Mark Goldman

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EDUCATION

2000	**Harvard University**, Cambridge, MA
	Ph.D., Physics
	Advisors: Dr. Laurence Abbott (Brandeis University)
	Dr. Charles Marcus
1989 - 1993	**Stanford University**, Stanford, CA
	B.S., Physics, with honors and distinction.

RESEARCH/TEACHING EXPERIENCE

2010 -	**Associate Professor**, Center for Neuroscience, Department of Neurobiology, Physiology, and Behavior, and Department of Ophthalmology and Vision Science, University of California at Davis
2008 - 2010	**Assistant Professor**, Center for Neuroscience, Department of Neurobiology, Physiology, and Behavior, and Department of Ophthalmology and Vision Science, University of California at Davis
2003 - 2007	**Assistant Professor**, Department of Physics and Program in Neuroscience, Wellesley College
2000 - 2003	**Postdoctoral Research Fellow**, Massachusetts Institute of Technology and Howard Hughes Medical Institute. Supervisor: Dr. Sebastian Seung

HONORS AND AWARDS

- HHMI Professor, appointed in 2014
- Outstanding Graduate Mentor in Neuroscience, UC Davis, 2011
- Certificate of Distinction in Teaching, Harvard University, 1998
- Phi Beta Kappa, election in junior year, Stanford University, 1992
- David S. Levine Award, Stanford University, 1992
  Prize given after junior year to outstanding student in physics.

OTHER INFORMATION

- Co-Director, Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2013-present.
- Editorial Board, Action Editor, *Journal of Computational Neuroscience*, 2012-present.
- Review Editor, *Frontiers in Computational Neuroscience*, 2007-present.
- Study Section, NSF/NIH Collaborative Research in Computational Neuroscience, 2008, 2009, 2014.
- Board of Directors, Computational Neuroscience Organization, 2003-2007.
- Advisory Panel, NSF Computational Neuroscience Program, 2004 and 2006.
- Society for Neuroscience, Faculty for Undergraduate Neuroscience, and American Physical Society member.

CURRENT RESEARCH SUPPORT

- HHMI 52008137, 9/1/14 – 8/31/19
  Project title: Training biologists for the 21st century: From discovery-based labs to a quantitative biology major
  Role: PI

- Simons Foundation 324260, 7/1/14 – 6/30/17
  Project title: Mechanisms of Context-Dependent Neural Integration and Short-Term Memory
  Role: PI

- NIH R01 GM105024, 4/10/13 – 4/9/16
  Project title: Stochastic integrator models of collective decision-making
  Role: Co-PI (PI: Gordon, Stanford University)

- NIH R01 MH065034-11, 4/1/2013 – 3/31/2017
  Project title: Cognitive Neuroscience of Attention and Working Memory in Schizophrenia
  Role: Co-Investigator (PIs: Gold, University of Maryland–Baltimore; Luck, UC Davis)

- NSF IIS-1208218-0, 10/1/2012-9/30/2015
  Project title: CRCNS: Collaborative research: The role of dendritic processing in persistent neural activity
  Role: PI (Co-PI: Aksay, Weill/Cornell Medical University)

- NIH R01 EY021581, 4/1/2012-3/31/2017
  Project title: The computational importance of cerebellar processing
  Role: Consortium PI (PI: Aksay, Weill/Cornell Medical University)

- NIH R01 EY016182, 7/1/2011-6/30/2016
  Project title: Prenatal development of visual system
  Role: Consultant (PI: Usrey, UC Davis)

- NIH R01 EY022087, 3/1/2013-2/28/2018
  Project title: The Role of Extrastriate and Parietal Cortex in the Control of Steering
  Role: Consultant (PI: Britten, UC Davis)

PREVIOUS RESEARCH SUPPORT

- NSF 1147058, 4/15/2012-3/14/2014
  Project title: Encoding information that coordinates distributed neural microcircuits
  Role: Co-PI (PI: Mulloney, UC Davis)

- Burroughs Wellcome Collaborative Research Travel Grant, 3/1/2011-12/31/2012
  Project title: Oculomotor mechanisms of neural integration
  Role: PI

- Sloan Foundation Research Fellowship, 2007-2011
  Role: PI

- NIH R01 MH069726, 2006-2011
  Project Title: Neural integration with active dendrites and inhibition
  Role: PI

PUBLICATIONS AND PRESENTATIONS

Review articles and edited book chapters:

- Goldman MS (2015) Failure of averaging. In: Jaeger D, Jung R (eds.) *Encyclopedia of Computational Neuroscience* (Springer).
- Goldman MS (2013) Associate editor: Eye movements section. In: Chalupa LM, Werner JS (Editors-in-chief) *The New Visual Neurosciences* (MIT Press).
- Goldman MS, Compte A, Wang X-J (2009) Neural integrator models. In: Squire LR (ed.) *Encyclopedia of Neuroscience* (Oxford: Academic Press), volume 6, pp. 165-178.

Research articles:

- Daie K, Goldman MS [*co-corresponding author*], Aksay ERF (2015) Spatial patterns of persistent neural activity vary with the behavioral context of short-term memory, *Neuron* 85:847-860. [*Featured with an accompanying Preview article*]
- Lim S, Goldman MS (2014) Balanced cortical microcircuitry for spatial working memory based on corrective feedback control, *Journal of Neuroscience* 34:6790-6806.
- Fisher D, Olasagasti I, Tank DW, Aksay E, Goldman MS (2013) A modeling framework for deriving the structural and functional architecture of a short-term memory microcircuit, *Neuron* 79:987-1000.
- Lim S, Goldman MS (2013) Balanced cortical microcircuitry for maintaining information in working memory, *Nature Neuroscience* 16:1306-1314.
- Sanders H, Berends M, Major G, Goldman MS [*co-corresponding author*], Lisman JE (2013) NMDA and GABAB (Kir) conductances: the "perfect couple" for bistability, *Journal of Neuroscience* 33:424-429.
- Lim S, Goldman MS (2012) Noise tolerance of attractor and feedforward memory models, *Neural Computation* 24:332-390.
- Goldman MS (2009) Memory without feedback in a neural network, *Neuron* 61:621-634. [*Featured with an accompanying Preview article*]
- Aksay E, Olasagasti I, Mensh BD, Baker R, Goldman MS [*co-corresponding author*], Tank DW (2007) Functional dissection of circuitry in a neural integrator, *Nature Neuroscience* 10:494-504.
- Butts DA, Goldman MS (2006) Tuning curves, neuronal variability, and sensory coding, *PLoS Biology* 4:e92. [*Featured article in April 2006 issue*]
- Goldman MS (2004) Enhancement of information transmission efficiency by synaptic failures, *Neural Computation* 16:1137-1162.
- Goldman MS, Levine JH, Major G, Tank DW, Seung HS (2003) Robust persistent neural activity in a model integrator with multiple hysteretic dendrites per neuron, *Cerebral Cortex* 13:1185-1195.
- Aksay E, Major G, Goldman MS, Baker R, Seung HS, Tank DW (2003) History dependence of rate covariation between neurons during persistent activity in an oculomotor integrator, *Cerebral Cortex* 13:1173-1184.
- Goldman MS, Kaneko CRS, Major G, Aksay E, Tank DW, Seung HS (2002) Linear regression of eye velocity on eye position and head velocity suggests a common oculomotor neural integrator, *Journal of Neurophysiology* 88:659-665.
- Golowasch J, Goldman MS, Abbott LF, Marder E (2002) Failure of averaging in the construction of a conductance-based neuron model, *Journal of Neurophysiology* 87:1129-1131.
- Goldman MS, Maldonado P, Abbott LF (2002) Redundancy reduction and sustained firing with stochastic depressing synapses, *Journal of Neuroscience* 22:584-591.

- Goldman MS, Golowasch J, Marder E, Abbott LF (2001) Global structure, robustness, and modulation of neuronal models, *Journal of Neuroscience* 21:5229-5238.
- Goldman MS (2000) Computational implications of activity-dependent neuronal processes, Harvard Univ. Ph.D. thesis.
- Goldman MS, Golowasch J, Marder E, Abbott LF (2000) Dependence of firing pattern on intrinsic ionic conductances: sensitive and insensitive combinations, *Neurocomputing* 32-33:141-146.
- Goldman MS, Nelson SB, Abbott LF (1999) Decorrelation of spike trains by synaptic depression, *Neurocomputing* 26-27:147-153.

Abstracts:
- Chartrand T, Goldman MS, Lewis TJ (2015) Network oscillations of inferior olive neurons: entrainment and phase-locking of locally coupled oscillators, *Bulletin of the American Physical Society* 60:P1.100.
- Wright TM, Goldman MS, Mulloney B (2014) Modeling encoding in identified coordinating neurons, *Society for Neuroscience Abstracts* 65.08.
- Payne HL, Goldman MS, Raymond JL (2013) Cerebellar Purkinje cells exhibit rapid plasticity during motor learning, *Society for Neuroscience Abstracts* 164.11.
- Wright TM, Schneider AC, Goldman MS, Mulloney B (2013) Modeling the input-output relationship of identified coordinating neurons, *Society for Neuroscience Abstracts* 372.13.
- Daie KP, Goldman M, Aksay E (2013) Context-dependent spatial patterns of persistent firing for multitasking, *Society for Neuroscience Abstracts* 485.08.
- Sylvester SK, Lee M, Lim S, Daie K, Goldman M, Aksay E (2013) The signaling properties of cerebellar granule cells during optokinetic tracking, *Society for Neuroscience Abstracts* 647.14.
- Zhao GQ, Chen AI, Suvrathan A, Bonanno L, Nguyen-Vu BTD, Chartrand T, Goldman MS, Reichardt LF, Raymond JL (2013) Selective contribution of local inhibition to cerebellar timing, *Society for Neuroscience Abstracts* 647.18.
- Lim S, Goldman M (2012) Balanced cortical microcircuitry for spatial working memory based on corrective feedback control, *Society for Neuroscience Abstracts* 706.17.
- Lim S, Goldman M (2011) A model short-term memory network based on negative-feedback control, *Society for Neuroscience Abstracts* 624.07.
- Miri JA, Daie K, Fisher D, Goldman MS, Aksay E, Tank DW (2011) Inferring the circuit architecture of a neural integrator from cellular calcium-sensitive fluorescence dynamics, *Society for Neuroscience Abstracts* 624.23.
- Fisher D, Conway B, Goldman M (2009) Color sensitivity and color constancy of single-opponent and double-opponent cells to natural images, *Society for Neuroscience Abstracts* 756.18.
- Berends MR, Major G, Goldman MS (2009) Roles of inward and outward currents in producing membrane bistability, *Society for Neuroscience Abstracts* 323.16.
- Lee MM, Aksay E, Goldman MS (2008) Temporal integration in a network of conductance-based model neurons with dendritic bistability, *Society for Neuroscience Abstracts* 89.22.
- Goldman MS (2007) Integration without feedback in a neural network, *Society for Neuroscience Abstracts* 637.10.
- Goldman MS, Olasagasti I, Aksay E, Major G, Tank DW (2006) A model of persistent neural activity in the oculomotor neural integrator with realistic tuning curves and bistable excitatory inputs, *Society for Neuroscience Abstracts* 345.8.

- Olasagasti I, Aksay E, Major G, Tank DW, Goldman MS (2005) Persistent neural activity in a bilateral neural integrator model with threshold nonlinearities, *Society for Neuroscience Abstracts* 744.20.
- Goldman MS, Olasagasti I, Hafer VK*, Martinez-Conde S, Macknik SL (2004) Strength and timing of inhibition underlies a visual masking illusion, *Society for Neuroscience Abstracts* 717.1.
- Goldman MS, Butts DA (2003) The best encoded stimuli in a sensory neuron's tuning curve are determined by the amount of neuronal variability, *Society for Neuroscience Abstracts* 485.22.
- Goldman MS, Levine JH*, Major G, Aksay E, Tank DW, Seung HS (2002) Dendritic bistability increases the robustness of persistent neural activity in a model oculomotor neural integrator, *Society for Neuroscience Abstracts* 266.14.
- Goldman MS, Kaneko CRS, Tank DW, Major G, Baker RG, Seung HS (2001) Do the VOR and saccades share a common neural integrator?, *Society for Neuroscience Abstracts* 405.16.
- Goldman MS, Golowasch J, Marder E, Abbott LF (2000) Inadequacy of averaged or uncorrelated measurements in the construction of conductance-based neuronal models, *Society for Neuroscience Abstracts* 26:1999.
- Goldman MS, Golowasch J, Abbott LF, Marder E (1999) Sensitivity of intrinsic firing on conductance densities, *Society for Neuroscience Abstracts* 25:1645.
- Goldman MS, Abbott LF (1999) Synapses as stochastic filters, *Bulletin of the American Physical Society* 44:1493.
- Goldman MS, Sugino K, Nelson SB, Abbott LF (1998) Decorrelation of spike trains by synaptic depression, *Society for Neuroscience Abstracts* 24:2095.

Recent Refereed Conference Presentations (2003-present):
- Lim S, Goldman MS, Balanced cortical microcircuitry for spatial working memory based on corrective feedback control, talk given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2014.
- Chartrand T, Zhao GQ, Raymond JL, Goldman MS, Contribution of cerebellar Golgi cells to learned motor timing during the vestibulo-ocular reflex, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2014.
- Lim S, Goldman MS, Balanced cortical microcircuitry for maintaining short-term memory, talk given at Computational Neuroscience (CNS) meeting, Atlanta, GA, 2012.
- Lim S, Goldman MS, Short-term memory with balanced excitation and inhibition based on derivative feedback control, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2012.
- Daie K, Goldman MS, Aksay E, Functional Connectivity of the Neural Integrator in Larval Zebrafish, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2012.
- Lee MM, Daie K, Sylvester S, Fisher D, Goldman MS, Aksay E, Dendritic processing underlying temporal integration, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2012.
- Sylvester S, Daie K, Lee MM, Goldman MS, Aksay E, Cerebellar granule cell activity during behavior: dynamics in light of the adaptive filter model, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2012.
- Lim S, Goldman MS, Noise tolerance of attractor and feedforward memory models, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2011

- Fisher D, Aksay E, Goldman MS, Anatomical and functional connectivity of an identified short-term memory network, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2011.
- Lim S, Goldman MS, Optimal network architectures for short-term memory under different biological settings, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2010.
- Fisher D, Aksay E, Goldman MS, Sparse connectivity in short-term memory networks, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2010.
- Fisher D, Conway BR, Goldman MS, Color constancy of V1 double opponent cells to natural images, poster given at Computational and Systems Neuroscience (Cosyne) Meeting, Salt Lake City, UT, 2009.
- Maynard SM*, Conway BR, Goldman MS, Modeling the transformation from LGN to V1 color-opponent receptive fields, poster given at Computational Neuroscience Meeting, Portland, OR, 2008.
- Goldman MS, Tochiki K*, Schnobrich C*, Tse S*, Tank DW, Major G, Dependence of dendritic plateau potential duration and amplitude on form and location of synaptic input, poster given at Computational and Systems Neuroscience Meeting, Salt Lake City, UT, 2008.
- Lee M, Levine JH*, Bomash I, Molinelli E, Aksay E, Goldman MS, Temporal integration in a network of conductance-based model neurons with dendritic bistability, poster given at Computational and Systems Neuroscience Meeting, Salt Lake City, UT, 2008.
- Goldman MS, Integration as sequence processing in a feedforward neural integrator, poster given at Computational Neuroscience Meeting, Toronto, Canada, 2007.
- Goldman MS, A feedforward model of a neural integrator, poster given at Computational and Systems Neuroscience Meeting, Salt Lake City, UT, 2007.
- Olasagasti I, Goldman MS, A methodology for tuning nonlinear network models of parametric memory, poster given at Computational Neuroscience Meeting, Edinburgh, Scotland, 2006.
- Olasagasti I, Aksay E, Major G, Tank DW, Goldman MS, Implications of threshold nonlinearities on mechanisms underlying persistent neural activity in a bilateral neural integrator, poster given at Computational and Systems Neuroscience Meeting, Salt Lake City, UT, 2006.
- Olasagasti I, Aksay E, Major G, Tank DW, Goldman MS, Persistent neural activity in a bilateral neural integrator model, talk given at Computational Neuroscience Meeting, Madison, WI, 2005.
- Olasagasti I, Aksay E, Major G, Tank DW, Goldman MS, Persistent neural activity in a bilateral neural integrator model, poster given at Computational and Systems Neuroscience Meeting, Salt Lake City, UT, 2005.
- Goldman MS, Olasagasti I, Hafer V*, Martinez-Conde S, Macknik SL, Strength and timing of inhibition can explain a visual masking illusion, poster given at Computational and Systems Neuroscience Meeting, Cold Spring Harbor, NY, 2004.
- Butts DA, Goldman MS, Which are the best-encoded stimuli in a sensory neuron's tuning curve?, talk given at Computation and Neural Systems Meeting, Alicante, Spain, 2003.
- Goldman MS, Dendritic bistability increases the robustness of persistent neural activity in a model oculomotor neural integrator, poster given at Workshop on Neural Information and Coding, Snowbird, UT, 2003.

Recent Invited Talks (2003-present):

- Context-dependent accumulation of signals in short-term memory circuits, Simons Foundation Collaboration on the Global Brain meeting, New York, NY, 2015
- Linear network theory and Neural integrators, lectures given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2015
- Microcircuits for short-term memory storage and neural integration, talk given at Berkeley Course in Mining and Modeling of Neuroscience data, Redwood Center for Theoretical Neuroscience, Berkeley, CA, 2015
- Inferring the features of network connectivity governing the dynamics of a brain memory circuit, talk given at Statistical Sciences Symposium, UC Davis, Davis, CA, 2015
- Microcircuits for short-term memory storage and neural integration, talk given for Swartz seminar series, New York University, New York, NY, 2014.
- Linear network theory and Neural integrators, lectures given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2014
- Microcircuits for short-term memory storage and neural integration, McGovern Institute, Massachusetts Institute of Technology, Cambridge, MA, 2014.
- Training biologists for the 21st century: from discovery-based labs to a quantitative biology major, Howard Hughes Medical Institute, Chevy Chase, MD, 2014.
- Microcircuits for short-term memory storage and neural integration, talk given at Center for Mind, Brain, and Computation, Stanford University, Stanford, CA, 2014.
- Microcircuits for short-term memory storage and neural integration, talk given at Center for Theoretical Neuroscience, Columbia University, New York, NY, 2014.
- Neural integrators: theory and robustness, lectures given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2013
- Microcircuits for short-term memory storage and neural integration, talk given at Sloan-Swartz Meeting for Computational Neuroscience, Brandeis University, Waltham, MA, 2013.
- Microcircuits for short-term memory storage and neural integration, talk given at Federation of European Neuroscience Society (FENS) Conference "Dynamics of memory: What is the evidence?" Barcelona, Spain, 2012.
- Microcircuits for short-term memory storage and neural integration, talk given at Symposium on Dynamics of Neural Microcircuits, UCLA, Los Angeles, CA, 2012
- Microcircuits for short-term memory storage and neural integration, talk given at Yale University, Swartz Program in Theoretical Neurobiology seminar series, New Haven, CT, 2012
- A short-term memory circuit, from single neurons to behavior, talk given at Symposium on Brains, Mind, and Models, City University of New York Graduate Center, New York, NY, 2011
- Neural integrators: theory and robustness, lectures given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2011.
- Bridging single-neuron measurements and network function, talk given at KITP mini-program on Network Architecture of Brain Structure and Function, Kavli Institute of Theoretical Physics, Santa Barbara, CA, 2011
- Modeling mechanisms of short-term memory, lecture given at Biology of Memory Course, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 2011
- Neural circuit mechanisms underlying short-term memory, talk given at Berkeley Course in Mining and Modeling of Neuroscience data, Redwood Center for Theoretical Neuroscience, Berkeley, CA, 2011
- Neural circuit mechanisms underlying short-term memory, talk given at Howard Hughes Medical Institute (Janelia Farm Research Campus), Ashburn, VA, 2011

- Modeling the neural mechanisms underlying short-term memory, talk given at Stanford University, Frontiers in Quantitative Biology seminar series, Stanford, CA, 2011
- Network architectures for short-term memory storage and neural integration, talk given at Stanford University Center for Mind, Brain, and Computation, Stanford, CA, 2010.
- Neural integrators: theory and robustness, lectures given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2010.
- Robust memories, brittle models: Challenges in modeling neural activity in short-term memory networks, talk given at Opportunities at the Interface of Physics and Biology meeting (sponsors: Burroughs Wellcome Fund, W.M. Keck Foundation, The Swartz Foundation), Chicago, IL, 2010.
- Network models of short-term memory, persistent neural activity, and neural integration, talk given at the Computational Neuroscience Meeting, San Antonio, TX, 2010.
- Modeling the mechanisms underlying memory-related neural activity, talk given at UC Irvine, 2010.
- Network structures underlying persistent activity and neural integration, talk given at Computational and Systems Neuroscience Meeting Workshop on Persistent Neural Activity, Snowbird, UT, 2010.
- Modeling the mechanisms underlying memory-related neural activity, talk given at University of Houston, 2010.
- Modeling the mechanisms underlying memory-related neural activity, talk given at University of Texas Medical School, Houston, TX, 2010.
- Neural integrators: theory and robustness, lectures given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2009.
- Modeling mechanisms of short-term memory, lecture given at Biology of Memory Course, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 2009.
- Modeling the mechanisms underlying memory-related neural activity, talk given at Howard Hughes Medical Institute - Janelia Farms, 2009.
- Modeling the mechanisms underlying memory-related neural activity, talk given at University of Washington, 2009.
- Neural integrators: theory, lectures given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2008.
- Modeling the mechanisms underlying memory-related neural activity, talk given at Redwood Center for Theoretical Neuroscience, UC Berkeley, 2008.
- Memory without feedback or attractors in a neural network, talk given at Weill Medical College of Cornell University, 2008.
- Modeling the mechanisms underlying memory-related neural activity, talk given at Waterloo University, Waterloo, Canada, 2008.
- Dissecting the mechanisms underlying memory-related neural activity, talk given at Brandeis University, 2007.
- Persistent activity in the oculomotor system: a model for short-term memory, talk given at Cold Spring Harbor Laboratories, 2007.
- Linear networks and how neurons do integrals, and Robustness in neural networks, lectures given at Biophysics Summer School, University of Colorado, Boulder, CO, 2007.
- Persistent neural activity: experiment and theory, lecture given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2007.
- Persistent activity in the oculomotor system: a model for short-term memory, talk given at UC Davis, 2007.
- The oculomotor integrator as a model for short-term memory: a computational investigation, talk given at Neurological Sciences Institute, Oregon Health & Science University, 2007.

- Persistent activity in the oculomotor system: a model for short-term memory, talk given at Stanford University, 2007.
- Dissecting the mechanisms underlying persistent activity in a neural integrator, talk given at Washington University in St. Louis, 2007.
- Dissecting the mechanisms underlying persistent activity in a neural integrator, talk given at Columbia University, 2006.
- Dissecting the mechanisms underlying persistent activity in a neural integrator, talk given at Neural Information Processing Systems (NIPS) Conference Workshop on Continuous Attractors, Whistler, Canada, 2006.
- Persistent neural activity: theory, lecture given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2006.
- Models of short-term memory -or- How neurons do integrals, talk given at Amherst College, Amherst, MA, 2005.
- Persistent neural activity: experiments and theory, lecture given at Methods in Computational Neuroscience Course, Marine Biological Laboratory, Woods Hole, MA, 2005.
- Persistent neural activity in a bilateral neural integrator model, talk given at Gordon Research Conference on Neural Circuits and Plasticity, Newport, RI, 2005.
- Possible neural mechanisms underlying robust persistent neural activity, talk given at Barrow Neurological Institute, Phoenix, AZ, 2004.
- Dendritic hysteresis increases the robustness of fixations in a model neural integrator, talk given at SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, 2003.