department Chairpersons (President, 2008, 2009)
2009-present	Molecular and Cellular Cognition Society

**HONORS AND AWARDS:**

1969	NIH Predoctoral Fellowship
1973	NIH Postdoctoral Traineeship
1975	NIH Postdoctoral Fellowship
1978	NIH Research Career Development Award
1986	NIMH Research Scientist Development Award (Level II)
1986	Jacob Javits Neuroscience Investigator Award
1987	Dean's Lecture, McGovern Medical School
1992	Fellow, Japan Society for the Promotion of Science
1992	Special Lecture, 35 <sup>th</sup> Annual Meeting of the Japanese Neurochemical Society
1993	NIMH Research Scientist Award
1993	Outstanding Faculty Award, Graduate School of Biomedical Sciences, The University of Texas Health Science Center at Houston
1998	President's Scholar Award for Research, The University of Texas Health Science Center at Houston
2001	June and Virgil Waggoner Distinguished Professorship, McGovern Medical School (formerly The University of Texas Medical School at Houston)
2001	Fellow, American Association for the Advancement of Science
2003	June and Virgil Waggoner Chair, McGovern Medical School
2004	Hebb Award, International Neural Network Society
2006	President's Award for Mentoring Women, The University of Texas Health Science Center at Houston
2007	Award for Education in Neuroscience, Society for Neuroscience
2012	Innovations in Health Science Education Award, The University of Texas System
2014	President's Scholar Award for Teaching, The University of Texas Health Science Center at Houston
2017	Member, Alpha Omega Alpha Honor Society
2017	The University of Texas System Regents' Outstanding Teaching Award

**EDITORIAL POSITIONS:**

- Editorial Board: *Journal of Neurobiology*, 1985-1986  
Editorial Board: *Journal of Neurophysiology*, 1986-1992  
Editorial Board: *Journal of Neuroscience*, 1989-1994  
Editorial Board: *The Encyclopedia of Learning and Memory*, 1992  
Editorial Board: *Learning and Memory*, 1993-present  
Assistant Editor: *News in Physiological Sciences*, 1994-2003  
Editorial Board: *Behavioral Neuroscience*, 1994-2001  
Editor-In-Chief: *Learning and Memory*, 1996-present  
Editorial Board: University of Texas-Houston Electronic Press, 1998-present  
Editorial Board: *Journal of Neural Engineering*, 2003-2006  
Editorial Board: *Physiological Reviews*, 2004-2010  
Guest Editor: *Current Opinion in Neurobiology*, 2006  
Editor-In-Chief: *Comprehensive Learning and Memory*, 2006  
Scientific Advisor: Dana Foundation's BrainWeb, 2010-present  
Editorial Board: Oxford University Press, senior editor for invertebrate neurobiology, *Oxford Handbooks Online*, 2014-present  
Senior Editor *Oxford Handbook of Invertebrate Neurobiology*, 2015-present  
Editor-In-Chief: *Learning and Memory: A Comprehensive Reference*, Second Edition, Elsevier, 2015-2017

**SERVICE ON NATIONAL AND INTERNATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, AND COMMITTEES:**

- Ad hoc member Neurology B Study Section, 1983, 1992  
Member, National Science Foundation Advisory Panel for Integrative Neural Systems, 1983-1986  
Member, Presidential Nominating Committee of the Society for Neuroscience, 1989  
Member, Public Information Committee of the Society for Neuroscience, 1990-1993  
Member, Board of Visitors for Review of Division of Cognitive and Neural Sciences, Office of Naval Research, 1991  
Member, Evaluation Panel in Biomedical Sciences for the National Science Foundation Minority Graduate Fellowship Program, 1991-1993  
Treasurer-Elect, Society for Neuroscience, 1991-1992  
Treasurer, Society for Neuroscience, 1992-1993  
Chairman, Finance Committee, Society for Neuroscience, 1992-1993  
Member, Program Committee, 1993 World Congress on Neural Networks  
Member, Special NIH Study Section on Neurobiology of Cognition and Behavior, 1993  
Member, Biology II Panel for the International Science Foundation, 1993, 1994  
Member, Selection Committee for the Society for Neuroscience Young Investigator Award, 1994-1997  
Member, Advisory Committee, John Sealy Memorial Endowment Fund for Biomedical Research, 1994-1998  
Member, Nominating Committee for officers for the AAAS Section of Neuroscience, 1995  
Member of the Outside Review Committee, Columbia University NIMH Program Project, 1995  
Member of the National Institute of Neurological Disorders and Stroke Special Review Committee on Conferences, 1995

Member, Neuroscience Advisory Committee for the Cold Spring Harbor Laboratory, 1995  
Member-at-Large, Section Committee of the Section on Neuroscience, American Association for the Advancement of Science, 1996-2001  
Member, Special NIH Study Section on Genetics, 1997  
Member, Scientific and Academic Advisory Committee, Weizmann Institute of Science, 1997, 2006  
Member, Site Visit Team, Laboratory of Developmental Neurobiology, National Institute of Child Health and Development, 1998  
Member, Howard Hughes Predoctoral Fellowships in Biological Sciences Evaluation Panel, 1999, 2000  
Member, Steering Committee, Houston Society for Engineering in Medicine and Biology, 1999-2004  
Member, Committee of Visitors for the Neuroscience Cluster, National Science Foundation, 1999  
Member, Special Emphasis Review Panel for Training Grants, National Institute of Mental Health, 1999  
Member, Special Emphasis Review Panel, Neuroinformatics Initiative, National Institute of Mental Health, 2000  
Member, Molecular, Developmental and Cellular Neuroscience-7 Review Panel, National Institutes of Health, 2001  
Chairman, External Review Committee for the Neuronal Circuit Mechanisms Research Group, RIKEN Brain Research Institute, 2002, 2007  
Member, Site Visit Team, Laboratory of Cellular and Synaptic Neurophysiology, National Institute of Child Health and Human Development, 2002  
Member, Molecular, Developmental and Cellular Neuroscience-5 Review Panel, National Institutes of Health, 2003  
Member, Finance Committee, Society for Neuroscience, 2003-2008  
Member, Review Committee, Dart Scholars Program in Learning and Memory at Marine Biological Laboratory, 2004-2006  
Councilor, Association of Anatomy, Cell Biology, and Neurobiology Chairpersons, 2006-2008  
Member, Committee on Committees, Society for Neuroscience, 2006-2010  
Member, Scientific and Academic Advisory Committee, Weizmann Institute of Science, 2006  
Member, Special Emphasis NIH Review Panel, IFCN, 2007  
Chair-Elect, Section on Neuroscience, American Association for the Advancement of Science, 2007  
Chair, Section on Neuroscience, American Association for the Advancement of Science, 2008-2009  
External Reviewer, Seymour Fisher Academic Excellence Award in Neuroscience at the University of Texas Medical Branch at Galveston, 2007-2015  
Chairman, External Review Committee for the Neuronal Circuit Mechanisms Research Group, RIKEN Brain Research Institute, 2007  
Chairman, Ralph W. Gerard Prize Selection Committee, Society for Neuroscience, 2007-2009  
Member, Special Emphasis NIH Review Panel, ZNS1 SRB-M for K99 Awards, 2007  
President, Association of Medical School Neuroscience Department Chairpersons, 2008, 2009  
Member, External Review Panel, Okinawa Institute of Science and Technology, 2008  
Member, Special Emphasis NIH Review Panel, ZRG1 IFCN, 2008  
Chairman, Swartz Prize Selection Committee, Society for Neuroscience, 2009-2011  
Member, Special Emphasis NIH Review Panel, ZRG1 IFCN-H, 2009

Member, External Review Panel, University of Massachusetts Medical School, Department of Neurobiology, 2009  
Member, AAMC MR5 Behavioral and Social Sciences Working Group, 2010-2011  
Member, AAMC Leadership Forum on Medical Education, 2010  
Member, Molecular Neurogenetics Study Section, MNG, 2011  
Society for Neuroscience Representative to the Section Committees of the American Association for the Advancement of Science, 2012-Present  
Member, NIH Director's New Innovator Award Program Review Committee, 2012-2013  
Temporary member, NIH Neurobiology of Learning and Memory Study Section, 2016-2017  
Permanent Member, NIH Neurobiology of Learning and Memory Study Section, 2017-  
Member, Government and Public Affairs Committee, Society for Neuroscience, 2017-

**OTHER NATIONAL AND INTERNATIONAL ACTIVITIES (Since 1983):**

Invited speaker at the Woods Hole Symposium on the Neural Mechanisms of Conditioning, 1983  
Faculty member, Neural Systems and Behavior Course, Marine Biological Laboratory, Woods Hole, 1984-1990  
Course co-director, Biology of Learning and Memory, Cold Spring Harbor Laboratory, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001  
Invited speaker at the Winter Conference on Brain Research, 1984, 1985, 1986  
Invited speaker at the Winter Conference on the Neurobiology of Learning and Memory, 1985, 1987  
Invited speaker and discussant at the Dahlem Conference on the Neural and Molecular Bases of Learning, Berlin, 1985  
Invited speaker at the Society for Neuroscience Symposium on Cellular Substrates of Learning: Vertebrate and Invertebrate Mechanisms, 1986  
Speaker and conference co-organizer, Neural Models of Plasticity: Theoretical and Empirical Approaches, Marine Biological Laboratory, Woods Hole, 1987  
Invited speaker at the NATO Advanced Research Workshop on Modulation of Synaptic Transmission and Plasticity in Nervous Systems, Il Ciocco, Italy, 1987  
Invited speaker at the Twelfth "Gif Lectures in Neurobiology" on the Neuronal Mechanisms of Long-Lasting Changes in the Nervous System: Facts and Perspectives. Gif-sur-Yvette, France, 1987  
Invited speaker at the American Association for Artificial Intelligence Symposium on Parallel Models of Intelligence: How Can Slow Components Think so Fast? Stanford, CA, 1988  
Speaker and conference co-organizer, Biotechnology of the Brain: Fundamental Discoveries and Clinical Applications. Houston, TX, 1988  
Invited speaker at the Bat-Sheva De Rothschild Foundation Seminar on Neural Network Models and Their Relevance to Biology, Jerusalem, Israel, 1988  
Invited speaker at the First International Meeting on The Cell and Molecular Neurobiology of *Aplysia*, Cold Spring Harbor, 1988  
Invited speaker at the Twelfth Symposium on Models of Behavior on Neural Network Models of Conditioning and Action, Harvard University, 1989  
Invited speaker at the Gordon Conference on Neuronal Plasticity, Wolfboro, N.H., 1989  
Invited speaker for the Symposium on Learning and Memory at the Second International Congress of Neuroethology, Berlin, 1989  
Invited speaker at the 23<sup>rd</sup> Symposium Medicum Hoechst on the Biology of Memory, Munich, 1989

- Invited speaker at the Fifth Annual Spring Neuroscience Symposium on Mechanisms of Learning and Memory, Emory University, 1990
- Keynote speaker at the Conference on Activity-Driven CNS Changes in Learning and Development, State University of New York at Albany, 1990
- Invited speaker at the 55<sup>th</sup> Symposium on Quantitative Biology: The Brain, Cold Spring Harbor Laboratory, 1990
- Faculty member, Computational Neuroscience: Learning and Memory, Cold Spring Harbor Laboratory, 1990
- Invited speaker at the Second International Meeting on The Cell and Molecular Neurobiology of *Aplysia*, Cold Spring Harbor, 1990
- Invited speaker at the Third Symposium on Molluscan Neurobiology, Amsterdam, 1990
- Invited speaker at the Society for Neuroscience and FIDIA Research Foundation Short Course on Neural Computation, Mexico City, 1991
- Invited speaker for the Symposium on Recent Advances in the Analysis of Learning at the Annual Meeting of the American Association of Anatomists, Chicago, 1991
- Invited speaker at the Gordon Conference on Molecular Pharmacology, Tilton, N.H., 1991
- Invited discussant and moderator at the Dahlem Conference on Exploring Brain Functions: Models in Neuroscience, Berlin, 1991
- Invited speaker at the Bat-Sheva De Rothschild Foundation Seminar on From Neurons to Network, Jerusalem, Israel, 1991
- Faculty member, Molecular Neurobiology: Brain Development and Function, Cold Spring Harbor Laboratory, 1992
- Invited speaker for the Symposium on In Vitro Models of Plasticity at the Third International Congress of Neuroethology, Montreal, 1992
- Visiting professor of Computational Neuroscience, Freie University of Berlin, 1992
- Invited speaker at the Conference on Learning and Memory, Cold Spring Harbor Laboratory, 1992
- Invited speaker at the 22<sup>nd</sup> Annual Meeting of the Society for Neuroscience Symposium on Protein Phosphatases and the Regulation of Neural Excitability, 1992
- Invited speaker at the Office of Naval Research Symposium on Single Neuron Computation, Elkridge, MD, 1993
- Invited speaker at the Third International Meeting on the Cell and Molecular Biology and Behavior of *Aplysia*, Cold Spring Harbor Laboratory, 1993
- Invited speaker at the International Federation of Automatic Control Symposium on Modeling and Control of Biomedical Systems, Galveston, 1994
- Invited speaker at the First World Congress on Computational Medicine, Public Health and Biotechnology, University of Texas at Austin, 1994
- Invited speaker at the Fourth Meeting of the Society for Research on Biological Rhythms, Jacksonville, Florida, 1994
- Invited speaker at the Office of Naval Research Accelerated Research Initiative in Dynamical Neural Systems Conference, Delray Beach, Florida, 1994
- Invited speaker at the Fourth Conference on Simpler Nervous Systems, Moscow, Russia, 1994
- Invited speaker at the Fourth International Symposium on Molluscan Neurobiology, Amsterdam, The Netherlands, 1994
- Invited speaker at the Tenth International Symposium of the Tokyo Metropolitan Institute for Neuroscience, Tokyo, Japan, 1994
- Conference co-organizer, Learning and Memory, Cold Spring Harbor Laboratory, 1994
- Invited speaker at the 23<sup>rd</sup> Göttingen Neurobiology Conference, 1995

- Invited speaker at the New York University Symposium on Memory and Brain, New York, New York, 1995
- Invited speaker at the Western Washington University Learning Symposium on Cognitive Neuroscience: Its Promise, Its Future, 1995
- Workshop speaker at the University of California at San Diego symposium on Nonlinear Dynamics of Small Networks of Neurons, 1995
- Invited speaker at the Winter Conference on Neural Plasticity in St. Lucia British West Indies, 1996
- Invited speaker at the Meeting of the Office of Naval Research Nonlinear Dynamics Program, Gainesville, Florida, 1996
- Invited speaker at the Office of Naval Research workshop on Gene Networks and Cellular Controls, Wilmington, Delaware, 1996
- Invited speaker at the Conference on Learning and Memory, Cold Spring Harbor Laboratory, 1996
- Invited discussant at the 80<sup>th</sup> Dahlem Conference on the Mechanistic Relationship between Development and Learning: Beyond Metaphor, Berlin, 1997
- Invited speaker at the Eighth Annual Spring Brain Conference, Sedona, Arizona, 1997
- Conference co-organizer, Fifth International Meeting on the Cell and Molecular Biology of *Aplysia* and Related Invertebrates, Cold Spring Harbor Laboratory, 1997
- Invited speaker at the NIH Conference on Control of Genes, Development and Plasticity by Neural Impulses, Bethesda, Maryland, 1997
- Invited speaker at the Air Force Office of Scientific Research Chronobiology & Neural Adaptation Program Review in Colorado Springs, Colorado, 1997
- Invited participant in the workshop on Human Cognition and How It Fails, Cold Spring Harbor Laboratory, 1997
- Invited speaker at the symposium on Neurotrophic Factors and Synaptic Plasticity at Freie University in Berlin, Germany, 1998
- Invited speaker at the Fifth International Congress of Neuroethology, San Diego, California, 1998
- Invited participant in the NIH Workshop on Non-mammalian Model Organisms, Bethesda, Maryland, 1999
- Visiting professor, Department of Physiology and Biochemistry, University of Pisa, Italy, 2000, 2001, 2002, 2004
- Conference co-organizer, Learning and Memory, Cold Spring Harbor Laboratory, 2001
- Invited speaker at the Sixth Society for Industrial and Applied Mathematics Conference on Applications of Dynamical Systems, Snowbird, Utah, 2001
- Invited speaker at the 1<sup>st</sup> European Conference of Neurobiology, Krakow, Poland, 2001
- Co-organizer for sessions on Neural Engineering, Second Joint Meeting of the Engineering in Medicine and Biology Society (EMBS) and the Biomedical Engineering Society (BMES), 2002
- Conference co-organizer, Learning and Memory, Cold Spring Harbor Laboratory, 2003
- Invited speaker, Symposium on Learning and Memory, Campus Vienna Biocenter, Vienna, Austria, 2003
- Invited speaker, RIKEN Brain Research Institute, 2003 Summer Course, Tokyo, Japan, 2003
- Invited speaker, Foundation des Treilles conference "Learning and memory, from molecules to mind", Nice, France, 2003
- Invited participant, The National Academies 1<sup>st</sup> Annual Keck *Futures Initiative* Conference, 2003
- Invited speaker, Inaugural Conference "From Neuron to Mind", The Leslie and Susan Gonda Multidisciplinary Brain Research Center, Bar-Ilan University, Israel, 2004



Conference co-organizer, Learning and Memory, Cold Spring Harbor Laboratory, 2005  
Faculty member, Learning and Memory Course, Cold Spring Harbor Laboratory, 2005, 2007, 2009  
Invited speaker, CBN Spring Symposium “Neural Mechanisms of Reward and Reinforcement”, Center for Behavioral Sciences, Emory University, Atlanta, Georgia, 2006  
Invited speaker, Brain Science Day, Weizmann Institute of Science, Rehovot, Israel, 2006  
Invited speaker, Friday Harbor Laboratories Centennial Symposium “Gastropod Neuroscience: Past Successes and Future Prospects”, Friday Harbor, Washington, 2007  
Invited participant the NIH Neuroinformatics Terminology Workshop on Neurobehavior, New York, New York, 2008  
Invited speaker, Federation of European Neuroscience Societies (FENS) Forum Symposium and Workshop, Geneva, Switzerland, 2008  
Invited speaker, Molluscan Neuroscience Meeting, San Juan, Puerto Rico, 2009  
Invited speaker, NSF Workshop on Shared Organizing Principles in the Computing and Biological Sciences, Arlington, Virginia, 2010  
Invited speaker, CNS 2011 Workshop on Modeling Central Pattern Generators: Neuronal Network Design Principles and Problems, Stockholm, Sweden, 2011  
Invited speaker, Center for NeuroEngineering Symposium, Houston, Texas, 2011  
Invited speaker, The Extraordinary Journey of Neuroscience Research, Sponsored by the Region of Tuscany and the University of Pisa, Lunigiana, Italy, 2012  
Conference co-organizer, Molluscan Neuroscience, Scripps Research Institute, Jupiter, FL, 2012  
Keynote speaker, Symposium on "Biogenic Amines in Insects," Freie University, Berlin, Germany, 2012  
Workshop co-organizer, Baylor College of Medicine, Rice University and UTHealth BRAIN Workshop, Houston, Texas, 2013  
Invited speaker, Annual Pavlovian Society meeting, Austin, Texas, 2013  
Invited speaker, Neuroscience 2013 Workshop: "Are printed textbooks obsolete?" Society for Neuroscience, 2013  
Invited speaker, Gulf Coast Cluster for 4<sup>th</sup> Annual NeuroEngineering Symposium, Houston, Texas, 2014  
Keynote speaker, MCB Brain Plast International Conference on Brain Plasticity linking Molecules, Cells & Behavior, Magdeburg, Germany, 2017

**SERVICE ON MCGOVERN MEDICAL SCHOOL COMMITTEES:**

Curriculum Committee, 1983-1986  
Curriculum Committee, Chairman, 1985-1986  
Interviewer for Admissions Committee, 1983-2003  
Interviewer for M.D./Ph.D. Program, 1984-present  
Faculty Senate, 1985-1987  
Search Committee for Chair, Department of Internal Medicine, 1988  
Search Committee for Chair, Department of Psychiatry and Behavioral Science, 1988  
Research Committee, 1987-present  
Research Committee, Chairman, 1989-1993, 1996-present  
LCME Self-Study Committee on Resources for the Education Programs, Chairman, 1989  
Search Committee for Director, Division of Neurosurgery, 1989-1990  
Search Committee for Chair, Department of Pharmacology, Chairman, 1990  
M.D./Ph.D. Program Committee, 1990-1993; 2008-2011

Total Quality Improvement/Research Steering Committee, 1992-1995  
Member, Ad Hoc Committee for Faculty Incentive Plan, 1996  
Dean's Strategic Advisory Group, 1997-1998  
Graduate Student Education Committee, 1997-present  
Dean's Budget and Compensation Committee, 1996-2003  
Chair, Internal Consultant Committee for the Review of the Department of Neurology, 1998-1999  
Indoor Air Quality Task Force, 1998-2002  
Member, Cooper Lecture Committee, 1997-2008  
LCME Self-Study Committee on Institutional Setting, 2002-2004  
Search Committee for Commencement Speaker, 2004-2006  
Search Committee for Chair, Department of Pediatrics, 2005  
Search Committee for Chair, Department of Integrative Biology and Pharmacology, Chairman, 2005-2007  
Search Committee for Project Excellence for the New Research Replacement Facility, 2006-2008  
Search Committee for Chair, Department of Psychiatry and Behavioral Sciences, 2007-2009  
Member, 3T MRI Center Executive Committee, 2007-2013  
Member, Mischer Neuroscience Institute Research Committee, 2008-2011  
Member, Area Concentrations Advisory Committee, 2009-present  
Member, LCME Self-Study Committee on Faculty, 2010-2012  
Member, LCME Self-Study Committee on Research Activity, 2011-2012  
Member, LCME Steering Committee, 2011-2012  
Search Committee for Director, The Brown Foundation Institute of Molecular Medicine, Co-Chair, 2011-2012  
Member, Scientific Review Board for the Bentsen Stroke Center, 2011-present  
Member, Search Committee for Chair, Department of Neurology, 2013-2015  
Member, Search Committee for Vice Chair for Research, Department of Neurosurgery, 2015-present  
Member, Scholarly Concentration Program Advisory Committee, 2017-

**SERVICE ON THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON COMMITTEES:**

President's Committee for Neuroscience, 1984-1987  
Scientific Council, 1988-1990  
President's Neuroscience Planning Task Force, 1991  
Health Science Center Task Force on Faculty Salary, 1991-1996  
Planning Task Force for Consolidating Basic Sciences, 1993  
Member, HSC Scientific Review Committee, 1994-1999  
President's Task Force for the Graduate School of Biomedical Sciences, 1996-1997  
Search Committee for Director, Institute of Molecular Medicine, 1998-1999  
Member, Research Support Services Analysis Team, 1998-1999  
Member, Committee for the Comprehensive Review of the Vice President, 1998-1999  
Member, Committee for the Improvement of the Grant Pre-Award Process, 1998-1999  
Project mentor, President's Academic Leadership Development Program, 1999-2009  
Member, Capital Campaign Planning Group, 2000-2002  
Member, Executive Committee for the Center for Computational Biomedicine, 2001-2005  
Member, Biotechnology Group for Strategic Planning Committee, 2002

Member, Research Group for Strategic Planning Committee, 2002  
Search Committee for Executive Vice President for Research, 2002  
Search Committee for Dean of the Dental Branch, 2002-2004  
Member, Research Council, 2003-present  
Member, HAM-TMC Library Advisory Group, 2004-2010  
Member, Faculty Research Advisory Panel, 2004-2008  
Member, IT Governance Council, 2004-2010  
Search Committee for Director of the UT Center for Neurodegenerative Diseases, 2004-2005  
Search Committee for Chair, Department of Biomedical Engineering, 2006-2007  
Member, Selection Committee for Presidential Scholar Award, 2006-present  
Member, Biomedical Engineering Curriculum Committee, 2006-2011  
Member, UTHealth Biomedical Engineering Space and Operation Committee, 2007-2010  
Chair, Center for Clinical and Translational Services Neuroscience Focus Group, 2007- 2011  
Member, UTHealth SACS Institutional Effective Committee, 2009-2010  
Member, UTHealth Research Space Committee, 2009-2011  
Member, UT/Rice Shared Services Committee, 2010  
Member, Search Committee for Dean of the Graduate School of Biomedical Sciences, 2010-2012

**SERVICE ON THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON GRADUATE SCHOOL COMMITTEES:**

Admissions Committee, 1984-1987  
Member, Biomedical Engineering Graduate Studies Committee, University of Texas at Austin, 2001-present

**SERVICE ON THE UNIVERSITY OF TEXAS SYSTEM COMMITTEES:**

Member, The University of Texas System Neuroscience Council, 2013-present  
Member, Program Committee, and Session Chair, The University of Texas System Texas FreshAIR Conference, 2016

**SERVICE ON RICE UNIVERSITY COMMITTEES:**

Member, Neurosciences Steering Committee, 2012-2016  
Member, Neuroscience/Neuro-X Steering Committee, 2016-present

**SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:**

Susan Tritt	1977-1982
John Walsh	1980-1985
Kenneth Scholz	1985-1988
Dean Buonomano	1987-1992
Jason Goldsmith	1988-1992
Yanli Xu	1990-1992
Jennifer Raymond	1988-1993
Fidelma Nazif	1988-1993
Shuzo Sugita	1990-1994
Jeffrey Sorenson	1992-1995
Susan Cushman	1992-1995

Fan Zhang	1992-1997
Hilde Lechner	1995-1999
Jeannie Chin	1996-2001
Bill Amini	2001-2004
Fred Lorenzetti	1998-2005
Fredy Reyes	2001-2006
Diasinou Fioravante	1999-2006
Evangelos Antzoulatos	2000-2006
Shreyansh Shah	2006-2009
Anne Netek	2005-2011
Curtis Neveu	2009-2017
Brittany Coughlin	2010-2017
Renan Costa	2016-present

**SPONSORSHIP OF POSTDOCTORAL FELLOWS:**

Edgar T. Walters, Ph.D.	1980-1982
Karen A. Ocorr, Ph.D.	1982-1985
Leonard Cleary, Ph.D.	1984-1987
Stuart Critz, Ph.D.	1988-1991
Shogo Endo, Ph.D.	1989-1991
Joseph Pieroni, Ph.D.	1988-1992
John White, Ph.D.	1990-1992
Florence Noel, Ph.D.	1988-1993
Israel Ziv, Ph.D.	1990-1993
Carmen Canavier, Ph.D.	1991-1993
Susanne Wittstock, Ph.D.	1992-1994
Keiko Nakanishi, M.D.	1993-1995
Carmen Canavier, Ph.D.	1994-1995
Romuald Nargeot, Ph.D.	1995-1998
Evgeni Kabotyanski, Ph.D.	1993-1999
Paul Smolen, Ph.D.	1996-1999
John Burdohan, Ph.D.	1996-1999
Annie Angers, Ph.D.	1998-2000
Suzanne Candy, Ph.D.	1999-2001
David Pettigrew, Ph.D.	2001-2003
Björn Brembs, Ph.D.	2000-2003
Randall Hayes, Ph.D.	2001-2004
Teruyuki Fukushima, Ph.D.	2001-2004
Daniel Wüstenberg	2002-2005
Clyde Steven Miller, Ph.D.	2002-2006
Hao Song, Ph.D.	2004-2006
Gregg Phares, Ph.D.	1997-2006
Riccardo Mozzachiodi, Ph.D.	1999-2007
Rong-Yu Liu, Ph.D.	2002-2008
Fred Lorenzetti, Ph.D.	2005-2010
Yili Zhang, Ph.D.	2008-2012
Hsin-Mei Chen, Ph.D.	2008-2012

Lian Zhou, Ph.D.	2008-2015
Harini Lakshminarasimhan, Ph.D.	2014-2016
Curtis Neveu	2017-

**SPONSORSHIP OF VISITING SCIENTISTS:**

Abraham J. Susswein, Ph.D. (Bar Ilan University, Israel)	1985-1986, 1987 and 1989
Masashi Sawada, Ph.D. (Shimane Medical University, Japan)	1986-1987 and 1987-1988
Zhishen Zhang, M.D. (Capital Institute of Medicine, PR China)	1987-1988
Loon-tzian Lo, M.D. (Fujian Medical College, PR China)	1986-1989
Arnold Eskin, Ph.D. (University of Houston)	1988-1989
Mitsuyuki Ichinose, Ph.D. (Shimane Medical University, Japan)	1989-1990
Boyuan Fang, M.D. (Capital Institute of Medicine, PR China)	1990-1991
Han Zhang, M.D. (Yangzhou Medical College, PR China)	1992-1994

**SPONSORSHIP OF VISITING STUDENTS:**

Martin Hammer (Freie University of Berlin)	1987-1988
Hilde Lechner (Freie University of Berlin)	1993-1995

**TEACHING RESPONSIBILITIES AND DEPARTMENTAL SERVICE AT MCGOVERN MEDICAL SCHOOL:**

Lecturer and conference leader, Mammalian Physiology, 1982-1995  
Lecturer, graduate course in Mammalian Physiology, 1982-1987  
Course Director, Mammalian Physiology, 1984-1985 (voted best first-year course by medical students)  
Lecturer, basic science review course for Neurology residents, 1984, 1988, 1989, 1992, 1999  
Director, Department Seminar Program, 1983-1984  
Lecturer, Medical Neuroscience, 1988-2016  
Lecturer, Advanced Neurobiology I, 1990-2003  
Lecturer, Advanced Neurobiology II, 1991-2009  
Lecturer and conference leader, Medical School Pre-Entry Program, 1991-present  
Facilitator, Problem Based Learning Sessions, Fundamentals of Clinical Medicine, 1996-2003  
Course Co-Director, Neurobiology of Disease, 1999-present  
Lecturer, Current Topics in Neuroscience, 2002-2015  
Lecturer, Synaptic Basis of Learning and Memory, 2006, 2007  
Lecturer, Department of Neurology, Grand Rounds, 2007, 2014  
Lecturer, Cellular Neurophysiology, 2009-present  
Lecturer, Systems Neuroscience, 2010-present  
Lecturer, GSBS Foundations Core Course, 2015-present  
Lecturer, Foundations of Medicine Module, 2016-present  
Lecturer, Nervous System and Behavior Module, 2017-

**TEACHING RESPONSIBILITIES AT RICE UNIVERSITY:**

Lecturer, Biopsychology, 1997-1998  
Lecturer, Cognitive Psychology of Memory, 2016

**TEACHING RESPONSIBILITIES AND DEPARTMENT SERVICE AT THE UNIVERSITY OF PITTSBURGH:**

Lecturer and conference leader, Mammalian Physiology, 1976-1981  
Lecturer, undergraduate Course in Mammalian Physiology, 1978-1980  
Course Director, Medical Neuroscience, 1980-1982  
Lecturer, basic science review course for Neurology residents, 1980-1982  
Lecturer, graduate course in Cellular Neurobiology, 1981

**PUBLICATIONS:**

**A. Refereed Original Articles in Journals:**

1. Byrne, J.H., Castellucci, V. and Kandel, E.R. Receptive fields and response properties of mechanoreceptor neurons innervating the siphon and mantle shelf of *Aplysia*. *J. Neurophysiol.* 37:1041-1064, 1974.
2. Byrne, J.H. A feedback controlled stimulator that delivers controlled displacements or forces to cutaneous mechanoreceptors. *IEEE Trans. Bio-Med. Eng.* 22:66-69, 1975.
3. Byrne, J.H. Dynamic properties of mechanoreceptor neurons mediating the defensive gill-withdrawal in *Aplysia*. *Brain Research* 114:123-127, 1976.
4. Byrne, J.H. and Koester, J. Respiratory pumping: Neuronal control of a centrally commanded behavior in *Aplysia*. *Brain Research* 143:87-105, 1978.
5. Byrne, J.H., Castellucci, V.F., Carew, T.J. and Kandel, E.R. Stimulus-response relations and stability of mechanoreceptor and motor neurons mediating defensive gill-withdrawal reflex in *Aplysia*. *J. Neurophysiol.* 41:402-417, 1978.
6. Byrne, J.H., Castellucci, V. and Kandel, E.R. Contribution of individual mechanoreceptor sensory neurons to defensive gill-withdrawal reflex in *Aplysia*. *J. Neurophysiol.* 41:418-431, 1978.
7. Carew, T.J., Castellucci, V.F., Byrne, J.H. and Kandel, E.R. Quantitative analysis of relative contribution of central and peripheral neurons to gill-withdrawal reflex in *Aplysia californica*. *J. Neurophysiol.* 42:497-509, 1979.
8. Shapiro, E., Koester, J. and Byrne, J.H. *Aplysia* ink release: Central locus for selective sensitivity to long duration stimuli. *J. Neurophysiol.* 42:1223-1232, 1979.
9. Byrne, J.H., Shapiro, E., Dieringer, N. and Koester, J. Biophysical mechanisms contributing to inking behavior in *Aplysia*. *J. Neurophysiol.* 42:1233-1250, 1979.

10. Byrne, J.H. Analysis of ionic conductance mechanisms in motor cells mediating inking behavior in *Aplysia*. *J. Neurophysiol.* 43:630-650, 1980.
11. Byrne, J.H. Quantitative aspects of ionic conductance mechanisms contributing to firing pattern of motor cells mediating inking behavior in *Aplysia californica*. *J. Neurophysiol.* 43:651-668, 1980.
12. Tritt, S.H. and Byrne, J.H. Motor controls of opaline secretion in *Aplysia californica*. *J. Neurophysiol.* 43:581-594, 1980.
13. Byrne, J.H. Neural circuit for inking behavior in *Aplysia californica*. *J. Neurophysiol.* 43:896-911, 1980.
14. Byrne, J.H. Identification of neurons contributing to presynaptic inhibition in *Aplysia californica*. *Brain Research* 199:235-239, 1980.
15. Byrne, J.H. Comparative aspects of neural circuits for inking behavior and gill-withdrawal in *Aplysia californica*. *J. Neurophysiol.* 45:98-106, 1981.
16. Byrne, J.H. Simulation of the neural activity underlying a short-term modification of inking behavior in *Aplysia*. *Brain Research* 204:200-203, 1981.
17. Milne, R.J. and Byrne, J.H. Effects of hexamethonium and decamethonium on end-plate current parameters. *Molecular Pharmacology* 19:276-281, 1981.
18. Byrne, J.H. Analysis of synaptic depression contributing to habituation of gill-withdrawal reflex in *Aplysia californica*. *J. Neurophysiol.* 48:431-438, 1982.
19. Tritt, S.H. and Byrne, J.H. Neurotransmitters producing and modulating opaline gland contraction in *Aplysia californica*. *J. Neurophysiol.* 48:1347-1361, 1982.
20. Byrne, J.H. Identification and initial characterization of a cluster of command and pattern-generating neurons underlying respiratory pumping in *Aplysia californica*. *J. Neurophysiol.* 49:491-508, 1983.
21. Tritt, S.H., Lowe, I.P. and Byrne, J.H. A modification of the glyoxylic acid induced histofluorescence technique for demonstration of catecholamines and serotonin in tissues of *Aplysia californica*. *Brain Research* 259:159-162, 1983.
22. Walters, E.T. and Byrne, J.H. Associative conditioning of single sensory neurons suggests a cellular mechanism for learning. *Science* 219:405-408, 1983.
23. Walters, E.T., Byrne, J.H., Carew, T.J. and Kandel, E.R. Mechanoafferent neurons innervating the tail of *Aplysia*. I. Response properties and synaptic connections. *J. Neurophysiol.* 50:1522-1542, 1983.
24. Walters, E.T., Byrne, J.H., Carew, T.J. and Kandel, E.R. Mechanoafferent neurons innervating the tail of *Aplysia*. II. Modulation by sensitizing stimulation. *J. Neurophysiol.* 50:1543-1559, 1983.

25. Walters, E.T. and Byrne, J.H. Slow depolarization produced by associative conditioning of *Aplysia* sensory neurons may enhance  $Ca^{++}$  entry. *Brain Research* 280:165-168, 1983.
26. Walters, E.T. and Byrne, J.H. Post-tetanic potentiation in *Aplysia* sensory neurons. *Brain Research* 293:377-380, 1984.
27. Walsh, J.P. and Byrne, J.H. Forskolin mimics and blocks a serotonin-sensitive decreased  $K^{+}$  conductance in tail sensory neurons of *Aplysia*. *Neuroscience Letters* 52:7-11, 1984.
28. Walsh, J.P. and Byrne, J.H. Analysis of decreased conductance serotonergic response in *Aplysia* ink motor neurons. *J. Neurophysiol.* 53:590-602, 1985.
29. Gingrich, K.J. and Byrne, J.H. Simulation of synaptic depression, post-tetanic potentiation, and presynaptic facilitation of synaptic potentials from sensory neurons mediating gill-withdrawal reflex in *Aplysia*. *J. Neurophysiol.* 53:652-669, 1985.
30. Walters, E.T. and Byrne, J.H. Long-term enhancement produced by activity-dependent modulation of *Aplysia* sensory neurons. *J. Neuroscience* 5:662-672, 1985.
31. Ocorr, K.A., Walters, E.T. and Byrne, J.H. Associative conditioning analog selectively increases cAMP levels of tail sensory neurons in *Aplysia*. *Proc. Natl. Acad. Sci.* 82:2548-2552, 1985.
32. Ocorr, K.A. and Byrne, J.H. Membrane responses and changes in cAMP levels in *Aplysia* sensory neurons produced by 5-HT, tryptamine, FMRFamide and  $SCP_B$ . *Neuroscience Letters* 55:113-118, 1985.
33. Critz, S.D., Harper, J.F. and Byrne, J.H. Evidence for the inhibitory subunit of adenylate cyclase ( $N_i$ ) in nervous and heart tissue of *Aplysia*. *Neuroscience Letters* 64:145-150, 1986.
34. Ocorr, K.A., Tabata, M. and Byrne, J.H. Stimuli that produce sensitization lead to elevation of cyclic AMP levels in tail sensory neurons of *Aplysia*. *Brain Research* 371:190-192, 1986.
35. Ocorr, K.A. and Byrne, J.H. Evidence for separate receptors that mediate parallel effects of serotonin and small cardioactive peptide $_B$  ( $SCP_B$ ) on adenylate cyclase in *Aplysia californica*. *Neuroscience Letters* 70:283-288, 1986.
36. Scholz, K.P. and Byrne, J.H. Long-term sensitization in *Aplysia*: Biophysical correlates in tail sensory neurons. *Science* 235:685-687, 1987.
37. Gingrich, K.J. and Byrne, J.H. Single-cell neuronal model for associative learning. *J. Neurophysiol.* 57:1705-1715, 1987.
38. Susswein, A.J. and Byrne, J.H. Identification and characterization of neurons initiating patterned neural activity in the buccal ganglia of *Aplysia*. *J. Neuroscience* 8:2049-2061, 1988.



39. Scholz, K.P., Cleary, L.J., Byrne, J.H. Inositol 1,4,5-trisphosphate alters bursting pacemaker activity in *Aplysia* neurons: Voltage clamp analysis of effects on calcium currents. *J. Neurophysiol.* 60:86-104, 1988.
40. Scholz, K.P. and Byrne, J.H. Intracellular injection of cAMP induces a long-term reduction of neuronal K<sup>+</sup> currents. *Science* 240:1664-1666, 1988.
41. Walsh, J.P. and Byrne, J.H. Modulation of a steady-state Ca<sup>2+</sup> activated, K<sup>+</sup> current in tail sensory neurons of *Aplysia*: Role of serotonin and cAMP. *J. Neurophysiol.* 61:32-44, 1989.
42. Sawada, M., Cleary, L.J. and Byrne, J.H. Inositol trisphosphate (IP<sub>3</sub>) and activators of protein kinase C (PKC) modulate membrane currents in tail motor neurons of *Aplysia*. *J. Neurophysiol.* 61:302-310, 1989.
43. Eskin, A., Garcia, K.S. and Byrne, J.H. Information storage in the nervous system of *Aplysia*: Specific proteins affected by serotonin and cAMP. *Proc. Natl. Acad. Sci. (USA)* 86:2458-2462, 1989.
44. Hammer, M., Cleary, L.J. and Byrne, J.H. Serotonin acts in the synaptic region of pleural sensory neurons of *Aplysia* to enhance transmitter release. *Neuroscience Letters* 104:235-240, 1989.
45. Baxter, D.A. and Byrne, J.H. Serotonergic modulation of two potassium currents in the pleural sensory neurons of *Aplysia*. *J. Neurophysiol.* 62:665-679, 1989.
46. Canavier, C.G., Clark, J.W. and Byrne, J.H. Routes to chaos in a model of a bursting neuron. *Biophysical J.* 57:1245-1252, 1990.
47. Buonomano, D.V. and Byrne, J.H. Long-term synaptic changes produced by a cellular analogue of classical conditioning in *Aplysia*. *Science* 249:420-423, 1990.
48. Buonomano, D.V., Baxter, D.A. and Byrne, J.H. Small networks of empirically derived adaptive elements simulate some higher-order features of classical conditioning. *Neural Networks* 3:507-523, 1990.
49. Baxter, D.A. and Byrne, J.H. Differential effects of cAMP and serotonin on membrane current, action potential duration, and excitability in somata of pleural sensory neurons of *Aplysia*. *J. Neurophysiol.* 64:978-990, 1990.
50. Baxter, D.A. and Byrne, J.H. Reduction of voltage-activated K<sup>+</sup> currents by forskolin is not mediated via cAMP in pleural sensory neurons of *Aplysia*. *J. Neurophysiol.* 64:1474-1483, 1990.
51. Ichinose, M., Endo, S., Critz, S.D., Shenolikar, S. and Byrne, J.H. Microcystin-LR, a potent protein phosphatase inhibitor, prolongs the serotonin - and cAMP - induced currents in sensory neurons of *Aplysia californica*. *Brain Research* 533:137-140, 1990.
52. Nazif, F.A., Byrne, J.H. and Cleary, L.J. cAMP induces long-term morphological changes in sensory neurons of *Aplysia*. *Brain Research* 539:324-327, 1991.

53. Ichinose, M. and Byrne, J.H. Role of protein phosphatases in the modulation of neuronal membrane currents. *Brain Research*, 549:146-150, 1991.
54. Zhang, Z., Fang, B., Marshak, D.W., Byrne, J.H. and Cleary, L.J. Serotonergic varicosities make synaptic contacts with pleural sensory neurons of *Aplysia*. *J. Comp. Neurol.* 311:259-270, 1991.
55. Critz, S.D., Baxter, D.A. and Byrne, J.H. Modulatory effects of serotonin, FMRFamide, and myomodulin on the duration of action potentials, excitability, and membrane currents in tail sensory neurons of *Aplysia*. *J. Neurophysiol.* 66:1912-1926, 1991.
56. Canavier, C.C., Clark, J.W. and Byrne, J.H. Simulation of the bursting activity of neuron R15 in *Aplysia*: Role of ionic currents, calcium balance, and modulatory transmitters. *J. Neurophysiol.* 66:2107-2124, 1991.
57. Noel, F., Scholz, K.P., Eskin, A. and Byrne, J.H. Common set of proteins in *Aplysia* sensory neurons affected by an *in vitro* analogue of long-term sensitization training, 5-HT and cAMP. *Brain Research* 568:67-75, 1991.
58. Endo, S., Shenolikar, S., Eskin, A., Zwartjes, R. and Byrne, J.H. Characterization of neuronal protein phosphatases in *Aplysia californica*. *J. Neurochem.* 58:975-982, 1992.
59. Buonomano, D.V., Cleary, L.J. and Byrne, J.H. Inhibitory neuron produces heterosynaptic inhibition of the sensory-to-motor neuron synapse in *Aplysia*. *Brain Research* 577:147-150, 1992.
60. Pieroni, J.P. and Byrne, J.H. Differential effects of serotonin, FMRFamide and small cardioactive peptide on multiple, distributed processes modulating sensorimotor synaptic transmission in *Aplysia*. *J. Neuroscience* 12:2633-2647, 1992.
61. Sugita, S., Goldsmith, J.R., Baxter, D.A. and Byrne, J.H. Involvement of protein kinase C in serotonin-induced spike broadening and synaptic facilitation in sensorimotor connections of *Aplysia*. *J. Neurophysiol.* 68:643-651, 1992.
62. Raymond, J.R., Baxter, D.A., Buonomano, D.V. and Byrne, J.H. A learning rule based on empirically-derived activity-dependent neuromodulation supports operant conditioning in a small network. *Neural Networks* 5:789-803, 1992.
63. Critz, S.D. and Byrne, J.H. Modulation of  $I_{K,Ca}$  by phorbol ester mediated activation of PKC in pleural sensory neurons of *Aplysia*. *J. Neurophysiol.* 68:1079-1086, 1992.
64. Goldsmith, J.R. and Byrne, J.H. Bag cell extract inhibits tail-siphon withdrawal reflex, suppresses long-term but not short-term sensitization and attenuates sensory-to-motor neuron synapses in *Aplysia*. *J. Neuroscience* 13:1688-1700, 1993.
65. Noel, F., Nuñez-Regueiro, M., Cook, R., Byrne, J.H. and Eskin, A. Long-term changes in synthesis of intermediate filament protein, actin and other proteins in pleural sensory neuron of *Aplysia* produced by an *in vitro* analogue of sensitization training. *Molecular Brain Research* 19:203-210, 1993.

66. Canavier, C.C., Baxter, D.A., Clark, J.W. and Byrne, J.H. Nonlinear dynamics in a model neuron provide a novel mechanism for transient synaptic inputs to produce long-term alterations of postsynaptic activity. *J. Neurophysiol.* 69:2252-2257, 1993.
67. Cleary, L.J. and Byrne, J.H. Identification and characterization of a multifunction neuron contributing to defensive arousal in *Aplysia*. *J. Neurophysiol.* 70:1767-1776, 1993.
68. White, J.A., Ziv, I., Baxter, D.A., Cleary, L.J. and Byrne, J.H. The role of interneurons in controlling the tail-withdrawal reflex in *Aplysia*: A network model. *J. Neurophysiol.* 70:1777-1786, 1993.
69. Ziv, I., Baxter, D.A. and Byrne, J.H. Simulator for neural networks and action potentials: Description and application. *J. Neurophysiol.* 71:294-308, 1994.
70. White, J.A., Baxter, D.A. and Byrne, J.H. Analysis of the modulation by serotonin of a voltage-dependent potassium current in sensory neurons of *Aplysia*. *Biophysical J.* 66:710-718, 1994.
71. Raymond, J.L. and Byrne, J.H. Distributed input to the tail-siphon withdrawal circuit in *Aplysia* from neurons in the J cluster of the cerebral ganglion. *J. Neuroscience* 14:2444-2454, 1994.
72. Xu, Y., Cleary, L.J. and Byrne, J.H. Identification and characterization of pleural neurons that inhibit tail sensory neurons and motor neurons in *Aplysia*: Correlation with FMRamide immunoreactivity. *J. Neuroscience* 14:3565-3577, 1994.
73. Noel, F., Koumenis, C., Nuñez-Regueiro, M., Raju, U., Byrne, J.H. and Eskin, A. Effects on protein synthesis produced by pairing depolarization with serotonin, an analogue of associative learning in *Aplysia*. *Proc. Natl. Acad. Sci. U.S.A.* 91:4150-4154, 1994.
74. Zhang, F., Goldsmith, J.R. and Byrne, J.H. Neural analogue of long-term sensitization training produces long-term (24 and 48 h) facilitation of the sensory-to-motor neuron connection in *Aplysia*. *J. Neurophysiol.* 72:778-784, 1994.
75. Canavier, C.C., Baxter, D.A., Clark, J.W. and Byrne, J.H. Multiple modes of activity in a model neuron suggest a novel mechanism for the effects of neuromodulators. *J. Neurophysiol.* 72:872-882, 1994.
76. Sugita, S., Baxter, D.A. and Byrne, J.H. Activators of protein kinase C mimic serotonin-induced modulation of a voltage-dependent potassium current in pleural sensory neurons of *Aplysia*. *J. Neurophysiol.* 72:1240-1249, 1994.
77. Sugita, S., Baxter, D.A. and Byrne, J.H. cAMP-independent effects of 8-(4-parachlorophenylthio)-cyclic AMP on spike duration and membrane currents in pleural sensory neurons of *Aplysia*. *J. Neurophysiol.* 72:1250-1259, 1994.
78. Homayouni, R., Byrne, J.H. and Eskin, A. Dynamics of protein phosphorylation in sensory neurons of *Aplysia*. *J. Neuroscience* 15:429-438, 1995

79. Endo, S., Critz, S.D., Byrne, J.H. and Shenolikar, S. Protein phosphatase-1 regulates outward  $K^+$  currents in sensory neurons of *Aplysia californica*. *J. Neurochem.* 64:1833-1840, 1995.
80. Xu, Y., Pieroni, J., Cleary, L.J. and Byrne, J.H. Modulation of an inhibitory interneuron in the neural circuitry for the tail-withdrawal reflex of *Aplysia*. *J. Neurophysiol.* 73:1313-1318, 1995.
81. O'Leary, F.A., Byrne, J.H. and Cleary, L.J. Long-term structural remodeling in *Aplysia* sensory neurons requires *de novo* protein synthesis during a critical time period. *J. Neuroscience* 15:3519-3525, 1995.
82. Butera, R.J., Clark, J.W., Canavier, C.C, Baxter, D.A. and Byrne, J.H. Analysis of the effects of modulatory agents on a modeled bursting neuron: Dynamic interactions between voltage and calcium dependent systems. *J. Computational Neuroscience* 2:19-44, 1995.
83. Lechner, H.A., Baxter, D.A., Clark, J.W. and Byrne, J.H. Bistability and its regulation by serotonin in the endogenously bursting neuron R15 in *Aplysia*. *J. Neurophysiol.* 75:957-962, 1996.
84. Butera, R.J., Clark, J.W., Byrne, J.H. Dissection and reduction of a modeled bursting neuron. *J. Computational Neuroscience* 3:199-223, 1996.
85. Liu, Q-R., Hattar, S., Endo, S., MacPhee, K., Zhang, H., Cleary, L.J., Byrne, J.H., Eskin, A. A developmental gene (*Tolloid* /BMP-1) is regulated in *Aplysia* neurons by treatments that induce long-term sensitization. *J. Neuroscience* 17:755-764, 1997.
86. Demir, S.S., Butera, R.J., DeFranceschi, A.A., Clark, J.W., Byrne, J.H. Phase sensitivity and entrainment in a modeled bursting neuron. *Biophysical J.* 72: 579-594, 1997.
87. Sugita, S., Baxter, D.A., Byrne, J.H. Differential effects of 4-aminopyridine, serotonin, and phorbol esters on facilitation of sensorimotor connections in *Aplysia*. *J. Neurophysiol.* 77:177-185, 1997.
88. Zhang, F., Endo, S., Cleary, L.J., Eskin, A., Byrne, J.H. Role of transforming growth factor- $\beta$  in long-term synaptic facilitation in *Aplysia*. *Science* 275:1318-1320, 1997.
89. Homayouni, R., Nunez-Regueiro, M., Cook, R., Byrne, J.H., Eskin, A. Identification of two phosphoproteins affected by serotonin in *Aplysia* sensory neurons. *Brain Research* 750:87-94, 1997.
90. Nakanishi, K., Zhang, F., Baxter, D.A., Eskin, A., Byrne, J.H. Role of calcium-calmodulin-dependent protein kinase II in modulation of sensorimotor synapses in *Aplysia*. *J. Neurophysiol.* 78:409-416, 1997.
91. Sugita, S., Baxter D.A., Byrne, J.H. Modulation of a cAMP/PKA cascade by PKC in sensory neurons of *Aplysia*. *J. Neuroscience* 17:7237-7244, 1997.

92. Nargeot, R., Baxter, D.A., Byrne, J.H. Contingent-dependent enhancement of rhythmic motor patterns: An *in vitro* analog of operant conditioning. *J. Neuroscience* 17:8093-8105, 1997.
93. Canavier, C.C., Butera, R.J., Dror, R.O., Baxter, D.A., Clark, J.W., Byrne, J.H. Phase response characteristics of model neurons determine which patterns are expressed in a ring circuit model of gait generation. *Biol. Cybern.* 77:367-380, 1997.
94. Butera, R.J., Clark, J.W., Byrne, J.H. Transient responses of a modeled bursting neuron: analysis with equilibrium and averaged nullclines. *Biol. Cybern.* 77:307-322, 1997.
95. Kabotyanski, E.A., Baxter, D.A., Byrne, J.H. Identification and characterization of catecholaminergic neuron B65 that initiates and modifies patterned activity in the buccal ganglia of *Aplysia*. *J. Neurophysiol.* 79:605-621, 1998.
96. Smolen, P. Baxter, D.A., Byrne, J.H. Frequency selectivity, multistability, and oscillations emerge from models of genetic regulatory systems. *Am. J. Physiol.* 274:C531-C542, 1998.
97. Zwartjes, R.E., West, H., Hattar, S., Ren, X., Noel, F., Nunez-Regueiro, M., MacPhee, K., Homayouni, R., Crow, M.T., Byrne, J.H. and Eskin, A. Identification of specific mRNAs affected by treatments producing long-term facilitation in *Aplysia*. *Learning & Memory* 4:478-495, 1998.
98. Cleary, L.J., Lee, W.L. and Byrne, J.H. Cellular correlates of long-term sensitization in *Aplysia*. *J. Neuroscience* 18:5988-5998, 1998.
99. Dror, R.O., Canavier, C.C., Butera, R.J., Clark, J.W. and Byrne, J.H. A mathematical criterion based on phase response curves for stability in a ring of coupled oscillators. *Biol. Cybernet.* 80:11-23, 1999.
100. Canavier, C.C., Baxter, D.A., Clark, J.W. and Byrne, J.H. Control of multistability in ring circuits of oscillators. *Biol. Cybernet.* 80:87-102, 1999.
101. Nargeot, R., Baxter, D.A., and Byrne, J.H. *In vitro* analogue of operant conditioning in *Aplysia*. I. Contingent reinforcement modifies the functional dynamics of an identified neuron. *J. Neuroscience* 19:2247-2260, 1999.
102. Nargeot, R., Baxter, D.A., and Byrne, J.H. *In vitro* analogue of operant conditioning in *Aplysia*. II. Modifications of the functional dynamics of an identified neuron contribute to motor pattern selection. *J. Neuroscience* 19:2261-2272, 1999.
103. Nargeot, R., Baxter, D.A., Patterson, G.W. and Byrne, J.H. Dopaminergic synapses mediate neuronal changes in an analogue of operant conditioning. *J. Neurophysiol.* 81:1983-1987, 1999.
104. Lechner, H.A., Squire, L.R. and Byrne, J.H. 100 years of consolidation – remembering Müller and Pilzecker. *Learning & Memory* 6:77-87, 1999.

105. Chin, J., Angers, A., Cleary, L.J., Eskin, A. and Byrne, J.H. TGF- $\beta$ 1 in *Aplysia*: Role of long-term changes in the excitability of sensory neurons and distribution of T $\beta$ R-II-like immunoreactivity. *Learning & Memory*, 6:317-330, 1999.
106. Levenson, J., Byrne, J.H. and Eskin, A. Levels of serotonin in the hemolymph of *Aplysia* are modulated by light/dark cycles and sensitization training. *J. Neuroscience* 19:8094-8103, 1999.
107. Smolen, P., Baxter, D. and Byrne, J.H. Effects of macromolecular transport and stochastic fluctuations on the dynamics of genetic regulatory systems. *Am. J. Physiol.* 277:C777-C790, 1999.
108. Baxter, D.A., Canavier, C.C., Clark, J.W. and Byrne, J.H. Computational model of the serotonergic modulation of sensory neurons in *Aplysia*. *J. Neurophysiol.* 82:2914-2935, 1999.
109. Kabotyanski, E.A., Baxter, D.A., Cushman, S.J. and Byrne, J.H. Modulation of fictive feeding by dopamine and serotonin in *Aplysia*. *J. Neurophysiol.* 83:374-392, 2000.
110. Smolen, P., Baxter, D.A. and Byrne, J.H. Modeling transcriptional control in gene networks – Methods, recent results, and future directions. *Bltm. of Mathematical Biol.* 62:247-292, 2000.
111. Lechner, H.A., Baxter, D.A. and Byrne, J.H. Classical conditioning of feeding in *Aplysia*: I. Behavioral analysis. *J. Neuroscience* 20:3369-3376, 2000.
112. Lechner, H.A., Baxter, D.A. and Byrne, J.H. Classical conditioning of feeding in *Aplysia*: II. Neurophysiological correlates. *J. Neuroscience* 20:3377-3386, 2000.
113. Levenson, J., Sherry, D.M., Dryer, L., Chin, J., Byrne, J.H. and Eskin, A. Localization of glutamate and glutamate transporters in the sensory neurons of *Aplysia*. *J. Comp. Neurol.* 423:121-131, 2000.
114. Levenson, J., Endo, S., Kategaya, L.S., Fernandez, R.I., Brabham, D.G., Chin, J., Byrne, J.H. and Eskin, A. Long-term regulation of neuronal high-affinity glutamate and glutamate uptake in *Aplysia*. *Proc. Natl. Acad. Sci. U.S.A.* 97:12858-12863, 2000.
115. Smolen, P., Baxter, D.A. and Byrne, J.H. Modeling circadian oscillations with interlocking positive and negative feedback loops. *J. Neuroscience* 21:6644-6656, 2001.
116. Susswein, A.J., Hurwitz, I., Thorne, R., Byrne, J.H. and Baxter, D.A. Mechanisms underlying fictive feeding in *Aplysia*: coupling between a large neuron with plateau potentials activity and a spiking neuron. *J. Neurophysiol.* 87:2307-2323, 2002.
117. Chin, J., Angers, A., Cleary, L.J., Eskin, A. and Byrne, J.H. TGF- $\beta$ 1 alters synapsin distribution and modulates synaptic depression in *Aplysia*. *J. Neuroscience* 22:RC220: 1-6, 2002.

118. Brembs, B., Lorenzetti, F.D., Reyes, F.D., Baxter, D.A. and Byrne, J.H. Operant reward learning in *Aplysia*: Neuronal correlates and mechanisms. *Science* 296:1706-1709, 2002.
119. Wainwright, M.L., Zhang, H., Byrne, J.H. and Cleary, L.J. Localized neuronal outgrowth induced by long-term sensitization training in *Aplysia*. *J. Neuroscience* 22:4132-4141, 2002.
120. Chin, J., Burdohan, J.A., Eskin, A. and Byrne, J.H. Inhibitor of glutamate transport alters synaptic transmission at sensorimotor synapses in *Aplysia*. *J. Neurophysiol.* 87:3165-3168, 2002.
121. Angers, A., Fioravante, D., Chin, J., Cleary, L.J., Bean, A.J., and Byrne, J.H. Serotonin stimulates phosphorylation of *Aplysia* synapsin and alters its subcellular distribution in sensory neurons. *J. Neuroscience* 22:5412-5422, 2002.
122. Nargeot, R., Baxter, D.A. and Byrne, J.H. Correlation between activity in neuron B52 and two features of fictive feeding in *Aplysia*. *Neuroscience Letters* 328:85-88, 2002.
123. Smolen, P., Baxter, D.A. and Byrne, J.H. A reduced model clarifies the role of feedback loops and time delays in the *Drosophila* circadian oscillator. *Biophysical J.* 83:2349-2359, 2002.
124. Chen, H., Baozong, Y., Baxter, D.A. and Byrne, J.H. Signal processing and computational model for neural networks. *ICSP'02 Proc.* 2:1532-1535, 2002.
125. Chen, H., Baozong, Y., Baxter, D.A. and Byrne, J.H. Research and implementation of computer simulation system for neural networks. *ICSP'02 Proc.* 2:1834-1837, 2002.
126. Chen, H., Baozong, Y., Baxter, D.A. and Byrne, J.H. Parallel computation in computer simulation for neural networks. *Proc. IEEE TENCON'02*, 1:641-644, 2002.
127. Phares, G.A., Antzoulatos, E.G., Baxter, D.A. and Byrne, J.H. Burst-induced synaptic depression and its modulation contribute to information transfer at *Aplysia* sensorimotor synapses: Empirical and computational analyses. *J. Neuroscience* 23:8392-8401, 2003.
128. Antzoulatos, E., Cleary, L.J., Eskin, A., Baxter, D.A. and Byrne, J.H. Desensitization of postsynaptic glutamate receptors contributes to high-frequency homosynaptic depression of *Aplysia* sensorimotor connections. *Learning and Memory* 10:309-313, 2003.
129. Zhang, H., Wainwright, M., Byrne, J.H. and Cleary, L.J. Quantitation of contacts among sensory, motor and serotonergic neurons in the pedal ganglion of *Aplysia*. *Learning and Memory* 10:387-393, 2003.
130. Mozzachiodi, R., Lechner, H.A., Baxter, D.A., and Byrne, J.H. *In vitro* analogue of classical conditioning of feeding behavior in *Aplysia*. *Learning and Memory* 10:478-494, 2003.

131. Smolen, P., Baxter, D.A. and Byrne, J.H. Reduced models of the circadian oscillators in *Neurospora crassa* and *Drosophila melanogaster* illustrate mechanistic similarities. *OMICS: J. Integrative Biol.* 7:337-354, 2003.
132. Yu, X., Byrne, J.H. and Baxter, D.A. Modeling interactions between electrical activity and second-messenger cascades in *Aplysia* neuron R15. *J. Neurophysiol.* 91:2297-2311, 2003.
133. Luo, C., Clark, J.W., Canavier, C.C., Baxter, D.A., and Byrne, J.H. Multimodal behavior in a four neuron ring circuit: Mode switching. *IEEE Transactions on Biomedical Engineering* 51:205-218, 2004.
134. Smolen, P., Hardin, P.E., Lo, B.S., Baxter, D.A. and Byrne, J.H. Simulation of *Drosophila* circadian oscillations, mutations, and light responses by a model with VRI, PDP-1, and CLK. *Biophys. J.*, 86:2786-2802, 2004.
135. Brembs, B., Baxter, D.A. and Byrne, J.H. Extending *in vitro* conditioning in *Aplysia* to analyze operant and classical processes in the same preparation. *Learning and Memory*, 11:412-420, 2004.
136. Wüstenberg, D.G., Boytcheva, M., Grünewald, B., Byrne, J.H., Menzel, R., and Baxter, D.A. Current- and voltage-clamp recordings and computer simulations of Kenyon cells in the honeybee. *J. Neurophysiol.*, 92:2589-2603, 2004.
137. Wainwright, M.L., Byrne, J.H., and Cleary, L.J. Dissociation of morphological and physiological changes associated with long-term memory in *Aplysia*. *J. Neurophysiol.*, 92:2628-2632, 2004.
138. Khabour, O., Levenson, J., Lyons, L.C., Katagaya, L.S., Chin, J., Byrne, J.H. and Eskin, A. Co-regulation of glutamate uptake and long-term sensitization in *Aplysia*. *J. Neuroscience*, 24:8829-8837, 2004.
139. Pettigrew, D.B., Smolen, P., Baxter, D.A. and Byrne, J.H., Dynamic properties of regulatory motifs associated with induction of three temporal domains of memory in *Aplysia*. *J. Comput. Neurosci.*, 18:163-181, 2005.
140. Cataldo, E., Brunelli, M., Byrne, J.H., Av-Ron, E., Cai, Y. and Baxter, D.A. Computational model of touch mechanoafferent (T cell) of the leech: role of afterhyperpolarization (AHP) in activity-dependent conduction failure. *J. Comput. Neurosci.*, 18:5-24, 2005.
141. Hayes, R.D., Byrne, J.H., Cox, S.J. and Baxter D.A. Estimation of single-neuron model parameters from spike train data. *Neurocomputing*, 65-66C:517-529, 2005.
142. Reyes, F.D., Mozzachiodi, R., Baxter, D.A. and Byrne, J.H. Reinforcement in an *in vitro* analogue of appetitive classical conditioning of feeding behavior in *Aplysia*: Blockade by a dopamine antagonist. *Learning & Memory*, 12:216-220, 2005.



143. Mohamed, H.A., Yao, W., Fioravante, D., Smolen, P.D., Byrne, J.H. cAMP-response elements in *Aplysia creb1*, *creb2*, and *Ap-uch* promoters. *Journal of Biological Chemistry*, 280:27035-27043, 2005.
144. Phares, G. and Byrne, J.H. Analysis of 5-HT-induced short-term facilitation at *Aplysia* sensorimotor synapse during bursts: increased synaptic gain that does not require ERK activation. *J. Neurophysiol.*, 94:871-877, 2005.
145. Lorenzetti, F.D., Mozzachiodi, R., Baxter, D.A., Byrne, J.H. Classical and operant conditioning differentially modify the intrinsic properties of an identified neuron. *Nature Neuroscience*, 9:17-19, 2006.
146. Barbas, D., Zappulla, J.P., Angers, S., Bouvier, M., Mohamed, H.A., Byrne, J.H., Castellucci, V. F., and DesGroseillers, L. An aplysia dopamine<sub>1</sub>-like receptor: molecular and functional characterization. *J. Neurochemistry*, 96:414-427, 2006.
147. Fioravante, D., Smolen, P.D., and Byrne, J.H. The 5-HT- and FMRFa-activated signaling pathways interact at the level of the Erk MAPK cascade: Potential inhibitory constraints on memory formation. *Neuroscience Letters*, 396:235-240, 2006. PMID: 16356640
148. Song, H., Smolen, P.D., Av-Ron, E., Baxter, D.A., and Byrne, J.H. Bifurcation and singularity analysis of a molecular network for the induction of long-term memory. *Biophysical Journal*, 90:2309-2325, 2006. PMCID: PMC1403175
149. Smolen, P.D., Baxter, D.A., and Byrne, J.H. A model of the roles of essential kinases in the induction and expression of late long-term potentiation. *Biophysical Journal*, 90:2760-2775, 2006. PMCID: PMC1414565
150. Chin, J., Liu, R.Y., Cleary, L.J., Eskin, A. and Byrne, J.H. TGF- $\beta$ 1-induced long-term changes in neuronal excitability in *Aplysia* sensory neurons depend on MAPK. *J. Neurophysiology*, 95:3286-3290, 2006. PMID: 16617179
151. Av-Ron, E., Byrne, J.H. and Baxter, D.A. Teaching basic principles of neuroscience with computer simulations. *J. Undergrad. Neurosci. Edu.*, 4:A40-A52, 2006. PMCID: PMC3592631
152. Antzoulatos, E.G., Wainwright, M.L., Cleary, L.J. and Byrne, J.H. Long-term sensitization training primes *Aplysia* for further learning. *Learning and Memory*, 13:422-425, 2006. PMID: 16847306
153. Cataldo, E., Byrne, J.H. and Baxter, D.A. Computational model of a central pattern generator. *Computational Methods in Systems Biology, Proceedings Lec. Not. in Comput. Sci.* 4210:242-256, 2006.
154. Fukushima, T., Liu, R.Y. and Byrne, J.H. Transforming growth factor- $\beta$ 2 modulates synaptic efficacy and plasticity and induces phosphorylation of CREB in hippocampal neurons. *Hippocampus*, 17:5-9, 2007. PMID: 17094084

155. Antzoulatos, E.G. and Byrne, J.H. Long-term sensitization training produces spike narrowing in *Aplysia* sensory neurons. *J. Neuroscience*, 27:676-683, 2007. PMID: 17234599
156. Baxter, D.A. and Byrne, J.H. Short-term plasticity in a computational model of the tail-withdrawal circuit in *Aplysia*. *Neurocomput.*, 70:1993-1999, 2007. PMID: 17957237
157. Song, H., Smolen, P., Av-Ron, E., Baxter, D.A. and Byrne, J.H. Dynamics of a minimal model of interlocked positive and negative feedback loops of transcriptional regulation by cAMP-responsive element binding proteins. *Biophysical Journal*, 92:3407-3424, 2007. PMCID: PMC2040302
158. Fioravante, D., Liu, R.Y., Netek, A., Cleary, L.J. and Byrne, J.H. Synapsin regulates basal synaptic strength, synaptic depression and serotonin-induced facilitation of sensorimotor synapses in *Aplysia*. *J. Neurophysiology*, 98:3568-3580, 2007. PMID: 17913990
159. Smolen, P., Baxter, D.A. and Byrne, J.H. Bistable MAP kinase activity: a plausible mechanism contributing to maintenance of late long-term potentiation. *Am. J. of Physiology-Cell Physiology*, 294: C503–C515, 2008. PMID: 18057118
160. Liu, R.Y., Fioravante, D., Shah, S. and Byrne, J.H. cAMP response element-binding protein 1 feedback loop is necessary for consolidation of long-term synaptic facilitation in *Aplysia*. *J. Neuroscience*, 28: 1970-1976, 2008. PMID: 18287513
161. Lorenzetti, F.D., Baxter, D.A. and Byrne, J.H. Molecular mechanisms underlying a cellular analogue of operant reward learning. *Neuron*, 59: 815-828, 2008. PMCID: PMC2603610
162. Mozzachiodi, R., Lorenzetti, F.D., Baxter, D.A., and Byrne, J.H. Changes in neuronal excitability serve as a mechanism of long-term memory for operant conditioning. *Nature Neuroscience*, 11:1146-1148, 2008. PMCID: PMC5003050
163. Fioravante, D., Liu, R.Y. and Byrne, J.H. The ubiquitin-proteasome system is necessary for long-term synaptic depression in *Aplysia*. *J. Neuroscience*. 28:10245-10256, 2008. PMCID: PMC2571080
164. Collado, M.S., Khabour, O., Fioravante, D., Byrne, J.H. and Eskin, A. Post-translational regulation of an *Aplysia* glutamate transporter during long-term facilitation. *J. Neurochemistry*. 108:176-189, 2009. PMCID: PMC2684684
165. Smolen, P.D., Baxter, D.A. and Byrne, J.H. Interlinked dual-time feedback loops can enhance robustness to stochasticity and persistence of memory. *Physical Review E*. 79:031902, 2009. PMCID: PMC2742492
166. Zhang, Y., Smolen, P.D., Baxter, D.A. and Byrne, J.H. The sensitivity of memory consolidation and reconsolidation to inhibitors of protein synthesis and kinases: Computational analysis. *Learning and Memory*, 17: 428-439, 2010. PMCID: PMC2948875

167. Liu, R.Y., Shah, S., Cleary, L.J. and Byrne, J.H. Serotonin- and training-induced dynamic regulation of CREB2 in *Aplysia*. *Learning and Memory*, 18:245-249, 2011. PMID: PMC3072775
168. Liu, R.Y., Cleary, L.J. and Byrne, J.H. The requirement for enhanced CREB1 expression in consolidation of long-term synaptic facilitation and long-term excitability in sensory neurons of *Aplysia*. *J. Neuroscience*, 31:6871-6879, 2011. PMID: PMC3092379
169. Lorenzetti, F.D., Baxter, D.A. and Byrne, J.H. Classical conditioning analog enhanced acetylcholine responses but reduced excitability of an identified neuron. *J. Neuroscience*, 31:14789-14793, 2011. PMID: PMC3198865
170. Hart, A.K., Fioravante, D., Liu, R.Y., Phares, G.A., Cleary, L.J., and Byrne, J.H. Serotonin-mediated synapsin expression is necessary for long-term facilitation of the *Aplysia* sensorimotor synapse. *J. Neuroscience*, 31:18401-18411, 2011. PMID: PMC3407595
171. Zhang, Y., Liu, R.Y., Heberton, G.A., Smolen, P.D., Baxter, D.A., Cleary, L.J. and Byrne, J.H. Computational design of enhanced learning protocols. *Nature Neuroscience*, 15:294-297, 2012. PMID: PMC3267874
172. Smolen, P., Baxter, D.A. and Byrne, J.H. Molecular constraints on synaptic tagging and maintenance of long-term potentiation: A predictive model. *PLOS Computational Biology*, 8:e1002620. doi:10.1371/journal.pcbi.1002620, 2012. PMID: PMC3410876
173. Liu, R.Y., Zhang, Y., Baxter, D.A., Smolen, P., Cleary, L.J. and Byrne, J.H. Deficit in long-term synaptic plasticity is rescued by a computationally predicted stimulus protocol. *J. Neuroscience*, 33:6944-6949, 2013. PMID: PMC3690371
174. Zhang, Y., Smolen, P., Baxter, D.A. and Byrne, J.H. Computational analyses of synergism in small molecular network motifs. *PLOS Computational Biology*, 10:e1003524. doi: 10.1371/journal.pcbi.1003524, 2014. PMID: PMC3961176
175. Smolen, P., Baxter, D.A. and Byrne, J.H. Simulations suggest pharmacological methods for rescuing long-term potentiation. *Journal of Theoretical Biology*, 360C:243-250, 2014. PMID: PMC4162763
176. Zhou, L., Baxter, D.A. and Byrne, J.H. Contribution of PKC to the maintenance of 5-HT-induced short-term facilitation at sensorimotor synapses of *Aplysia*. *J. Neurophysiol.*, 112:1936-1949, 2014. PMID: PMC4200012
177. Liu, R.Y., Zhang, Y., Coughlin, B., Cleary, L. and Byrne, J.H. Doxorubicin attenuates serotonin-induced long-term synaptic facilitation by phosphorylation of p38 mitogen-activated protein kinase. *J. Neuroscience*, 34:13289-13300, 2014. PMID: PMC4180468
178. Zhou, L., Zhang, Y., Liu, R.Y., Smolen, P., Cleary, L. and Byrne, J.H. Rescue of impaired long-term facilitation at sensorimotor synapses of *Aplysia* following siRNA knockdown of CREB1. *J. Neuroscience*, 35:1617-1626, 2015. PMID: PMC4308605

179. Zhang, Y., Smolen, P., Alberini, C.M., Baxter, D.A. and Byrne, J.H. Computational model of a positive BDNF feedback loop in hippocampal neurons following inhibitory avoidance training. *Learning and Memory*, 23:714-722, 2016. PMID: PMC5110990
180. Zhang, Y., Smolen, P., Baxter, D.A. and Byrne, J.H. Biphasic regulation of p38 MAPK by serotonin contributes to the efficacy of stimulus protocols that induce long-term synaptic facilitation. *eNeuro*, 4:e0373-16, 2017. PMID: PMC5307297
181. Liu, R.Y., Neveu, C., Smolen, P., Cleary, L.J. and Byrne, J.H. Superior long-term synaptic memory induced by combining dual pharmacological activation of PKA and ERK with an enhanced training protocol. *Learning and Memory*, 24:289-297, 2017. PMID: PMC5473109
182. Cai, Z., Neveu, C.L., Baxter, D.A., Byrne, J.H. and Aazhang, B. Inferring neuronal network functional connectivity with directed information. *Journal of Neurophysiology*, in press.
183. Lakshminarasimhan, H., Coughlin, B.L., Darr, A.S. and Byrne, J.H. Characterization and reversal of Doxorubicin-mediated biphasic activation of ERK and persistent excitability in sensory neurons of *Aplysia californica*. *Scientific Reports*, in press.
184. Neveu, C.L., Costa, R.M., Homma, R., Nagayama, S., Baxter, D.A. and Byrne, J.H. Unique configurations of compression and truncation of neural activity underlie L-DOPA induced selection of motor patterns in *Aplysia*. *eNeuro*, in press.

**B. Invited Articles in Journals:**

1. Kandel, E.R., Brunelli, M., Byrne, J.H. and Castellucci, V. A common presynaptic locus for the synaptic mechanisms underlying short-term habituation and sensitization of the gill-withdrawal reflex in *Aplysia*. *Cold Spring Harbor Symposium on Quantitative Biology*, 40:465-482, 1976.
2. Byrne, J.H. Quantitative reconstruction of the firing pattern of motor neurons mediating a simple behavior of *Aplysia*. *Proceedings of the 1978 Joint Automatic Control Conf.*, 4:53-58, 1978.
3. Byrne, J.H. Ionic currents and behavior. *Trends in Neurosciences*, 2:268-270, 1979.
4. Byrne, J.H. Cellular and biophysical mechanisms contributing to regulation of reflex excitability of inking behavior in *Aplysia*. *Fed. Proc.*, 41:2147-2152, 1982.
5. Byrne, J.H. Neural and molecular mechanisms underlying information storage in *Aplysia*: Implications for learning and memory. *Trends in Neurosciences*, 8:478-482, 1985.
6. Byrne, J.H. Can learning and memory be understood? *News in Physiological Sciences*, 1:182-185, 1986.
7. Byrne, J.H. Cellular analysis of associative learning. *Physiological Reviews*, 67:329-439, 1987.

8. Gingrich, K.J., Baxter, D.A. and Byrne, J.H. Mathematical model of cellular mechanisms contributing to presynaptic facilitation. *Brain Research Bulletin*, 21:513-520, 1988.
9. Byrne, J.H., Eskin, A. and Scholz, K.P. Neuronal mechanisms contributing to long-term sensitization in *Aplysia*. *J. de Physiologie*, 83:141-147, 1988-89.
10. Byrne, J.H., Baxter, D.A., Buonomano, D.V. and Raymond, J.L. Neuronal and network determinants of simple and higher-order features of associative learning: Experimental and modeling approaches. *Cold Spring Harbor Symposium on Quantitative Biology*, 55:175-186, 1990.
11. Cleary, L.J., Baxter D.A., Nazif, F.A. and Byrne, J.H. Neural mechanisms underlying sensitization of a defensive reflex in *Aplysia*. *Biological Bulletin*, 180:252-261, 1991.
12. Baxter, D.A. and Byrne, J.H. Ionic mechanisms contributing to the electrophysiological properties of neurons. *Current Opinion in Neurobiology*, 1:105-112, 1991.
13. Byrne, J.H., Baxter, D.A., Buonomano, D.V., Cleary, L.J., Eskin, A., Goldsmith, J.R., McClendon, E., Nazif, F.A., Noel, F. and Scholz, K.P. Neural and molecular bases of nonassociative and associative learning in *Aplysia*. *Annals of the New York Academy of Sciences*, 627:124-149, 1991.
14. Endo, S., Ichinose, M., Critz, S.D., Eskin, A., Byrne, J.H. and Shenolikar, S. Protein phosphatases and their role in control of membrane currents in *Aplysia* neurons. *Adv. Prot. Phosphatases*, 6:411-432, 1991.
15. Byrne, J.H., Zwartjes, R., Homayouni, R., Critz, S. and Eskin, A. Roles of second messenger pathways in neuronal plasticity and in learning and memory: Insights gained from *Aplysia*. In: *Advances in second messenger and phosphoprotein research*, Vol. 27, ed., A.C. Nairn and S. Shenolikar, New York, Raven Press, pp. 47-108, 1993.
16. Byrne, J.H., Canavier, C.C., Lechner, H., Clark, J.W. and Baxter, D.A. Role of nonlinear dynamical properties of a modeled bursting neuron in information processing and storage. *Netherlands Journal of Zoology*, 44:339-356, 1994.
17. Kabotyanski, E.A., Ziv, I., Baxter, D.A. and Byrne, J.H. Experimental and computational analyses of a central pattern generator underlying aspects of feeding behavior of *Aplysia*. *Netherlands Journal of Zoology*, 44:357-373, 1994.
18. Cleary, L.J., Byrne, J.H. and Frost, W.N. Role of interneurons in defensive withdrawal reflexes in *Aplysia*. *Learning & Memory*, 2:133-151, 1995.
19. Byrne, J.H. and Kandel, E.R. Presynaptic facilitation revisited: state- and time-dependence. *J. Neuroscience*, 16:425-435, 1996.
20. Baxter, D.A. and Byrne, J.H. Complex oscillations in simple neural systems. *Biol. Bltn.*, 192:167-169, 1997.
21. Byrne, J.H. Synapses plastic plasticity. *Nature*, 389:791-792, 1997.

22. Lechner, H.A. and Byrne, J.H. New perspectives on classical conditioning: A synthesis of Hebbian and non-Hebbian mechanisms. *Neuron*, 20:355-358, 1998.
23. Smolen, P., Baxter, D.A. and Byrne, J.H. Mathematical modeling of gene networks. *Neuron*, 26:567-580, 2000.
24. Byrne, J.H. How neuroscientists captured the 2000 Nobel Prize. *Cerebrum*, 3:66-79, 2001.
25. Smolen, P. and Byrne, J.H. Support of progress in clinical neurology by models of genetic regulation. *Archives of Neurology*, 60:1053-1057, 2003.
26. Antzoulatos, E.G. and Byrne, J.H. Learning insights transmitted by glutamate. More than synaptic plasticity: Role of nonsynaptic plasticity in learning and memory. *Trends in Neurosciences*, 27:555-560, 2004.
27. Byrne, J.H. and Suzuki, W.A. Editorial Overview: Neurobiology of behaviour. *Current Opinion in Neurobiology*, 16:668-671, 2006.
28. Baxter, D.A. and Byrne, J.H. Feeding behavior of *Aplysia*: A model system for comparing cellular mechanisms of classical and operant conditioning. *Learning and Memory*, 13:669-680, 2006.
29. Baxter, D.A. and Byrne, J.H. Simulator for neural networks and action potentials (SNNAP): Description and application. In: *Methods in Molecular Biology: Neuroinformatics*, ed. Crasto, C. Totowa: The Humana Press Inc., pp. 127-154, 2007.
30. Av-Ron E., Byrne M.J., Byrne J.H. and Baxter D.A. SNNAP: A tool for teaching neuroscience. Brains, Minds, and Media, Vol.3, bmm1408, in: *Lorenz S, Egelhaaf M (eds): Interactive Educational Media for the Neural and Cognitive Sciences*, Brains, Minds & Media, 2008.
31. Mozzachiodi, R. and Byrne, J.H. More than synaptic plasticity: Role of nonsynaptic plasticity in learning and memory. *Trends in Neurosciences*, 33:17-26, 2010. PMID: PMC2815214
32. Fioravante, D. and Byrne, J.H. Protein degradation and memory formation. *Brain Research Bulletin*, 85:14-20, 2011. PMID: PMC3079012
33. Byrne, J.H. and Hawkins, R.D. Nonassociative learning in invertebrates. *Cold Spring Harbor Perspectives in Biology*, 7:a021675, 2015. PMID: PMC4448621
34. Hawkins, R.D. and Byrne, J.H. Associative learning in invertebrates. *Cold Spring Harbor Perspectives in Biology*, 7:a021709, 2015. PMID: PMC4448622
35. Smolen, P., Zhang, Y. and Byrne, J.H. The right time to learn: mechanisms and optimization of spaced learning. *Nature Reviews Neuroscience*, 17:77-88, 2016. PMID: PMC5126970

**C. Chapters:**

1. Byrne, J.H. and Koester, J. Neural mechanisms underlying the stimulus control of ink release in *Aplysia*. In: *Molluscan Nerve Cells: From Biophysics to Behavior*, eds., Koester, J. and Byrne, J.H., Cold Spring Harbor: Cold Spring Harbor Press, pp. 157-167, 1980.
2. Byrne, J.H. Intracellular stimulation. In: *Electrical Stimulation Techniques*, eds., Patterson, M.M. and Kesner, R. New York: Academic Press, 37-59, 1981.
3. Walters, E.T. and Byrne, J.H. Activity-dependent neuromodulation: A mechanism for associative plasticity. In: *Neuronal Growth and Plasticity*, ed., Kuno, M. Tokyo: Japan Scientific Societies Press, pp. 219-240, 1984.
4. Byrne, J.H., Ocorr, K.A., Walsh, J.P. and Walters, E.T. Analysis of associative and nonassociative neuronal modifications in *Aplysia* sensory neurons. In: *Neural Mechanisms of Conditioning*, eds., Alkon, D.L. and Woody, C.D. New York: Plenum, pp. 55-73, 1986.
5. Walters, E.T., Byrne, J.H., Carew, T.J. and Kandel, E.R. A comparison of simple defensive reflexes in *Aplysia*: Implications for general mechanisms of integration and plasticity. In: *Comparative Neurobiology: Modes of Communication in the Nervous System*, eds., Strumwasser, F. and Cohen, M. New York: John Wiley and Sons, pp. 181-205, 1986.
6. Baudry, M., Alkon, D.L., Andersen, P.O., Bliss, T.V.P., Byrne, J.H., Carew, T.J., Changeux, J.-P., Gerschenfeld, H.M., Ito, M., Kennedy, M.B., Nicoll, R., Mulle, C., Schmidt, R., Thompson, R.F. and Willmund, R. Activity-dependent regulation of synaptic transmission and its relationship to learning. In: *The Neural and Molecular Bases of Learning*, eds., Changeux, J.-P. and Konishi, M. Dahlem Konferenzen. New York: John Wiley and Sons, pp. 153-175, 1987.
7. Byrne, J.H., Cleary, L.J. and Susswein, A.J. Analysis of associative learning in *Aplysia*: Behavioural and cellular studies. In: *Growth and Plasticity of Neural Connections*, eds., Winlow, W. and McCrohan, C.R. England: Manchester University Press, pp. 186-205, 1987.
8. Byrne J.H., Eskin, A. and Scholz, K.P. Neural and molecular mechanisms of short- and long-term sensitization in *Aplysia*. In: *Modulation of Synaptic Transmission and Plasticity in Nervous Systems*, eds., Hertting, G. and Spatz, H.-Ch. Berlin: Springer-Verlag, 289-304, 1988.
9. Byrne, J.H. *Aplysia*, associative modifications of individual neurons. In: *Encyclopedia of Neuroscience*, ed., Adelman, G. Boston: Birkhauser, pp. 65-67, 1987 and reprinted In: *Comparative Neuroscience and Neurobiology*, ed., Irwin, L.N. Boston: Birkhauser, pp. 1-2, 1988, and In: *Learning and Memory*, ed., Thompson, R.F. Boston, Birkhauser, pp. 25-26, 1989.
10. Byrne, J.H. and Gingrich, K.J. Mathematical model of cellular and molecular processes contributing to associative and nonassociative learning in *Aplysia*. In: *Neural Models of Plasticity*, eds., Byrne, J.H. and Berry, W.O. Orlando: Academic Press, pp. 58-72, 1989.

11. Byrne, J.H., Gingrich, K.J. and Baxter, D.A. Computational capabilities of single neurons: Relationship to simple forms of associative and nonassociative learning in *Aplysia*. In: *Computational Models of Learning in Simple Neural Systems*, eds., Hawkins, R.D. and Bower, G.H. Orlando: Academic Press, pp. 31-63, 1989.
12. Cleary, L.J., Hammer, M. and Byrne, J.H. Insights into the cellular mechanisms of short-term sensitization in *Aplysia*. In: *Perspectives in Neural Systems*, eds., Carew, T.J. and Kelly, D. New York: Alan R. Liss Inc., pp. 105-119, 1989.
13. Byrne, J.H. Learning and memory in *Aplysia* and other invertebrates. In: *Neurobiology of Comparative Cognition*, eds., Kesner, R.P. and Olton, D.S. New Jersey: Lawrence Erlbaum Associates, Inc., pp. 293-315, 1990.
14. Byrne, J.H., Cleary, L.J. and Baxter, D.A. Aspects of the neural and molecular mechanisms of short-term sensitization in *Aplysia*: Modulatory effects of serotonin and cAMP on duration of action potentials, excitability and membrane currents in tail sensory neurons. In: *The Biology of Memory*, eds., Squire, L.R. and Lindenlaub, E. Stuttgart, F.K. Germany: Schattauer Verlag, pp. 7-28, 1990.
15. Baxter, D.A., Buonomano, D.V., Raymond, J.L., Cook, D.G., Kuenzi, F.M., Carew, T.J. and Byrne, J.H. Empirically derived adaptive elements and networks simulate associative learning. In: *Neural Network Models of Conditioning and Action*, eds., Commons, M.L., Grossberg, S. and Staddon, J.E.R. New Jersey: Lawrence Erlbaum Assoc. Inc., pp. 13-52, 1991.
16. Byrne, J.H. and Crow, T. Examples of mechanistic analyses of learning and memory in invertebrates. In: *Learning and Memory: A Biological View*, eds., Martinez, J.L., Jr. and Kesner, R.P. San Diego: Academic Press, pp. 329-358, 1991.
17. Nazif, F.A., Cleary, L.J. and Byrne, J.H. Morphological correlates of long-term sensitization in *Aplysia* are mimicked by cAMP. In: *Molluscan Neurobiology*, eds., Kits, K.S., Boer, H.H. and Joosse, J. Amsterdam: North Holland Publishing Company, pp. 174-178, 1991.
18. Byrne, J.H. Resting potentials and action potentials in excitable cells. In: *Essential Medical Physiology*, ed., Johnson, L.R. New York: Raven Press, pp. 43-60, 1991.
19. Byrne, J.H. Propagation of action potentials. In: *Essential Medical Physiology*, ed., Johnson, L.R. New York: Raven Press, pp. 61-68, 1991.
20. Byrne, J.H. Neuromuscular and synaptic transmission. In: *Essential Medical Physiology*, ed., Johnson, L.R. New York: Raven Press, pp. 69-84, 1991.
21. Byrne, J.H. and Downey, J.M. Electrical activity of the heart. In: *Essential Medical Physiology*, ed., Johnson, L.R. New York: Raven Press, pp. 165-178, 1991.
22. Byrne, J.H. Classical conditioning and operant conditioning. In: *Encyclopedia of Learning and Memory*, ed., Squire, L.R. New York: MacMillan Publishing Company, pp. 44-47, 1992.



23. Byrne, J.H. and Raymond, J.L. Conditioning, cellular and network schemes for higher-order features of classical. In: *Encyclopedia of Learning and Memory*, ed., Squire, L.R. New York: MacMillan Publishing Company, pp. 119-123, 1992.
24. Bauer, K.D., Byrne, J.H., Friedlander, M.J., König, P., Körner, E., Levy, W.B., Mishkin, M., Poggio, T.A., Willshaw, D.J. Group report: Forms and mechanisms of learning. In: *Exploring Brain Functions Models in Neuroscience*, eds., Poggio, T.A. and Glaser, D.A. New York: John Wiley and Sons Ltd., pp. 127-138, 1993.
25. Baxter, D.A. and Byrne, J.H. Learning rules from neurobiology. In: *The Neurobiology of Neural Networks*, ed., Gardner, D. MIT Press/Bradford Books, pp. 71-104, 1993.
26. Byrne, J.H. and Crow, T. Invertebrate models of learning: *Aplysia* and *Hermisenda*. In: *Handbook of Brain Theory and Neural Networks*, ed., Arbib, M. MIT Press/Bradford Books, pp. 487-491, 1995.
27. Byrne, J.H., Sugita, S. and Baxter, D.A. Roles of multiple second messenger systems in the serotonergic modulation of spike duration, membrane currents and synaptic connections of *Aplysia* sensory neurons. In: *Basic Neuroscience in Invertebrates*, eds., Koike, H., Takahashi, K. and Kidokoro, Y. Japan Scientific Societies Press, pp. 229-246, 1996.
28. Byrne, J.H. Resting potentials and action potentials in excitable cells. In: *Essential Medical Physiology*, Second Edition, ed., Johnson, L.R. Philadelphia: Lippincott-Raven Publishers, pp. 67-84, 1997.
29. Byrne, J.H. Propagation of the action potential. In: *Essential Medical Physiology*, Second Edition, ed., Johnson, L.R. Philadelphia: Lippincott-Raven Publishers, pp. 85-92, 1997.
30. Byrne, J.H. Neuromuscular and synaptic transmission. In: *Essential Medical Physiology*, Second Edition, ed., Johnson, L.R. Philadelphia: Lippincott-Raven Publishers, pp. 93-113, 1997.
31. Byrne, J.H. Learning and Memory. In: *Essential Medical Physiology*, Second Edition, ed., Johnson, L.R. Philadelphia: Lippincott-Raven Publishers, pp. 801-812, 1997.
32. Fox, K., Bienenstock, E., Bonhoeffer, T., Byrne, J.H., Davis, M., Frégnac, Y., Gierer, A., Hübener, M., Mauk, M.D., Shatz, C.J., Stryker, M.P. Group report: To what extent are activity-dependent processes common to development and learning? In: *Mechanistic Relationships Between Development and Learning*, eds., Carew, T., Menzel, R. and Shatz, C.J. Chichester: John Wiley & Sons, pp. 163-188, 1998.
33. Byrne, J.H. Postsynaptic potentials and synaptic integration. In: *Fundamental Neuroscience*, eds., Zigmond, M.J., Bloom, F.E., Landis, S.C., Roberts, J.L. and Squire, L.R. San Diego: Academic Press, pp. 345-362, 1998.
34. Beggs, J.M., Brown, T.H., Byrne, J.H., Crow, T., LeDoux, J.E., LaBar, K., Thompson, R.F. Learning and memory: Basic mechanisms. In: *Fundamental Neuroscience*, eds., Zigmond, M.J., Bloom, F.E., Landis, S.C., Roberts, J.L. and Squire, L.R. San Diego: Academic Press, pp. 1411-1454, 1998.

35. Byrne, J.H. *Aplysia*: Neural and molecular mechanisms of simple forms of learning. In: *The Encyclopedia of Neuroscience*, Second Edition, eds., Adelman, G. and Smith, B.H. Amsterdam: Elsevier Science, pp. 114-118, 1999.
36. Byrne, J.H. Invertebrate models of learning. In: *The Encyclopedia of Neuroscience*, Second Edition, eds., Adelman, G. and Smith, B.H. Amsterdam: Elsevier Science, pp. 981-984, 1999.
37. Canavier, C.C., Baxter, D.A., and Byrne, J.H. Repetitive action potential firing. In: *Nature Encyclopedia of Life Sciences*, London: Nature Publishing Group. [http://www.els.net/\[doi:10.1038/npg.els.0000084\]](http://www.els.net/[doi:10.1038/npg.els.0000084]), 2002, updated 2004.
38. Baxter, D.A., Canavier, C.C., Lechner, H.A., Butera, R.J., DeFranceschi, A.A., Clark, J.W., Byrne, J.H. Coexisting stable oscillatory states in single cell and multicellular neuronal oscillators. In: *Oscillations in Neural Systems*, eds., Levine, D., Brown, V. and Shirey, T. Hillsdale: Lawrence Erlbaum Associates, pp. 51-77, 2000.
39. Lorenzetti, F.D. and Byrne, J.H. Associative modifications of individual neurons. In: *International Encyclopedia of the Social and Behavioral Sciences*, eds., Smelser, N.J. and Baltes, P.B. Oxford: Elsevier Science, 2:849-53, 2001.
40. Phares, G.A. and Byrne, J.H. Heterosynaptic modulation of synaptic efficacy. In: *Nature Encyclopedia of Life Sciences*, London: Nature Publishing Group, 8:634-643, 2002, updated 2004.
41. Lorenzetti, F.D. and Byrne, J.H., *Aplysia*: Classical conditioning and operant conditioning. In: *Learning and Memory*, Second Edition, ed., Byrne, J.H. New York: MacMillan Publishing Company, pp. 33-37, 2003.
42. Phares, G.A. and Byrne, J.H., *Aplysia*: Molecular basis of long-term sensitization. In: *Learning and Memory*, Second Edition, ed., Byrne, J.H. New York: MacMillan Publishing Company, pp. 41-45, 2003.
43. Byrne, J.H., Postsynaptic potentials and synaptic integration. In: *Fundamental Neuroscience*, Second Edition, eds., Squire, L.R., Bloom, F.E., Roberts, J.L., Zigmond, M.J., McConnell, S. K. and Spitzer, N. C. San Diego: Academic Press, pp. 299-317, 2003.
44. Byrne, J.H., Learning and memory: Basic mechanisms. In: *Fundamental Neuroscience*, Second Edition, eds., Squire, L.R., Bloom, F.E., Roberts, J.L., Zigmond, M.J., McConnell, S.K. and Spitzer, N. C. San Diego: Academic Press, pp. 1275-1298, 2003.
45. Byrne, J.H. and Crow, T. Invertebrate models of learning: *Aplysia* and *Hermisenda*. In: *The Handbook of Brain Theory and Neural Networks*, Second Edition, ed., Arbib, M.A. Cambridge: The MIT Press, pp. 581-585, 2003.
46. Hayes, R.D., Byrne, J.H. and Baxter, D.A. Neurosimulation: Tools and resources. In: *The Handbook of Brain Theory and Neural Networks*, Second Edition, ed., Arbib, M.A. Cambridge: The MIT Press, pp. 776-780, 2003.

47. Byrne, J.H. Resting potentials and action potentials in excitable cells. In: *Essential Medical Physiology*, Third Edition, ed., Johnson, L.R. San Diego: Academic Press, pp.71-88, 2003.
48. Byrne, J.H. Propagation of the action potential. In: *Essential Medical Physiology*, Third Edition, ed., Johnson, L.R. San Diego: Academic Press, pp. 89-96, 2003.
49. Byrne, J.H. Neuromuscular and synaptic transmission. In: *Essential Medical Physiology*, Third Edition, ed., Johnson, L.R. San Diego: Academic Press, pp. 97-122, 2003.
50. Byrne, J.H. Learning and Memory. In: *Essential Medical Physiology*, Third Edition, ed., Johnson, L.R. San Diego: Academic Press, pp. 905-918, 2003.
51. Byrne, J.H., Postsynaptic potentials and synaptic integration. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp. 459-478, 2004.
52. Baxter, D.A., Canavier, C.C. and Byrne, J.H. Dynamical properties of excitable membranes. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp.161-196, 2004.
53. Smolen, P., Baxter, D.A. and Byrne, J.H. Mathematical modeling and analysis of intracellular signaling pathways. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp. 393-429., 2004.
54. Brown, T.H., Byrne, J.H., LaBar, K.S., LeDoux, J.E., Lindquist, D.H., Thompson, R.F. and Tyler, T.J. Learning and memory: Basic mechanisms. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp. 499-574, 2004.
55. Byrne, J.H., Antzoulatos, E. and Fioravante, D. *Aplysia*: Neural and molecular mechanisms of simple learning. In: *Encyclopedia of Neuroscience*, Third Edition, eds., Adelman, G. and Smith, B.H. Amsterdam: Elsevier Science, 2004.
56. Byrne, J.H. Invertebrate models of learning. In: *Encyclopedia of Neuroscience*, Third Edition, eds., Adelman, G. and Smith, B.H. Amsterdam: Elsevier Science, 2004.
57. Byrne, J.H., Fioravante, D., and Antzoulatos, E.G. Cellular and molecular mechanisms of associative and non-associative learning. In: *Textbook of Neural Repair and Rehabilitation*, eds., Selzer, M., Clarke, S., Cohen, L.G., Duncan, P.W., and Gage, F.H. Cambridge: Cambridge University Press, Vol. I, pp. 79-94, 2006.
58. Byrne, J.H. Plasticity: New concepts, new challenges. In: *Science of Memory: Concepts*, eds., Roediger, H.L., Dudai, Y. and Fitzpatrick, S. Oxford University Press, Inc., pp. 77-82, 2007.

59. Fioravante, D., Antzoulatos, E.G., and Byrne, J.H. Sensitization and habituation: Invertebrate. In: J.D. Sweatt (Ed.), Volume 4 of *Learning and Memory: A Comprehensive Reference*, 4 vols. (J.H. Byrne, Editor). Oxford: Elsevier Science Limited, pp. 31-51, 2008.
60. Lorenzetti, F.D. and Byrne, J.H. Cellular mechanisms of associative learning in *Aplysia*. In: J.D. Sweatt (Ed.), Volume 4 of *Learning and Memory: A Comprehensive Reference*, 4 vols. (J.H. Byrne, Editor). Oxford: Elsevier Science Limited, pp. 149-156, 2008.
61. Mozzachiodi, R. and Byrne, J.H. Plasticity of intrinsic excitability as a mechanism for memory storage. In: J.D. Sweatt (Ed.), Volume 4 of *Learning and Memory: A Comprehensive Reference*, 4 vols. (J.H. Byrne, Editor). Oxford: Elsevier Science Limited, pp. 829-838, 2008.
62. Byrne, J.H. Postsynaptic potentials and synaptic integration. In: *Fundamental Neuroscience*, Third Edition, eds., Squire, L.R., Berg, D, Bloom, F.E., Du Lac, S. Gosh, Spitzer, N. C. San Diego: Academic Press, pp. 227-245, 2008.
63. Byrne, J.H. Learning and memory: Basic mechanisms. In: *Fundamental Neuroscience*, Third Edition, eds., Squire, L.R., Berg, D, Bloom, F.E., Du Lac, S. Gosh, Spitzer, N. C. San Diego: Academic Press, pp. 1133-1152, 2008.
64. Byrne, J.H., Antzoulatos, E.G, and Fioravante, D. Learning and memory in invertebrates: *Aplysia*. In: *Encyclopedia of Neuroscience*, ed., Squire, L.R. Oxford: Elsevier, Volume 5, pp. 405-412, 2009.
65. Mozzachiodi, R. and Byrne, J.H. Plasticity of intrinsic excitability. In: *Encyclopedia of Neuroscience*, ed., Squire, L.R. Oxford: Elsevier, Volume 7, pp. 733-739, 2009.
66. Smolen, P.D. and Byrne, J.H. Circadian rhythm models. In: *Encyclopedia of Neuroscience*, ed., Squire, L.R. Oxford: Elsevier, Volume 2, pp. 957-963, 2009.
67. Byrne, J.H. and Shepherd, G.M. Electronic properties of axons and dendrites. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Second Edition, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp. 111-132, 2009.
68. Baxter, D.A. and Byrne, J.H. Dynamical properties of excitable membranes. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Second Edition, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp. 181-216, 2009.
69. Smolen, P.D., Baxter, D.A., and Byrne, J.H. Modeling and analysis of intracellular signaling pathways. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Second Edition, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp. 413-444, 2009.

70. Byrne, J.H. Postsynaptic potentials and synaptic integration. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Second Edition, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp. 469-488, 2009.
71. Byrne, J.H. and Shepherd, G.M. Complex information processing in dendrites. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Second Edition, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp. 489-512, 2009.
72. Byrne, J.H., LaBar, K.S., LeDoux, J.E., Schafe, G.E., Sweatt, J.D., and Thompson, R.F. Learning and memory: Basic mechanisms. In: *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Second Edition, eds., Byrne, J.H. and Roberts, J.L. San Diego: Elsevier, pp. 539-608, 2009.
73. Baxter, D.A., Cataldo, E., and Byrne, J.H. Computational analyses of learning networks. In: *Invertebrate Learning and Memory*, eds., Menzel, R. and Benjamin, P., San Diego: Academic Press, pp. 69-80, 2013.
74. Mozzachiodi, R., Baxter, D.A., and Byrne, J.H. Comparison of operant and classical conditioning in the feeding system of *Aplysia*. In: *Invertebrate Learning and Memory*, eds., Menzel, R. and Benjamin, P., San Diego: Academic Press, pp. 183-193, 2013.
75. Byrne, J.H., Fioravante, D., and Antzoulatos, E.G. Cellular and molecular mechanisms of associative and nonassociative learning. In: *Textbook of Neural Repair and Rehabilitation*, Second Edition, eds., Selzer, M., Clarke, S., Cohen, L., Kwakkel, G., and Miller, R. Cambridge: Cambridge University Press, pp. 63-74, 2014.
76. Smolen, P., Baxter, D.A., and Byrne, J.H. Mathematical modeling and analysis of intracellular signaling pathways. In: Byrne, J.H., Heidelberger, R., and Waxham, M.N. (Eds.), *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Third Edition, San Diego: Elsevier, pp. 175-205, 2014.
77. Baxter, D.A. and Byrne, J.H. Dynamical properties of excitable membranes. Byrne, J.H., Heidelberger, R., and Waxham, M.N. (Eds.), *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Third Edition, San Diego: Elsevier, pp. 409-422, 2014.
78. Heidelberger, R., Shouval, H., Zucker, R., and Byrne, J.H. Synaptic plasticity. In: Byrne, J.H., Heidelberger, R., and Waxham, M.N. (Eds.), *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Third Edition, San Diego: Elsevier, pp. 533-561, 2014.
79. Byrne, J.H., LaBar, K.S., LeDoux, J.E., Schafe, G.E., and Thompson, R.F. Learning and memory: Basic mechanisms. In: Byrne, J.H., Heidelberger, R., and Waxham, M.N. (Eds.), *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Third Edition, San Diego: Elsevier, pp. 591-637, 2014.

80. Smolen, P.D. and Byrne, J.H. Circadian rhythm models. In: *Reference Module in Neuroscience and Biobehavioral Psychology*, ed., Stein, J., Oxford: Elsevier, <https://doi.org/10.1016/B978-0-12-809324-5.02675-4>, 2016.
81. Mozzachiodi, R. and Byrne, J.H. Plasticity of intrinsic excitability as a mechanism for memory storage. In: S.J. Sara (Ed.), *Mechanisms of Memory, Volume 4 of Learning and Memory: A Comprehensive Reference*, Second Edition, 4 vols., (J.H. Byrne, Editor). Oxford: Academic Press, pp. 359-369, 2017.
82. Byrne, J.H., Hochner, B. and Kemenes, G. Cellular and molecular mechanisms of memory in molluscs. In: S.J. Sara (Ed.), *Mechanisms of Memory, Volume 4 of Learning and Memory: A Comprehensive Reference*, Second Edition, 4 vols., (J.H. Byrne, Editor). Oxford: Academic Press, pp. 453-474, 2017.
83. Mozzachiodi, R. and Byrne, J.H. Plasticity of intrinsic excitability. In: *Reference Module in Neuroscience and Biobehavioral Psychology*, ed., Stein, J., Oxford: Elsevier, in press.
84. Byrne, J.H., Coughlin, B. and Neveu, C. Learning and memory in invertebrates: *Aplysia*. In: *Reference Module in Neuroscience and Biobehavioral Psychology*, ed., Stein, J., Oxford: Elsevier, in press.

**D. Books:**

1. Koester, J. and Byrne, J.H., eds., *Molluscan Nerve Cells: From Biophysics to Behavior*, Cold Spring Harbor: Cold Spring Harbor Press, 1980.
2. Byrne, J.H. and Schultz, S.G. *An Introduction to Membrane Transport and Bioelectricity*, New York: Raven Press, 1988.
3. Byrne, J.H. and Berry, W.O., eds., *Neural Models of Plasticity*, Orlando: Academic Press, 1989.
4. Byrne, J.H. and Schultz, S.G. *An Introduction to Membrane Transport and Bioelectricity, (Foundations of General Physiology and Electrochemical Signalling)*, Second Edition, New York: Raven Press, 1994.
5. Byrne, J.H. and Schultz, S.G. *En bref... Transport Membranaire et Bioélectricité*, Second Edition, Pennsylvania: Lippincott-Raven Publishers, 1997.
6. Byrne, J.H., ed., *Learning and Memory*, Second Edition, New York: J.H. Macmillan Publishing Company, 2003.
7. Byrne, J.H. and Roberts, J.L., eds., *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, San Diego: Elsevier, 2004.
8. Byrne, J.H., Eichenbaum, H., Menzel, R., Roediger, R. and Sweatt, D., eds., *Learning and Memory: A Comprehensive Reference, 4 volumes*, Oxford: Elsevier, 2008.

9. Byrne, J.H., ed., *Concise Learning and Memory - the editor's selection*, Oxford: Elsevier, 2009.
10. Byrne, J.H. and Roberts, J.L., eds., *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Second Edition, San Diego: Elsevier, 2009.
11. Byrne, J. H. (ed.), *Neuroscience Online: An Electronic Textbook for the Neurosciences* <http://nba.uth.tmc.edu/neuroscience/> Department of Neurobiology and Anatomy, McGovern Medical School at The University of Texas Health Science Center at Houston © 1997-2017.
12. Byrne, J.H. *Understanding Electricity with Water*, epub, Lulu.com, 2011.
13. Byrne, J.H., Heidelberger, R, and Waxham, M.N., eds., *From Molecules to Networks: An Introduction to Cellular and Molecular Neuroscience*, Third Edition, Elsevier, 2014.
14. Byrne, J.H., ed., *Oxford Handbook of Invertebrate Neurobiology*, Oxford University Press, in press.
15. Byrne, J.H., ed., *Learning and Memory: A Comprehensive Reference*, Second Edition, Elsevier, 2017.

**E. Other:**

1. Byrne, J.H. Stimulus funds to provide thousands of science jobs. *Houston Chronicle*, Outlook section: B9, March 11, 2009.
2. Hart, A.K. and Byrne, J.H. Special issue on molecular and cellular cognition. *Learning and Memory*, 19:v, 2012.
3. Hart, A.K. and Byrne, J.H. Special issue on molecular and cellular cognition. *Learning and Memory*, 20:v, 2013.
4. Hart, A.K. and Byrne, J.H. Special issue on molecular and cellular cognition. *Learning and Memory*, 21:v, 2014. PMID: PMC4175500
5. Frizzell, R. and Byrne, J.H. Obituary: Stanley G. Schultz (1931-2014). *The Physiologist*, 58:40-41, 2015.
6. Hart, A.K. and Byrne, J.H. Special issue on molecular and cellular cognition. *Learning and Memory*, 22:v, 2015. PMID: PMC4561411
7. Hart, A.K. and Byrne, J.H. Special issue on molecular and cellular cognition. *Learning and Memory*, 23:v, 2016.
8. Cushman, S. and Byrne, J.H. Special issue on fear and stress. *Learning and Memory*, 24:v, 2017.

**OTHER EDUCATIONAL, OUTREACH AND MENTORING ACTIVITIES:**

- Faculty member, Neural Systems and Behavior Course, Marine Biological Laboratory, Woods Hole, 1984-1990
- Co-course director, Biology of Learning and Memory, Cold Spring Harbor Laboratory, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001
- Mentor, 1989 UT Summer Research Program for First-Year Medical Students (Edie E. Shulman, University of Texas Medical School at Houston)
- Faculty member, Computational Neuroscience: Learning and Memory, Cold Spring Harbor Laboratory, 1990
- Lecturer on emerging principles of learning and memory to the National Association of Biology Teachers, 1990
- Mentor, 1990 UT Summer Research Program for Undergraduates (Barbara Wells, Princeton University)
- Lecturer for the Society for Neuroscience and FIDIA Research Foundation Short Course on Neural Computation, Mexico City, 1991
- Invited Lecturer at the Bat-Sheva De Rothschild Foundation Course on From Neurons to Network, Jerusalem, Israel, 1991
- Faculty member, Molecular Neurobiology: Brain Development and Function, Cold Spring Harbor Laboratory, 1992
- Visiting Professor of Computational Neuroscience, Freie University of Berlin, 1992
- Laboratory demonstrations for students of Ross Sterling High School, February 1992
- Laboratory demonstrations for students of Kemper High School, March 1992
- Mentor, 1992 UT Summer Research Program for Undergraduates (Joseph Maliakkal, UT Austin; Stuart Wagner, California Institute of Technology)
- Laboratory demonstrations for students of Lamar, Klein and the High School for Health Professions, October 1992
- Laboratory demonstrations for biology students of Cypress Fair High School, December 1992
- Lecture on learning and memory to the Adult Learning Program Seminar (ALPS) series of St. John Vianney Church, April 1993
- Laboratory demonstrations for Honors II Biology students of Scarborough High School, April 1993
- Mentor, 1993 UT Summer Research Program for First-Year Medical Students (Jeffrey M. Sorenson, University of Texas Medical School at Houston)
- Mentor, 1993 UT Summer Research Program for Undergraduates (Kathryn Verhey, Hope College)
- Laboratory demonstrations for the UT-Houston Medical School Summer Program for High School Seniors, July 1993
- Interview with Mr. Noah Smith, student at Clear Lake High School, for his Biology project on learning and memory, 1993
- Lecture on learning and memory to the New Horizons Singles Group of St. John Vianney Church, December 1993
- Mentor, "Winter Term Away" Winifred Amaya, Oberlin College, 1994
- Mentor, 1994 UT Summer Research Program for Undergraduates (Andrew Adams, Rice University; Rollin Hawkins, Texas Southern University; Leroy Jackson, M.I.T.; Winifred Amaya, Oberlin College)
- Laboratory demonstrations for students from the Upward Bound Regional Math/Science Center at East Central University; Ada, Oklahoma, July 1994



Mentor, Communities in Schools Houston Summer Youth Employment and Training Program (Eloy Montes, Mary Gutierrez), 1994

Laboratory demonstrations for undergraduate faculty from University of Texas System colleges, sponsored by the University of Texas-Houston Graduate School of Biological Sciences, October 1994

Member of the jury for the doctoral defense of Romuald Nargeot, University of Bordeaux I, February 1995

Reviewer, National Student Research Forum, 1995

Interview on Learning and Memory on radio station KNUZ, February 1995

Laboratory demonstrations for the UT-Houston Medical School Summer Program for High School Seniors, June 1995

Laboratory demonstration for students from the National Youth Leadership Forum on Medicine, July 1995

Laboratory demonstrations for students from the Upward Bound Regional Math/Science Center at East Central University, Ada, Oklahoma, July 1995

Mentor, Communities in Schools Houston Summer Youth Employment and Training Program (Laura Garcia, Mary Gutierrez), 1995

Laboratory demonstrations for Biology Professors from Texas undergraduate institutions, 1995

Invited speaker at Edgewood Elementary School, "How Our Brain Works", 1995

Laboratory demonstrations for members of Leadership North Houston, January 1996

Judge at St. Thomas High School Science Fair, 1996

Organizer, UT-Houston Public Forum on the Brain held in conjunction with Brain Awareness Week, 1996-present

Laboratory demonstrations for students from the National Youth Leadership Forum on Medicine, July 1996

Mentor, 1996 UT Summer Research Program for Undergraduates (Sarah Dunning, Rice University; Nicole Rust, University of Idaho)

Laboratory demonstration for the UT-Houston Medical School Summer Program for High School Seniors, July 1996

Discussions and demonstrations at Edgewood Elementary School, "How Our Brain Works", November 1996

Interview on Learning and Memory on radio station KTRH, February 1997

Mentor, 1997 UT Summer Research Program for Undergraduates (Rachel Tuuri, Rice University; Barry Trachtenberg, University of Pennsylvania)

Laboratory demonstration for students of the Piney Woods Area Health Education Center (AHEC), July 1997

Host of video production for area Junior High and High Schools on role models in brain research, entitled "Explorers of the Mind", October 1997

Discussions and demonstrations at Buffalo Creek Elementary School, "How Our Brain Works", November 1997

Guest Speaker, President's Executive Luncheon, The University of Texas-Houston Health Science Center, April 1998

Guest Speaker, Rotary Club of Houston, May 1998

Interview on the Talk America Medical Networks Syndicated Radio Talk Show, "America Talks Health, with Dr. Keith Robinson", June 1998

Laboratory demonstrations for area high school students, July 1998

Laboratory demonstrations for River Oaks Elementary School students, "Neuroscientist for a Day", January 1999

- Guest speaker, University Classified Staff Council Workshop, the University of Texas-Houston Health Science Center, March 1999
- Interview with Jim Bell on Public Radio Station KUHF, April 1999
- Mentor, 1999 UT Summer Research Program for Undergraduates (Marcelle Rousseau, Tulane University; Melissa Scherr, University of Wyoming; Elizabeth Wilkinson, Mount Holyoke College)
- Interview on learning and memory with Elizabeth Varela for “Centro Medico” on public television station KTMD, September 1999
- Guest speaker, Houston Philosophical Society, Rice University, “How we remember, how we forget”, October 1999
- Laboratory demonstrations for area high school students, July 2000
- Interview on National Public Radio program, “The Infinite Mind” with Dr. Fred Goodwin, July 2000
- Interview on mathematical modeling of gene networks with Dallas Morning News reporter, Sue Goetink, August 2000
- Speaker and co-organizer with the Dana Alliance for Brain Initiatives, University of Texas-Houston Medical School, Public Forum for Brain Awareness Week, “The Brain: How it Works, How it Fails”, March 2001
- Speaker for Partners in Education “Brain Night”, Museum of Health and Medical Science, March 2001
- Laboratory demonstrations for area high school students in conjunction with Partners in Education and the LEARN Project, March 2001
- Training video for Partners in Education, March 2001
- Interview on memory with Dave Fehling for television station, KHOU Houston, May 2001
- Guest speaker for Epilepsy Family Conference, “Memory: How it Works, How it Fails”, September 2001
- Interview with Kelly Hearn of United Press International regarding brain information networks, October 2001
- Interview on circadian rhythms with Leslie George for radio station KTRH Houston, November 2001
- Interview on circadian rhythms with Lanny Griffith for FOX Television station KRIV Houston, November 2001
- Interview on circadian rhythms with Todd Ackerman for the *Houston Chronicle*, January 2002
- Interview on circadian rhythms with Jim Bell for Public Radio Station KUHF Houston, January 2002
- Mentor, 2002 UT Summer Research Program for Undergraduates (Carla Mendoza, St. Edwards University)
- Speaker and co-organizer with the Dana Alliance for Brain Initiatives, University of Texas-Houston Medical School, Public Forum for Brain Awareness Week, “Genes and The Brain”, March 2002
- Speaker for Partners in Education “Brain Night”, Museum of Health and Medical Science, March 2002
- Laboratory demonstrations for area high school students in conjunction with Partners in Education and the LEARN Project, April 2002
- Live interview for “Staying Sharp” Forum with José Griñan and Linda Cheek Heinrich for FOX Television Station KRIV Houston, April 2002
- Interview for “Staying Sharp” Forum with Paul Pendergraft for Public Radio Station KUHF Houston, April 2002

Featured panelist in AARP Andrus Foundation and DANA Alliance “Staying Sharp” Forum in Houston, April 2002

Live interview on circadian rhythms with Anderson Cooper for CNN, American Morning, May 2002

Laboratory demonstrations for area high school students, June 2002

Lectures to middle and high school science teachers from the Rio Grande Valley area for the Graduate School of Biomedical Sciences Outreach Program, July 2002

Guest speaker for senior citizen forum on memory sponsored by the OASIS Institute, October 2002

Laboratory demonstrations for Alvin High School students, January 2003

Laboratory demonstrations for Thompson Elementary School students, March 2003

Interview on circadian rhythms with Krista Marino for NBC television station KPRC, March 2003

Guest Speaker, President’s Executive Luncheon, The University of Texas Health Science Center at Houston, April 2003

Invited speaker at the “Lunch and Learn” Program at Chancellor’s Fitness Center, June 2003

Laboratory demonstrations for Spring Branch middle school science teachers, June 2003

Mentor, 2003 UT Summer Research Program for Undergraduates (Hyun Park, University of Texas at Austin)

Invited speaker, RIKEN Brain Research Institute, 2003 Summer Course, Tokyo, Japan, 2003

Invited speaker, Speaking of Women’s Health Conference, Houston, TX, 2003

Interview on circadian rhythms with Barry Yeoman for *Reader’s Digest*, November 2003

Laboratory demonstrations for Brookline Elementary School students, “Neuroscientist for a Day”, April 2004

Guest speaker at the Southside Place Women’s Civic Club, “Memory: How it works and how to keep it strong into middle age and beyond”, Houston, TX, April 2004

Laboratory demonstrations for University of Houston students, May 2004

Mentor, 2004 UT Summer Research Program for Undergraduates (Patricia Hayes)

Mentor, 2004 Biomedical Engineering Summer Internship Program for Undergraduates (David Irwin and Scott Lundy)

Invited speaker, Speaking of Women’s Health Conference, Houston, TX, 2004

Invited speaker and discussant, Scholar Weekend Program for middle school and high school students, Museum of Health and Medical Science, November 2004

“Dining with the Doctors” discussion session through “Leaders of Tomorrow” event, February 2005

Interview on “The Aging Brain” with Jim Bell for Public Radio Station KUHF of Houston, March 2005

Faculty member, Cellular and Molecular Biology of Learning and Memory, Cold Spring Harbor Laboratory, 2005, 2007, 2009

Laboratory demonstrations for Houston area Girl Scouts through GSBS Outreach Program, June 2005

Mentor, 2005 Biomedical Engineering Summer Internship Program for Undergraduates (Junho Lee, Rice University; and Ranita Patel, University of Texas at Austin)

Mentor, 2005 UT Summer Research Program for Undergraduates (John R. Jefferson, University of Texas Medical School at Houston; and Raul Ossio, Instituto Tecnológico y De Estudios Superiores De Monterrey)

Interview with Patrick Kurp of the Houston Chronicle on the Neuroscience Research Center’s outreach activities during Brain Awareness Week, March 2006

Interview about Memory with Carey Goldberg of The Boston Globe, August 2006

Mentor, 2006 Biomedical Engineering Summer Internship Program for Undergraduates (Rebecca Lee, University of Texas at Austin; and Naveen Yadav, Rice University)

Invited participant in the Staying Sharp: Current Advances in Brain Research Session at AARP's Life@50+ event, Anaheim, California, 2006

Interview with Ashley Gwilliam of the University Star at Texas State University regarding Brain Awareness Week, March 2007

External Examiner, Thesis Defense of Guy Houeland, University of Montreal, Quebec, Canada, March 2007

Invited speaker at the Health Museum, "Brain Basics" Series, "Memory: How it Works and How it Fails", Houston, March 2007

Organizer, 12<sup>th</sup> Annual UT-Houston Public Forum on CNS Trauma and Rehabilitation, Brain Awareness Week, March 2007

Organizer, Brain Night for Children, Brain Awareness Week, Houston Health Museum, 2007-present

Mentor, 2007 UT Summer Research Program for Undergraduates (Michael E. Rodriguez, University of Texas at El Paso)

Mentor, 2007 UT Summer Research Program for First-Year Medical Students (Peter A. Bourell, UT Medical School at Houston)

Invited speaker at The Plaza at The Buckingham, Learning and Memory, Houston, October 2007

Interview on Cognitive Enhancers with Christi Myers for ABC Television Station KTRK, Houston, November 2007

Interview on Memory Drugs with Leigh Frillici for CBS Television Station, KHOU, January 2008

Interview with science writer with Dana Foundation, Brenda Patoine, on Learning and Memory Mechanisms, March 2008

Laboratory demonstrations for Greater Houston area elementary and secondary grade students through the Health Museum, June 2008

Mentor, 2008 UT Summer Research Program for First-Year Medical Students (Arjun Tarakad, UT Medical School at Houston)

Invited speaker, Dinner with the Docs, "Brain and Memory: Are You Losing Your Mind or Just Your Car Keys?", Houston, May 2009

Mentor, 2009 UT Summer Research Program for First-Year Medical Students (Irving Basanez, UT Medical School at Houston)

Mentor, 2009 UT Summer Research Program for International Medical Students (Yu Ling Liu, China Medical University, Taiwan)

Mentor, 2009 UT Summer Research Program for Undergraduates (Sung Ji Ahn, University of Texas at Austin)

Mentor, 2009 Theoretical and Computational Neuroscience REU Summer Program (Drew Thompson, University of Utah)

Mentor, 2009 Rice University Course, BIOS 310: Laboratory Research Experience for Undergraduates in Biochemistry and Cell Biology (Danielle Axelson)

Interview on Brain Health on "Living Smart with Patricia Gras", for KUHT TV, Houston PBS, January 2010 (Aired May 2010)

Interview with Flori Meeks, Reporter for *Houston Chronicle*, on Brain Research and Brain Awareness Activities, January 2010

Member, Evaluation Committee for the Habilitation á Diriger des Recherches of Romuald Nargeot, University of Bordeaux, France, March 2010

- Mentor, 2010 UT Summer Research Program for First-Year Medical Students (George Heberton, UT Medical School at Houston; Aaron Russell, UT Medical School at Houston; Willie Marquez, UT Medical School at Houston)
- Mentor, 2010 Theoretical and Computational Neuroscience REU Summer Program (Hadas Friedman, Illinois Institute of Technology)
- Interview on Neuronal Networks with David H. Freedman, freelance journalist for MIT's *Technology Review*, October 2010
- Interview with Eric Berger, Reporter for the *Houston Chronicle*, on Recovery from Tropical Storm Allison, May 2011
- Mentor, 2011 UT Summer Research Program for First-Year Medical Students (Alex Dalke, UT Medical School at Houston; Alexander Frolov, UT Medical School at Houston; Cathy Zhou, UT Medical School at Houston)
- Mentor, 2011 Theoretical and Computational Neuroscience REU Summer Program (Heather Brooks, University of Utah)
- Live interview on Brain Health on "Staying Sharp on RFD-TV's *AARP LIVE!*" with Mark Oppold, Nashville, TN, August 2011
- Interview on Memory for CBS Television Station, KHOU, September 2011
- Lecturer, Continuing Studies Course on Mysteries of Memory, Rice University, Susanne M. Glasscock School of Continuing Studies, September 2011
- Laboratory demonstrations for area high school students in conjunction with Worthing Rice Apprentice Program (WRAP), October 2011
- Interview with Laura Sanders, Ph.D., Neuroscience Writer for *Science News*, on memory mechanisms, December 2011
- Interview with Amos Aikman, Journalist for *The Australian*, on memory enhancement, December 2011
- Interview on memory enhancement with Jim Forsyth of WOAI News Radio Station in San Antonio, TX, December 2011
- Interview with Kevin Charles and Carolyn Campbell of News92FM-Houston on memory enhancement, December 2011
- Interview on memory enhancement with Joseph Castro, reporter for LiveScience.com, December 2011
- Interview with Gary Stix, Senior Editor for *Scientific American*, on memory enhancement, January 2012
- Interview on memory enhancement with Andrew McIntosh, Ivanhoe Broadcast News, Inc., February 2012
- Interview with Maria Todd of News92FM-Houston on Partners in Education "Brain Night," Museum of Health and Medical Science, March 2012
- Mentor, 2012 UT Summer Research Program for First-Year Medical Students (Christopher Wilkerson, UT Medical School at Houston)
- Interview with Patrick Hruby of *The Washington Times* on neuroplasticity and aging, September 2012
- Recognition of the Neuroscience Research Center as a Mental Health Makes A Difference Community Honoree by the Mental Health America of Greater Houston, 2012
- Laboratory demonstrations for area high school students in conjunction with Worthing Rice Apprentice Program (WRAP), October 2012
- Interview on concussions for CBS Television Station, KHOU, February 2013
- Interview with Maria Todd of News92FM-Houston on the Neuroscience Research Center's "Brain Night," Museum of Health and Medical Science, March 2013

Interview with Nikki Courtney of AM740 KTRH NewsRadio, June 2013  
Live interview on the future of brain research with Matt Patrick of AM740 KTRH NewsRadio, June 2013  
Mentor, 2013 UT Summer Research Program for First-Year Medical Students (Kurt Fraivillig, UT Medical School at Houston)  
Invited Speaker for the LivingTheCRWay Expert Teleconference Series, July 2013  
Laboratory demonstrations for KIPP Sunnyside high school students in conjunction with Rice University BrainSTEM program, March 2014  
Interview with Nikki Courtney of AM740 KTRH NewsRadio on the Neuroscience Research Center Public Forum on multiple sclerosis, March 2014  
Live interview with Sherry Williams of KHOU Channel 11 on the Neuroscience Research Center Public Forum on multiple sclerosis, March 2014  
Mentor, 2014 UT Summer Research Program for First-Year Medical Students (Ross Kennamer-Chapman, UT Medical School at Houston)  
Laboratory demonstrations for KRIV FOX 26 TV “Boot Camp” for incoming graduate students, August 2014  
Interview with Clare O’Reilly of *The Sun* (London) on brain research, August 2014  
Interview with Jill Carroll, Ph.D., for the *Houston Chronicle* HealthZone section, on chemo brain and invertebrate research, October 2014  
Interview with Tiffany Zhang of KTBU iTV Channel 55.5 on chemo brain and invertebrate research, October 2014  
Live Interview with Craig Cohen of Houston Public Media News 88.7FM KUHF “Houston Matters,” on chemo brain and invertebrate research, October 2014  
Interview with Lori Ferguson of *PittMed* on the life and work of Stanley G. Schultz, M.D., November 2014  
Laboratory demonstrations for KIPP Sunnyside high school students in conjunction with Rice University BrainSTEM program, December 2014  
Interview with Scott Crowder of AM740 KTRH NewsRadio on memory research, January 2015  
Interview with Theran Nicholas of AM740 KTRH NewsRadio on new technologies for the recording of brain activity, January 2015  
Mentor, 2015 UT Summer Research Program for First-Year Medical Students (Tahseen Karim, Victor Liu and Samantha Royalty, UT Medical School at Houston)  
Lecturer, CampNeuro for high-school students, University of St. Thomas, Houston, July 2015  
Laboratory demonstrations for Neuroscience Program “Boot Camp,” for incoming Graduate School of Biomedical Sciences students, August 2015  
Invited speaker for Bite of Science Teacher Enrichment Program of the Center for Excellence in Education (event held at UTHealth), January 2016  
Live interview with Sally MacDonald of Fox 26 News on Brain Night for Kids at The Health Museum, March 2016  
Interview with Dale Forbis of AM740 KTRH NewsRadio on memory deterioration, April 2016  
Mentor, 2016 UT Summer Research Program, for Pre-Matriculate Students (Amber Darr, The University of Texas at Austin)  
Lecturer, Neuroscience elective for high-school seniors, The Kinkaid School, Houston, October 2016  
Live interview with Rita Garcia and José Griñan of Fox 26 News on Brain Night for Kids at The Health Museum, March 2017  
Invited speaker, “Under the Microscope” Biology Speaker Series, Houston Baptist University, Houston, March 2017

Laboratory demonstrations for Rice University Neuroscience Society students, March 2017  
Lecturer, Neuroscience elective for high-school seniors, The Kinkaid School, Houston, March 2017

Laboratory tour for UTHHealth Development Board member Janice Griffin and spouse John Griffin, April 2017

Mentor, 2017 UT Summer Research Program, for First-Year Medical Students (Ryan Coburn, McGovern Medical School)

### **CURRENT GRANT SUPPORT:**

1. NIH Research Grant (Principal Investigator)
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: R01 NS19895-33
  3. Period of support: February 1, 2013 to January 31, 2018
  4. Total direct costs: \$1,501,298

### **PREVIOUS GRANT SUPPORT:**

1. NIH Individual Postdoctoral Fellowship
  1. Title: Central Synaptic Connections of *Aplysia* Touch Receptors
  2. Grant number: F22 NS03076
  3. Period of support: May 23, 1975 to December 31, 1975
  4. Total direct costs: \$13,800
2. NIH Research Grant
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: R01 NS13511
  3. Period of support: July 1, 1976 to June 30, 1979
  4. Total direct costs: \$87,973
3. NIH Research Career Development Award
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: K04 NS00200
  3. Period of support: January 1, 1977 to December 31, 1982
  4. Total direct costs: \$150,000
4. NIH Research Grant
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: R01 NS13511
  3. Period of support: July 1, 1979 to June 30, 1982
  4. Total direct costs: \$111,424

5. Research Grant from the Whitaker Foundation
  1. Title: Quantitative Analysis of a Simple Behavior
  2. Grant number: not applicable
  3. Period of support: July 1, 1979 to June 30, 1982
  4. Total direct costs: \$67,958
6. NIH Postdoctoral Fellowship (to Edgar T. Walters)
  1. Title: Fixed Versus Modifiable Responses: Biophysical Analysis
  2. Grant number: F32 NS06455
  3. Period of support: August 1, 1980 to July 31, 1982
  4. Total direct costs: \$37,420
7. University of Texas Biomedical Research Support Grant
  1. Title: Cellular Mechanisms Underlying Slow Synaptic Potentials
  2. Grant number: Not applicable
  3. Period of support: September 1, 1982 to August 31, 1983
  4. Total direct costs: \$4,000
8. NIH Research Grant
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: R01 NS19895
  3. Period of support: April 1, 1983 to March 31, 1986
  4. Total direct costs: \$156,021
9. NIMH Postdoctoral Fellowship (to Karen Ocorr)
  1. Title: Mechanisms of Associative and Nonassociative Modifications
  2. Grant number: F32 MH09014
  3. Period of support: November 1, 1983 to September 30, 1985
  4. Total direct costs: \$ 34,776
10. NIH Postdoctoral Fellowship (to Leonard Cleary)
  1. Title: Anatomical and Physiological Substrates of Learning
  2. Grant number: F32 NS07432
  3. Period of support: January 15, 1984 to January 14, 1987
  4. Total direct costs: \$59,772
11. Research Grant from the Air Force Office of Scientific Research
  1. Title: Analysis and Synthesis of Adaptive Neural Elements
  2. Grant number: 84-0213
  3. Period of support: August 1, 1984 to July 31, 1987
  4. Total direct costs: \$359,697



12. NIH Research Grant (Jacob Javits Neuroscience Investigator Award)
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: R01 NS19895
  3. Period of support: April 1, 1986 to March 31, 1993
  4. Total direct costs: \$703,864
13. NIMH Research Scientist Development Award (Level II)
  1. Title: Neural and Molecular Mechanisms of Learning
  2. Grant number: K02 MH 00649
  3. Period of support: September 1, 1986 to August 31, 1991
  4. Total direct costs: \$308,125
14. M.D. Anderson Foundation
  1. Title: Program Development
  2. Grant number: N/A
  3. Period of support: January 15, 1987 to January 14, 1992
  4. Total direct costs: \$500,000
15. Research Grant from the Air Force Office of Scientific Research
  1. Title: Analysis and Synthesis of Adaptive Neural Elements and Assemblies
  2. Grant number: 87-0274
  3. Period of support: August 1, 1987 to September 30, 1990
  4. Total direct costs: \$407,592
16. NIH Postdoctoral Fellowship (to Stuart Critz)
  1. Title: Role of K<sup>+</sup> Channel Modulation in Sensitization
  2. Grant number: F32 NS08579
  3. Period of support: January 1, 1989 to December 31, 1990
  4. Total direct costs: \$39,996
17. NIMH Postdoctoral Fellowship (to Joseph Pieroni)
  1. Title: Cellular Analysis of Dishabituation and Sensitization
  2. Grant Number: F32 MH09884
  3. Period of Support: June 1, 1989 to May 31, 1992
  4. Total direct costs: \$78,250
18. NIMH Predoctoral Fellowship (to Dean Buonomano)
  1. Title: Long-Term Associative Neural Plasticity in *Aplysia*
  2. Grant Number: F31 MH09895
  3. Period of Support: November 1, 1989 to January 3, 1992
  4. Total direct costs: \$34,500

19. NIMH Predoctoral Fellowship (to Fidelma Nazif)
  1. Title: Morphological Basis of Long-Term Sensitization
  2. Grant Number: F31 MH09956
  3. Period of Support: March 1, 1990 to February 28, 1993
  4. Total direct costs: \$34,500
20. Research Grant from the Air Force Office of Scientific Research
  1. Title: Analysis and Synthesis of Adaptive Neural Elements and Assemblies
  2. Grant number: 91-0027
  3. Period of support: October 1, 1990 to September 30, 1993
  4. Total direct costs: \$458,056
21. NIMH Postdoctoral Fellowship (to John White)
  1. Title: Cellular Contributions to Network Models of Plasticity
  2. Grant number: F32 MH10215
  3. Period of support: November 1, 1991 to May 31, 1992
  4. Total direct costs: \$16,133
22. NIMH Predoctoral Fellowship (to Jennifer Raymond)
  1. Title: Modulatory Pathways for Simple Forms of Learning
  2. Grant Number: F31 MH10214
  3. Period of Support: August 1, 1992 to November 30, 1994
  4. Total direct costs: \$27,533
23. Research Grant from the Office of Naval Research
  1. Title: Models of Biophysical and Biochemical Processes Contributing to Computations and Information Processing in Single Neurons
  2. Grant number: N00014-92-J-1152
  3. Period of support: November 1, 1991 to October 31, 1995
  4. Total direct costs: \$308,413
24. Augmentation Award for Science and Engineering Research Training (ASSERT) from the Office of Naval Research
  1. Title: Models of Computations and Information Processing in Single Neurons
  2. Grant number: N00014-93-1-1166
  3. Period of support: September 1, 1993 to August 31, 1996
  4. Total direct costs: \$86,979
25. Research Grant from the Air Force Office of Scientific Research
  1. Title: Analysis and Synthesis of Adaptive Neural Elements and Assemblies
  2. Grant number: F49620-93-1-0272
  3. Period of support: October 1, 1993 to September 30, 1996
  4. Total direct costs: \$340,716

26. NIH Research Grant (Principal Investigator)
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: R01 NS19895
  3. Period of support: April 1, 1993 to March 31, 1997
  4. Total direct costs: \$568,361
27. Lucille P. Markey Charitable Trust
  1. Title: Support for the Center for the Neurobiology of Learning and Memory
  2. Grant number: N/A
  3. Period of support: February 15, 1995 to February 14, 1998
  4. Total direct costs: \$1,000,000
28. Research Grant from the Office of Naval Research (Principal Investigator)
  1. Title: Neuronal and Network Determinants of Non-Linear Neural Oscillations
  2. Grant number: N00014-95-1-0579
  3. Period of support: March 1, 1995 to February 28, 1998
  4. Total direct costs: \$260,492
29. Research Grant from the Air Force Office of Scientific Research (Principal Investigator)
  1. Title: Analysis of the Genesis and Control of Biological Rhythmicity
  2. Grant number: F49620-97-1-0049
  3. Period of support: January 1, 1997 to December 31, 1997
  4. Total direct costs: \$190,000
30. Advanced Research Program: Texas Higher Education Coordinating Board (Principal Investigator)
  1. Title: Cellular Analysis of Neuronal Analogue of Operant Conditioning
  2. Grant number: 011618-048
  3. Period of Support: January 1, 1996 to December 31, 1997
  4. Total direct costs: \$125,633
31. NIMH Research Scientist Award (Principal Investigator)
  1. Title: Network, Cellular and Molecular Determinants of Learning
  2. Grant number: K05 MH00649
  3. Period of support: July 1, 1993 to June 30, 1998
  4. Total direct costs: \$476,625
32. NIH Research Grant (Co-Principal Investigator)
  1. Title: Computational Models of Adaptive Neural Circuits
  2. Grant number: R01 RR11626-01
  3. Period of support: August 17, 1995 to July 31, 1998
  4. Total direct costs: \$308,917

33. W. M. Keck Foundation Grant
  1. Purpose: To Establish the Center for the Neurobiology of Learning and Memory
  2. Grant number: 971634
  3. Period of support: December 11, 1997 to December 10, 2000
  4. Total direct costs: \$1,275,000
34. NIMH Predoctoral Fellowship (to Jeannie Chin)
  1. Title: Mechanisms of Long-Term Synaptic Plasticity
  2. Grant number: F31 MH12107
  3. Period of support: April 1, 1999 to April 1, 2001
  4. Total direct costs: \$33,320
35. NIH Research Grant (Principal Investigator)
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: R01 NS19895
  3. Period of support: April 1, 1997 to November 30, 2002
  4. Total direct costs: \$859,680
36. NIH Research Grant (Principal Investigator)
  1. Title: Cellular Mechanisms of Associative Learning
  2. Grant number: R01 MH58321
  3. Period of support: May 1, 1998 to February 1, 2003
  4. Total direct costs: \$695,391
37. NIH Research Grant (Co-Principal Investigator)
  1. Title: Computational Models of Adaptive Neural Circuits
  2. Grant number: R01 RR 11626
  3. Period of support: April 1, 1999 to September 30, 2003
  4. Total direct costs: \$493,459
38. DARPA Research Grant (Principal Investigator)
  1. Title: Bio-spice: A Simulation and Analysis System for Modeling Nonlinear Dynamical Properties of Intracellular Signal Pathways and Genetic Networks
  2. Grant number: N00014-01-1-1031
  3. Period of support: August 8, 2001 to December 31, 2003
  4. Total direct costs: \$1,116,751
39. U.S. Israel Binational Science Foundation Award (Co-Principal Investigator)
  1. Title: The Control of *Aplysia* Feeding Movements by Post-Ingestion Stimuli
  2. Grant number: 2000344
  3. Period of support: August 1, 2002 to November 30, 2004
  4. Total direct costs: \$15,000
40. Mike Hogg Foundation (Principal Investigator)
  1. Title: Role of Dopamine Signaling Cascades in Reward
  2. Period of support: January 1, 2004 to December 31, 2004
  3. Total direct costs: \$24,678

41. NIH Program Project Grant (Principal Investigator)
  1. Title: Neural Models of Plasticity: Molecules to Networks
  2. Grant number: P01 NS38310
  3. Period of support: August 25, 1999 to May 31, 2005
  4. Total direct costs: \$3,587,738
42. NIH Research Grant (Principal Investigator)
  1. Title: Modeling Gene Regulation for Long-Term Plasticity
  2. Grant number: R01 NS50532
  3. Period of support: September 15, 2004 to July 31, 2006
  4. Total direct costs: \$185,000
43. United States Air Force Research Laboratory (Principal Investigator)
  1. Title: User Evaluation of BioSPICE
  2. Grant number: FA8750-04-1-0242
  3. Period of support: June 29, 2004 to February 28, 2006
  4. Total direct costs: \$196,931
44. NIH Training Grant (Co-Principal Investigator)
  1. Title: Training in Neuroplasticity
  2. Grant number: T32 NS041226
  3. Period of support: July 20, 2001 to June 30, 2006
  4. Total direct costs: \$735,275
45. NIH Research Grant (Principal Investigator)
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: R01 NS19895
  3. Period of support: December 1, 2002 to January 31, 2008
  4. Total direct costs: \$1,187,500
46. NCRR Shared Instrument Grant (SIG) (Principal Investigator)
  1. Title: Confocal Imaging System
  2. Grant number: 1 S10 RR022531-01
  3. Period of support: April 1, 2007 to March 31, 2008
  4. Total direct costs: \$268,895
47. NIH Research Grant (Co-Principal Investigator)
  1. Title: Computational Models of Adaptive Neural Circuits
  2. Grant number: R01 RR011626
  3. Period of support: June 1, 2004 to May 31, 2008
  4. Total direct costs: \$450,000
48. NIH Research Grant (Principal Investigator)
  1. Title: Cellular Mechanisms of Associative Learning
  2. Grant number: R01 MH58321
  3. Period of support: March 1, 2003 to February 28, 2009
  4. Total direct costs: \$1,125,000

49. NIH Program Project Grant (Principal Investigator)
  1. Title: Neural Models of Plasticity: Molecules to Networks
  2. Grant number: P01 NS38310
  3. Period of support: July 15, 2005 to June 30, 2011
  4. Total direct costs: \$3,818,141
50. NIH Research Grant (Principal Investigator)
  1. Title: Analysis of the Neural Control of Behavior
  2. Grant number: R01 NS19895-25-29
  3. Period of support: February 1, 2008 to January 31, 2013
  4. Total direct costs: \$1,091,593
51. NIH Research Grant (Principal Investigator)
  1. Title: Cellular Mechanisms of Associative Learning
  2. Grant number: R01 MH58321
  3. Period of support: July 1, 2008 to January 31, 2014
  4. Total direct costs: \$1,168,772
52. The University of Texas System Graduate Programs Initiative (Co-Principal Investigator)
  1. Title: Graduate Program Initiative in Theoretical and Computational Neuroscience
  2. Period of support: February 1, 2009 to January 31, 2014
  3. Total direct costs: \$500,000
53. NIH Research Grant (Principal Investigator)
  1. Title: Modeling Gene Regulation Essential for Long-Term Plasticity
  2. Grant number: R01 NS073974-06
  3. Period of support: May 1, 2011 to April 30, 2017
  4. Total direct costs: \$1,125,000
54. The University of Texas System – Neuroscience and Neurotechnology Research Institute  
UT BRAIN Seed Grant (Principal Investigator)
  1. Title: Developing Integrated Methods for Analyzing Brain Circuits
  2. Grant number: 362804
  3. Period of support: September 1, 2015 to August 31, 2017
  4. Total direct costs: \$100,000