

CURRICULUM VITAE

Terrence J. Sejnowski

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Education:

1968	B. S. Physics	Case Western Reserve University, Summa cum laude
1970	M. A. Physics	Princeton University, John Wheeler, Ph.D.
1978	Ph. D. Physics	Princeton University, John Hopfield, Ph.D.
1978-1979	Research Fellow in Biology	Princeton University, Alan Gelperin, Ph.D.
1979-1982	Research Fellow in Neurobiology	Harvard Medical School, Stephen Kuffler, M.D.

Academic Appointments:

2005-	Francis Crick Chair	The Salk Institute
1994-1999	Part-Time Visiting Professor	California Institute of Technology
1992-1993	Fairchild Distinguished Scholar	California Institute of Technology
1991-	Investigator	Howard Hughes Medical Institute
1989-	Professor	The Salk Institute
1988-1989	Senior Member	The Salk Institute
1988-	Adjunct Professor of Neurosciences, Cognitive Science and Computer Science and Engineering	University of California, San Diego
1988-	Professor of Biology	University of California, San Diego
1988-1990	Professor of Biophysics	Johns Hopkins University
1987	Wiersma Visiting Prof. of Neurobiology	California Institute of Technology
1985-1988	Associate Professor of Biophysics	Johns Hopkins University
1982-1985	Assistant Professor of Biophysics	Johns Hopkins University
1980-1982	Tutor in Biochemical Sciences	Harvard University
1972-1974	Lecturer, Physics Department	University of California, Santa Barbara

Professional Activities:

2016	Organizer	Keystone Symposium on State of the Brain
2014	Organizer	Cold Spring Harbor Symposium Quantitative Biology: Cognition
2008-	Member	UCSD/Salk Center for Acad. Research and Training in Anthropogeny (CARTA)
2007-	Co-Director	NSF Science of Learning Center, UCSD
2007-	Steering Comm.	Computational Neuroscience Specialization, Neuroscience Program, UCSD
2006-	Executive Comm.	HHMI-NIBIB Interfaces Initiative for Interdisciplinary Graduate Training, UCSD
2005-	Director	Crick-Jacobs Center for Theoretical and Computational Biology
2000-2007	Director	Training Program in Computational Neurobiology, UCSD
1999-	Director	NIH Training Program in Cognitive Neuroscience, UCSD
1996-	Member	La Jolla Group on the Origin of Humans
1995-1998	Member	Society for Neuroscience Public Information Committee
1994-	President	Neural Information Processing Systems (NIPS) Foundation
1990-1998	Director	McDonnell-Pew Center for Cognitive Neuroscience at San Diego
1990	Organizer	Cold Spring Harbor Symposium Quantitative Biology: The Brain
1989-	Editor-in-Chief	Neural Computation
1989-	Director	Institute for Neural Computation, UCSD
1988-	Secretary	Helmholtz Club
1988	General Chair	Neural Information Processing Systems Conference (NIPS), Denver

Awards and Honors:

2015	Swartz Prize for Computational and Theoretical Neuroscience	Society for Neuroscience
2015	Life Fellow	Inst. of Electrical and Electronics Engineers
2015	Fellow	American Physiological Society
2014	Fellow	American Physical Society
2013	Fellow	American Academy of Arts and Sciences
2013	Frank Rosenblatt Award	Inst. of Electrical and Electronics Engineers
2011	Fellow	Cognitive Science Society
2011	Member	National Academy of Engineering
2010	Member	National Academy of Sciences
2008	Member	National Academy of Medicine
2008	National Associate	National Research Council of National Academies
2008	INNS Senior Member	International Neural Network Society
2006	Fellow	American Association Advancement of Science
2004	Francis Crick Chair	Salk Institute for Biological Studies
2003	Johns Hopkins Society of Scholars	Johns Hopkins University
2002	Neural Network Pioneer Award	Inst. of Electrical and Electronics Engineers
2000	IEEE Fellow	Inst. of Electrical and Electronics Engineers
1999	Hebb Award	International Neural Network Society
1996	Wright Prize	Harvey Mudd College
1991	IEEE Senior Member	Inst. of Electrical and Electronics Engineers
1984-1989	Presidential Young Investigator Award	National Science Foundation
1978-1980	Postdoctoral Fellowship	National Institutes of Health
1968-1971	Predocctoral Fellowship	National Science Foundation
1968	Dayton C. Miller Prize for Senior Thesis	Case Western Reserve University

Review and Advisory Boards:

2015-	McGovern Institute, MIT	Scientific Advisory Board
2014-	Keystone Symposia	Scientific Advisory Board
2014	Chair, NAKFI Future Initiatives Decadal Review	National Academy of Sciences
2013	BRAIN Initiative testimony	Pres. Commission for Bioethical Issues
2013-2014	BRAIN Initiative Working Group	Advisory Committee to the NIH Director
2012-	Society for Neuroscience Brain Facts	Editorial Board
2012-	SUNY Research Council	SUNY Research Foundation
2011-	RIKEN Brain Science Institute	Scientific Review Board
2009-	Max-Planck Institute for Brain Research	Scientific Review Board
2009-2010	Ontario Innovation Trust	Ontario Scientific Advisory Panel
2009-2016	Emotient	Scientific Advisory Board
2008-2011	Broad Fellows Program	California Institute of Technology
2008-2012	Institute of Neuroscience	Chinese Academy of Sciences
2008-2011	Okinawa Institute of Science and Technology	Scientific Advisory Board
2008-	Neurovigil	Scientific Advisory Board
2007-	Gulbenkian Institute of Science	Advisory Board
2006-2012	Searle Scholars Program	Searle Advisory Board
2006-2012	Frankfurt Institute for Advanced Studies	Scientific Advisory Board
2005-2007	Howard Hughes Medical Institute	Janelia Farm Review Board
2005-	The Science Network	Chair, Advisory Board
2000-2005	Institute for Neuroinformatics, ETH and Univ. Zurich	Scientific Review Board
2003-	Canadian Institute for Advanced Research	Scientific Advisory Board
2001	Howard Hughes Medical Institute	Computational Biology Review Board
2000-2005	Gatsby Computational Neuroscience Unit	Scientific Review Board
1998-2003	Illumina	Founding Scientific Advisory Board
1997-2008	Softmax	Chair, Scientific Advisory Board
1990-2010	Science Magazine	Reviewing Editor

Distinguished Lectures:

2015	Plenary Lecture	International Society for Information Theory
2014	Joseph Leiter Lecture	National Library of Medicine
2012	Ian P. Howard Lecture	York University
2011	Graeme Clark Oration	Melbourne, Australia
2009	Summit on the NAE Grand Challenges	Duke University
2008	Wolfgang Pauli Lectures	ETH Zurich
2008	Barrett Neuroscience Lecture	University of Michigan
2004	Ernst Nagel Lectures	Carnegie Mellon University
2003	Gildea Lecture	Washington University
1996	Darwin Lecture	Cambridge University
1995	Frank Rosenblatt Lecture	Cornell University
1994	Nature 125th Anniversary	Royal Institution, London
1991	Messenger Lectures	Cornell University
1990	Nicolet Distinguished Lecture	University of Wisconsin
1989	Distinguished Lecturer	MIT Computer Science Laboratory
1989	Baule Distinguished Lecture	Syracuse University
1989	Plenary Lecture	International Joint Conference Neural Networks
1988	Plenary Lecture	American Association Artificial Intelligence
1988	David Marr Memorial Lecture	Cambridge University
1987	Presidential Lecture	Society for Neuroscience Meeting

Editorial Boards:

2009-	Scientific American	Board of Advisors
2008-	Frontiers in Synaptic Neuroscience	Associate Editor
2007-	Frontiers in Computational Neuroscience	Associate Editor
2006-	Progress in Neurobiology	Editorial Board
2005-	Biological Cybernetics	Editorial Board
2004-	Neural Information Processing Letters	Advisory Board
2003-2010	Oxford University Press	Computational Neuroscience Book Series Editor
2002-2008	Thalamus and Related Systems	Editorial Board
2000-	Journal of Machine Learning Research	Advisory Board
1999-2011	Nature Reviews of Neuroscience	Advisory Board
1996-	The Neuroscientist	Editorial Board
1993-	Journal of Computational Neuroscience	Action Editor
1991-	Behavioral and Neural Biology	Editorial Board
1991-	European Journal of Neuroscience	Editorial Board
1991-	Brain Research	Editorial Board
1990-	Computer and Systems Sciences	Editorial Board
1990-	Current Opinion in Neurobiology	Editorial Board
1990-	Cerebral Cortex	Associate Editor
1990-2007	NeuroReport	Section Editor
1989-	Journal of Cognitive Neuroscience	Associate Editor
1989-	Hippocampus	Editorial Board
1989-1995	Journal of Neuroscience	Associate Editor
1989-	MIT Press	Computational Neuroscience Book Series Editor
1989-1991	Synapse	Editorial Board
1989-1994	Network	Advisory Board
1988-1991	Visual Neuroscience	Editorial Board
1988-	Neural Networks	Editorial Board
1988-	Cognitive Science	Editorial Board
1987-	Complex Systems	Editorial Board

Professional Societies:

Society for Neuroscience
American Physical Society
American Mathematical Society
Institute of Electrical and Electronics Engineers
American Association for Artificial Intelligence
Biophysical Society
Society for General Physiology
Society for Mathematical Biology
International Neural Network Society
Optical Society of America
Association for Research in Vision and Ophthalmology
New York Academy of Science
American Psychological Society
Cognitive Science Society
American Psychological Association
Federation of American Societies for Experimental Biology
American Physiological Society
International Society for Neuroethology
Society for Mathematical Biology
Sleep Research Society
Mathematics Association of America

Patents:

United States Patent 5,383,164, January 17, 1995

Sejnowski, Terrence and Li, S.- L.

Adaptive system for broadband multisignal discrimination in a channel with reverberation

United States Patent 6,424,960, July 23, 2002

Lee, Te-Won, Lewicki, Michael S. and Sejnowski, Terrence J.

Unsupervised adaptation and classification of multiple classes and sources in blind signal separation

United States Patent 6,799,170, September 28, 2004

Lee, Te-Won, Lewicki, Michael S. and Sejnowski, Terrence J.

System and method of separating signals

United States Patent 7,286,712, October 3, 2007

Lee, Te-Won, Wachtler, Thomas and Sejnowski, Terrence J.

Method and apparatus for efficiently encoding chromatic images using non-orthogonal basis functions

PCT Patent Application US2005/027562 filed August 2, 2005

Low, Philip and Sejnowski, Terrence J.

Dynamic Signal Processing

PCT Patent Application US2006/018120 filed May 9, 2006

Low, Philip and Sejnowski, Terrence J.

Automated Detection of Sleep and Waking States

Publications:

PDF files for all publications: <http://papers.cnl.salk.edu/>

ISI Web of Knowledge

505
46,557
95
100

Google Scholar (includes books and major conference proceedings)

603 Publications
96,605 Citations
160 Average citations per publication
134 h-index

(9/8/2016)

Peer-reviewed Articles:

1. Hjellming, R. M., Andrews, M. H., and Sejnowski, T. J., A theoretical analysis of methods of interpreting radio-line data for H-II regions, *Astrophysical Journal* 157, 573 (1969).
2. Hjellming, R. M., Andrews, M. H., and Sejnowski, T. J., Intensities of radio recombination lines, *Astrophysical Letters* 3, 114 (1969).
3. Sejnowski, T. J. and Hjellming, R. M., The general solution of the b_n problem for gaseous nebulae, *Astrophysical Journal* 156, 915-925 (1969).
4. Sejnowski, T. J. Sources of gravity waves, *Physics Today* 27, 40-48 (January 1974).
5. Sejnowski, T. J., On global properties of neuronal interaction, *Biological Cybernetics* 22, 85-95 (1976).
6. Sejnowski, T. J., On the stochastic dynamics of neuronal interaction, *Biological Cybernetics* 22, 203-211 (1976).
7. Sejnowski, T. J., Storing covariance with nonlinearly interacting neurons, *Journal of Mathematical Biology* 4, 203-211 (1977).
8. Sejnowski, T. J., Statistical constraints on synaptic plasticity, *Journal of Theoretical Biology* 69, 385-389 (1977).
9. Sejnowski, T. J., A stochastic model of nonlinearly interacting neurons, *Thesis, Princeton University* (1978).
10. Sejnowski, T. J., Reingold, S. C., Kelley, D. B., and Gelperin, A., Localization of ^3H -2-deoxyglucose in single molluscan neurons, *Nature* 287, 449-451 (1980).
11. Reingold, S. C., Sejnowski, T. J., Gelperin, A., and Kelley, D. B., ^3H -2-deoxyglucose autoradiography in a molluscan nervous system, *Brain Research* 208, 416-420 (1981).
12. Sejnowski, T. J., Peptidergic synaptic transmission in sympathetic ganglia, *Federation Proceedings* 41, 1923-1928 (1982).
13. Paton, J. A., Kelley, D. B., Sejnowski, T. J., and Yodlowski, M. L., Mapping the auditory central nervous system of *Xenopus laevis* with ^3H -2-deoxyglucose autoradiography, *Brain Research* 249, 15-22 (1982).
14. Sejnowski, T. J. and Yodlowski, M. L., A freeze-fracture study of the skate electroreceptor, *Journal of Neurocytology* 11, 897-912 (1982).

15. Kuffler, S. W. and Sejnowski, T. J., Peptidergic and muscarinic excitation at amphibian sympathetic synapses, *Journal of Physiology* 341, 257-278 (1983).
16. Ballard, D., Hinton, G. E., and Sejnowski, T. J., Parallel visual computation, *Nature* 306, 21-26 (1983).
17. Ackley, D. H., Hinton, G. E., and Sejnowski, T. J., A learning algorithm for Boltzmann Machines, *Cognitive Science* 9, 147-169 (1985).
18. Sejnowski, T. J., Kienker, P. K. and Hinton, G. E., Learning symmetry groups with hidden units: Beyond the perceptron, *Physica D* 22, 260-275 (1986).
19. Kienker, P., Sejnowski, T. J., Hinton, G. E., and Schumacher, L., Separating figure from ground with a parallel network, *Perception* 15, 197-216 (1986).
20. Sejnowski, T. J. and Rosenberg, C. R., Parallel networks that learn to pronounce English text, *Complex Systems* 1, 145-168 (1987).
21. Gorman, R. P. and Sejnowski, T. J., Analysis of the hidden units in layered networks trained to classify sonar targets, *Neural Networks* 1, 75-89 (1988).
22. Gorman, R. P. and Sejnowski, T. J., Learned classification of sonar targets using a massively-parallel network, *IEEE Transactions Acoustics Speech and Signal Processing* 36, 1135-1140 (1988).
23. Lehky, S. and Sejnowski, T. J., Network model of shape-from-shading: Neural function arises from both receptive and projective fields. *Nature* 333, 452-454 (1988).
24. Qian, N. and Sejnowski, T. J., Predicting the secondary structure of globular proteins using neural network models, *Journal of Molecular Biology* 202, 865-884 (1988).
25. Sejnowski, T. J., Koch, C. and Churchland, P. S., Computational neuroscience, *Science* 241, 1299-1306 (1988).
26. Churchland, P. S. and Sejnowski, T. J., Perspectives on cognitive neuroscience, *Science* 242, 741-745 (1988).
27. Qian, N. and Sejnowski, T. J., An electro-diffusion model for computing membrane potentials and ionic concentrations in branching dendrites, spines, and axons, *Biological Cybernetics* 62, 1-15 (1989).
28. Chattarji, S., Stanton, P. K. and Sejnowski, T. J., Commissural synapses, but not mossy fiber synapses, in field CA3 of hippocampus exhibit both associative long-term potentiation (LTP) and depression (LTD), *Brain Research* 495, 145-150 (1989).
29. Sejnowski, T. J., The Computer and the Brain revisited, *Annals Hist. Comput.* 11, 197-201 (1989).
30. Stanton, P. K. and Sejnowski, T. J., Associative long-term depression in the hippocampus induced by Hebbian covariance, *Nature* 339, 215-218 (1989).
31. Tesauro, G. and Sejnowski, T. J., A parallel network that learns to play backgammon, *Artificial Intelligence Journal* 39, 357-390 (1989).
32. Yuhas, B. P., Goldstein, M. H., Jr. and Sejnowski, T. J., Integration of acoustic and visual speech signals using neural networks, *IEEE Communications Magazine*, 65-71 (November, 1989).

33. Fang, Y. and Sejnowski, T. J., Faster learning for dynamical recurrent backpropagation, *Neural Computation* 2, 270-273 (1990).
34. Lehky, S. R. and Sejnowski, T. J., Neural model of stereoacuity and depth interpolation based on a distributed representation of stereo disparity, *Journal of Neuroscience* 10, 2281-2299 (1990).
35. Lehky, S. and Sejnowski, T. J., Extracting surface curvature from shaded images using a neural network model, *Proceedings of the Royal Society of London B240*, 251-278 (1990).
36. Lockery, S. R., Fang, Y., and Sejnowski, T. J., A dynamical neural network model of sensorimotor transformations in the leech, *Neural Computation* 2, 274-282 (1990).
37. Qian, N. and Sejnowski, T. J., When is an inhibitory synapse effective? *Proceedings of the National Academy of Sciences U.S.A.* 87, 8145-8149 (1990).
38. Sejnowski, T. J., Chattarji, S., and Stanton, P. K. Homosynaptic long-term depression in hippocampus and neocortex, *Seminars in Neurosciences* 2, 355-363 (1990).
39. Yuhas, B. P., Goldstein, M. H., Jr., Sejnowski, T. J. and Jenkins, R. E., Neural network models of sensory integration for improved vowel recognition, *Proceedings of the IEEE* 78, 1658-1668 (1990).
40. Churchland, P. S. and Sejnowski, T. J., Neural representations and neural computation. *Philosophical Perspectives*, 4, 343-382 (1990).
41. Bush, P. C. and Sejnowski, T. J., Simulations of a reconstructed cerebellar Purkinje cell based on simplified channel kinetics, *Neural Computation* 3, 321-332 (1991).
42. Holliday, J., Adams, R. J., Sejnowski, T. J. and Spitzer, N. C., Calcium-induced release of calcium regulates differentiation of cultured spinal neurons, *Neuron* 7, 787-796 (1991).
43. Lehky, S. R., Pouget, A. and Sejnowski, T. J., Neural models of binocular depth perception, *Cold Spring Harbor Symposia on Quantitative Biology* 55, 765-777 (1991).
44. Lytton, W. W. and Sejnowski, T. J., Simulations of cortical pyramidal neurons synchronized by inhibitory interneurons, *Journal of Neurophysiology* 66, 1059-1079 (1991).
45. Stanton, P. K., Chattarji, S. and Sejnowski, T. J., 2-amino-3-phosphonopropionic acid, an inhibitor of glutamate-stimulated phosphoinositide turnover, blocks induction of homosynaptic long-term depression, but not potentiation, in rat hippocampus, *Neuroscience Letters* 127, 61-66 (1991).
46. Lehky, S. R., Sejnowski, T. J. and Desimone, R., Predicting responses of nonlinear neurons in monkey striate cortex to complex patterns. *Journal of Neuroscience* 12, 3568-3581 (1992).
47. Lockery, S. R. and Sejnowski, T. J., Distributed processing of sensory information in the leech III. A dynamical neural network model of the local bending reflex, *Journal of Neuroscience* 12, 3877-3895 (1992).
48. Lytton, W. W. and Sejnowski, T. J., Computer model of ethosuximide's effect on a thalamic neuron. *Annals of Neurology* 32, 131-139 (1992).
49. Wathey, J. C., Lytton, W. W., Jester, J. M. and Sejnowski, T. J., Computer simulations of EPSP-to-spike (E-S) potentiation in hippocampal CA1 pyramidal cells, *Journal of Neuroscience* 12, 607-618 (1992).

50. Stanton, P. K., Mody, I., Zigmond, D. Sejnowski, T. J. and Heinemann, U., Noradrenergic modulation of excitability in acute and chronic model epilepsies, *Epilepsy Research Supplement* 8, 321-334 (1992).
51. Lisberger, S. G. and Sejnowski, T. J., Motor learning in a recurrent network model based on the vestibulo-ocular reflex, *Nature* 360, 159-161 (1992).
52. Dayan, P. and Sejnowski, T. J., The variance of covariance rules for associative matrix memories and reinforcement learning, *Neural Computation* 5, 205-209 (1993).
53. Pouget, A., Fisher, S. A. and Sejnowski, T. J., Egocentric spatial representation in early vision, *Journal of Cognitive Neuroscience* 5, 150-161 (1993).
54. Lockery, S. R. and Sejnowski, T. J., A lower bound on the detectability of nonassociative learning in the local bending reflex of the medicinal leech, *Behavioral and Neural Biology* 59, 208-224 (1993).
55. Bush, P. C. and Sejnowski, T. J., Reduced compartmental models of neocortical pyramidal cells, *Journal of Neuroscience Methods* 46, 159-166 (1993).
56. Lockery, S. R. and Sejnowski, T. J., The computational leech, *Trends in Neuroscience* 16, 283-290 (1993).
57. Berns, G. S., Dayan, P. and Sejnowski, T. J., A correlational model for the development of disparity selectivity in visual cortex that depends on prenatal and postnatal phases, *Proceedings of the National Academy of Sciences U.S.A.* 90, 8277-8281 (1993).
58. Destexhe, A., Babloyantz, A. and Sejnowski, T. J., Ionic mechanisms for intrinsic slow oscillations in thalamic relay neurons, *Biophysical Journal* 65, 1538-1552 (1993).
59. Steriade, M., McCormick, D. A., Sejnowski, T. J., Thalamocortical oscillations in the sleeping and aroused brain, *Science* 262, 679-685 (1993).
60. Destexhe, A., McCormick, D. A., and Sejnowski, T. J., A model for 8-10 Hz spindling in interconnected thalamic relay and reticularis neurons, *Biophysical Journal* 65, 2473-2477 (1993).
61. Destexhe, A., Mainen, Z. F., and Sejnowski, T. J., An efficient method for computing synaptic conductances based on a kinetic model of receptor binding, *Neural Computation* 6, 14 -18 (1994).
62. Pouget, A. and Sejnowski, T. J., Neural model for the cortical representation of egocentric distance, *Cerebral Cortex* 4, 314-329 (1994).
63. Bush, P. and Sejnowski, T. J., Effects of inhibition and dendritic saturation in simulated neocortical pyramidal cells, *Journal of Neurophysiology* 71, 2183-2193 (1994).
64. Montague, P. R. and Sejnowski, T. J., The predictive brain: Temporal coincidence and temporal order in synaptic learning mechanisms, *Learning and Memory* 1, 1-33 (1994).
65. Dayan, P. and Sejnowski, T. J., TD- λ converges with probability 1, *Machine Learning* 14, 295-301 (1994).
66. Destexhe, A., Contreras, D., Sejnowski, T. J. and Steriade, M., A model of spindle rhythmicity in the isolated thalamic reticular nucleus, *Journal of Neurophysiology* 83, 803-818 (1994).
67. Destexhe, A., Mainen, Z. F., and Sejnowski, T. J., Synthesis of models for excitable membranes, synaptic transmission and neuromodulation using a common kinetic formalism, *Journal of Computational Neuroscience* 1, 195-230 (1994).

68. Destexhe, A., Contreras, D., Sejnowski, T. J. and Steriade, M., Modeling the control of reticular thalamic oscillations by neuromodulators, *NeuroReport* 5, 2217-2220 (1994).
69. Nowlan, S. and Sejnowski, T. J., Filter selection model for motion segmentation and velocity integration, *Journal Optical Society of America* 11, 3177-3200 (1994).
70. Quartz, S. R. and Sejnowski, T. J., Beyond modularity - Neural evidence for constructivist principles in development, *Behavioral and Brain Sciences* 17, 725-726 (1995).
71. Li, S. and Sejnowski, T. J., Adaptive separation of mixed broadband sound sources with delays by a beamforming Herault-Jutten network, *IEEE Journal of Oceanic Engineering* 20, 73-79 (1995).
71. Obermayer, K., Sejnowski, T. J. and Blasdel, G. G., Neural pattern formation via a competitive Hebbian mechanism, *Behavioral Brain Research* 66, 161-167 (1995).
72. Jester, J. M., Campbell, L. W., and Sejnowski, T. J., Associative EPSP-spike potentiation induced by pairing orthodromic and antidromic stimulation in rat hippocampal slices, *Journal of Physiology* 484, 689-705 (1995).
73. Nowlan, S. and Sejnowski, T. J., A selection model for motion processing in area MT of primates, *Journal of Neuroscience* 15, 1195-1214 (1995).
74. Tsodyks, M. V. and Sejnowski, T. J., Rapid state switching in balanced cortical network models, *Network* 6, 111-124 (1995).
75. Mainen, Z. F. and Sejnowski, T. J., Reliability of spike timing in neocortical neurons, *Science* 268, 1503-1506 (1995).
76. Prank, K., Nowlan, S. J., Harms, H. M., Kloppstech, M., Brabant, G., Hesch, R. D. and Sejnowski, T. J., Time series prediction of plasma hormone concentration: Evidence for differences in predictability of parathyroid hormone secretion between osteoporotic patients and normal controls, *Journal of Clinical Investigation* 25, 2910-2919 (1995).
77. Destexhe, A. and Sejnowski, T. J., G-protein activation kinetics and spill-over of GABA may account for differences between inhibitory responses in the hippocampus and thalamus, *Proceedings of the National Academy of Sciences U.S.A.* 92, 9515-9519 (1995).
78. Gray, M. S., Lawrence, D. T., Golomb, B. A. and Sejnowski, T. J., A perceptron reveals the face of sex, *Neural Computation* 7, 1160-1164 (1995).
79. Bell, A. J. and Sejnowski, T. J., An information-maximization approach to blind separation and blind deconvolution, *Neural Computation* 7, 1129-1159 (1995).
80. Montague, P. R., Dayan, P., Person, C. and Sejnowski, T. J., Bee foraging in uncertain environments using predictive Hebbian learning, *Nature* 377, 725-728 (1995).
81. Mainen, Z. F., Joerges, J., Huguenard, J. R. and Sejnowski, T. J., A model of spike initiation in neocortical pyramidal neurons, *Neuron* 15, 1427-1439 (1995).
82. Tsodyks, M. V. and Sejnowski, T. J., Associative memory and hippocampal place cells, *International Journal of Neural Systems* 6 (supp), 81-86 (1995).
83. Destexhe, A., Contreras, D., Steriade, M., Huguenard, J. R. and Sejnowski, T. J., In vivo, *in vitro* and computational analysis of dendritic calcium currents in thalamic reticular neurons, *Journal of Neuroscience* 16, 169-185 (1996).

84. Montague, P. R., Dayan, P. and Sejnowski, T. J., A framework for mesencephalic dopamine systems based on predictive Hebbian learning, *Journal of Neuroscience* 16(5), 1936-1947 (1996).
85. Lytton, W. W., Destexhe, A. and Sejnowski, T. J., Control of slow oscillations in the thalamocortical neuron: A computer model, *Neuroscience* 70(3), 673-684 (1996).
86. Prank, K., Kloppstech, M., Nowlan, S. J., Sejnowski, T. J., and Brabant, G., Self-organized segmentation of time series: Separating growth hormone secretion in acromegaly from normal controls, *Biophysical Journal* 70, 2540-2547 (1996).
87. Bell, A. J., and Sejnowski, T. J., Learning the higher-order structure of a natural sound, *Network: Computation in Neural Systems* 7, 261-266 (1996).
88. Mainen, Z. F., and Sejnowski, T. J., Influence of dendritic structure on firing pattern in model neocortical neurons, *Nature* 382, 363-366 (1996).
89. Bush, P. and Sejnowski, T. J., Inhibition synchronizes sparsely connected cortical neurons within and between columns in realistic network models, *Journal of Computational Neuroscience* 3, 91-110 (1996).
90. Tsodyks, M. V., Skaggs, W. E., Sejnowski, T. J., and McNaughton, B. L., Population dynamics and theta rhythm phase precession of hippocampal place cell firing: A spiking neuron model, *Hippocampus* 6, 271-280 (1996).
91. Prank, K., Kloppstech, M., Nowlan, S. J., Sejnowski, T. J., and Brabant, G., Random secretion of growth hormone in humans, *Physical Review Letters* 77(9), 1909-1911 (1996).
92. Destexhe, A., Bal, T., McCormick, D. A., and Sejnowski, T. J., Ionic mechanisms underlying synchronized oscillations and propagating waves in a model of ferret thalamic slices, *Journal of Neurophysiology* 76:3, 2049-2070 (1996).
93. Contreras, D., Destexhe, A., Sejnowski, T. J., and Steriade, M., Control of spatiotemporal coherence of a thalamic oscillation by corticothalamic feedback, *Science* 274, 771-774, (1996).
94. Dayan, P., and Sejnowski, T. J., Exploration bonuses and dual control, *Machine Learning* 25(1), 5-22 (1996.)
95. Jung, T.-P., Makeig, S., Stensmo, M. and Sejnowski, T. J., Estimating alertness from the EEG power spectrum, *IEEE Transactions on Biomedical Engineering* 44(1), 60-69 (1997).
96. Contreras, D., Destexhe, A., Sejnowski, T. J., and Steriade, M., Spatiotemporal patterns of spindle oscillations in cortex and thalamus, *Journal of Neuroscience* 17(3), 1179-1196 (1997).
97. Pouget, A., and Sejnowski, T. J., Spatial transformations in the parietal cortex using basis functions, *Journal of Cognitive Neuroscience* 9(2), 222-237 (1997).
98. Murthy, V. N., Sejnowski, T. J., and Stevens C. F., Heterogeneous release properties of visualized individual hippocampal synapses, *Neuron* 18, 599-612 (1997).
99. Tsodyks, M.V., Skaggs, W. E., Sejnowski, T. J., and McNaughton, B. L., Paradoxical effects of external modulation of inhibitory interneurons, *Journal of Neuroscience* 17(11), 4382-4388 (1997).
100. Goodhill, G. J., and Sejnowski, T. J., A unifying objective function for topographic mappings, *Neural Computation* 9(6), 1291-1303 (1997).

101. Tang, A. C., Bartels, A. M., and Sejnowski, T. J., Effects of cholinergic modulation on responses of neocortical neurons to fluctuating input, *Cerebral Cortex* 7, 502-509 (1997).
102. Ritz, R., and Sejnowski, T. J., Synchronous oscillatory activity in sensory systems: New vistas on mechanisms, *Current Opinion in Neurobiology* 7, 536-546 (1997).
103. Makeig, S., Jung, T.-P., Bell, A. J., Ghahremani, D., and Sejnowski, T. J., Blind separation of auditory event-related brain responses into independent components, *Proceedings of the National Academy of Sciences U.S.A.* 94, 10979-10984 (1997).
104. Pouget, A., and Sejnowski, T. J., A new view of hemineglect based on the response properties of parietal neurons, *Philosophical Transactions of the Royal Society* 352, 1449-1459 (1997).
105. Bell, A. J., and Sejnowski, T. J., The "Independent Components" of natural scenes are edge filters, *Vision Research* 37(23), 3327-3338 (1997). PMID: PMC2882863
106. Quartz, S., Sejnowski, T. J., The neural basis of cognitive development: A constructivist manifesto, *Behavioral and Brain Sciences* 20(4), 537-596 (1997).
107. Zemel, R. S., and Sejnowski, T. J., A model for encoding multiple object motions and self-motion in area MST of primate visual cortex, *Journal of Neuroscience* 18(1), 531-547 (1998).
108. Zhang, K., Ginzburg, I, McNaughton, B. L., and Sejnowski, T. J., Interpreting neuronal population activity by reconstruction: Unified framework with application to hippocampal place cells, *Journal of Neurophysiology* 79 1017-1044 (1998).
109. Berns, G. S., and Sejnowski, T. J., A computational model of how the basal ganglia produce sequences, *Journal of Cognitive Neuroscience* 10(1), 108-121 (1998).
110. McKeown, M. J., Jung, T.-P., Makeig, S., Brown, G., Kindermann, S. S., Lee, T.-W., and Sejnowski, T. J., Spatially independent activity patterns in functional magnetic resonance imaging data during the Stroop color-naming task, *Proceedings of the National Academy of Sciences U.S.A.* 95, 803-810 (1998).
111. Moortgat, K. T., Keller, C. H., Bullock, T. H., and Sejnowski, T. J., Submicrosecond pacemaker precision is behaviorally modulated: The gymnotiform electromotor pathway, *Proceedings of the National Academy of Sciences U.S.A.* 95, 4684-4689 (1998).
112. Wiskott, L., and Sejnowski, T. J., Constrained optimization for neural map formation: A unifying framework for weight growth and normalization, *Neural Computation* 10(3), 671-716 (1998).
113. Gray, M. S., Pouget, A., Zemel, R. S., Nowlan, S. J., and Sejnowski, T. J., Reliable disparity estimation through selective integration, *Visual Neuroscience* 15, 511-528 (1998).
114. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Cellular and network models for intrathalamic augmenting responses during 10 HZ stimulation, *Journal of Neurophysiology* 79, 2730-2748 (1998).
115. McKeown, M. J., Makeig, S., Brown, G. G., Jung, T.-P., Kindermann, S., Bell, A. J., and Sejnowski, T. J., Analysis of fMRI by blind separation into independent spatial components, *Human Brain Mapping* 6, 1-31 (1998).
116. Bazhenov, M., Huerta, R., Rabinovich, M. I., and Sejnowski, T. J., Cooperative behavior of a chain of synaptically-coupled neurons, *Physica D* 116, 392-400 (1998).

117. Stewart-Bartlett, M., and Sejnowski, T. J., Learning viewpoint invariant face representations from visual experience in an attractor network, *Network: Computation in Neural Systems* 9(3), 399-417, (1998).
118. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski T. J., Computational models of thalamocortical augmenting responses, *Journal of Neuroscience* 18(16), 6444-6465 (1998).
119. Lin, J., Pawelzik, K., and Sejnowski, T. J., Irregular synchronous activity in stochastically coupled integrate and fire networks, *Network: Computation in Neural Systems* 9, 333-344 (1998).
120. McKeown, M. J., and Sejnowski, T. J., Independent component analysis of fMRI data: Examining the assumptions, *Human Brain Mapping* 6, 368-372 (1998).
121. McKeown, M. J., Humphries, C., Achermann, P., Borbely, A. A., and Sejnowski, T. J., A new method for detecting state changes in the EEG: Exploratory application to sleep data, *Journal of Sleep Research*, 7(Suppl.1), 48-56 (1998).
122. Zhang, K., and Sejnowski, T. J., Neuronal tuning: To sharpen or broaden? *Neural Computation* 11(1), 75-84, (1999).
123. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Self-sustained rhythmic activity in the thalamic reticular nucleus mediated by GABAA potentials, *Nature Neuroscience* 2(2), 168-174 (1999).
124. Lee, T.-W., Girolami, M., and Sejnowski, T. J., Independent component analysis using an extended infomax algorithm for mixed subgaussian and supergaussian sources, *Neural Computation* 11(2), 417-441 (1999).
125. Makeig, S., Westerfield, M., Jung, T.-P., Covington, J., Townsend, J., Sejnowski, T. J., and Courchesne, E., Functionally independent components of the late positive event-related potential during visual spatial attention, *Journal of Neuroscience* 19(7), 2665-2680 (1999).
126. Stewart-Bartlett, M., Hager, J., Ekman, P., and Sejnowski, T. J., Measuring facial expressions by computer image analysis, *Psychophysiology* 36(2), 253-263 (1999).
127. Lee, T.-W., Lewicki, M. S., Girolami, M. and Sejnowski, T. J., Blind source separation of more sources than mixtures using overcomplete representations, *IEEE Signal Processing Letters* 6(4), 87-90 (1999).
128. Zhang, K., and Sejnowski, T. J., A theory of geometric constraints on neural activity for natural three-dimensional movement, *Journal of Neuroscience* 19(8), 3122-3145 (1999).
129. Lehky, S., and Sejnowski, T. J., Seeing white: Qualia in the context of decoding population codes, *Neural Computation* 11(6), 1261-1280 (1999).
130. Houweling, A. R., Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Cortical and thalamic components of augmenting responses: A modeling study, *Neurocomputing* 26-27, 735-742 (1999).
131. van Praag, H., Christie, B. R., Sejnowski, T. J., and Gage, F. H., Running enhances long-term potentiation in mice, *Proceedings of the National Association of Sciences U.S.A.* 96 (23), 13427-13431 (1999).
132. Makeig, S., Westerfield, M., Townsend, J., Jung, T.-P., Courchesne, E., and Sejnowski, T. J., Functionally independent components of early event-related potentials in a visual spatial attention task, *Philosophical Transactions of The Royal Society: Biological Sciences* 354, 1135-44, (1999).

133. Ernst, U., Pawelzik, K., Tsodyks, M., and Sejnowski, T. J., Relation between retinotopic and orientation maps in visual cortex, *Neural Computation* 11(2), 375-379 (1999).
134. Donato, G., Stewart-Bartlett, M., Hager, J. C., Ekman, P. and Sejnowski, T. J., Classifying facial actions, *IEEE Transactions on Pattern Analysis and Machine Intelligence* 21(10), 974-989 (1999). PMID: PMC3008166
135. McKeown, M. J., Humphries, C., Iragui, V., and Sejnowski, T. J., Spatially fixed patterns account for the spike and wave components in absence seizures, *Brain Topography* 12(2), 107-16 (1999).
136. Pouget A, Deneve S, Sejnowski T. J., Frames of reference in hemineglect: a computational approach, *Progress in Brain Research* 121, 81-97 (1999).
137. Destexhe, A., McCormick, D. A., and Sejnowski T. J., Thalamic and thalamocortical mechanisms underlying 3 Hz spike-and-wave discharges, *Progress in Brain Research* 121, 81-97(1999).
138. Lee, T.-W., Girolami, M., Bell, A. J., and Sejnowski, T. J., A unifying information-theoretic framework for independent component analysis, *Computers and Mathematics with Applications* 39, 1-21 (2000).
139. Murthy, V. N., Sejnowski, T. J., and Stevens, C., Dynamics of dendritic calcium transients evoked by quantal release at excitatory hippocampal synapses, *Proceedings of the National Academy of Sciences U.S.A.* 97(2), 901-906 (2000).
140. Lewicki, M. and Sejnowski, T. J., Learning overcomplete representations, *Neural Computation* 12(2), 337-365 (2000).
141. Jung, T.-P., Humphries, C., Lee, T.-W., McKeown, M. J., Iragui, V., Makeig, S., and Sejnowski, T. J., Removing electroencephalographic artifacts by blind source separation, *Psychophysiology* 37, 163-178, (2000).
142. Makeig, S., Enghoff, S., Jung, T.-P. and Sejnowski, T. J., A natural basis for efficient brain-actuated control, *IEEE Trans Rehab Engineering* 8(2), 208-211 (2000).
143. Moortgat, K. T., Bullock, T. H., and Sejnowski, T. J., Precision of the pacemaker nucleus in a weakly electric fish: Network vs. cellular influences, *Journal of Neurophysiology* 83, 971-983 (2000).
144. Moortgat, K. T., Bullock, T. H., and Sejnowski, T. J., Gap junction effects on precision and frequency of a model pacemaker network, *Journal of Neurophysiology* 83, 984-997 (2000).
145. Eagleman, D. M., and Sejnowski, T. J., Motion integration and postdiction in visual awareness, *Science* 287, 2036-2038 (2000).
146. Fellous, J.-M., and Sejnowski, T. J., Cholinergic induction of spontaneous oscillations in the hippocampal slice in the slow (.5-2 Hz), theta (5-12 Hz) and gamma (35-70 Hz) bands, *Hippocampus* 10, 187-197 (2000).
147. Durstewitz, D., Seamans, J. K., and Sejnowski, T. J., Dopamine-mediated stabilization of delay-period activity in a network model of prefrontal cortex, *Journal of Neurophysiology* 83, 1733-1750 (2000).
148. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Spiking-bursting activity in the thalamic reticular nucleus initiates sequences of spindle oscillations in thalamic networks, *Journal of Neurophysiology* 84, 1076-1087 (2000).

149. Salinas, E., and Sejnowski, T. J., Impact of correlated synaptic input on output firing rate and variability in simple neuronal models, *Journal of Neuroscience* 20(16), 6193-6209 (2000).
150. Jung, T.-P., Makeig, S., Westerfield, M., Townsend, J., Courchesne, E., and Sejnowski, T. J., Removal of eye activity artifacts from visual event-related potentials in normal and clinical subjects, *Clinical Neurophysiology* 111(10), 1745-58 (2000).
151. Zhang, K., and Sejnowski, T. J., A universal scaling law between gray matter and white matter of cerebral cortex, *Proceedings of the National Academy of Sciences U.S.A.* 97(10), 5621-5626 (2000).
152. Lee, T.-W., Lewicki, M. S., and Sejnowski, T. J., ICA mixture models for unsupervised classification of non-Gaussian classes and automatic context switching in blind signal separation, *IEEE Transactions on Pattern Analysis and Machine Intelligence* 22(10), 1078-1089 (2000).
153. Tiesinga, P. H. E., Jose, J. V., and Sejnowski, J., Comparison of current-driven and conductance-driven neocortical model neurons with Hodgkin-Huxley voltage-gated channels, *Physical Review E* 62(6), 8413-8419 (2000).
154. Durstewitz, D., Seamans, J. K., and Sejnowski, T. J., Neurocomputational models of working memory, *Nature Neuroscience* 3, 1184-1191 (2000).
155. Christie, B. R., Franks, K., Seamans, J. K., Saga, K., and Sejnowski, T. J., Synaptic plasticity in morphologically identified CA1 stratum radiatum interneurons and projection cells, *Hippocampus* 10, 673-683 (2000).
156. Timofeev, I., Grenier, F., Bazhenov, M., Sejnowski, T. J., and Steriade, M., Origin of slow cortical oscillations in deafferented cortical slabs, *Cerebral Cortex* 10(12) 1185-1199 (2000).
157. Makeig, S., Jung, T.-P., and Sejnowski, T. J., Awareness during drowsiness: Dynamics and electrophysiological correlates, *Canadian Journal of Experimental Psychology*, 54(4) 266-273 (2000).
158. Sejnowski, T. J., and Destexhe, A., Why do we sleep?, *Brain Research* 886 (1-2) 208-223 (2000).
159. Paulsen, O., and Sejnowski, T. J., Natural patterns of activity and long-term synaptic plasticity, *Current Opinion in Neurobiology* 10, 172-179 (2000). [PMC2900254](#)
160. Wachtler, T., Lee, T. -W., and Sejnowski, T. J., Chromatic structure of natural scenes, *Journal of the Optical Society of America* 18(1) 65-77 (2001).
161. Seamans, J. K., Christie, B. Durstewitz, D., Stevens, C. F., and Sejnowski, T. J., Dopamine D1/D5 receptor modulation of excitatory synaptic inputs to layer V prefrontal cortex neurons, *Proceedings of the National Academy of Sciences U.S.A.* 98(1) 310-306 (2001).
162. Vissel, B., Royle, G. A., Christie, B. R., Schiffer, H. H., Ghetti, A., Tritto, T., Perez-Otano, I., Radcliffe, R. A., Seamans, J., Sejnowski, T. J., Wehner, J. M., Collins, A. C., O'Gorman, S., and Heinemann, S. F., The role of RNA editing of Kainate receptors in synaptic plasticity and seizures, *Neuron* 29, 217-227 (2001).
163. Brown, G. D. Yamada, S., and Sejnowski, T. J., Independent components analysis (ICA) at the neural cocktail party, *Trends in Neuroscience* 24(1), 54-63 (2001).
164. Tiesinga, P. H. E., Fellous, J.-M., Jose, J. V., and Sejnowski, T. J., Optimal information transfer in synchronized neocortical neurons, *Neurocomputing* 38(40), 397-402 (2001).

165. Fellous, J.-M., Tiesinga, P. H.E., Jose, J. V., and Sejnowski, T. J., Computational model of carbachol-induced delta, theta and gamma-like oscillations in hippocampus, *Neurocomputing* 38(40), 587-593 (2001).
166. Fellous, J.-M., Houweling, A. R., Modi, R. H., Rao, P. R. N., Tiesinga, P. H. E. and Sejnowski T. J., The frequency dependence of spike timing reliability in cortical pyramidal cells and interneurons, *Journal of Neurophysiology* 85, 1782-1787 (2001).
167. Bazhenov, M., Stopfer, M., Rabinovich, M., Abarbanel, H. D. I., Sejnowski, T. J., and Laurent, G., Model of cellular and network mechanisms for odor-evoked temporal patterning in the locust antennal lobe, *Neuron* 30, 569-581 (2001). PMID: PMC2907737
168. Bazhenov, M., Stopfer, M., Rabinovich, M., Huerta, R., Abarbanel, H. D. I., Sejnowski, T. J., and Laurent, G., Model of transient oscillatory synchronization in the locust antennal lobe, *Neuron* 30, 553-567 (2001). PMID: PMC 2905213
169. Wachtler, T., Albright, T. D., and Sejnowski, T. J., Non-local interactions in color perception: Nonlinear processing of chromatic signals from remote inducers, *Vision Research* 41, 1535-1546 (2001).
170. Wicklein, M., and Sejnowski, T. J., Perception of change in depth in the hummingbird hawkmoth *Manduca Sexta* (Sphingidae, Lepidoptera) *Neurocomputing* 38-40, 1595-1602 (2001).
171. Rao, R. P. N., Eagleman, D. M., and Sejnowski, T. J., Optimal smoothing in visual motion perception, *Neural Computation* 13(6), 1243-1253 (2001).
172. Tiesinga, P. H. E., Fellous, J.-M., Jose, J. V., and Sejnowski, T. J., Computational model of carbachol-induced delta, theta and gamma oscillations in the hippocampus, *Hippocampus* 11, 251-274 (2001).
173. Tiesinga, P. H. E., and Sejnowski, T. J., Precision of pulse-coupled networks of integrate-and-fire neurons, *Network* 12, 215-233 (2001).
174. Needleman, D. J., Tiesinga, P. H. E., and Sejnowski, T. J., Collective enhancement of precision in networks of coupled oscillators, *Physica D* 155, 324-336 (2001).
175. Timofeev, I., Bazhenov, M., Sejnowski, T. J., and Steriade, M., Contribution of intrinsic and synaptic factors in the desynchronization of thalamic oscillatory activity, *Thalamus* 1, 53-69 (2001).
176. Franks, K. M., Bartol, T. M., and Sejnowski, T. J., An MCell model of calcium dynamics and frequency-dependence of calmodulin activation in dendritic spines, *Neurocomputing* 38-40, 9-16 (2001).
177. Houweling, A. R., Modi, R. H., Ganter, P., Fellous, J.-M., and Sejnowski, T. J., Models of frequency preferences of prefrontal cortical neurons, *Neurocomputing* 38-40, 231-238 (2001).
178. Prank, K., Laer, L., Kloppstech, M., Schofl, C., Chay, T. R., Sejnowski, T. J., Brabant, G., Noise enhanced hormonal signal transduction through intracellular calcium oscillations, *Biophysical Chemistry* 91(2) 157-166 (2001).
179. Pouget, A. and Sejnowski, T. J., Simulating a lesion in a basis function model of spatial representations: Comparison with hemineglect, *Psychological Review* 108(3), 653-673 (2001).
180. Salinas, E., and Sejnowski, T. J., Correlated neuronal activity and the flow of neural information, *Nature Reviews Neuroscience* 2, 539-550 (2001). PMID: PMC2868968

181. Jung, T.-P., Makeig, S., McKeown, M. J., Bell, A. J., Lee, T.-W., and Sejnowski, T. J., Imaging brain dynamics using independent component analysis, *Proceedings of the IEEE* 89(7) 1107-1122 (2001). PMID: PMC2932458
182. Jung, T.-P., Makeig, S., Westerfield, M., Townsend, J., Courchesne, E., and Sejnowski, T. J., Analysis and visualization of single-trial event-related potentials, *Human Brain Mapping* 14(3) 166-185 (2001).
183. Rao, R. P. N., and Sejnowski, T. J., Spike-timing dependent Hebbian plasticity as temporal difference learning, *Neural Computation* 13(10), 2221-2237 (2001).
184. Destexhe, A., Rudolph, M., Fellous, J.-M., and Sejnowski, T. J., Fluctuating synaptic conductances recreate *in-vivo*-like activity in neocortical neurons, *Neuroscience* 107(1) 13-24 (2001).
185. Coenen, O.J.M.D., Arnold, M. P., Sejnowski, T. J., and Jabri, M. A., Parallel fiber coding in the cerebellum for life-long learning, *Autonomous Robots* 11, 291-297 (2001).
186. Flash, T., and Sejnowski, T. J., Computational approaches to motor control, *Current Opinion in Neurobiology* 11, 655-662 (2001). PMID: PMC2905595
187. Zhang, K., and Sejnowski, T. J., Accuracy and learning in neuronal populations. *Progress in Brain Research* 130, 333-342 (2001).
188. Salinas, E., and Sejnowski, T. J., Gain modulation in the central nervous system: Where behavior, neurophysiology and computation meet, *The Neuroscientist* 7(5) 430-440 (2001). PMID: PMC2887717
189. Tiesinga, P. H. E., Fellous, J.-M., Jose, J. V. and Sejnowski, T. J., Synchronized inhibition boosts information transfer in entrained cortical neurons, *Network: Computation in Neural Systems* 13, 41-66 (2002).
190. Makeig, S., Westerfield, M., Jung, T.-P., Enghoff, S., Townsend, J., Courchesne, E., and Sejnowski, T. J., Dynamic brain sources of visual evoked responses, *Science* 295, 690-694 (2002).
191. Duann, J.-R., Jung, T.-P., Kuo, W.-J., Yeh, T.-C., Makeig, S., Hsieh, J.-C., and Sejnowski, T. J., Single-trial variability in event-related BOLD signals, *Neuroimage* 15, 823-835 (2002).
192. Howell, F., Bazhenov, M, Rogister, P., Sejnowski, T. J., Goddard, N., Scaling a slow-wave sleep cortical network model using NEOSIM, *Neurocomputing* 44-46, 453-458 (2002).
193. Delorme, A., Makeig, S., Fabre-Thorpe, M., and Sejnowski, T. J., From single-trial EEG to brain area dynamics, *Neurocomputing* 44-46, 1057-1064 (2002).
194. Tiesinga, P. H. E., Fellous, J.-M., and Sejnowski, T. J., Attractor reliability reveals deterministic structure in neuronal spike trains, *Neural Computation* 14(7) 1629-1650 (2002).
195. Wiskott, L., and Sejnowski, T. J., Slow feature analysis: Unsupervised learning of invariances, *Neural Computation*, 14(4) 714-770 (2002).
196. Tiesinga, P. H. E., Fellous, J.-M., and Sejnowski, T. J., Spike-time reliability of periodically driven integrate-and-fire neurons, *Neurocomputing* 44-46, 195-200 (2002).
197. Timofeev, I., Bazhenov, M., Sejnowski, T. J., and Steriade, M., Cortical hyperpolarization-activated depolarizing current takes part in the generation of focal paroxysmal activities *Proceedings of the National Academy of Sciences U.S.A.* 99(14) 9533-9537 (2002).

198. Eagleman, D. M., and Sejnowski, T. J., Untangling spatial from temporal illusions, *Trends in Neuroscience* 25(6) (2002).
199. Sample, P. A., Goldbaum, M. H., Chan, K., Boden, C., Lee, T.-W., Vasile, C., Boehm, A. G., Sejnowski, T. J., Johnson, C. A., and Weinreb, R. N., Using machine learning classifiers to identify glaucomatous change earlier in standard visual fields, *Investigative Ophthalmology and Visual Science* 43(8) 2660-2665 (2002).
200. Chan, K., Lee, T.-W., and Sejnowski, T. J., Variational learning of clusters of undercomplete nonsymmetric independent components, *Journal of Machine Learning Research* 3, 99-114 (2002).
201. Chan, K., Lee, T.-W., Sample, P. A., Goldbaum, M. H., Weinreb, R. N., and Sejnowski, T. J., Comparison of machine learning and traditional classifiers in glaucoma diagnosis, *IEEE Transactions on Biomedical Engineering* 49(9) 963-974 (2002).
202. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Model of thalamocortical slow-wave sleep oscillations and transitions to activated states, *Journal of Neuroscience* 22(19) 8691-8704 (2002).
203. Stewart-Bartlett, M., Movellan, J. B., and Sejnowski, T. J., Face recognition by independent component analysis, *IEEE Transactions on Neural Networks* 13(6) 1450-1464 (2002). PMID: PMC2898524
204. Salinas, E., and Sejnowski, T. J., Integrate-and-fire neurons driven by correlated stochastic input, *Neural Computation* 14(9) 2111-2155 (2002). PMID: PMC2948213
205. Houweling, A. R., Bazhenov, M., Timofeev, I., Grenier, F., Steriade, M., and Sejnowski, T. J., Frequency-selective augmenting responses by short-term synaptic depression in cat neocortex, *Journal of Physiology* 542(2) 599-617 (2002). PMID: PMC2316151
206. Timofeev, I., Grenier, F., Bazhenov, M., Houweling, A. R., Sejnowski, T. J., and Steriade, M., Short- and medium-term plasticity associated with augmenting responses in cortical slabs and spindles in intact cortex of cats *in vivo*, *Journal of Physiology* 542(2) 583-598 (2002). PMID: PMC2290423
207. Franks, K. M., and Sejnowski, T. J., Complexity of calcium signaling in synaptic spines, *Bioessays* 12(12) 1130-1144 (2002). PMID: PMC2944017
208. Destexhe, A., and Sejnowski, T. J., The initiation of bursts in thalamic neurons and the cortical control of thalamic sensitivity, *Philosophical Transactions of the Royal Society of London Series B*, 357: 1649-1657 (2002). PMID: PMC1693073
209. Lee, T.-W., Wachtler, T. and Sejnowski T. J., Color opponency is an efficient representation of spectral properties in natural scenes, *Vision Research*, 42, 2095-2103 (2002). PMID: PMC29401124
210. Suri, R. E., and Sejnowski, T. J., Spike propagation synchronized by temporally-asymmetric Hebbian learning, *Biological Cybernetics* 87, 440-445 (2002). PMID: PMC2944018
211. Franks, K. M., Bartol Jr., T. M., and Sejnowski, T. J., A Monte Carlo model reveals independent signaling at central glutamatergic synapses, *Biophysical Journal* 83, 2333-2348 (2002). PMID: PMC1302323
212. Bowd, C., Chan, K., Zangwill, L. M., Goldbaum, M. H., Lee, T.-W., Sejnowski, T. J., and Weinreb R. N., Comparing Neural Networks and Linear Discriminant Functions for Glaucoma Detection Using Confocal Scanning Laser Ophthalmoscopy of the Optic Disc, *Invest. Ophthalmol. Vis. Sci.*, Nov 2002, 43: 3444-3454. PMID: PMC2780344

213. Kreuz-Delgado, K., Murray, J. F., Rao, B. D., Engan, K., Lee, T.-W., Sejnowski, T. J., Dictionary learning algorithms for sparse representation, *Neural Computation* 15(2) 349-396 (2003).
214. Wachtler, T., Sejnowski, T. J., and Albright, T. D., Representation of Color Stimuli in Awake Macaque Primary Visual Cortex, *Neuron*, 37, 681-691 (2003). PMID: PMC2948212
215. Doi, E., Inui, T., Lee, T.-W., Wachtler, T., and Sejnowski, T. J., Spatio-chromatic receptive field properties derived from information-theoretic analyses of cone mosaic responses to natural scenes, *Neural Computation* 15(2) 397-417 (2003). PMID: PMC2928818
216. Neubig, M., Destexhe, A., and Sejnowski, T. J., Variability of quantal synaptic currents in thalamocortical neurons, *Thalamus and Related Systems* 2, 153-168 (2003). PMID: PMC2780344
217. Thomas, P. J., Tiesinga, P. H. E., Fellous, J.-M., and Sejnowski, T. J., Reliability and bifurcation in neurons driven by multiple sinusoids, *Neurocomputing* (52-54) 955-961 (2003). PMID: PMC2944254
218. Kretzberg, J., Sejnowski, T. J., Warzecha, A.-K., and Egelhaaf, M., Variability of postsynaptic responses depends non-linearly on the number of synaptic inputs, *Neurocomputing* (52-54) 313-320 (2003). PMID: PMC2944257
219. Schreiber, S., Fellous, J.-M., Whitmer, D., Tiesinga, P., and Sejnowski, T. J., A new correlation-based measure of spike timing reliability, *Neurocomputing* (52-54) 925-931 (2003). PMID: PMC2926980
220. Rao, R.P.N. and Sejnowski, T. J., Self-organizing neural systems based on predictive learning, *Philosophical Transactions of The Royal Society* 361(1807) 1149-1175 (2003).
221. Franks, K. M., Stevens, C. F., and Sejnowski, T. J., Independent sources of quantal variability at single glutamatergic synapses, *Journal of Neuroscience* 23(8) 3186-3195 (2003).
222. Rao, R.P.N. and Sejnowski, T. J., Complex cell-like directions selectivity through spike-timing dependent plasticity, *Journal of Research of the Institution of Electronics and Telecommunications* 49(2-3) 97-111 (2003). PMID: PMC2970931
223. Laughlin, S. B., and Sejnowski, T. J., Communication in neuronal networks, *Science* 301, 1870-1874 (2003). PMID: PMC2930149
224. Destexhe, A., and Sejnowski, T. J., Interactions between membrane conductances underlying thalamocortical slow-wave oscillations, *Physiological Reviews* 83, 1401-1453 (2003). PMID: PMC2927823
225. Fellous, J.-M. and Sejnowski, T. J., Regulation of persistent activity by background inhibition in an *in vitro* model of a cortical microcircuit, *Cerebral Cortex* 13, 1232-1241 (2003). PMID: PMC2928820
226. Anemuller, J., Sejnowski, T. J., and Makeig, S., Complex independent component analysis of frequency-domain electroencephalographic data, *Neural Networks* 16, 1311-1323 (2003). PMID: PMC2925861
227. Fellous, J.-M., Rudolph, M., Destexhe, A., and Sejnowski, T. J., Synaptic background noise controls the input/output characteristics of single cells in an *in vitro* model of *in vivo* activity, *Neuroscience* 122, 811-829 (2003).
228. Eagleman, D. M., and Sejnowski, T. J., The line-motion illusion can be reversed by motion signals after the line disappears, *Perception* 32(8) 963-968 (2003). PMID: PMC2928888

229. McKeown, M. J., Hansen, L. K., and Sejnowski, T. J., Independent component analysis of functional MRI: What is signal and what is noise? *Current Opinion in Neurobiology* 13, 620-629 (2003). PMID: PMC 2925426
230. Schreiber, S., Fellous, J.-M., Tiesinga, P., and Sejnowski, T. J., Influence of ionic conductances on spike timing reliability of cortical neurons for suprathreshold rhythmic inputs, *Journal of Neurophysiology* 91, 194-205 (2004). PMID: PMC2928819
231. Tiesinga, P. H. E., and Sejnowski, T. J., Rapid temporal modulation of synchrony by competition in cortical interneuron networks, *Neural Computation* 16:2, 251-275 (2004). PMID: PMC2868970
232. Yates, P. A., Holub, A. D., McLaughlin, T., Sejnowski, T. J., and O'Leary, D. D. M., Computational modeling of retinotopic map development to define contributions of EphA-EphrinA gradients, axon-axon interactions, and patterned activity, *Journal of Neurobiology* 59, 95-113 (2004). PMID: PMC2927824
233. Fellous, J.-M., Tiesinga, P. H.E., Thomas, P. J., and Sejnowski, T. J., Discovering spike patterns in neuronal responses, *Journal of Neuroscience* 24(12) 2989-3001 (2004). PMID: PMC2928855
234. Eagleman, D. M., Jacobson, J. E., and Sejnowski, T. J., Perceived luminance depends on temporal context, *Nature* 428,854-856 (2004). PMID: PMC 2927826
235. Shon, A. P., Rao, R.P.N., and Sejnowski, T. J., Motion detection and prediction through spike-timing dependent plasticity, *Network* 15, 179-198 (2004). PMID: PMC2925425
236. Tiesinga, P. H. E., Fellous, J.-M., Salinas, E., Jose, J.V., and Sejnowski, T. J., Synchronization as a mechanism for attentional gain modulation, *Neurocomputing* 58-60, 641-646 (2004). PMID: PMC2929026
237. Makeig, S., Delorme, A., Westerfield, M., Jung, T.-P., Townsend, J., Courchesne, E., and Sejnowski, T. J., Electroencephalographic brain dynamics following manually responded visual targets, *Public Library of Science, Biology* 2(6) 747-762(2004).
238. Schwartz, O., Movellan, J. R., Wachtler, T., Albright, T. D., and Sejnowski, T. J., Spike count distributions, factorizability, and contextual effects in area V1, *Neurocomputing* 58-60, 893-900 (2004). PMID: PMC2992349
239. Arnold, M., Sejnowski, T. J., Hammerstrom, D., and Jabri, M., Neural systems integration, *Neurocomputing* 58-60, 1123-1128 (2004). PMID: 2934909
240. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Potassium model for slow (2-3 Hz) *in vivo* neocortical paroxysmal oscillations, *Journal of Neurophysiology* 92, 1116-1132 (2004). PMID: PMC2925854
241. Zangwill, L. M., Chan, K. L., Bowd, C., Hao, J., Lee, T.-W., Weinreb, R. N., Sejnowski, T. J., and Goldbaum, M. H., Heidelberg retina tomography measurements of the optic disc and parapapillary retina for detecting glaucoma analyzed by machine learning classifiers, *Investigative Ophthalmology and Visual Science*, 45(9) 3144-3151 (2004). PMID: PMC2928389
242. Bowd, C., Zangwill, L. M., Medeiros, F. A., Hao, J., Chan, K. L., Lee, T.-W., Sejnowski, T. J., Goldbaum, M. H., Sample, P. A., Crowston, J. G., and Weinreb, R. N., Confocal scanning laser ophthalmoscopy classifiers and stereophotograph evaluation for prediction of visual field abnormalities in glaucoma-suspect eyes, *Investigative Ophthalmology and Visual Science*, 45(7) 2255-2262 (2004). PMID: PMC2928388

243. Fuentealba, P., Crochet, S., Timofeev, I., Bazhenov, M., Sejnowski, T. J., and Steriade, M., Experimental evidence and modeling studies support a synchronizing role for electrical coupling in the cat thalamic reticular neurons *in vivo*, *European Journal of Neuroscience* 20, 111-119 (2004). PMID: PMC2905213
244. Casanova, H., Bartol, T., Berman, F., Birnbaum, A., Dongarra, J., Ellisman, M., Faerman, M., Gockay, E., Miller, M., Obertelli, G., Pomerantz, S., Sejnowski, T. J., Stiles, J., Wolski, R. The Virtual Instrument: Support for Grid-enabled Scientific Simulations, *International Journal of High Performance Computing Applications*, 18(1) 3-17 (2004). PMID: PMC 2916200
245. Sample, P. A., Chan, K., Boden, C., Lee, T.-W., Blumenthal, E. Z., Weinreb, R. N., Bernd, A., Pascual, J., Hao, J., Sejnowski, T. J., and Goldbaum, M. H., Using unsupervised learning with variational Bayesian mixture of factor analysis to identify patterns of glaucomatous visual field defects, *Investigative Ophthalmology and Visual Science* 45(8) 2596-2605 (2004). PMID: PMC 2927843
246. Bowd, C., Medeiros, F. A., Zhang, Z., Zangwill, Hao, J., L. M., Lee, T.-W., Sejnowski, T. J., Weinreb, R. N., Goldbaum, M. H., Relevance vector machine and support vector machine classifier analysis of scanning laser polarimetry retinal nerve fiber layer measurements, *Investigative Ophthalmology and Visual Science* 46(4) 1322-1329 (2005). PMID: PMC2928387
247. Tiesinga, P. H. E., Fellous, J.-M., Salinas, E., Jose, J. V., and Sejnowski, T. J., Inhibitory synchrony as a mechanism for attentional gain modulation, *Journal of Physiology (Paris)* 98, 296-314, 2004. PMID: PMC2872773
248. Houweling, A. R., Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Homeostatic synaptic plasticity can explain post-traumatic epileptogenesis in chronically isolated neocortex, *Cerebral Cortex* 15, 834-845 (2005). PMID: PMC2915841
249. Lehky, S. R., Sejnowski, T. J., and Desimone, R., Selectivity and sparseness in the responses of striate complex cell, *Vision Research*, 45, 57-73 (2005). PMID: PMC2915833
250. Fuentealba, P. Timofeev, I, Bazhenov, M., Sejnowski, T. J., and Steriade, M., Membrane bistability in thalamic reticular neurons during spindle oscillations, *Journal of Neurophysiology* 93, 294-304 (2005). PMID: PMC2915789
251. Bazhenov, M., Stopfer, M., Sejnowski, T. J., and Laurent, G., Fast odor learning improves reliability of odor responses in the locust antennal lobe, *Neuron* 49, 483-492 (2005). PMID: PMC2905210
252. Coggan, J. S., Bartol, T. M., Esquenazi, E., Stiles, J. R., Lamont, S., Martone, M. E., Berg, D. K., Ellisman, M. H., and Sejnowski, T. J., Evidence for ectopic neurotransmission at a neuronal synapse, *Science*, 39, 446-451 (2005). PMID: PMC2915764
253. Prank, K., Schulze, E., Eckert, O., Nattkemper, T. W., Bettendorf, M., Maser-Gluth, C., Sejnowski, T. J., Grote, A., Penner, E., von zur Muehlen, A., and Brabant, G., Machine learning approaches for phenotype-genotype mapping: Predicting heterozygous mutations in the CYP21B gene from steroid profiles, *European Journal of Endocrinology*, 153(2), 301-305 (2005). PMID: PMC2909743
254. Goldbaum, M., Sample, P. A., Zhang, Z., Chan, K., Hao, J, Lee, T.-W., Boden, C., Bourne, R., Zangwill, L. A., Sejnowski, T., Spinak, D., and Weinreb, R. N., Using unsupervised learning with independent component analysis to identify patterns of glaucomatous visual field defects, *Investigative Ophthalmology and Visual Science*, 46(10):3676-83 (2005). PMID: PMC1447578
255. Sample, P. A., Boden, C., Zhang, Z., Pascual, J., Lee, T.-W., Zangwill, L. A., Weinreb, R. N., Crowston, J. G., Hoffmann, E. M., Medeiros, F. A., Sejnowski, T., and Goldbaum, M., Unsupervised machine learning with independent component analysis to identify areas of progression in

- glaucomatous visual fields, *Investigative Ophthalmology and Visual Science* 46(10):3684-92 (2005). PMID: PMC1832121
256. Frohlich, F., Bazhenov, M., Timofeev, I., Sejnowski, T. J., Maintenance and termination of neocortical oscillations by dynamic modulation of intrinsic and synaptic excitability, *Thalamus and Related Systems* 3, 147-156 (2005). PMID: PMC2885743
 257. Kerr, R. A., Levine, H., Sejnowski, T. J., and Rappel, W.-J., Cell division accuracy in a stochastic model of min oscillations in *Escherichia coli*, *Proceedings of the National Academy of Sciences U.S.A* 103: 347-352, (2006). PMID: PMC1326155
 258. Frohlich, F., Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Slow state transitions of sustained neural oscillations by activity-dependent modulation of intrinsic excitability, *The Journal of Neuroscience* 26: 6153 – 6162 (2006). PMID: PMC29157660
 259. Anemuller, J., Duann, J.-R., Sejnowski, T. J., and Makeig, S., Spatio-temporal dynamics in fMRI recordings revealed with complex independent component analysis, *Neurocomputing* 69: 1502-1512, (2006). PMID: PMC2916201
 260. Vucinic, D., Bartol, T. M., and Sejnowski, T. J., Hybrid reflecting objectives for functional multiphoton fluorescence microscopy in turbid media, *Optics Letters* 31, 2557-2449 (2006). PMID: PMC2916932
 261. Prescott, A.P., Ratte, S., De Koninck, Y., and Sejnowski, T. J., Nonlinear interaction between shunting and adaptation controls a switch between integration and coincidence detection in pyramidal neurons, *Journal of Neuroscience* 26, 9084-9097 (2006). PMID: PMC2913017
 262. Mishra, J., Fellous, J.-M., and Sejnowski, T.J., Selective attention through phase relationship of excitatory and inhibitory input synchrony in a model cortical neuron, *Neural Network* 19, 1329-1346 (2006). PMID: PMC1815390
 263. Schwartz, O., Sejnowski, T. J., and Dayan, P., Soft mixer assignment in a hierarchical generative model of natural scene statistics, *Neural Computation* 18, 2680-2718 (2006). PMID: PMC2915771
 264. Prescott, S. A., Sejnowski, T. J., De Koninck, Y., Reduction of anion reversal potential subverts the inhibitory control of firing rate in spinal lamina I neurons: towards a biophysical basis for neuropathic pain, *Molecular Pain* 2, 32 (2006). PMID: PMC1624821
 265. Paulsen, O., and Sejnowski, T. J., From invertebrate olfaction to human cognition: emerging functions of synchronized oscillatory activity, *Journal of Neuroscience* 26: 1661-62 (2006). PMID: PMC2911952
 266. Sejnowski, T.J. and O. Paulsen, Network oscillations: Emerging computational principles. *J. Neuroscience* 26: 1673-1676 (2006). PMID: PMC2915831
 267. Siegel, R. M., Duann, J.-R., Jung, T.-P., and Sejnowski, T. J., Spatio-temporal dynamics of the functional architecture for gain fields in inferior parietal lobule of behaving monkey, *Cerebral Cortex* 17, 378-390 (2007). PMID: PMC19905020
 268. Mishra, J., Martinez, A., Sejnowski, T. J., Hillyard, S. A., Early cross-modal interactions in auditory and visual cortex underlie a sound-induced visual illusion, *Journal of Neuroscience* 27, 4120-4131 (2007). PMID: PMC2905511
 269. Eagleman, D. M. and Sejnowski, T. J., Motion signals bias localization judgments: a unified explanation for the flash-lag, flash-drag, flash-jump and Fröhlich illusions, *Journal of Vision*, 7, (4) 3, 1-12 (2007). PMID: PMC2276694

270. Vucinic, D., Sejnowski, T. J., A compact multiphoton imaging system for the recording of fast neuronal activity *PLoS ONE*, 2(8): e699, (2007). PMID: PMC1933593
271. Tour, O., Adams, S. R., Kerr, R. A., Meijer, R. M., Sejnowski, T. J., Tsien, R. W. Calcium-green-FIAsh: a genetically targeted small molecule calcium indicator, *Nature Chemical Biology* 3(7): 423-3 (2007). PMID: PMC2909385
272. Stiefel, K. M. and Sejnowski, T. J., Mapping function onto neuronal morphology, *Journal of Neurophysiology* 98: 513-526, (2007). PMID: PMC2905512
273. Wachtler, T., Doi, E., Lee, T. W., and Sejnowski, T. J., Cone selectivity derived from the responses of the retinal cone mosaic to natural scenes, *Journal of Vision* 7(8):6, 1-14 (2007). PMID: PMC2905593
274. Delorme, A., Sejnowski, T. J., Makeig, S., Enhanced Detection of Artifacts in EEG Data Using Higher-Order Statistics and Independent Component Analysis, *NeuroImage* 34: 1443-1449 (2007). PMID: PMC2895624
275. Englitz, B., Stiefel, K. M., Sejnowski, T. J., Irregular firing of isolated cortical interneurons *in vitro* driven by intrinsic stochastic mechanisms, *Neural Computation* 20(1): 44-64 (2008). PMID: PMC2730502
276. Chen, E., Stiefel, K. M., Sejnowski, T. J., Bullock, T. H., Model of traveling waves in a coral nerve network, *Journal of Comparative Physiology A*, 194(2):195-200 (2008). PMID: PMC2862905
277. Tiesinga, P., Fellous, J.M., Sejnowski, T. J. Regulation of spike timing in visual cortical circuits. *Nature Review of Neuroscience*, 9: 97-109 (2008). PMID: PMC2868969
278. Frohlich, F., Bazhenov, and Sejnowski, T.J., Pathological effect of homeostatic synaptic scaling on network dynamics in diseases of the cortex. *Journal of Neuroscience*, 28(7): 1709-1920, (2008). PMID: PMC2882860
279. Finelli, L.A., Haney, S., Bazhenov, M., Stopfer, M., Sejnowski, T.J., Synaptic learning rules and sparse coding in a model sensory system, *Public Library of Science Computational Biology*, 4(4):e1000062. doi:10.1371/journal.pcbi.1000062, (2008). PMID: PMC2278376
280. Keller, D. X., Franks, K. M., Bartol, T. M., and Sejnowski, T. J., Calmodulin activation by calcium transients in the postsynaptic density of dendritic spines, *Public Library of Science ONE* 3(4): e2045. doi:10.1371/. PMID: PMC2312328, (2008). PMID: PMC2312328
281. Lopreore, C.L. , Bartol, T.M., Coggan, J.S., Keller, D.X., Sosinsky, G.E., Ellisman, M.H., Sejnowski, T.J., Computational modeling of 3D electrodiffusion in biological systems: Application to the node of Ranvier, *Biophysical Journal* 95(6): 2624-2635, (2008). PMID: PMC2527256
282. Low, P. S., Shank, S. S., Sejnowski, T. J., Margoliash, D., Mammalian-like features of sleep structure in zebra finches. *Proceedings of the National Academy of Sciences U.S.A.*, 105(26): 9081-9086 (2008). PMID: PMC2440357
283. Prescott, S.A., De Koninck, Y., Sejnowski, T.J. Biophysical Basis for Three Distinct Dynamical Mechanisms of Action Potential Initiation. *Public Library of Science Computational Biology* 4(10): e1000198 (2008). PMID: PMC2551735
284. Kerr, R. A., Bartol, T. M., Kaminsky, B., Dittrich, M., Chang, J.-C. J., Baden, S., Sejnowski, T. J., Stiles, J. R., Fast Monte Carlo simulation methods for biological reaction-diffusion systems in

- solution and on surfaces, *SIAM Journal on Scientific Computing* 30(6) 3126-3149 (2008). PMID: PMC2819163
285. Frohlich, F., Bazhenov, M., Iragui-Madoz, V., Sejnowski, T.J. Potassium dynamics in the epileptic cortex: New insights on an old topic. *The Neuroscientist* 14 (5):422–433, (2008). PMID: PMC2854295
 286. Sejnowski, T. J., Bazhenov, M., Timofeev, I., Frohlich, F. Cellular and network mechanisms of electrographic seizures, *Drug Discovery Today: Disease Models* 5 (1): 45-57 (2008). PMID: PMC2633479
 287. Prescott, S.A., Ratte, S., De Koninck, Y., Sejnowski, T.J. Pyramidal neurons switch from integrators *in vitro* to resonators under *in vivo*-like conditions. *Journal of Neurophysiology* 100: 3030-3042 (2008). PMID: PMC2604842
 288. Prescott, S.A., Sejnowski, T.J. Spike-rate coding and spike-time coding are affected oppositely by different adaptation mechanisms, *Journal of Neuroscience* 28 (50):13649–13661 (2008). PMID: PMC2819463
 289. Stiefel K. M., Gutkin B. S., Sejnowski T. J., Cholinergic neuromodulation changes phase response curve shape and type in cortical pyramidal neurons. *PLoS ONE*. 3(12):e3947. Epub (2008). PMID: PMC2596483
 290. Goldbaum M.H., Falkenstein I., Kozak I., Hao J., Bartsch D.U., Sejnowski T., Freeman W.R., Analysis with support vector machine shows HIV-positive subjects without infectious retinitis have mfERG deficiencies compared to normal eyes. *Transactions of the American Ophthalmological Society* 106:196-205 (2008) PMID: PMC264643
 291. Hao, J., Attias, H., Nagarajan, S., Lee, T., and Sejnowski, T. J., Speech Enhancement, Gain, and Noise Spectrum Adaptation Using Approximate Bayesian Estimation, *IEEE Transactions on Audio, speech and Language Processing* 17 (1): 24-37 (2009). PMID: PMC2860321
 292. Stiefel, K. M., Gutkin, B. S., Sejnowski, T. J. The effects of cholinergic neuromodulation on neuronal phase-response curves of modeled cortical neurons, *Journal of Computational Neuroscience* 26: 289–301 (2009). PMID: PMC2857973
 293. Schwartz, O., Sejnowski, T. J., and Dayan, P., Perceptual organization in the tilt illusion, *Journal of Vision* 9(4):19, 1-20 (2009). PMID: PMC2852324
 294. Meltzoff, A. N., Kuhl, P. K., Movellan, J., Sejnowski, T. J., Foundations for a new science of learning, *Science* 325: 284-288 (2009). PMID: PMC2776823
 295. Behrens, M.M., Sejnowski, T. J., Does schizophrenia arise from oxidative dysregulation of parvalbumin-interneurons in the developing cortex? *Neuropharmacology* 57: 193-200 (2009). PMID: PMC2739086
 296. Conner, J.M., Franks, K.M., Titterness, A.K., Merrill, D.A., Christie, B.R., Sejnowski, T. J., Tuszyński, M.H., NGF is essential for hippocampal plasticity and learning, *J. Neuroscience* 29 (35): 10883-10889 (2009) PMID: PMC2765804
 297. Tiesinga, P., Sejnowski, T. J., Cortical enlightenment: Are gamma oscillations driven by ING or PING? *Neuron* 63: 727-732 (2009) PMID: PMC2778762
 298. Makeig, S., Gramann, K., Jung, T. P., Sejnowski, T. J., Poizner, H., Linking brain, mind, and behavior, *International Journal of Psychophysiology* 73: 95-100 (2009). PMID: PMC2796545

299. Peterson, D. A., Elliott, C., Song, D. D., Makeig, S., Sejnowski, T. J., Poizner, H., Probabilistic reversal learning is impaired in Parkinson's disease, *Neuroscience* 163: 1092-1101 (2009). PMID: PMC2760640
300. Tanaka, H., Sejnowski, T. J., Krakauer, J.W., Adaptation to visuomotor rotation through interaction between posterior parietal and motor cortical areas, *Journal of Neurophysiology* 102: 2921-2932 (2009). PMID: PMC2777823
301. Volman, V., Levine, H., Ben-Jacob, E., Sejnowski, T. J., Locally balanced dendritic integration by short-term synaptic plasticity and active dendritic conductance, *Journal of Neurophysiology* 102: 3234-3250 (2009). PMID: PMC2804429
302. Moldakarimov, S.B., Bazhenov, M., Sejnowski, T. J., Representation sharpening can explain perceptual priming, *Neural Computation* 22 (5): 1312-1332 (2010). PMID: PMC2862237
303. Peterson, D. A., Sejnowski, T. J., Poizner, H., Convergent evidence for abnormal striatal synaptic plasticity in dystonia, *Neurobiology of Disease* 37 (3): 558-573 (2010). PMID: PMC2846420
304. Drion, G., Bonjean, M., Waroux, O., Scuvée-Moreau, J., Liégeois, J.-F., Sejnowski, T. J., Sepulchre, R., Seutin, V., A specific role for M-type channels in rat dopaminergic neurons, *European Journal of Neuroscience* 31 (5): 827-835 (2010). PMID: PMC2861736
305. Wang, H.P., Spencer, D., Fellous, J.-M., Sejnowski, T. J., Synchrony of Thalamocortical Inputs Maximizes Cortical Reliability, *Science* 328: 106-109 (2010). PMID: PMC2859205
306. Stiefel, K. M., Fellous, J.-M., Thomas, P. J., Sejnowski, T. J., Intrinsic subthreshold oscillations extend the influence of inhibitory synaptic inputs on cortical pyramidal neurons, *European Journal of Neuroscience* 31 (6): 1019-1026 (2010). PMID: PMC2862239. Corrigendum 31(8): 1509 (2010)
307. Moldakarimov, S.B., Bazhenov, M., Sejnowski, T. J., Perceptual Priming Leads to Reduction of Gamma Frequency Oscillations, *Proceedings of the National Academy of Sciences USA* 107 (12) 5640-5645 (2010). PMID: PMC2851786
308. Hao, J., Lee, I., Lee, T.W., Sejnowski, T. J., Independent vector analysis for source separation using a mixture of Gaussians prior, *Neural Computation*, 22 (6): 1646-1673 (2010). PMID: PMC287896
309. Modchang, C., Nadkarni, S., Bartol, T. M., Triampo, W., Sejnowski, T. J., Levine, H., Rappel, W.-J., A comparison of deterministic and stochastic simulations of neuronal vesicle release models, *Physical Biology*, 7, 026008 (2010). PMID: PMC2892017
310. Hasenstaub, A., Otte, S., Callaway, E., Sejnowski, T. J., Metabolic cost as a unifying principle governing neuronal biophysics, *Proceedings of the National Academies of Sciences USA* 107: 12329-12334 (2010). PMID: PMC27901447
311. Nelson, J.D., McKenzie, C.R.M., Cottrell, G.W., Sejnowski, T. J., Experience-matters: Information acquisition optimizes probability gain, *Psychological Science* 21 (7): 960-969 (2010). PMID: PMC926803
312. Frohlich, F., Sejnowski, T. J., Bazhenov, M., Network bistability mediates spontaneous transitions between normal and pathological brain states, *Journal of Neuroscience* 30(32): 10734-10743 (2010). PMID: PMC3025314
313. Coggan, J. S., Prescott, S. A. Bartol, T. M., Sejnowski, T. J., Imbalance of ionic conductances can explain diverse symptoms of demyelination, *Proceedings of the National Academies of Sciences USA*, 107: 20602-20609 (2010). Inaugural article. PMID: PMC2996432

314. Tiesinga, P. H. E., Sejnowski, T. J., Mechanisms for phase shifting in cortical networks and their role in communication through coherence, *Frontiers in Human Neuroscience* 4:196, 1-14, doi: 10.3389/fnhum.2010.00196 (2010). PMID: PMC2987601
315. Volman, V., Levine, H., Sejnowski, T. J., Shunting inhibition controls the gain modulation mediated by asynchronous neurotransmitter release in early development, *Public Library of Science Computational Biology* 6 (11): e1000973 (2010). PMID: PMC2978317
316. Nadkarni, S., Bartol, T.M., Sejnowski, T. J., Levine, H., Modelling vesicular release at hippocampal synapses, *Public Library of Science Computational Biology* 6(11): e1000983 (2010). PMID: PMC2978677
317. Miller, K. J., Hermes, D., Honey, C. J., Sharma, M., Rao, R. P. N., den Nijs, M., Fetz, E. E., Sejnowski, T. J., Hebb, A. O., Ojemann, J. G., Makeig, S., Leuthardt, E. C., Dynamic modulation of local population activity by rhythm phase in human occipital cortex during a visual search task, *Frontiers in Human Neuroscience* 4:197. doi: 10.3389/fnhum.2010.00197 (2010). PMID: PMC2990655
318. Hao, J., Lee, T.W., Sejnowski, T. J., Speech enhancement using Gaussian scale mixture models, *IEEE Transactions on Audio, Speech and Language Processing* 18, 1127-1136 (2010). PMID: PMC3045111
319. Hill, E.S, Moore-Kochlacs, C., Vasireddi, S. K., Sejnowski, T. J., Frost, W.N., Validation of Independent Component Analysis (ICA) for rapid spike sorting of optical recording data, *Journal of Neurophysiology* 104: 3721-3731 (2010). PMID: PMC3007652
320. Peterson, D.A., Lotz, D.T., Halgren, E., Sejnowski, T. J., Poizner, H., Choice modulates the neural dynamics of prediction error processing during rewarded learning, *NeuroImage* 54, 1385-1394 (2011). PMID: PMC2997183
321. Romani, S., Sejnowski, T. J., Tsodyks, M., Intracellular Dynamics of Virtual Place Cells, *Neural Computation* 23: 651-655 (2011). PMID: PMC3161172
322. Bonjean, M., Baker, T., Lemieux, M., Timofeev, I., Sejnowski, T. J., Bazhenov, M., Corticothalamic Feedback Controls Sleep Spindle Duration In Vivo, *Journal of Neuroscience*, 31, 9124-9134 (2011). PMID: PMC3131502
323. Troups, J.V., Fellous, J.-M., Thomas, P., Sejnowski, T. J., Tiesinga, P.H., Finding the event structure of neuronal spike trains, *Neural Computation*, 23, 2169-2208 (2011). PMID: PMC3220920
324. Volman, V., Sejnowski, T. J., Bazhenov, M., Topological basis of epileptogenesis in a model of severe cortical trauma, *Journal of Neurophysiology*, 106, 1933-1942 (2011). PMID: PMC3191829
325. Coggan, J. S., Ocker, G., Sejnowski, T. J., Prescott, S. A., Explaining pathological changes in axonal excitability through dynamical analysis of conductance-based models, *Journal of Neural Engineering*, 8, 065002 (2011). PMID: PMC3226740
326. Dang-Vu, T.T., Bonjean, M., Schabus, M., Boly, M., Darsaud, A., Desseilles, M., Degueldre, C., Balteau, E., Phillips, C., Luxen, A., Sejnowski, T. J., Maquet, P., Sound Processing by the Human Brain Persists During Sleep but is Disrupted by Spontaneous Spindles, *Proceedings of the National Academy of Sciences of the USA*, 108, 15438-15443 (2011). PMID: PMC3174676
327. Volman, V., Bazhenov, M., Sejnowski, T. J., Pattern of trauma determines the threshold for epileptic activity in the model of cortical deafferentation, *Proceedings of the National Academies of Sciences USA*, 108, 15402-15407 (2011). PMID: PMC3174624

328. Yu, T., Sejnowski, T. J., Cauwenberghs, G., Biophysical Neural Spiking, Bursting, and Excitability Dynamics in Reconfigurable Analog VLSI, *IEEE Transactions on Biomedical Circuits and Systems*, 5: 420-429, 2011. PMID: PMC3251010
329. Wei, H., Bonjean, M., Petry, H. M., Sejnowski, T. J., Bickford, M. E., Thalamic Burst Firing Propensity: A Comparison of the Dorsal Lateral Geniculate and Pulvinar Nuclei in the Tree Shrew (*Tupaia belangeri*), *Journal of Neuroscience*, 31: 17287–17299 (2011). PMID: PMC3236686
330. Volman, V., Behrens, M. M., Sejnowski, T. J., Downregulation of parvalbumin at cortical GABA synapses reduces network gamma oscillatory activity, *Journal of Neuroscience*, 31: 18137-18148 (2011). PMID: PMC3257321
331. Tanaka, H., Krakauer, J. W., Sejnowski, T. J., Generalization and Multi-Rate Models of Motor Adaptation, *Neural Computation* 24, 939-966 (2012). PMID: PMC3420803
332. Bonjean, M., Baker, T., Bazhenov, M., Cash, S., Halgren, E., Sejnowski, T., Interactions between core and matrix thalamocortical projections in human sleep spindle synchronization, *Journal of Neuroscience*, 32: 5250-5263 (2012). PMID: PMC3342310
333. Powell, S.B., Sejnowski, T.J., and Behrens, M., Behavioral and neurochemical consequences of cortical oxidative stress on parvalbumin-interneuron maturation in rodent models of schizophrenia, *Neuropharmacology*, 62: 1322-31 (2012). PMID: PMC3106213
334. Ramirez-Moreno, D. F., Sejnowski, T. J., A computational model for the modulation of the prepulse inhibition of the acoustic startle reflex, *Biological Cybernetics* 106, 169–176, (2012). PMID: PMC3349350
335. Cortes, J. M., Marinazzo, D., Series, P., Oram, M. W., Sejnowski, T. J., van Rossum, M. C. W., The effect of neural adaptation on population coding accuracy, *Journal of Computational Neuroscience*, 32, 387-402 (2012). PMID: PMC3367001
336. Volman, V., Bazhenov, M., Sejnowski, T. J. Computational models of neuron-astrocyte interaction in epilepsy, *Frontiers in Computational Neuroscience* 6, 58, 1-10 (2012). PMID: PMC3459315
337. Nadkarni, S., Bartol, T. M., Stevens, C. F., Sejnowski, T. J., Levine, H., Short-term synaptic plasticity constrains spatial organization of a hippocampal presynaptic terminal, *Proceedings of the National Academies of Sciences USA*, 109,14657-14662 (2012). PMID: PMC3437845
338. Catterall, W. A., Raman, I.M., Robinson, H.P.C., Sejnowski, T. J., Paulsen, O., The Hodgkin-Huxley Heritage: From Channels to Circuits, *Journal of Neuroscience*, 32: 14064–14073 (2012). PMID: PMC3500626
339. Troups, J. V., Fellous, J.-M., Thomas, P. J., Sejnowski, T. J., Tiesinga, P. H., Multiple Spike Time Patterns Occur at Bifurcation Points of Membrane Potential Dynamics, *PLoS Computational Biology*, 8 (10): e1002615 (2012). PMID: PMC3475656
340. Kinney, J. P., Spacek, J., Bartol, T. M., Bajaj, C. L., Harris, K. M., Sejnowski, T. J., Extracellular sheets and tunnels modulate glutamate diffusion in hippocampal neuropil, *Journal of Comparative Neurology* 521, 448-464, (2013). PMID: PMC3540825
341. Volman, V., Bazhenov, M., Sejnowski, T. J., Divide and conquer: Functional segregation of synaptic inputs by astrocytic microdomains could alleviate paroxysmal activity following brain trauma, *PLOS Computational Biology*, 9, 1-16: e1002856 (2013). PMID: PMC3554537

342. Saremi, S., Sejnowski, T. J., A hierarchical model of natural images and the origin of scale invariance, *Proceedings of the National Academies of Sciences USA*, 110, 3071–3076 (2013). PMID: PMC3581899
343. Tanaka. H., Sejnowski, T. J Computing reaching dynamics in motor cortex using Cartesian spatial coordinates, *Journal of Neurophysiology*, 109,1182-201 (2013). PMID: PMC3569131
344. Srinivasen, L., Asaad, W. F., Gale, J. T., Dougherty, D. D., Williams, Z. M., Sejnowski, T. J., Eskander, E. N., Action initiation in the human dorsal anterior cingulate cortex, *PLoS ONE*, 8(2):e55247 (2013). PMID: PMC3584070
345. Saremi, S., Sejnowski, T. J., Sharpee, T., Double-Gabor filters are independent components of small translation-invariant image patches, *Neural Computation*, 25, 922–939 (2013). PMID: PMC3693455
346. Wang, X., Pinto-Duarte, A., Sejnowski, T. J., Behrens, M. M., How Nox2-containing NADPH oxidase affects cortical circuits in the NMDA receptor antagonist model of schizophrenia, *Antioxidants and Redox Signaling*, 18, 1444-1462 (2013). PMID: PMC3603498
- 347 Alivisatos, A. P., Andrews, A. M., Boyden , E. S., Chun, M., Church, G. M., Deisseroth, K., Donoghue, J.P., Fraser, S. E., Lippincott-Schwartz, J., Looger L., Masmanidis, S., McEuen, P. L., Nurmikko, A. V., Park, H., Peterka, D. S., Reid, C., Roukes, M. L., Scherer, A., Schnitzer, M., Sejnowski, T. J., Shepard, K. L., Tsao, D., Turrigiano, G., Weiss, P. S., Xu, C., Yuste, R., Zhuang, X., Nanotools for Neuroscience and Brain Activity Mapping, *ACS Nano*, 7, 1850-66 (2013). PMID: PMC3665747
348. Regner, B.M., Vucinic, D., Domnisoru, C., Bartol, T.M., Hetzer. M.W., Tartakovsky, D. M., Sejnowski, T.J., Anomalous Diffusion of Single Particles in Cytoplasm, *Biophysical Journal* 104, 1652–1660 (2013). PMID: PMC3627875
349. Stiefel, K. M., Englitz, B., Sejnowski, T. J., Origin of intrinsic irregular firing in cortical Interneurons, *Proceedings of the National Academy of Sciences USA*, 110, 7886–7891 (2013). PMID: PMC3651468
350. Chukoskie,L., Snider, J., Mozer, M. C., Krauzlis, R. J., Sejnowski, T. J., Learning where to look for a hidden target, *Proceedings of the National Academy of Sciences USA*, 110, 10438–10445 (2013). PMID: PMC3690606
351. Gire, D. H., Restrepo, D., Sejnowski, T. J., Greer, C., De Carlos, J. A., Lopez-Mascaraque, L., Temporal processing in the olfactory system: Can we see a smell?, *Neuron*, 78, 416-432 (2013). PMID: PMC3694266
352. Lainscsek, C., Sejnowski, T. J., Electrocardiogram classification using delay differential equations, *Chaos*, 23, 023132 (2013). PMID: PMC3710263
- 353 Ji, B., Wang, X., Pinto-Duarte, A., Kim, M., Caldwell, S., Young, J.W., Behrens, M. M., Sejnowski, T. J., Geyer, M.A., Zhou, X., Prolonged Ketamine Effects in Sp4 Hypomorphic Mice: Mimicking Phenotypes of Schizophrenia., *PLoS ONE*, 18,8(6):e66327 (2013). PMID: PMC3688895
354. Lister, R., Mukamel, E. A., Nery, J. R., Urich, M., Puddifoot, C. A., Johnson, N. D., Lucero, J., Huang, y., Dwork, A., Schultz, M. D., Tonti-Filippini, J., Yu, M., Heyn, H., Hu, S., Wu, J. C., Rao, A., Esteller, M., He, C., Haghghi, F. G., Sejnowski, T. J., Behrens, M. M., Ecker, J. R., Global epigenomic reconfiguration during mammalian brain development, *Science*, 341, 629 (2013). PMID: PMC3785061

355. Timofeev, I., Sejnowski, T. J., Bazhenov, M., Chauvette, S., Grand, L., Age Dependency of Trauma-Induced Neocortical Epileptogenesis, *Frontiers in Cellular Neuroscience*, 7:154 (2013). PMID: PMC3776140
356. Cortes, J. M., Desroches, M., Rodrigues, S., Veltz, R., Munoz, M. A., Sejnowski, T. J., Short-term synaptic plasticity in the deterministic Tsodyks-Markram model leads to unpredictable network dynamics, *Proceedings of the National Academy of Sciences, USA*, 110, 16611-16615 (2013). PMID: PMC3799370
357. Lainscsek, C., Hernandez, M. E., Weyhenmeyer, J., Sejnowski, T. J., Poizner, H., Non-linear dynamical analysis of EEG time series distinguishes patients with Parkinson's disease from healthy individuals, *Frontiers in Neurology*, 4, 200, 1-8, (2013). PMID: PMC3858815
358. Lainscsek, C., Weyhenmeyer, J., Hernandez, M. E., Poizner, H., Sejnowski, T. J., Non-linear dynamical classification of short time series of the Rössler system in high noise regimes, *Frontiers in Neurology*, 4: 182 1-12 (2013) PMID: PMC3825183
359. Golomb, B. A., Brenner, S., Chalfie, M., Glashow, S. L., Glauber, R. J., Hubel, D. H., Maskin, E. S., Greengard, P., Gross, D. J., Roberts, R., Tonegawa, S., Wilczek, F. A., Brown, E. M., Sejnowski, T. J., Chocolate habits of Nobel prizewinners, *Nature*, 499, 409 (2013). PMID :PMC4765315
360. Yang, L., Leung, L., Peterson, D. A., Sejnowski, T. J., Poizner, H., Toward a semi-self-paced EEG brain computer interface: decoding initiation state from non-initiation state in dedicated time slots, *PLoS ONE*, 9(2), 1-8 e88915 (2014). PMID: PMC3931691
361. Edwards, J., Daniel, E., Kinney, J., Bartol, T., Sejnowski, T. J., Harris, K., Johnston, D., Bajaj, C., VolRoverN: Automated Reconstruction of Cellular Morphology for Multiscale Dynamical Simulation of Neural Activity, *Neuroinformatics* 12, 277-289 (2014). PMID: PMC4033674
362. O'Donnell, C., Sejnowski, T. J., Selective memory generalization by spatial patterning of protein synthesis, *Neuron*, 82, 398-412 (2014). PMID: PMC4011079
363. Jadi, M. P., Sejnowski, T. J., Regulating Cortical Oscillations in an Inhibition-stabilized Network, *Proceedings of the IEEE*, 102, 830-842 (2014). PMID: PMC4067313
364. Sejnowski, T. J., Poizner, H., Lynch, G., Gepshtein, S., Greenspan, R., Prospective Optimization, *Proceedings of the IEEE*, 102, 799-811 (2014). PMID: PMC4201124
365. McDonnell, M.D., Boahen, K., Ijspeert, A., Sejnowski, T. J., Engineering intelligent electronic systems based on computational neuroscience, *Proceedings of the IEEE*, 102, 646-651, (2014). PMID: PMC4240016
366. Jadi, M. P., Sejnowski, T. J., Cortical Oscillations Arise from Contextual Interactions that Regulate Sparse Coding, *Proceedings of the National Academy of Sciences, USA*, 111: 6780-6785 (2014). PMID: PMC4020078 [Correction: 112(3), E341 2015]
367. Solstad, T., Yousif, H. N., Sejnowski, T. J., Place Cell Rate Remapping by CA3 Recurrent Collaterals, *PLoS Computational Biology*, 10(6): e1003648 (2014). PMID: PMC4046921
368. Saremi, S., Sejnowski, T. J., On Criticality in High-Dimensional Data, *Neural Computation*, 26(7): 1329-1339 (2014).
369. Broccard, F., Mullen, T., Chi, Y. M., Peterson, D., Iversen, J. R., Arnold, M. P., Kreutz-Delgado, K., Jung, T.-P., Makeig, S., Poizner, H., Sejnowski, T. J., Cauwenberghs, G., Closed-loop Brain-Machine-Body Interfaces for Noninvasive Rehabilitation of Movement Disorders, *Annals of Biomedical Engineering*, 8: 1573-1593, (2014). PMID: PMC4099421

370. Lee, H. S., Ghattia, A., Pinto-Duarte, A., Wang, X., Dziewczapolskia, G., Galimic, F., Huitron-Resendiz, S., Pina-Crespo, J. C., Roberts, A. J., Vermac, I. M., Sejnowski, T. J., Heinemann, S. F., Astrocytes contribute to gamma oscillations and recognition memory., *Proceedings of the National Academies of Sciences, USA*, 111: E3343–E3352 doi: 10.1073/pnas.1410893111 (2014). PMID: PMC 4136580
371. Stefan, M., Bartol, T., Sejnowski, T. J., Kennedy, M., Multi-state Modeling of Proteins, *PLOS Computational Biology*, 10 (9): e1003844 (2014). PMID: PMC4201162
372. Moldakarimov, S., Bazhenov, M., Sejnowski, T. J., Top-down inputs enhance orientation selectivity in neurons of the primary visual cortex during perceptual learning, *PLOS Computational Biology*, 10 (8): e1003770 (2014). PMID: PMC 4133043
373. Fields, R. D., Araque, A., Johansen-Berg, H., Lim, S.-S., Lynch, G., Nave, K.-A., Nedergaard, M., Perez, R., Sejnowski, T., Wake, H., Glial Biology in Learning and Cognition, *The Neuroscientist*, 20: 426-431 (2014). PMID: PMC 4161624
374. Sejnowski, T. J., Churchland, P. S., Movshon, J. A.; Putting Big Data to Good Use in Neuroscience, *Nature Neuroscience*, 17, 1440-1441 (2014). PMID: PMC 4224030
375. Ritaccio, A., Brunner, P., Gunduz, A., Hermes, D., Hirsch, L. J., Jacobs, J., Kamada, K., Kastner, S., Knight, R. T., Lesser, R. P., Miller, K., Sejnowski, T. J., Worrell, G., Schalk, G. Proceedings of the Fifth International Workshop on Advances in Electrooculography, *Epilepsy & Behavior*, 41, 183-192 (2014). PMID: PMC4268064
376. Mak-McCully, R. A., Deiss, S. R., Rosen, B. Q., Jung, K.-Y., Sejnowski, T. J., Bastuji, H., Rey, M., Cash, S. S., Bazhenov, M., Halgren, E., Synchronization of Isolated Downstates (K-Complexes) May be Caused by Cortically-Induced Disruption of Thalamic Spindling, *PLOS Computational Biology*, 10, e1003855 (2014). PMID: PMC4177663
377. Regner, B. M., Tartakovsky, D. M., Sejnowski, T. J. Identifying Transport Dynamics of Single-Molecule Trajectories, *Biophysical Journal*, 107, 2345-2351 (2014). PMID: PMC4241458
378. Tanaka, H., Sejnowski, T. J., Motor adaptation and generalization of reaching movements using motor primitives based on spatial coordinates, *Journal of Neurophysiology*, 113, 1217–1233 (2015). PMID: PMC4329437
379. Lainscsek, C., Sejnowski, T. J. Delay Differential Analysis of Time Series, *Neural Computation*, 27(3):594-614 (2015). PMID: PMC4372301
380. Lainscsek, C., Hernandez, M.E., Poizner, H., Sejnowski, T. J. Delay Differential Analysis of Electroencephalographic Data, *Neural Computation* 27(3), 615-27 (2015). PMID: PMC4372301
381. Roadmap Epigenomics Consortium. Integrative analysis of 111 reference human epigenomes. *Nature*, 518, 317-30 (2015) PMID: PMC4530010
382. Moldakarimov, S., Bazhenov, M., Sejnowski, T.J. Feedback stabilizes propagation of synchronous spiking in cortical neural networks, *Proceedings of the National Academy of Sciences, USA* 112(8), 2545-50 (2015). PMID: PMC4345606
383. Jorgenson, L. A., Newsome, W. T., Anderson, D. J., Bargmann, C. I., Brown, E. N., Deisseroth, K., Donoghue, J. P., Hudson, K. L., Ling, G. S. F., MacLeish, P. R., Marder, E., Normann, R. A., Sanes, J. R., Schnitzer, M. J., Sejnowski, T. J., Tank, D. W., Tsien, R. Y., Ugurbil, K., Wingfield, J. C., The BRAIN Initiative: Developing Technology to Catalyze Neuroscience Discovery, *Philosophical Transactions of The Royal Society B*, 370, 20140164 (2015). PMID: PMC4387507

384. Lainscsek, C. Weyhenmeyer, J. Sejnowski, T. J. Letellier, C. Discovering independent parameters in complex dynamical systems, *Chaos, Solitons and Fractals*, 76, 182-189 (2015). PMID: PMC4429610
385. Belmonte, J. C., Callaway, E. M., Churchland, P., Caddick, S. J., Feng, G., Homanics, G. E., Lee, K.-F., Leopold, D. A., Miller, C. T., Mitchell, J. F., Mitalipov, S., Moutri, A. R., Movshon, J. A., Okano, H., Reynolds, J. H., Ringach, D., Sejnowski, T. J., Silva, A. C., Strick, P. L., Wu, J., Zhang, F., Brains, Genes and Primates, *Neuron*, 86, 617-631, 2015 (2015). PMID: PMC4425847
386. Johnson, T. Bartol, T. Sejnowski, T. J. Mjolsness, E. Model Reduction for Stochastic CaMKII Reaction Kinetics in Synapses by Graph-Constrained Correlation Dynamics, *Physical Biology* 12, 045005, (2015). PMID: PMC4489159
387. Mo, A., Mukamel, E.A., Davis, F.P., Luo, C., Henry, G.L., Picard, S., Urich, M.A., Nery, J.R., Sejnowski, T.J., Lister, R., Eddy, S.R., Ecker, J.R., Nathans, J. Epigenomic Signatures of Neuronal Diversity in the Mammalian Brain, *Neuron* 86, 1369-1384 (2015). PMID: PMC 4499463
388. Huh, D. Sejnowski, T. J., Spectrum of power laws for curved hand movements, *Proceedings of the National Academies of Sciences USA*, 112 (29), E3950-E3958 (2015). PMID: PMC4517202
389. Frost W. N., Brandon C. J., Bruno A. M., Humphries M. D., Moore-Kochlacs C., Sejnowski T. J., Wang J., Hill E. S., Monitoring Spiking Activity of Many Individual Neurons in Invertebrate Ganglia. *Adv Exp Med Biol*. 859, 127-45 (2015). PMID: PMC4560204
390. Barnes, S.A., Pinto-Duarte, A., Kappe, A.; Zembrzycki, A., Metzler, A., Mukamel, E., Lucero, J., Wang, X., Sejnowski, T. J., Markou, A., Behrens, M. M. Disruption of mGluR5 in parvalbumin-positive interneurons induces core features of neurodevelopmental disorders, *Biological Psychiatry*, 20(10),1161-1172 (2015). PMID: PMC4583365
391. Coggan, J. S., Sejnowski, T. J., Prescott, S. A. Cooperativity between remote sites of ectopic spiking allows afterdischarge to be initiated and maintained at different locations, *Journal of Computational Neuroscience*, 39,17–28 (2015). PMID: PMC4496271
392. Schultz, M. D., He, Y., Whitaker, J. W., Hariharan, M., Mukamel, E. A., Leung, D., Rajagopal, N., Nery, J. R., Urich, M. A., Chen, H., Lin, S., Lin, Y., Jung, I., Schmitt, A. D., Selvaraj, S., Ren, B., Sejnowski, T. J., Wang, W., Ecker, J. R., Human Body Epigenome Maps Reveal Noncanonical DNA Methylation Variation, *Nature*, 523, 212-216, (2015). PMID:PMC4499021
393. Gonzalez, O. C. Krishnan, G. P. Chauvette, S. Timofeev, I. Sejnowski, T. J. Bazhenov, M. Modeling of age-dependent epileptogenesis by differential homeostatic synaptic scaling, *Journal of Neuroscience*, 35,13448-13462 (2015). PMID: PMC4588612
394. Bartol, T. M., Jr. Keller, D.X., Kinney, J.P., Bajaj, C., Harris, K.M., Sejnowski, T. J., Kennedy, M.B. Computational reconstitution of spine calcium transients from individual proteins, *Frontiers in Synaptic Neuroscience*, 7, 17 doi: 10.3389/fnsyn.2015.00017 (2015). PMID: PMC4595661
395. Wang, X., Pinto-Duarte, A., Behrens, M. M., Zhou, X., Sejnowski, T. J. Characterization of spatio-temporal epidural event-related potentials for mouse models of psychiatric disorders, *Scientific Reports*, 5,14964 (2015). PMID: PMC4602219
396. Veltz, R. J. Sejnowski, T. J. Periodic forcing of stabilized E-I networks: Nonlinear resonance curves and dynamics, *Neural Computation*, 27, 2477-2509 (2015). PMID: PMC4763930
397. Jadi, M. P., Behrens, M. M., Sejnowski, T. J. Abnormal Gamma Oscillations in N-Methyl-D-Aspartate Receptor Hypofunction Models of Schizophrenia, *Biological Psychiatry* 79(9), 716-726 (2016). PMID: PMC4720598

398. Bartol, T. M., Bromer, C., Kinney, J., Chirillo, M. A., Bourne, J. N., Harris, K. M., Sejnowski, T. J., Nanoconnectomic upper bound on the variability of synaptic plasticity, *eLife* 4:e10778 (2015). PMID: PMC4737657
399. Rodrigues, S., Desroches, M., Krupa, M., Cortes, J. M., Sejnowski, T. J., Ali, A. B. Time-coded neurotransmitter release at excitatory and inhibitory synapses. *Proceedings of the National Academies of Sciences USA*. 113(8), E1108-15 (2016). PMID: PMC4776517
400. Saremi, S., Sejnowski, T. J. Correlated percolation, fractal structures, and scale-invariant distribution of clusters in natural images, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 38(5),1016-20 (2016). PMID: PMC4861067
401. Padmanabhan, K., Osakada, F., Tarabrina, A., Kizer, E., Callaway, E., Gage, F., Sejnowski, T. J., Diverse representations of olfactory information in centrifugal feedback projections, *Journal of Neuroscience* 36(28), 7535-7545 (2016). PMID: PMC4945671
402. Ruiz-Martinez, A., Bartol, T. M., Sejnowski, T. J. Tartakovsky, D. M. Efficient Multiscale Models of Polymer Assembly, *Biophysical Journal*, 110, 185-196 (2016). PMID: PMC4944489
403. Huh, B., Sejnowski, T. J., Conservation law for self-paced movements, *Proceedings of the National Academy of Sciences of the United States of America*, (in press).
404. Reddy, G., Celani, A., Sejnowski, T. J., Vergassola, M., Learning to soar in turbulent environments, *Proceedings of the National Academy of Sciences of the United States of America*, (in press).

Books:

1. Churchland, P. S. and Sejnowski, T. J., *The Computational Brain*, Cambridge, MA: MIT Press (1992).
2. Destexhe, A. and Sejnowski, T. J., *Thalamocortical Assemblies: How Ion Channels, Single Neurons and Large-Scale Networks Organize Sleep Oscillations*, Oxford: Oxford University Press (2001).
3. Quartz, S. and Sejnowski, T. J., *Liars, Lovers and Heroes: What the New Brain Science Has Revealed About How We Become Who We Are*, New York: Harper-Collins (2002).

Edited Books:

1. *Proceedings of the 1988 Connectionist Models Summer School*, Touretzky, D. S., Hinton, G. E., and Sejnowski, T. J. (Eds.) San Mateo, CA: Morgan Kaufmann Publishers (1989).
2. *Connectionist Models Proceedings of the 1990 Summer School*, Touretzky, D. S., Elman, J. L., Sejnowski, T. J., and Hinton, G. E. (Eds.), San Mateo, CA: Morgan Kaufmann Publishers (1991).
3. *The Regulation of Sleep*, A. A. Borbely, O. Hayaishi, T. J. Sejnowski, and J. S. Altman (Eds.), Human Frontiers Science Program, Strasbourg, (1996).
4. *Unsupervised Learning: Foundations of Neural Computation*, In: G. E. Hinton and T. J. Sejnowski (Eds.) MIT Press, Cambridge, MA (1999).
5. *Neural Codes and Distributed Representations: Foundations of Neural Computation*, L. F. Abbott and T. J. Sejnowski (Eds.) MIT Press, Cambridge MA (1999).

6. The Regulation of Sleep, A. A. Borbely, O. Hayaishi, T. J. Sejnowski, J. S. Altman (Eds.), Human Frontiers Science Program, Strasbourg, France (2000).
7. Self-Organizing Map Formation: Foundations of Neural Computation, K. Obermayer and T. J. Sejnowski (Eds.), MIT Press, Cambridge MA (2001).
8. Graphical Models: Foundations of Neural Computation, M. Jordan and T. J. Sejnowski (Eds.), MIT Press, Cambridge MA (2001).
9. Third International Conference on Independent Component Analysis and Blind Signal Separation, Lee, T.-W., Jung, T.-P., Makeig, S., and Sejnowski, T. J., December 9-12, 2001 San Diego, CA
10. 23 Problems in Systems Neuroscience, van Hemmen, J. L., and Sejnowski, T. J. (Eds.), Oxford University Press (2005).
11. New directions in statistical signal processing: From systems to brain, Haykin, S., Principe, J. C., Sejnowski, T. J., and McWhirter, J., (Eds.) MIT Press, Cambridge, MA (2006).

Invited Reviews:

1. Sejnowski, T. J., Computational neuroscience, *Behavioral and Brain Sciences* 9, 104-105 (1986).
2. Sejnowski, T. J., Computational models and the development of topographic projections, *Trends in Neuroscience* 10, 304-305 (1987).
3. Sejnowski, T. J., Computing with connections: Review of "The Connection Machine" by W. Daniel Hillis, *Journal of Mathematical Psychology* 31, 203-210 (1987).
4. Sejnowski, T. J., Review of "Mind and Brain: Dialogues in Cognitive Neuroscience", J. E. LeDoux and W. Hirst (Eds.), *FASEB Journal* 1(5), 415 (1987).
5. Sejnowski, T. J., Neural populations revealed, *Nature* 332, 308 (1988).
6. Sejnowski, T. J., NETtalk, *Encyclopedia of Artificial Intelligence* New York: John Wiley (1991).
7. Sejnowski, T. J. Synaptic mechanisms for long-term depression, *Current Biology* 1, 38-40 (1991).
8. Sejnowski, T. J., Back together again, *Nature* 352, 669-670 (1991).
9. Sejnowski, T. J. Models of vision: Review of "Computational Models of Visual Processing" by M. S. Landy and J. A. Movshon (Eds.), *Science* 257, 687-688 (1992).
10. Sejnowski, T. J., Network Visions: Review of "Neural Networks for Visual Perception" by H. Wechsler (Ed.), *Nature* 360, 27-28 (1992).
11. Pouget, A. and Sejnowski, T. J., A distributed common reference frame for egocentric space in the posterior parietal cortex, *Controversies in Neuroscience I: Movement Systems, The Behavioral and Brain Sciences* 15, 787-788 (1992).
12. Sejnowski, T. J. and Lisberger, S., Neural systems for eye tracking, *Naval Research Reviews* 43(4), 17-28 (1992).
13. Sejnowski, T. J. and Churchland, P. S., Silicon Brains, *Byte* 17, 137-146 October (1992).

14. Lisberger, S. G., Sejnowski, T. J., Cerebellar flocculus hypothesis-reply, *Nature* 363, 25 (1993).
15. Pouget, A. and Sejnowski, T. J., Is perception isomorphic with neural activity?, *Behavioral and Brain Sciences* 17, 274 (1994).
16. Sejnowski, T. J., Time for a new neural code?, *Nature* 376, 21-22 (1995).
17. Sejnowski, T. J., Sleep and memory, *Current Biology* 5, 832-834 (1995).
18. Sejnowski, T. J., Evolution of artificial intelligence: Review of "Artificial Minds" by S. Franklin, *Nature* 378, 101-102 (1995).
19. Sejnowski, T. J., Synapses get smarter, *Nature* 382, 759-760 (1996).
20. Sejnowski, T. J., The year of the dendrite, *Science* 275, 178-179 (1997).
21. Spitzer, N., and Sejnowski, T. J., Biological information processing: Bits of progress, *Science* 277, 1060-1061. (1997).
22. Sejnowski, T. J., Making smooth moves, *Nature* 394, 725-726 (1998).
23. Sejnowski, T., J., Computational Neuroscience, *The MIT Encyclopedia of the Cognitive Sciences*, Robert A. Wilson and Frank Keil (Eds.), MIT Press, 165-168, (1999).
24. Sejnowski, T. J., A high point for evolution, *Science* 283, 1121 (1999).
25. Sejnowski, T. J., Computational neuroscience, *Encyclopedia of Neuroscience 3rd Edition*, Amsterdam: Elsevier, 450-453 (1999).
26. Sejnowski, T. J., Neural networks beyond Freud, *Nature* 400, 632-633 (1999)
27. Sejnowski, T. J., The Book of Hebb, *Neuron* 24, 773-776, (1999).
28. Eagleman, D. M., and Sejnowski, T. J., Response: the position of moving objects, *Science*, 289, 1107a (2000).
29. Eagleman, D. M., and Sejnowski, T. J., Flash-lag effect: differential latency, not postdiction, *Science*, 290, 1151a (2000).
30. Sejnowski, T. J., Computational Neuroscience, *Encyclopedia of the Social and Behavioral Sciences* 2460-2465, Elsevier Science Ltd (2001).
31. Eagleman, D. M., and Sejnowski, T. J., Untangling spatial from temporal illusions, *Trends in Neurosciences* 25(6) 293 (2002).
32. Sejnowski, T. J., The once and future Hebb synapse, *Canadian Psychology* 44(1) 17-20 (2003).
33. Sejnowski, T. J., Tap into science 24-7, *Science* 301, 601 (2003).
34. Sejnowski, T. J., In Memoriam: Francis H. C. Crick, *Neuron* 43, 619-621 (2004).
35. Gillette, M. U., and Sejnowski, T. J., Biological clocks coordinately keep life on time, *Science* 309, 1196-1198 (2005).
36. Finelli, L. A., and Sejnowski, T. J., What is consolidated during sleep-dependent motor skill learning? *Behavioral and Brain Sciences* 29: 70-71 (2005).

37. Garlick, D., and Sejnowski, T. J., There is more to fluid intelligence than working memory capacity and executive function, *Behavioral and Brain Sciences* 29, 134-135 (2006).
38. Sejnowski, T. J., I, Internet: Will the WWW switch on to itself? *Times Higher Education Supplement*, May 12, (2006).
39. Sejnowski, T. J., 50th Anniversary Issue: The Big Questions, *New Scientist*, November, 18, p 69 (2006).
40. Sejnowski, T. J., The Hippocampus Review, *Science*, 317, 44-45 (2007).
41. Destexhe, A., Sejnowski, T. J., The Wilson-Cowan Model, 36 Years Later, *Biological Cybernetics*, 101, 1-2 (2009). PMID: PMC2866289
42. Sejnowski, T. J., Is it true that when we drive, walk or reach for something our brains perform calculations?, *Scientific American Mind*, p. 74, November (2009).
43. Sejnowski, T. J., Consequences of non-uniform active currents in dendrites, *Frontiers in Neuroscience* 3 (3), 332–333. (2009). doi: 10.3389/neuro.01.038.2009 PMID: PMC2796914
44. Sejnowski, T. J., In sleepless nights, a hope for treating depression, *New York Times Opinionator*, April 7, 2010.
<http://opinionator.blogs.nytimes.com/2010/04/07/in-sleepless-nights-a-hope-for-treating-depression/>
45. Sejnowski, T. J., Learning Optimal Strategies in Complex Environments, *Proceedings of the National Academies of Sciences USA* 107: 20151-20152 (2010). PMID: PMC2996642
46. Nair, P., Sejnowski, T. J. QnAs with Terrence J. Sejnowski, *Proceedings of the National Academies of Sciences USA* 107: 20601-20601 (2010). PMID: PMC2996440
47. Brenner, S., Sejnowski, T. J., Understanding the Human Brain, *Science*, 334: 567 (2011). PMID: PMC4757457
48. Sejnowski, T. J., The product of our neurons, *New Scientist*, p. 46, Feb. (2012).
49. Sejnowski, T. J., Well-connected brains, *American Scientist*, Mar. (2012).
50. Delbruck, T., Sejnowski, T. J., The Language of the Brain, *Scientific American*, 307, 54-59 (2012). PMID: PMC4763947
51. Sejnowski, T. J., 2012 - The Alan Turing Year, *Trends in Cognitive Science*, 16, 447-448 (2013).
52. Alivisatos, A.P., Chun, M., Church, G.M., Deisseroth, K., Donoghue, J.P., Greenspan R.J., McEuen, P.L., Roukes, M.L., Sejnowski, T.J., Weiss, P.S., Yuste, R., The Brain Activity Map, *Science* 339, 1284-1285 (2013). PMID: PMC3665747
53. McDonnell, M.D., Boahen, K., Ijspeert, A., Sejnowski, T. J., Engineering intelligent electronic systems based on computational neuroscience, *Proceedings of the IEEE*, 102, 646-651, (2014). PMID: PMC4240016
54. Sejnowski, T. J., Summary: Cognition in 2014, *Cold Spring Harb Symp Quant Biol.* 79, 237-41. (2014). PMID: PMC4757460

55. Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Working Group Report to the Advisory Committee to the Director, NIH, BRAIN 2025: A Scientific Vision. <http://www.braininitiative.nih.gov/2025/>
56. Sejnowski, T. J., Consciousness, *Daedalus*, 144 (1) Winter, 123-132 (2015). PMID: PMC4757852
57. Sejnowski, T. J., Vernon Mountcastle: Father of Neuroscience, *Proceedings of the National Academy of Sciences U.S.A.*, 112, 6523-6524 (2015). PMID: PMC 4450413
58. O'Donnell, C., Sejnowski, T. J., Street View of the Cognitive Map, *Cell*, 164, 13-15 (2016). PMID: PMC4757473
59. Kosik, K. S., Sejnowski, T. J., Raichle, M. E., Ciechanover, A., Baltimore, D., A path toward understanding neurodegeneration, *Science*, 353, 872-873, 2016.
60. Churchland, P. S., Sejnowski, T. J. Blending computational and experimental neuroscience, *Nature Reviews of Neuroscience* (in press).

Peer-reviewed Conference Proceedings:

1. Hinton, G. E. and Sejnowski, T. J., Analyzing cooperative computation. Proceeding 5th Annual Conference of the Cognitive Science Society, Rochester, (May 1983).
2. Hinton, G. E. and Sejnowski, T. J., Optimal perceptual inference. Proceedings IEEE Conference on Computer Vision and Pattern Recognition, Washington, D. C., (June 1983).
3. Fahlman, S. E., Hinton, G. E. and Sejnowski, T. J., Massively parallel architectures for AI: NETL, Thistle and Boltzmann Machines. Proceedings of the National Conference on Artificial Intelligence, Washington, D. C., (August 1983).
4. Hinton, G. E. and Sejnowski, T. J., Learning semantic features. Proceedings 6th Annual Conference of the Cognitive Science Society, Boulder, (June 1984).
5. Hinton, G. E. and Sejnowski, T. J., Learning in Boltzmann machines. *Cognitiva* 85, Paris, France, (June 1985).
6. Rosenberg, C. R. and Sejnowski, T. J., The spacing effect of on NETtalk, a massively-parallel network, Proceedings 8th Annual Conference of the Cognitive Science Society, Amherst, MA., 72-89 (1986).
7. Tesauro, G. and Sejnowski, T. J., A 'neural' network that learns to play backgammon. In: D. Z. Anderson (Ed). *Neural Information Processing Systems*, New York: American Institute of Physics, (1988).
8. Qian, N. and Sejnowski, T. J., Learning to solve random-dot stereograms of dense and transparent surfaces with recurrent backpropagation. In: D. Touretzky, G. E. Hinton and T. J. Sejnowski (Eds.) *Proceedings of the 1988 Connectionist Models Summer School*, San Mateo, CA: Morgan Kaufmann Publishers, (1989).
9. Stanton, P. K. and Sejnowski, T. J., Storing covariance by associative long-term potentiation and depression of synaptic strengths in the hippocampus. In: D. Touretzky (Ed.) *Advances in Neural Information Processing Systems 1*, San Mateo, CA: Morgan Kaufmann Publishers, 374-401 (1989).

10. Lockery, S. R., Fang, Y. and Sejnowski, T. J., Neural network analysis of distributed representations of sensory-motor transformations in the leech. In: D. Touretzky (Ed). *Advances in Neural Information Processing Systems 2*, San Mateo, CA: Morgan Kaufmann Publishers, 28-35 (1990).
11. Yuhas, B. P., Goldstein, M. H. Jr., Jenkins, R. E., and Sejnowski, T. J., Combining visual and acoustic speech signals with a neural network improves intelligibility. In: D. Touretzky (Ed). *Advances in Neural Information Processing Systems 2*, San Mateo, CA: Morgan Kaufmann Publishers, 232-239 (1990).
12. Lockery, S. R., Fang, Y. and Sejnowski, T. J., A dynamical neural network model of sensorimotor transformations in the leech. In: *IJCNN International Joint Conference on Neural Networks*, (Cat. No. 90CH2879-5). New York, NY, USA: IEEE, 183-188 vol. 1 (June 1990).
13. Golomb, B. A., Lawrence, D. T., and Sejnowski, T. J., Sexnet: A neural network identifies sex from human faces. In: D. S. Touretzky and R. Lippmann, (Eds.) *Advances in Neural Information Processing Systems 3*, San Mateo, CA: Morgan Kaufmann Publishers, 572-577 (1991).
14. Pouget, A., Fisher, S. A. and Sejnowski, T. J., Hierarchical transformation of space in the visual system, In: J. E. Moody, S. J. Hanson, and R. P. Lippmann (Eds.) *Advances in Neural Information Processing Systems 4*, San Mateo, CA: Morgan Kaufmann Publishers, 412-419 (1992).
15. Schraudolph, N. N. and Sejnowski, T. J., Competitive anti-Hebbian learning of invariants, In: J. E. Moody, S. J. Hanson, and R. P. Lippmann (Eds.) *Advances in Neural Information Processing Systems 4*, San Mateo, CA: Morgan Kaufmann Publishers, 1017-1024 (1992).
16. Venturini, R., Lytton, W. W. and Sejnowski, T. J., Neural network analysis of event related potentials and electroencephalogram predicts, In: J. E. Moody, S. J. Hanson, and R. P. Lippmann (Eds.) *Advances in Neural Information Processing Systems 4*, San Mateo, CA: Morgan Kaufmann Publishers, 651-658 (1992).
17. Viola, P. A., Lisberger, S. G. and Sejnowski, T. J., Recurrent eye tracking network using a distributed representation of image motion, In: J. E. Moody, S. J. Hanson, and R. P. Lippmann (Eds.) *Advances in Neural Information Processing Systems 4*, San Mateo, CA: Morgan Kaufmann Publishers, 380-387 (1992).
18. Nowlan, S. J. and Sejnowski, T. J., Filter selection model for generating visual motion signals, In: C. L. Giles, S. J. Hanson and J. D. Cowan (Eds.) *Advances in Neural Information Processing Systems 5*, San Mateo, CA: Morgan Kaufman Publishers, 369-376 (1993).
19. Coenen, O.J.M.D., Sejnowski, T. J. and Lisberger, S. J. Biologically plausible local learning rules for the adaptation of the vestibulo-ocular reflex. In: C. L. Giles, S. J. Hanson and J. D. Cowan (Eds.) *Advances in Neural Information Processing Systems 5*, San Mateo, CA: Morgan Kaufman Publishers, 961-968 (1993).
20. Schraudolph, N. N. and Sejnowski, T. J., Unsupervised discrimination of clustered data via optimization of binary information gain, In: C. L. Giles, S. J. Hanson and J. D. Cowan (Eds.) *Advances in Neural Information Processing Systems 5*, Morgan Kaufman Publishers, San Mateo, CA, 499-506 (1993).
21. Montague, P. R., Dayan, P., Nowlan, S. J., Pouget, A. and Sejnowski, T. J., Using aperiodic reinforcement for directed self-organization during development, In: C. L. Giles, S. J. Hanson and J. D. Cowan (Eds.) *Advances in Neural Information Processing Systems 5*, Morgan Kaufman Publishers, San Mateo, CA, 969-976 (1993).

22. Schraudolph, N. N., Dayan, P. and Sejnowski, T. J., Temporal Difference learning of position evaluation in the game of Go, *Advances in Neural Information Processing Systems 6*, Morgan Kaufman Publishers, San Mateo, CA, 817-824 (1994).
23. Montague, P. R., Dayan, P. and Sejnowski, T. J., Foraging in an uncertain environment using predictive Hebbian learning, *Advances in Neural Information Processing Systems 6*, Morgan Kaufman Publishers, San Mateo, CA, 598-605 (1994).
24. Berns, G. S., and Sejnowski, T. J., A model of basal ganglia function unifying reinforcement learning and action selection, *Proceedings of the Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 129-148 (1994).
25. Mainen, Z. F. and Sejnowski, T. J., Reliability of spike encoding in neocortical neurons, In: *Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology. (1994).
26. Bell, A. J., Mainen, Z. F., and Sejnowski, T. J., Balancing of conductances may explain irregularity of cortical spiking, *Proceedings of the Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 1-5 (1994).
27. Bell, A. J. and Sejnowski, T. J., Blind separation and blind deconvolution: An information-theoretic approach, *Proceedings IEEE Conference on Acoustics, Speech, and Signal Processing*, Detroit, MI, 5: 3415-3418 (1995).
28. Doya, K. and Sejnowski, T. J., A novel reinforcement model of birdsong vocalization learning, In: G. Tesauro, D. Touretzky and T. Leen (Eds.) *Advances in Neural Information Processing Systems 7*, MIT Press, Cambridge, MA , 101-108 (1995).
29. Schraudolph, N. and Sejnowski, T. J., Plasticity-mediated competitive learning, In: G. Tesauro, D. Touretzky and T. Leen (Eds.) *Advances in Neural Information Processing Systems 7*, MIT Press, Cambridge, MA, 475-480 (1995).
30. Pouget, A., Deffayet, C. and Sejnowski, T. J., Reinforcement learning predicts the site of plasticity for auditory remapping in the barn owl, In: G. Tesauro, D. Touretzky and T. Leen (Eds.) *Advances in Neural Information Processing Systems 7*, MIT Press, Cambridge, MA, 125-132 (1995).
31. Pouget, A. and Sejnowski, T. J., Spatial representations in the parietal cortex may use basis functions, In: G. Tesauro, D. Touretzky and T. Leen (Eds.) *Advances in Neural Information Processing Systems 7*, MIT Press, Cambridge, MA, 157-164 (1995).
32. Zemel, R. S. and Sejnowski, T. J., Grouping components of three-dimensional moving objects in area MST of visual cortex, In: G. Tesauro, D. Touretzky and T. Leen (Eds.) *Advances in Neural Information Processing Systems 7*, MIT Press, Cambridge, MA, 165-172 (1995).
33. Bell, A. J. and Sejnowski, T. J., A non-linear information maximization algorithm that performs blind separation, In: G. Tesauro, D. Touretzky and T. Leen (Eds.) *Advances in Neural Information Processing Systems 7*, MIT Press, Cambridge, MA, 467-474 (1995).
34. Stensmo, M. and Sejnowski, T. J., A mixture model system for medical and machine diagnosis, In: G. Tesauro, D. Touretzky and T. Leen (Eds.) *Advances in Neural Information Processing Systems 7*, MIT Press, Cambridge, MA, 1077-1084 (1995).
35. Sejnowski, T. J., Dayan, P. and Montague, P. R., Predictive Hebbian learning, *8th ACM Conference on Computational Learning Theory (COLT)*, Santa Cruz, 15-18 (1995).

36. Goodhill, G. J., Finch, S. and Sejnowski, T. J., A unifying measure for neighborhood preservation in topographic mappings, Proceedings of the 2nd Joint Symposium on Neural Computation, University of California, San Diego and California Institute of Technology Institute for Neural Computation, La Jolla, CA, 191-202 (1995).
37. Coenen, O.J.M.D., and Sejnowski, T. J., A dynamical model of context dependencies for the vestibulo-ocular reflex, Proceedings of the 2nd Joint Symposium on Neural Computation, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 142-151 (1995).
38. Stensmo, M. and Sejnowski, T. J., Using temporal-difference reinforcement learning to improve decision-theoretic utilities for diagnosis, Proceedings of the 2nd Joint Symposium on Neural Computation, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 9-16 (1995).
39. Viola, P., Schraudolph, N. N., and Sejnowski T. J., Empirical entropy manipulation and analysis, Proceedings of the 2nd Joint Symposium on Neural Computation, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 203-211 (1995).
40. Bell, A. J., and Sejnowski, T. J., Fast blind separation based on information theory, Proceedings 1995 International Symposium on Non-linear Theory and Applications, Las Vegas, NV, 1:43-47 (1995).
41. Makeig, S., Jung, T.-P., and Sejnowski, T. J., Using feedforward neural networks to monitor alertness from changes in EEG correlation and coherence, In: D. Touretzky, M. Mozer and M. Hasselmo (Eds.) Advances in Neural Information Processing Systems 8, MIT Press, Cambridge, MA. 931-937 (1996).
42. Makeig, S., Bell, A. J., Jung, T.-P., and Sejnowski, T. J., Independent component analysis of electroencephalographic data, In: D. Touretzky, M. Mozer and M. Hasselmo (Eds.) Advances in Neural Information Processing Systems 8, MIT Press, Cambridge, MA. 145-151 (1996).
43. Goodhill, G. J., Finch, S., and Sejnowski, T. J., Optimizing cortical mappings, In: D. Touretzky, M. Mozer and M. Hasselmo (Eds.) Advances in Neural Information Processing Systems 8, MIT Press, Cambridge, MA. 330-336 (1996).
44. Stewart-Bartlett, M., Viola, P. A., Sejnowski, T. J., Golomb, B. A., Larsen, J., Hager, J. C., and Ekman P., Classifying facial action, In: D. Touretzky, M. Mozer and M. Hasselmo (Eds.) Advances in Neural Information Processing Systems 8, MIT Press, Cambridge, MA. 823-829 (1996).
45. Coenen, O.J.M.D., and Sejnowski, T. J., A dynamical model of context dependencies for the vestibulo-ocular reflex, In: D. Touretzky, M. Mozer and M. Hasselmo (Eds.) Advances in Neural Information Processing Systems 8, MIT Press, Cambridge, MA. 89-95, (1996).
46. Pouget, A., and Sejnowski, T. J., A model of spatial representations in parietal cortex explains hemineglect, In: D. Touretzky, M. Mozer and M. Hasselmo (Eds.) Advances in Neural Information Processing Systems 8, MIT Press, Cambridge, MA. 10-16, (1996).
47. Schraudolph, N. N., and Sejnowski, T. J., Tempering backpropagation networks: Not all weights are created equal, In: D. Touretzky, M. Mozer and M. Hasselmo (Eds.) Advances in Neural Information Processing Systems 8, MIT Press, Cambridge, MA. 563-569 (1996).

48. Viola, P., Schraudolph, N. N., and Sejnowski, T. J., Empirical entropy manipulation for real-world problems, In: D. Touretzky, M. Mozer and M. Hasselmo (Eds.) *Advances in Neural Information Processing Systems 8*, MIT Press, Cambridge, MA. 851-857 (1996).
49. Buracas, G. T., Albright, T. D., and Sejnowski, T. J., Varieties of attention: A model of visual search, *Proceedings of the 3rd Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 11-25 (1996).
50. Goodhill, G. J., and Sejnowski, T. J., Quantifying neighborhood preservation in topographic mappings, *Proceedings of the 3rd Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 61-82 (1996).
51. Murthy, V. N., Sejnowski, T. J., and Stevens, C. F., Probabilistic synaptic transmission in hippocampal neurons: Role of presynaptic calcium, *Proceedings of the 3rd Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 135-143 (1996).
52. Tang, A. C., and Sejnowski, T. J., Cholinergic modulation preserves spike timing under physiologically realistic fluctuating input, *Proceedings of the 3rd Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 144-151 (1996).
53. Ritz, R., and Sejnowski, T. J., Correlation coding in a stochastic network model of auditory binding, *Proceedings of the 3rd Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 161-171 (1996).
54. Coenen, O.J.M.D., and Sejnowski, T. J., Learning to make predictions in the cerebellum may explain the anticipatory modulation of the vestibulo-ocular reflex (VOR) gain with vergence, *Proceedings of the 3rd Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 202-221 (1996).
55. Gray, M. S., Movellan, J. R., and Sejnowski, T. J., Dynamic features for visual speechreading: A systematic comparison, *Proceedings of the 3rd Joint Symposium on Neural Computation*, University of California, San Diego and California Institute of Technology, Institute for Neural Computation, La Jolla, CA, 222-230 (1996).
56. Ginzburg, I., and Sejnowski, T. J., Dynamics of rule induction by making queries: Transition between strategies, *Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society*, Lawrence Erlbaum Associates: Mahwah, N. J., 18, 121-125, (1996).
57. K., Kloppstech, M., Nowlan, S. J., Harms, H. M., G. Brabant, R. D. Hesch, and T. J. Sejnowski, Nonlinear analysis and prediction of pulsatile hormone secretion, In: *Chaotic, Fractal, and Nonlinear Signal Processing*, R. A. Katz (Ed) American Institute of Physics, Woodbury, New York, 375, 628-643 (1996).
58. Prank, K, Kloppstech, M., Nowlan, S. J., Sejnowski, T. J., and Brabant, G., Self-organized segmentation of hormone pulsatility: Separating growth hormone in health and disease, In: Amari, S-I., Xu, L. Chan, L-W., Leung, K-S. (Eds.) *Proceedings of the International Conference on Neural Information Processing*, Springer Verlag, 2, 1121-1126 (1996).
59. Prank, K, Kloppstech, M., Nowlan, S. J., Sejnowski, T. J., and Brabant, G., Self-organized segmentation of hormone pulsatility: Separating growth hormone in health and disease, *World Congress on Neural Networks*, San Diego, CA, 1184-1194 (1996).

60. Stensmo, M., and Sejnowski, T. J., Automated medical diagnosis based on decision theory and learning from cases, World Congress on Neural Networks, San Diego, CA, 1227-1231 (1996).
61. Bell, A. J., and Sejnowski, T. J., Edges are the "independent components" of natural scenes, In: Mozer, M., Jordan, M., and Petsche, T., (Eds.) Advances in Neural Information Processing Systems 9, MIT Press, Cambridge, MA, 831-837(1997).
62. Stensmo, S., and Sejnowski, T. J., Learning decision theoretic utilities through reinforcement learning, In: Mozer, M., Jordan, M., and Petsche, T., (Eds.) Advances in Neural Information Processing Systems 9, MIT Press, Cambridge, MA., 1061-1067 (1997).
63. Gray, M. S., Pouget, A., Zemel, R. S., S. J. Nowlan, and T. J. Sejnowski, Selective integration: A model for disparity estimation, In: Mozer, M., Jordan, M., and Petsche, T., (Eds.) Advances in Neural Information Processing Systems 9, MIT Press, Cambridge, MA., 866-872 (1997).
64. Gray, M. S., Movellan, J. R., and Sejnowski, T. J., Dynamic features for visual speechreading: A systematic comparison, In: Mozer, M., Jordan, M., and Petsche, T., (Eds.) Advances in Neural Information Processing Systems 9, MIT Press, Cambridge, MA., 751-757 (1997).
65. Tang, A. C., Bartels, A. M., and Sejnowski, T. J., Cholinergic modulation preserves spike timing under physiologically realistic fluctuating input, In: Mozer, M., Jordan, M., and Petsche, T., (Eds.) Advances in Neural Information Processing Systems 9, MIT Press, Cambridge, MA., 111-117 (1997).
66. Lewicki, M., and Sejnowski, T. J., Bayesian unsupervised learning of higher order structure, In: Mozer, M., Jordan, M., and Petsche, T., (Eds.) Advances in Neural Information Processing Systems 9, MIT Press, Cambridge, MA., 529-535 (1997).
67. Stewart-Bartlett, M., and Sejnowski, T. J., Viewpoint invariant face recognition using independent component analysis and attractor networks, In: Mozer, M., Jordan, M., and Petsche, T., (Eds.) Advances in Neural Information Processing Systems 9, MIT Press, Cambridge, MA., 817-823 (1997).
68. Stewart-Bartlett, M., and Sejnowski, T. J., Independent components of face images: A representation for face recognition, Proceedings of the 4th Joint Symposium on Neural Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 3-10 (1997).
69. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Cellular mechanisms underlying thalamic augmenting responses during 10 Hz stimulation, Proceedings of the 4th Joint Symposium on Neural Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 11-18 (1997).
70. Brown, G. D., and Sejnowski, T. J., Output sign switching in molluscan neurons is mediated by a novel voltage-dependent sodium current, Proceedings of the 4th Joint Symposium on Neural Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 35-42 (1997).
71. Eisele, M., and Sejnowski, T. J., Model-based reinforcement learning by pyramidal neurons: Robustness of the learning rule, Proceedings of the 4th Joint Symposium on Neural Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 83-90. (1997).
72. Gray, M. S., Movellan, J. R., and Sejnowski, T. J., A comparison of local versus global image decompositions for visual speechreading, Proceedings of the 4th Joint Symposium on Neural

- Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 92-98 (1997).
73. Lee, T.-W., and Sejnowski, T. J., Independent component analysis for mixed sub-Gaussian and super-Gaussian sources, Proceedings of the 4th Joint Symposium on Neural Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 132-139 (1997).
 74. McKeown, M. J., Makeig, S., Brown, G. G., Jung, T.-P., Kindermann, S. S., and Sejnowski, T. J., Functional magnetic resonance imaging (fMRI) data interpreted as spatial mixtures, Proceedings of the 4th Joint Symposium on Neural Computation, University of California 6, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 150-157 (1997).
 75. Murthy, V., Sejnowski, T. J., and Stevens, C. F., Are neighboring synapses independent?, Proceedings of the 4th Joint Symposium on Neural Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 165 (1997).
 76. Tang, A., Bartels, A. M., and Sejnowski, T. J., Effects of cholinergic modulation on spike frequency adaptation and spike timing, Proceedings of the 4th Joint Symposium on Neural Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 210-217 (1997).
 77. Wiskott, L., and Sejnowski, T. J., Objective functions for neural map formation, Proceedings of the 4th Joint Symposium on Neural Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 242-248 (1997).
 78. Zhang, K., and Sejnowski, T. J., A conjugate neural representation of visual objects in three dimensions, Proceedings of the 4th Joint Symposium on Neural Computation, University of California, San Diego and University of Southern California, Institute for Neural Computation, La Jolla, CA, 249-256 (1997).
 79. Wiskott, L. and Sejnowski, T.J. Objective functions for neural map formation. *Proc. Int'l Conf. on Artificial Neural Networks, ICANN'97*, Lausanne, Oct. 8-10, eds. Wulfram Gerstner, Alain Germond, Martin Hasler, and Jean-Daniel Nicoud, number 1327 in series *Lecture Notes in Computer Science*, publ. Springer-Verlag, Berlin, Heidelberg, pp. 243-248 (1997).
 80. Sejnowski, T. J., The computational neuroethology of sleep, In: Norbert Elsner and Rudiger Wehner (Eds.) *New Neuroethology on the Move: Proceedings of the 26th Goettingen Neurobiology Conference*, Georg Thieme Verlag Stuttgart, New York (1998).
 81. Jung, T.-P., Humphries, C., Lee, T.-W., Makeig, S., McKeown, M. J., Iragui, V., and Sejnowski, T. J., Extended ICA removes artifacts from electroencephalographic recordings, In: Jordan, M. I., Kearns, M. J., Solla, S. A. (Eds.) *Advances in Neural Information Processing Systems 10*, MIT Press, Cambridge, MA, 894-900 (1998).
 82. Lewicki, M. S., and Sejnowski, T. J., Learning nonlinear overcomplete representations for efficient coding, In: M. Kearns, M. Jordan and S. Solla (Eds.) *Advances in Neural Information Processing Systems 10*, 556-562 (1998).
 83. Bartlett, M. S., Lades, H. M., and Sejnowski, T. J., Independent component representations for face recognition, Proceedings of the SPIE Symposium on Electronic Imaging: Science and Technology, Conference on Human Vision and Electronic Imaging III, San Jose, California, 3299: 528-539 (1998).
 84. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Spontaneous spatio-temporal patterns of activity in thalamic reticular nucleus, Proceedings of the 5th Joint Symposium on Neural

- Computation, University of California, San Diego, Institute for Neural Computation, La Jolla, CA, 1-8 (1998).
85. Gray, M., S., Sejnowski, T. J., and Movellan, J. R., Local filter selection boosts performance of automatic speechreading, Proceedings of the 5th Joint Symposium on Neural Computation, University of California, San Diego, Institute for Neural Computation, La Jolla, CA, 52-59 (1998).
 86. Zhang, K., Sejnowski, T. J., McNaughton, B. L., Locating ego-centers in depth for hippocampal place cells, Proceedings of the 5th Joint Symposium on Neural Computation, University of California, San Diego, Institute for Neural Computation, La Jolla, CA, 204-210 (1998).
 87. Brown, G. D., Yamada, S., Lübben, H., and Sejnowski, T. J., Independent component analysis of optical recordings from the seaslug *Tritonia*, Proceedings of the 5th Joint Symposium on Neural Computation, University of California, San Diego, Institute for Neural Computation, La Jolla, CA, 17-24 (1998).
 88. Lee, T.-W., Ziehe, A., R. Orglmeister, and Sejnowski, T. J., Combining time-delayed decorrelation and ICA: Towards solving the cocktail party problem, IEEE International Conference on Acoustics, Speech and Signal Processing, Seattle, 1249-1252, Seattle, May (1998).
 89. Lee, T.-W., Lewicki, M. S., and Sejnowski, T. J., ICA mixture models for unsupervised classification and automatic context switching, International workshop on Independent Component Analysis and Blind Signal Separation, January 11-15, Aussois, France, 209-214 (1999).
 90. Jung, T.-P., Makeig, S., Westerfield, M., Townsend, J., Courchesne, E., and Sejnowski, T. J., Independent component analysis of single-trial event-related potentials, International Workshop on Independent Component Analysis and Blind Signal Separation, January 11-15, Aussois, France, 173-178 (1999).
 91. Jung, T.-P., Makeig, S., Westerfield, M., Townsend, J., Courchesne, E., and Sejnowski, T. J., Analyzing and visualizing single-trial event-related potentials, Advances in Neural Information Processing Systems 11, 118-124 (1999).
 92. Lee, T.-W., Lewicki, M. S., and Sejnowski, T. J., Unsupervised classification with non-Gaussian mixture models using ICA, Advances in Neural Information Processing Systems 11, 508-514 (1999).
 93. Lewicki, M.S., and Sejnowski, T..J., Coding time-varying signals using sparse, shift-invariant representations, Advances in Neural and Information Processing Systems 11, 730-736 (1999).
 94. Ernst, U., Pawelzik, K., Tsodyks, M., Sejnowski, T. J., and Geisel, T., Relationships between cortical maps and receptive fields are determined by lateral cortical feedback, Proceedings of the 27th Goettingen Neurobiology Conference, Georg Theime Verlag Stuttgart, New York (1999).
 95. Lee, T.-W., Lewicki, M. S., and Sejnowski, T. J., ICA mixture models for image processing, Proceedings of the 6th Joint Symposium on Neural Computation, California Institute of Technology, Pasadena, CA, 79-86 (1999).
 96. Stewart-Bartlett, M., Donato, G., Movellan, J. R., Hager, J. C., Ekman, P., and Sejnowski, T. J., Face image analysis for expression measurement and detection of deceit, Proceedings of the 6th Joint Symposium on Neural Computation, California Institute of Technology, Pasadena, CA 8-15 (1999).
 97. Kreutz-Delgado, K., Rao, B. D., Engan, K., Lee, T. -W., and Sejnowski, T. J., Convex/Schur-convex (CSC) log-priors and sparse coding, Proceedings of the 6th Joint Symposium on Neural Computation, California Institute of Technology, Pasadena, CA, 65-71 (1999).

98. Kreuz-Delgado, K., Rao, B. D., Engan, K., Lee, T.-W., and Sejnowski, T. J., Learning overcomplete dictionaries: Convex/Schur-convex (SCS) log-priors, factorial codes, and independent/ dependent component analysis (I/DCA), Proceedings of the 6th Joint Symposium on Neural Computation, California Institute of Technology, Pasadena, CA, 72-78, (1999).
99. Bazhenov, M., Stopfer, M., Rabinovich, M., Abarbanel, H. D. I., Sejnowski, T. J., and Laurent, G., Network model for the odor-specific temporal patterns in locust olfactory interneurons, Proceedings of the 6th Joint Symposium on Neural Computation, California Institute of Technology, Pasadena, CA, 16-23 (1999).
100. Rao, R. P. N., and Sejnowski, T. J., Direction selectivity from predictive sequence learning in recurrent neocortical circuits, Proceedings of the 6th Joint Symposium on Neural Computation, California Institute of Technology, Pasadena, CA, 119-126 (1999).
101. Seamans, J. K., Durstewitz, D., and Sejnowski, T. J., State-dependence of dopamine D1 receptor modulation in prefrontal cortex neurons, Proceedings of the 6th Joint Symposium on Neural Computation, California Institute of Technology, Pasadena, CA, 128-135 (1999).
102. Pouget A., Deneve S., Sejnowski T. J., Frames of reference in hemineglect: A computational approach, Progress in Brain Research 121, 81-97 (1999).
103. Destexhe, A., McCormick, D. A., and Sejnowski T. J., Thalamic and thalamocortical mechanisms underlying 3 Hz spike-and-wave discharges, Progress in Brain Research 121, 81-97(1999).
104. Coenen. O.J.M.D., Arnold, M. P., Sejnowski, T. J., and Jabri, M. A., A hypothesis for parallel fiber coding in a cerebellar model of smooth pursuit eye movement, Proceedings of the 7th Joint Symposium on Neural Computation, May 20, 2000, University of Southern California, 21-27 (2000).
105. Rao, R. P. N., and Sejnowski, T. J., Predictive sequence learning in recurrent neocortical circuits, Advances in Neural Information Processing Systems 12, 164-170 (2000).
106. Makeig, S., Enghoff, S., Jung, T.-P., and Sejnowski, T. J., Moving-window ICA decomposition of EEG data reveals event-related changes in oscillatory brain activity, Proceedings of the 2nd International Workshop on Independent Component Analysis and Blind Signal Separation 2000, June 19-22, Helsinki, Finland, 627-632 (2000).
107. Park, K.-Y., Jabri, M., Lee, S.-Y., and Sejnowski, T. J., Independent components of optical flows have MST_d-like receptive fields, Proceedings of the 2nd International Workshop on ICA and Blind Signal Separation, Helsinki, Finland 597-601 (2000).
108. Stewart-Bartlett, M, Donato, G., Movellan, J. R., Hager, J. D., Ekman, P., and Sejnowski, T. J., Image representations for facial action coding, Advances in Neural Information Processing Systems 12, 886-892 (2000).
109. Jung, T.-P., Makeig, S., Lee, T.-W., McKeown, M. J., Brown, G., Bell, A. J., Sejnowski, T. J., Independent component analysis of biomedical signals, Proceedings of the 2nd International Workshop on Independent Component Analysis and Blind Signal Separation 2000, June 19-22, Helsinki, Finland 633-644 (2000).
110. Marks, T. K., Mills, D. L., Makeig, S., Westerfield, M., Jung, T.-P., Bellugi, U., and Sejnowski, T. J., ICA provides new insights into ERP data: Face processing in Williams Syndrome, Proceedings of the 7th Joint Symposium on Neural Computation, May 20, 2000, University of Southern California, 56-63 (2000).

111. Wicklein, M., and Sejnowski, T. J., Perception of change in depth in the hummingbird hawkmoth *Manduca sexta* (Sphingidae, Lepidoptera), Proceedings of the 7th Joint Symposium on Neural Computation, May 20, University of Southern California, 131-137 (2000).
112. Coenen, O.J.M.D., Arnold, M. P., Sejnowski, T. J., and Jabri, M. A., Bayesian analysis for parallel fiber coding in the cerebellum, Proceedings of the 7th International Conference on Neural Information Processing (ICONIP-2000), KAIST, Korea (2001).
113. Lee, T.-W., Wachtler, T., and Sejnowski, T. J., Color opponency constitutes a sparse representation for the chromatic structure of natural scenes, Advances in Neural Information Processing Systems 13, 866-872 (2001).
114. Gray, M. S., Sejnowski, T. J., and Movellan, J. R., A comparison of image processing techniques for visual speech recognition applications, Advances in Neural Information Processing Systems 13, 939-945 (2001).
115. Eagleman, D. M., Coenen, O.J.M.D., Mitsner, V., Bartol, T. M., Bell, A. J., and Sejnowski, T. J., Cerebellar glomeruli: Does limited extracellular calcium implement a sparse encoding strategy? Proceedings of the 8th Joint Symposium on Neural Computation, May 20, The Salk Institute (2001).
116. Chan, K, Lee, T-W., and Sejnowski, T. J., Handling missing data with variational Bayesian learning of ICA, Advances in Neural Information Processing Systems, 15 905-912 (2002).
117. Bartlett, M. S., Littlewort, G., Braathen, B., Sejnowski, T. J., and Movellan, J. R., A prototype for automatic recognition of spontaneous facial actions, Advances in Neural Information Processing Systems, 15, 1295-1302 (2002).
118. Movellan, J. R., Wachtler, T., Albright, T. D., and Sejnowski, T. J., Naive Bayesian coding of color in primary visual cortex. Advances in Neural Information Processing System, 15, 221-228 (2002).
119. Yang, L., and Jabri, M., Sparse visual models of biologically inspired sensorimotor control, Proceedings of the Third International Workshop on Epigenetic Robotics, Lund University Cognitive Studies, 101, 131-138 (2003).
120. Tian, L., Arnold, M., Sejnowski, T. J., and Jabri, M., A biologically inspired computational model of the block copying task, Proceedings of the Third International Workshop on Epigenetic Robotics, Lund University Cognitive Studies, 101, 171-172 (2003).
121. Duann, J.-R., Jung, T.-P., Makeig, S., Sejnowski, T. J., Consistency of Infomax ICA Decomposition of Functional Brain Imaging Data, Proceedings of the 4th International Symposium on Independent Component Analysis and Blind Signal Separation (ICA2003), 289-294, (2003)
122. Anemuller, J., Duann, J.-R., Sejnowski, T. J., and Makeig, S., Unraveling spatio-temporal dynamics in fMRI recordings using complex ICA, Lecture Notes in Computer Science, 3195, 1103-1110 (2004).
123. Anemuller, J., Sejnowski, T. J., and Makeig, S., Reliable measurement of cortical flow patterns using complex independent component analysis of electroencephalographic signals, Lecture Notes in Computer Science 3195, 1009-1016 (2004).
124. Balls, G. T., Baden, S. B., Kispersky, T., Bartol, T. M., Sejnowski, T. J., A large-scale Monte Carlo simulator for cellular microphysiology, 18th International Parallel and Distributed Processing Symposium (IPDPS-04), (2004)
125. Schwartz, O., Sejnowski, T. J., Dayan, P., Assignment of multiplicative mixtures in natural images, Advances in Neural Information Processing Systems, 17, 1217-1224 (2005).

126. Schwartz, O, Sejnowski, T.J, Dayan, P, (2005) A Bayesian framework for tilt perception and confidence. *Advances in Neural Information Processing Systems*, 17, 1201 – 1208 (2005).
127. Duann, J.-R., Jung, T.-P., Sejnowski, T. J., Makeig, S., Repeated decompositions reveal the stability of infomax decomposition of fMRI data, *Conference Proceedings IEEE Engineering in Medicine and Biology Society*, Shanghai, China, September 1-4, 5: 5324-5327 (2005) PMID: PMC2925021
128. Baden, S. B., Sejnowski, T. J., Bartol, T. M., Stiles, J., Toward petascale simulation of cellular microphysiology, *Proceedings of the IEEE 7th International Symposium on Bioinformatics and Bioengineering*, October 14-17, Boston, Massachusetts (2007).
129. Wang, H.-P, Chicca, E, Indiveri, G., Sejnowski, T.J. Reliability of spike-time based computation in noisy backgrounds using real-time neuromorphic hardware, *Proceedings of the IEEE Biomedical Circuits and Systems Conference Proceedings* 71-74 (2007).
130. Vucinic, D., Chi, Y.M., Hetzer, M.W., Cauwenberghs, G. and Sejnowski, T.J., CMOS Descanning and Acousto-Optic Scanning Enable Faster Confocal Imaging, *Proc. OSA Novel Techniques in Microscopy*, Vancouver BC ,Canada, April 26-30 (2009).
131. Paul, P.P., Leung, H., Peterson, D.A., Sejnowski, T.J., Poizner, H., Detecting Neural Decision Patterns Using SVM-Based EEG Classification, *4th International Conference on Bioinformatics and Biomedical Engineering (iCBBE)*, Chengdu, China, IEEE Eng. Medicine Biol. Soc. June 18-20 (2010).
132. Yu, T., Sejnowski, T. J., Cauwenberghs, G., Biophysical Neural Dynamics in Reconfigurable Analog VLSI, *Biomedical Circuits and Systems Conference*, Paphos, Cyprus, 3-5 November (2010).
133. Huh, D., Sejnowski, T. J., Exact Analytic Solutions for Optimal Control Problems Under Multiplicative Noise, *International Federation of Automatic Control - World Congress*, Milan. Volume 18, Part 1, pp. 5908-5914 Aug. 28-Sept. 2 (2011).
134. Xing, J., Berger, T, Sejnowski, T. J., A Berger-Levy Energy Efficient Neuron Model with Unequal Synaptic Weights. *2012 IEEE International Symposium on Information Theory Proceedings*, pp. 2964-2968 Boston, July 1-6 (2012).
135. Lainscsek, C., Messenger, V., Portman, A., Muir, J.-F., Sejnowski, T. J., Letellier. C., Automatic Sleep Scoring from a Single Electrode Using Delay Differential Equations, *Dynamical Systems Theory and Applications*, Lodz, Poland, December 2-5. (2013).
136. Weyhenmeyer, J., Hernandez, M. E., Lainscsek, C., Sejnowski, T.J., Poizner, H., Muscle Artifacts in Single Trial EEG Data Distinguish Patients with Parkinson's Disease from Healthy Individuals, *Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC-14)*, Chicago, Illinois, August 26-30 (2014)

Cited Technical Reports:

1. Hinton, G. E., Sejnowski, T. J., and Ackley, D. H., Boltzmann Machines: Constraint satisfaction networks that learn, *Carnegie-Mellon University Computer Science Technical Report*, CMU-CS-84-119, (May 1984).
2. Sejnowski, T. J. and Rosenberg, C. R., NETtalk: A parallel network that learns to read aloud, *Johns Hopkins University Electrical Engineering and Computer Science Technical Report* JHU/EECS-

- 86/01, January, 1986. Reprinted in: J. A. Anderson and E. Rosenfeld (Eds.), *Neurocomputing*, Cambridge, MA: MIT Press, (1988).
3. Lisberger, S. G. and Sejnowski, T. J., Computational analysis suggests a new hypothesis for motor learning in the vestibulo-ocular reflex, Institute for Neural Computation UCSD Technical Report Series, INC-9201, (February 1992).
 4. Gray, M. S., Lawrence, D. T., Golomb, B. A. and Sejnowski, T. J., A perceptron reveals the face of sex, Institute for Neural Computation Technical YCSD Report Series, INC-9303, (April 1993).
 5. Li, S. and Sejnowski, T. J., Adaptive separation of mixed broadband sound sources with delays by a beamforming Héroult-Jutten Network, Institute for Neural Computation UCSD Technical Report Series, INC-9304, (April 1993).
 6. Destexhe, A., Contreras, D., Sejnowski, T. J. and Steriade, M., A model of spindle rhythmicity in the isolated thalamic reticular nucleus, Institute for Neural Computation UCSD Technical Report Series, INC-9308, (November 1993).
 7. Stensmo, M. and Sejnowski, T. J., A mixture model diagnosis system, Institute for Neural Computation UCSD Technical Report Series, INC-9401, (December, 1994).
 8. Bell, A. J., Mainen, Z. F., Tsodyks, M. and Sejnowski, T. J., 'Balancing' of conductances may explain irregular cortical spiking, Institute for Neural Computation Technical Report Series, INC-9502, (February, 1995).
 9. Goodhill, G. J., Finch, S., and Sejnowski, T. J., Quantifying neighborhood preservation in topographic mappings, Institute for Neural Computation UCSD Technical Report Series, INC-9505, (November 1995).
 10. Ghahremani, D., Makeig, S., Jung, T.-P., Bell, A. J., and Sejnowski, T. J., Independent component analysis of simulated EEG using a three-shell spherical head model, Institute for Neural Computation UCSD Technical Report Series, INC-9601, (May 1996).
 11. Makeig, S., Jung, T.-P. Ghahremani, D., and Sejnowski, T. J., Independent component analysis of simulated ERP data, Institute for Neural Computation UCSD Technical Report Series, INC-9606, (October 1996).
 12. Brown, G.D., Yamada, S., Nakashima, M., Moore-Kochlacs, C., Sejnowski, T. J., Independent Component Analysis of Optical Recordings from Tritonia Swimming Neurons, Institute for Neural Computation, UCSD Technical Report, INC-08-001, (October, 2008).
 13. Nadkarni, S., Bartol, T.M., Sejnowski, T. J., Levine, H., Are the Docked Vesicles at CA3-CA1 Synapses at the Active Zone Functionally Coupled?, INC Technical Report, (July, 2009).
 14. Nadkarni, S., Bartol, T., Sejnowski, T. J. Levine, H., Spatial and Temporal Correlates of Vesicular Release at Hippocampal Synapses, arXiv, 1004.2009v1 [q-bio.NC], (April, 2010).
 15. Bartol, T. M., Bromer, C., Kinney, J. P., Chirillo, M. A., Bourne, J. N., Harris, K. M., Sejnowski, T. J. Hippocampal Spine Head Sizes are Highly Precise, BioRxiv doi: <http://dx.doi.org/10.1101/016329> (2015).
 16. Saremi, S., Sejnowski, T. J. The Wilson Machine for Image Modeling, arXiv:1510.07740v1 (2015).

Book Chapters:

1. Sejnowski, T. J., Skeleton filters in the brain. In: *Parallel Models of Associative Memory*, G. E. Hinton and J. A. Anderson (Eds.), Lawrence Erlbaum Associates, Hillsdale, New Jersey, 189-212 (1981).
2. Hinton, G. E. and Sejnowski, T. J., Learning in Boltzmann machines. In: *Cognitiva 85*, Paris, 284-290, June 4-7 (1985).
3. Hinton, G. E. and Sejnowski, T. J., Learning and relearning in Boltzmann machines. In: McClelland, J. and Rumelhart, D. (Eds.) *Explorations in the Microstructure of Cognition 1: Foundations*, Cambridge: MIT Press, 282-317 (1986).
4. Sejnowski, T. J., Open questions about computation in cerebral cortex. In: McClelland, J. and Rumelhart, D. (Eds.) *Explorations in the Microstructure of Cognition 2: Applications*, Cambridge: MIT Press, 372-389 (1986).
5. Sejnowski, T. J., Higher-order Boltzmann machines. In: *Neural Networks for Computing*, J. Denker (Ed). New York: American Institute of Physics, 398-403 (1986).
6. Qian, N. and Sejnowski, T. J., Electro-diffusion model of electrical conduction in neuronal processes. In: C. D. Woody, J. L. McGaugh, and D. L. Alkon, *Cellular Mechanisms of Conditioning and Behavioral Plasticity*, London: Pergammon, 237-244 (1988).
7. Sejnowski, T. J. and Hinton, G. E., Separating figure from ground with a Boltzmann machine. In: Arbib, M. and Hanson, A. R. (Eds.) *Vision, Brain and Cooperative Computation*, Cambridge: MIT Press, 703-724 (1987).
8. Lehky, S. and Sejnowski, T. J., Neural network models of visual processing. *Society for Neuroscience Short Course on Computational Neuroscience*, 102-123 (1987).
9. Sejnowski, T. J. and Rosenberg, C. R., Learning and Representation in Connectionist Models. In: M. S. Gazzaniga (Ed). *Perspectives in Memory Research*, Cambridge, MA: MIT Press, 135-178 (1988).
10. Churchland, P. S. and Sejnowski, T. J., Neural representations and neural computation. In: L. Nadel (Ed). *Neural Connections and Mental Computation*, Cambridge, MA: MIT Press, 15-48 (1988).
11. Churchland, P. S., Koch, C. and Sejnowski, T. J., What is computational neuroscience? In: E. Schwartz (Ed). *Computational Neuroscience*, Cambridge, MA: MIT Press, 46-55 (1988).
12. Sejnowski, T. J., Neural network learning algorithms. In: R. Eckmiller and C. von der Malsburg (Eds.) *Neural Computers*, Berlin: Springer-Verlag, 291-300 (1988).
13. Lehky, S. R. and Sejnowski, T. J., Neural network model for the cortical representation of surface curvature from images of shaded surfaces. In: J. Lund (Ed). *Sensory Processing in the Mammalian Brain: Neural Substrates and Experimental Strategies*, Oxford: Oxford University Press, (1988).
14. Qian, N. and Sejnowski, T. J., Learning to predict the secondary structure of globular proteins. In: Y. C. Lee (Ed). *Evolution, Learning and Cognition*, Singapore: World Scientific, 257-276 (1988).
15. Sejnowski, T. J. and Tesauro, G., The Hebb rule for synaptic plasticity: Algorithms and implementations. In: J. Byrne and W. O. Berry (Eds.) *Neural Models of Plasticity*, New York: Academic Press, 94-103 (1988).
16. Sejnowski, T. J., Koch, C. and Churchland, P. S., Computational neuroscience. In: G. Adelman, (Ed)., *Encyclopedia of Neuroscience: Neuroscience Year*, Boston: Birkhäuser, 41-44 (1989).

17. Sejnowski, T. J. and Tesauro, G., Building network learning algorithms from Hebbian synapses. In: J. L. McGaugh, N. M. Weinberger and G. Lynch (Eds.) *Brain Organization and Memory: Cells, Systems and Circuits*, New York: Oxford University Press, 338-355 (1989).
18. Sejnowski, T. J. and Stanton, P. K., Covariance storage in the hippocampus. In: S. F. Zornetzer, J. L. Davis and C. Lau (Eds.) *An Introduction to Neural and Electronic Networks*, New York: Academic Press, 365-377 (1989).
19. Sejnowski, T. J., The Computer and the Brain revisited. In: J. R. Brink and C. Roland (Eds.) *Computer and the Brain: Perspectives on Human and Artificial Intelligence*, Amsterdam: Elsevier (1989).
20. Sejnowski, T. J., Chattarji, S. and Stanton, P. K., Induction of synaptic plasticity by Hebbian covariance in the hippocampus. In: R. M. Durbin, R. C. Miall and G. J. Mitchison (Eds.) *The Computing Neuron*, New York: Addison-Wesley, 105-124 (1989).
21. Lehky, S. R. and Sejnowski, T. J., Simplifying network models of binocular rivalry and shape-from-shading. In: C. Koch and I. Segev (Eds.) *Methods in Neuronal Modeling*, Cambridge, MA.: MIT Press, 361-391 (1989).
22. Sejnowski, T. J., and Churchland, P. S., Brain and Cognition. In: M. I. Posner (Ed.), *Foundations of Cognitive Science*, Cambridge, MA: MIT Press 302-356 (1989).
23. Sejnowski, T. J. and White, H., Introduction. In: N. Nilsson, *Mathematical Foundations of Learning Machines*, 2nd Edition, San Mateo, CA: Morgan Kaufmann Publishers, vii-xxi (1990).
24. Lehky, S. R. and Sejnowski, T. J. Neural model of stereoacuity based on a distributed representation of binocular disparity. In: J. J. Kulikowski, V. Walsh, and I. J. Murray (Eds.) *Limits of Vision, Vision and Visual Dysfunction*, New York: The MacMillan Press Ltd, 5, 133-146 (1991).
25. Sejnowski, T. J. and Yuhas, B. P., Mappings between high-dimensional representations of acoustic and visual speech signals. In: W. Gear (Ed). *Computation and Cognition: Proceedings of the First NEC Research Symposium*, Philadelphia, PA: Society for Industrial and Applied Mathematics, 52-68 (1991).
26. Sejnowski, T. J. and Marr, D., A pioneer in computational neuroscience. In: L. Vaina, (Ed). *Collected Papers of David Marr*, Boston, MA: Birkhäuser, 297-301 (1991).
27. Lytton, W. W. and Sejnowski, T. J. Inhibitory interneurons can rapidly phase-lock neural populations. In: E. Basar and T. H. Bullock (Eds.) *Induced Rhythms in the Brain*, Boston, MA: Birkhauser (1991).
28. Churchland, P. S. and Sejnowski, T. J., Perspectives on cognitive neuroscience. In: R. G. Lister and H. J. Weingartner (Eds.) *Perspectives on Cognitive Neuroscience*, New York: Oxford University Press (1992).
29. Lockery, S. R. and Sejnowski, T. J., Voyages through Weight Space: Network Models of an Escape Reflex in the Leech. In: R. D. Beer, R. E. Ritzmann and T. McKenna (Eds.) *Biological Neural Networks in Invertebrate Neuroethology and Robotics*, San Diego, CA: Academic Press, 251-266 (1992).
30. Lytton, W. W. and Sejnowski, T. J., Computational Neuroscience. In: A. K. Asbury, G. M. McKhann, and W. I. McDonald (Eds.) *Diseases Of the Nervous System: Clinical Neurobiology*, 2nd Edition, Orlando, FL: W. B. Saunders, 1152-1572 (1992).

31. Sejnowski, T. J. and Lytton, W. W., Inhibitory interneurons can synchronize cortical pyramidal neurons. In: Norbert Elsner and Diethelm W. Richter (Eds.) *Rhythmogenesis in Neurons and Networks: Proceedings of the 20th Göttingen Neurobiology Conference*, Georg Thieme Verlag Stuttgart, New York, 173-185 (1992).
32. Sejnowski, T. J. and Qian, N., Synaptic integration by electro-diffusion in dendritic spines. In: T. Mckenna, J. Davis, and S. F. Zornetzer (Eds.) *Single Neuron Computation*, San Diego, CA: Academic Press, (1992).
33. Sejnowski, T. J. and Churchland, P. S., Computation in the age of neuroscience. In: N. Metropolis and G.-C. Rota (Eds.) *A New Era in Computation*, Cambridge, MA: MIT Press, 167-190 (1993).
34. Lockery, S. R. and Sejnowski, T. J., Realistic network models of distributed processing in the leech. In: D. Gardner (Ed). *The Neurobiology of Neural Networks*, Cambridge, MA: MIT Press, 107-136 (1993).
35. Lockery, S. R., Nowlan, S. J. and Sejnowski, T. J., Modeling chemotaxis in the nematode *C. elegans*. In: J. Bower and F. Eeckman (Eds.) *Computation and Neural Systems*, Norwell, MA: Kluwer Academic Publishers, 249-254 (1993).
36. Sejnowski, T. J., Discussion: Biological memory models. In: P. Anderson, Ø. Hvalby, O. Paulsen and B. Hökfelt (Eds.), *Memory Concepts*, Elsevier Science Publishers B. V., 137-144 (1993).
37. Sejnowski, T. J., Neural computation: Approaches to learning. In: L. Squire (Ed). *Encyclopedia of Learning and Memory*, New York: MacMillan Publishing Company (1993).
38. Montague, P. R., Dayan, P. and Sejnowski, T. J., Volume learning: Signaling covariance through neural tissue. In: J. Bower and F. Eeckman (Eds.) *Computation and Neural Systems*, Norwell, MA: Kluwer Academic Publishers, 377-382 (1993).
39. Bush, P. C. and Sejnowski, T. J. Simulations of synaptic integration in neocortical pyramidal cells, In: J. Bower and F. Eeckman (Eds.) *Computation and Neural Systems*, Norwell, MA: Kluwer Academic Publishers, 97-102 (1993).
40. Berns, G. S., Dayan, P. and Sejnowski, T. J., Correlational-based development of disparity sensitivity. In: F. H. Eeckman (Ed). *Neural Systems: Analysis and Modeling*, Lawrence Livermore National Laboratory, Livermore, CA (1993).
41. Sejnowski, T. J., Forward In: I. Segev, J. Rinzel and G. Shepherd (Eds.) *The Theoretical Foundation of Dendritic Function: Collected Papers of Wilfrid Rall with Commentaries*, Cambridge, MA: MIT Press, xi (1994).
42. Churchland, P. S., Ramachandran, V. S. and Sejnowski, T. J., A critique of pure vision. In: C. Koch and J. Davis (Eds.), *Large-Scale Neuronal Theories of the Brain*, Cambridge, MA: MIT Press, 23-60 (1994).
43. Sejnowski, T. J. and Nowlan, S., A model of visual motion processing in area MT of primates. In: M. S. Gazzaniga, (Ed). *The Cognitive Neurosciences*, Cambridge, MA: MIT Press 432-439 (1994).
44. Golomb, B. and Sejnowski, T. J., Sex recognition from faces using neural networks. In: A. F. Murray (Ed)., *Applications of Neural Networks*, Norwell, MA: Kluwer Academic Publishers, 71-92 (1995).
45. Sejnowski, T. J., McCormick, D. A. and Steriade, M., Thalamocortical oscillations in sleep and wakefulness. In: Michael A. Arbib (Ed). *The Handbook of Brain Theory and Neural Networks*, Cambridge, MA: MIT Press, 976-980 (1995).

46. Destexhe, A., Mainen, Z. F. and Sejnowski, T. J., Synaptic currents, neuromodulation, and kinetic models. In: Michael A. Arbib (Ed). *The Handbook of Brain Theory and Neural Networks*, Cambridge, MA: MIT Press, 956-959 (1995).
47. Pouget, A. and Sejnowski, T. J., Dynamic Remapping, In: Michael A. Arbib (Ed). *The Handbook of Brain Theory and Neural Networks*, Cambridge, MA: MIT Press, 335-338 (1995).
48. Bush, P. and Sejnowski, T. J., Models of cortical networks. In: I. Mody and M. Gutnik (Eds), *The Cortical Neuron*, Oxford: Oxford University Press 174-189 (1995).
49. Destexhe, A., Mainen, Z. F. and Sejnowski, T. J., Fast kinetic models for simulating AMPA, NMDA, GABAA and GABAB receptors. In: J. Bower (Ed). *The Neurobiology of Computation*, Norwell, MA: Kluwer Academic Press, 9-14 (1995).
50. Doya, K., and Sejnowski, T. J., A model of birdsong vocalization learning. In: M. Burrows, T. Matheson, P. L. Newland, and H. Schuppe, (Eds.) *Nervous Systems and Behavior*, Georg Thieme Verlag, Stuttgart, Germany, 76 (1995).
51. Bartlett, M. S. and Sejnowski, T. J., Unsupervised learning of invariant representations of faces through temporal association. In: J. M. Bower, (Ed.) *Computational Neuroscience: Trends in Research 1995*, San Diego, CA: Academic Press, 317-322 (1996).
52. Berns, G. S. and Sejnowski, T. J., How the basal ganglia make decisions. In: A. Damasio (Ed). *Neurobiology of Decision Making*, Berlin: Springer-Verlag, 101-113 (1996).
53. Sejnowski, T. J., Anatomical specializations of neurons and their contribution to coincidence detection. In: A. Konnerth, R. Y. Tsien, K. Mikoshiba and J. Altman (Eds.), *Coincidence Detection in the Nervous System*, Human Frontiers Science Program, Strasbourg, 151-159 (1996).
54. Destexhe, A., Contreras, D., Steriade, M., Sejnowski, T. J., and Huguenard, J., Computational models constrained by voltage-clamp data for investigating dendritic currents. In: J. M. Bower, (Ed.) *Computational Neuroscience: Trends in Research 1995*, San Diego, CA: Academic Press, 53-58 (1996).
55. Ritz, R., and Sejnowski, T. J., Correlation coding in stochastic neural networks. In: Wulfram Gerstner, Alain Germond, Martin Hasler, Jean-Daniel Nicoud (Eds.), *Artificial Neural Networks-ICANN '97, 7th International Conference Proceedings*, Lausanne, Switzerland: Springer, 79-84 (1997).
56. Goodhill, G. J., and Sejnowski, T. J., Objective functions for topography: A comparison of optimal maps. In: John A. Bullinaria, David W. Glasspool, and George Houghton (Eds), *Fourth Neural Computation and Psychology Workshop, Connectionist Representations*: Springer, 73-83 (1997).
57. Pouget, A., and Sejnowski, T. J., Lesion in a basis function model of spatial representations: Comparison with hemineglect. In: Thier, P. and Karnath, H. O. (Eds.) *Parietal Lobe Contribution in Orientation in 3D Space*, 521-538 (1997).
58. Destexhe, A. and Sejnowski, T. J., Synchronized oscillations in thalamic networks: Insights from modeling studies. In: M. Steriade, E. G. Jones and D. A. McCormick (Eds.) *Amsterdam: Elsevier Thalamus*, 331-371 (1997).
59. Goodhill, G. J., and Sejnowski, T. J., Objective functions for topography: A comparison of optimal maps. In: *Proceedings of the Fourth Neural Computation and Psychology Workshop: Connectionist Representations*, John A. Bullinaria, David G. Glasspool, and George Houghton (Eds.), London: Springer-Verlag 73-83 (1998).

60. Doya, K., and Sejnowski, T. J., A computational model of birdsong learning by auditory experience and auditory feedback. In: P. Poon, and J. Brugge, (Eds), Auditory Processing and Neural Modeling, Plenum Press, 77-88 (1998).
61. Jung, T.-P., Makeig, S., Bell, A. J., and Sejnowski, T. J., Independent component analysis of electroencephalographic and event-related potential data. In: P. Poon, and J. Brugge, (Eds), Auditory Processing and Neural Modeling, Plenum Press, 189-197 (1998).
62. Destexhe, A., Mainen, Z. F., and Sejnowski, T. J., Kinetic models of synaptic transmission. In: Koch, C. and Segev, I. (Eds.), Methods in Neuronal Modeling, MIT Press, Cambridge, MA, 1-25 (1998).
63. Pouget, A., and Sejnowski, T. J., A new view of hemineglect based on the response properties of parietal neurons. In: N. Burgess, K J. Jeffery, and J. O'Keefe, (Eds.) The Hippocampal and Parietal Foundations of Spatial Cognition, Oxford University Press, 125-146 (1998).
64. Sejnowski, T. J., Memory in neural networks. In: K. Patterson and P. Fara (Eds.), Darwin Lectures on Memory, Oxford: Oxford University Press, 162-181, 1998.
65. Mainen, Z. F., and Sejnowski, T. J., Modeling active dendritic processes in pyramidal neurons. In: Koch C. and Segev, I. (Eds.), Methods in Neuronal Modeling, MIT Press, Cambridge, MA., 171-209 (1998).
66. Sejnowski, T. J., Neural pulse coding. In: C. Bishop and W. Maass (Eds.) Pulsed Neural Networks, MIT Press, Cambridge, MA xiii-xxiii (1999).
67. Hinton, G. E., and Sejnowski, T. J., Unsupervised learning: Foundations of neural computation. In: G. E. Hinton and T. J. Sejnowski (Eds.) Unsupervised Learning: Foundations of Neural Computation, MIT Press, Cambridge, MA vii-xvi (1999).
68. Stewart-Bartlett, M., and Sejnowski T. J., Learning viewpoint invariant face representations from visual experience by temporal association. In: H. Wechsler, P. J. Phillips, V. Bruce, S. Fogelman-Soulie, T. Huang (Eds.), Face Recognition: From Theory to Applications, NATO ASI Series F. Springer-Verlag, 381-390 (1998.)
69. Abbott, L. F., and Sejnowski, T. J., Neural codes and distributed representations: Foundations of neural computation. In: L. F. Abbott and T. J. Sejnowski (Eds.) Neural Codes and Distributed Representations: Foundations of Neural Computation, MIT Press, Cambridge, MA vii-xxiii (1999).
70. Destexhe, A., McCormick, D. A., and Sejnowski T. J., Thalamic and thalamocortical mechanisms underlying 3 Hz spike-and-wave discharges. In: J. Reggia, E. Ruppin, and D. Glanzman (Eds.) Brain, Behavioral, and Cognitive Disorders: The Neurocomputational Perspective, Elsevier, Amsterdam, 289-307 (1999).
71. Pouget, A., Deneve, S. and Sejnowski, T. J., Frames of reference in hemineglect: A computational approach. In: J. Reggia, E. Ruppin, and D. Glanzman (Eds.) Progress in Brain Research: Brain, Behavioral, and Cognitive Disorders: The Neurocomputational Perspective, Elsevier, Amsterdam, 121, 81-97 (1999).
72. Sejnowski, T. J., Computational neurobiology of sleep rhythms. In: A. A. Borbely, O. Hayaishi, T. J. Sejnowski, J. S. Altman (Eds.), The Regulation of Sleep, Human Frontiers Science Program, Strasbourg, 57-65 (2000).

73. Doya, K., and Sejnowski, T. J., A computational model of avian song learning. In: M. S. Gazzaniga (Ed.), *The New Cognitive Neurosciences*, 2nd edition, pages 469-482, MIT Press, Cambridge, MA (2000).
74. Stiles, J. S., Bartol, T. M., Salpeter, M. M., Salpeter, E. E., and Sejnowski, T. J., Synaptic Variability: New insights from reconstructions and Monte Carlo simulations with MCell. In: *Synapses*, W. M. Cowan, T. C. Sudhoff, and C. F., Stevens (Eds.), Baltimore, Johns Hopkins University, 681-731(2000).
75. Makeig S, Jung T-P, Ghahremani D and Sejnowski TJ, "Independent component analysis of simulated ERP data", In: *Integrated Human Brain Science* (in .HTML/.doc), Ed. T. Nakada, Elsevier, (2000).
76. Zhang, K., and Sejnowski, T. J., Accuracy and learning in neuronal populations. In: *Progress in Brain Research: Population Coding*, edited by Miguel Nicolelis, Elsevier, 130, 333-342 (2001).
77. Rao, R. P. N., and Sejnowski, T. J., Predictive learning of temporal sequences in recurrent neocortical circuits, In: *Complexity in Biological Information Processing*, Bock, G. and Goode, J. (Eds.), John Wiley and Sons LTD, England, 208-233 (2001).
78. Obermayer, K., and Sejnowski, T. J., Self-organizing map formation: Foundations of neural computation. In: K. Obermayer and T. J. Sejnowski (Eds.), *Self-organizing Map Formation: Foundations of Neural Computation*, MIT Press, Cambridge, MA xi-xvii (2001).
79. Jordan, M., and Sejnowski, T. J., Graphical models: Foundations of neural computation. In: M. Jordan and T. J. Sejnowski (Eds.), *Graphical Models: Foundations of Neural Computation*, MIT Press, Cambridge, MA, xi-xxiv (2001).
80. Hinton, G. E., and Sejnowski, T. J., Learning and relearning in Boltzmann machines, In: M. Jordan and T. J. Sejnowski (Eds.), *Graphical Models: Foundations of Neural Computation*, MIT Press, Cambridge, MA, 45-76 (2001).
81. Goodhill, Geoffrey J., and Sejnowski, Terrence J., A unifying objective function for topographic mappings, In: K. Obermayer and T. J. Sejnowski (Eds.), *Self-organizing Map Formation: Foundations of Neural Computation*, MIT Press, Cambridge, MA 69-81 (2001).
82. Wiskott, L., and Sejnowski, T. J., Constrained optimization for neural map formation: A unifying framework for weight growth and normalization. In: K. Obermayer and T. J. Sejnowski (Eds.), *Self-organizing Map Formation: Foundations of Neural Computation*, MIT Press, Cambridge, MA 83-128 (2001).
83. Schraudolph, N. N., Dayan, P., and Sejnowski, T. J., Learning to evaluate Go positions via temporal difference methods. In: *Computational Intelligence in Games*, N. Baba and Lakhmi C. Jain (Eds.), Springer Verlag, Berlin 62 (4) 77-98 (2001.)
84. Makeig, S., Jung, T.-P., Ghahremani, D., Sejnowski, T. J., Independent Component Analysis of Simulated ERP Data, Nakada, T., (Ed.), In: *Human Higher Function I: Advanced Methodologies*, T. Nakada (Eds.). (2001).
85. Rao, R. P. N. and Sejnowski, T. J., Predictive coding, cortical feedback, and spike-timing dependent plasticity. In: R. P. N. Rao, B. A. Olshausen and M. S. Lewicki (Eds.), *Probabilistic Models of the Brain: Perception and Neural Function*, MIT Press, Cambridge, MA 297-315 (2002).
86. Bell, A. J., and Sejnowski, T. J., Finding independent components in natural scenes. In: M. Fahle and T. Poggio (Eds) *Perceptual Learning*, MIT Press, Cambridge, MA, 355-365 (2002).

87. Makeig, S., Jung, T.-P., Ghahremani, D., and Sejnowski, T. J., Independent component analysis of simulated ERP data. In: T. Nakada (Ed.) *Human Higher Function I: Advanced Methodologies*, (2002).
88. Destexhe, A., and Sejnowski, T. J., Sleep oscillations: Electrophysiology and modeling. In: *The Handbook of Brain Theory and Neural Networks* (2nd ed), In: Arbib, (Ed.), M.A. MIT Press, Cambridge, MA, 1049-1053 (2002).
89. Destexhe, A., Mainen, Z. F., and Sejnowski, T. J., Synaptic Interactions. In: *The Handbook of Brain Theory and Neural Networks* (2nd ed), In: Arbib, (Ed.), MIT Press, Cambridge, MA, 1126-1130 (2002).
90. Pouget, A., and Sejnowski, T. J., Dynamic Remapping. In: *The Handbook of Brain Theory and Neural Networks* (2nd ed), In: Arbib, (Ed.), MIT Press, Cambridge, MA, 368-371 (2002).
91. Makeig, S., Jung, T.-P., and Sejnowski, T. J., Having your voxels and timing them too? In: *Exploratory Analysis and Data Modeling in Functional Neuroimaging*, edited by F. Sommer and A. Wichert, MIT Press, Cambridge, MA, 195-207 (2002).
92. Sejnowski, T. J., The Computational Self. In: "The Self: From Soul to Brain, *Annals of the New York Academy of Sciences*, NY, 1001: 262-271 (2003).
93. Salinas, E. and Sejnowski, T. J., Correlated neuronal activity: High-and low-level views. In: *Computational Neuroscience – A Comprehensive Approach*, edited by Jianfeng Feng, Chapman and Hall/CRC (2004).
94. Stiles, J. R., Ford, W. C., Pattillo, J. M., Deerinck, T. E., Ellisman, M. H., Bartol, T. M., and Sejnowski, T. J., Spatially realistic computational physiology: past, present, and future. In: *Parallel Computing: Software Technology, Algorithms, Architectures & Applications*, Joubert, G, et al. (Eds.), Elsevier: Amsterdam, 685-694 (2004).
95. Balls, G. T., Baden, S. B., Bartol, T. M., and Sejnowski, T. J., Simulation-driven dynamic clamping of neurons. In: *Dynamic data driven applications systems*, Kluwer Academic Publishers: Netherlands, (2004).
96. Stewart-Bartlett, M., Movellan, J. R., Littlewort, G., Braathen, B., and Sejnowski, T. J., Towards automatic recognition of spontaneous facial actions. In: *What the Face Reveals - Basic and Applied Studies of Spontaneous Expression Using the Facial Action Coding Systems (FACS)*, edited by P. Ekman, and L. E. Rosenberg, Oxford University Press: Oxford, 393-412 (2005).
97. Sejnowski, T. J., How do we remember the past?, In: *What We Believe But Cannot: Today's Leading Thinkers on Science in the Age of Certainty*, edited by J. Brockman, The Free Press, 97-99 (2005).
98. Sejnowski, T. J., What are the projective fields of cortical neurons? In: *23 Problems in Systems Neuroscience*, L. van Hemmen and T. J. Sejnowski (Eds.), Oxford University Press: Oxford 394-405, (2005).
99. Stewart-Bartlett, M., Movellan, J. R., and Sejnowski, T. J., Face modeling by information maximization. In: *Face Processing: Advanced Modeling and Methods*, W. Zhao and R. Chellappa (Eds.), Academic Press, 219-253, (2005).
100. Sejnowski, T. J., When Will the Internet Become Aware of Itself? In: *What Is Your Dangerous Idea?*, edited by John Brockman, Harper Perennial, New York, 132-136, (2007).

101. Sejnowski, T. J. Forward, In: Toward Brain-Computer Interfacing, Dornhege, G., Millán, J. del R. Hinterberger, T., McFarland, D. J. Müller, K.-R. (Eds.), Cambridge: MIT Press, ix, (2007).
102. Sejnowski, T.J., A breakthrough in understanding intelligence is around the corner, In: What are you optimistic about?, J. Brockman (Ed.), Harper Perennial, New York, 204-207, (2007).
103. Fröhlich, F., Timofeev, I., Sejnowski, T. J., Bazhenov, M., Extracellular potassium dynamics and epileptogenesis, In: Computational Neuroscience in Epilepsy, I. Soltesz and K. Staley (Eds.), Elsevier, 407-427, (2008).
104. Bazhenov, M., Houweling, A., Timofeev, I., Sejnowski, T. J., Homeostatic plasticity and post-traumatic epileptogenesis, In: Computational Neuroscience in Epilepsy, I. Soltesz and K. Staley (Eds.) , Elsevier, 253-271, (2008).
105. Moldakarimov, S., Sejnowski, T. J., Neural Computation Theories of Learning. In: Learning and Memory: A Comprehensive Reference, J. Byrne (Ed.), Elsevier: Oxford Vol. 4, 667-680 (2008).
106. Destexhe, A., Sejnowski, T. J., Thalamic regulation of sleep In: The Neuroscience of Sleep, Stickgold, R., Walker, M.A. (Eds.), Academic Press, New York, 973-975 (2009)
107. Moldakarimov, S., Sejnowski, T. J., Neural Computation Theories of Learning. In: Concise Learning and Memory: The Editor's Selection, J. Byrne, (Ed.) Elsevier, Oxford, 317-330 (2009).
108. Destexhe, A., Sejnowski, T. J., Sleep and sleep states: Thalamic regulation. In: Encyclopedia of Neuroscience, 4th Edition, L. R. Squire (Ed.), Springer Verlag: Berlin, 973-976 (2009).
109. Tiesinga, P. H. E., Sejnowski, T. J., Attention: Models. In: Encyclopedia of Neuroscience, 4th Edition, L. R. Squire (Ed.), Springer-Verlag: Berlin, 633-637 (2009).
110. Sejnowski, T. J., Computational Methods. In: Encyclopedia of Neuroscience, 4th Edition, L. R. Squire (Ed.), Springer-Verlag: Berlin, 19-22 (2009).
111. Fellous, J.-M., Sejnowski, T. J. and Navratilova, Z. Intrinsic and Network Contributions to Reverberatory Activity: Reactive Clamp and Modeling Studies, In: Destexhe, A (Ed.) Dynamic-clamp: From principles to applications, Springer-Verlag: Berlin (2009)
112. Fellous, J. M., Sejnowski, T. J., Navratilova, Z., Intrinsic and Network Contributions to Reverberatory activity: Reactive Clamp and Modeling Studies. Destexhe, A., Ball, T., (Eds.), In: The Dynamic-Clamp: From Principles to Applications, (2009).
113. Sejnowski, T. J., Computers are the new microscopes, In: This Will Change Everything: Ideas That Will Shape the Future, edited by J. Brockman, Harper Perennial, New York, 97-98 (2009).
114. Sejnowski, T. J., Spike timing in cortical neurons, In: What Have You Changed Your Mind About?: Today's Leading Minds Rethink Everything, edited by J. Brockman, Harper Perennial, New York, 209-210 (2009).
115. Bonjean, M, Stepnowsky, C., Thanh Dang-Vu, T., Sejnowski, T. J., Maquet, P, Sleep Medicine and sleep Disorders. R. A. Carlstedt (Ed.), In: Handbook of Integrative Clinical Psychology, Psychiatry and Behavioral Medicine, Springer-Verlag: New York, 95-152 (2010).
116. Sejnowski, T. J., The brain as circuit. In: Portraits of the Mind: Visualizing the Brain from Antiquity to the 21st Century. Schoonover, C. (Ed.), Abrams: New York (2010).
117. Mehta, M., Buzsaki, G., Kreiter, A., Lansner, A., Lucke, J., Martin, K., Moghaddan, B., Moser, M.-B., Nikolic, D. Sejnowski, T. J., Coordination in Circuits, In: Dynamic Coordination in the Brain: From

- Neuron to Mind, Malsburg, C. v-d, Phillips. W. A., and Singer, W. (Eds.) , MIT Press: Cambridge, 133-148 MA (2010)
118. Frost, W.N., Wang, J., Brandon, C.J., Moore-Kochlacs, C., Sejnowski, T. J., Hill, E.S., Use of fast-responding voltage-sensitive dyes for large-scale recording of neuronal spiking activity with single-cell resolution, In: Membrane Potential Imaging in the Nervous System: Methods and Applications, Zecevic, D., Canepari, M., (Eds.), pp. 53-60. Springer Verlag: Berlin (2010).
 119. Quartz, S. and Sejnowski, T. J., The neural basis of cognitive development: A constructivist manifesto, In: Cognitive Architecture. From Biopolitics to Noopolitics. Architecture and Mind in the Age of Communication and Information. Hauptmann, D. and Neiderich, W. (Eds.), pp. 100-115, 010 Publishers: Delft, Holland (2010).
 120. Sejnowski, T. J., This is your brain on the internet, In: Is the Internet Changing the Way You Think?: The Net's Impact on Our Minds and Future, Brockman, J. (Ed.), Harper Perennial, NY, 88-89 (2011).
 121. Sejnowski, T. J., Powers of 10, In: This Will Make You Smarter: New Scientific Concepts to Improve Your Thinking, J. Brockman, (Ed.), Harper Perennial, New York, 162-164 (2012).
 122. Timoveef, I., Bazhenov, M., Seigneur, J., Sejnowski, T. J., Neuronal Synchronization and Thalamocortical Rhythms during Sleep, Wake, and Epilepsy, In: Jasper's Basic Mechanisms of the Epilepsies, 4th Ed., Noebels, J. L., Avoli, M., Rogawski, M. A., Olsen, R. W., Delgado-Escueta, A. V., (Eds.), National Center for Biotechnology Information: Bethesda, MD (2012).
 123. Lainscsek, C., Messenger, V., Portman, A., Muir, J.-F., Sejnowski, T. J., Letellier, C., Automatic Sleep Scoring from a Single Electrode Using Delay Differential Equations. In: Applied Non-Linear Dynamical Systems, Awrejcewicz, J. (Ed.) (2014).
 124. Sejnowski, T. J., The Failure of Genomics for Mental Disorders, In: What Should We Be Worried About?, Brockman, J, (Ed.), Harper Perennial: New York, NY, 299-301, (2014).
 125. Sejnowski, T. J., Grandmother Cells, In: What This Idea Must Die, Brockman, J., (Ed.), Harper Perennial: New York, NY, 282-285, (2015).
 126. Sejnowski, T. J., Forward, In: Event -based neuromorphic systems, Liu, S.-C., Delbruck, T., Inidiveri, G. Whatley, A. Douglas, R. (Ed.), xvii-xviii, (2015).
 127. Sejnowski, T. J., AI will make your smarter, In: What to think about machines that think, Brockman, J., (Ed.), Harper Perennial: New York, NY, 118-120, (2015).
 128. Sejnowski, T. J., Computational Neuroscience, In: Encyclopedia of the Social and Behavioral Sciences, Second Edition, 480-484 (2015).
 129. Sejnowski, T. J., Nanoconnectomics. In: Micro-, Meso- and Macro-Connectomics of the Brain, Kennedy, H., Van Essen, D., Christen, Y (Eds.), Springer: Switzerland, 1-10, (2016).

Abstracts:

1. Sejnowski, T. J. and Yodlowski, M. L., A freeze-fracture study of skate electroreceptor, Biological Bulletin 155, 465 (1978).
2. Sejnowski, T. J., Kelley, D. B. Paton, J. A. and Yodlowski, M. L., Quantitative ³H-2-deoxyglucose mapping of the auditory central nervous system in *Xenopus laevis*, Society for Neuroscience Abstracts 5,30 (1979).

3. Reingold, S. C. and Sejnowski, T. J., ^3H -2-deoxyglucose uptake in the molluscan central nervous system, *Society for Neuroscience Abstracts* 6,74 (1980).
4. Sejnowski, T. J. and Kuffler, S. W., Integration of peptidergic and muscarinic synaptic transmission in amphibian sympathetic ganglion neurons, *Society for Neuroscience Abstracts* 7, 726 (1981).
5. Sejnowski, T. J., Cortical computation, *Proceedings 6th Annual Conference of the Cognitive Science Society*, Boulder, CO (June 1984).
6. Sejnowski, T. J., Kienker, P. K., and Shepherd, G. M., Simple pattern recognition models of olfactory discrimination, *Society for Neuroscience Abstracts* 11, 970 (1985).
7. Cohen, N. J., Abrams, I., Harley, W. S., Tabor, L., and Sejnowski, T. J., Skill learning and repetition priming in symmetry detection: Parallel studies of human subjects and connectionist models, *8th Annual Conference of the Cognitive Science Society*, Amherst, MA (1986).
8. Cohen, N. J., Abrams, I., Harley, W. S., Tabor, L., Gordon, B. and Sejnowski, T. J., Perceptual skill learning and repetition priming for novel materials in patients, normal subjects, and neuron-like network models, *Society for Neuroscience Abstracts* 12, 1162 (1986).
9. Sejnowski, T. J., Language learning in massively-parallel networks, *Proceedings of the 24th Annual Meeting of the Association for Computational Linguistics*, June 10-13, (1986).
10. Lehky, S. R. and Sejnowski, T. J., Extracting 3-D curvatures from images of surfaces using a neural model, *Society for Neuroscience Abstracts* 13, 1451 (1987).
11. Gorman, R. P. and Sejnowski, T. J., Learned classification of sonar targets using a massively-parallel network, *Digital Signal Processing Workshop, IEEE Acoustics, Speech and Signal Processing*, Chatham, MA, October 20-22 (1986).
12. Lehky, S. R., Jester, J. M. and Sejnowski, T. J., Line element model of disparity discrimination, *Investigative Ophthalmology and Visual Science Supplement* 28, 293 (1987).
13. Lehky, S. R. and Sejnowski, T. J., Extracting 3-D curvatures from images of surfaces using a neural network, *Optical Society for America, Annual Meeting* (1987).
14. Lehky, S. R., and Sejnowski, T. J., Model of depth interpolation using a distributed representation of disparity, *Investigative Ophthalmology and Visual Science Supplement* 29, 398 (1988).
15. Krause, A. W., Haralabatos, I. C., Sejnowski, T. J., Actions of glutamate receptor agonists on intracellular free calcium in cultured turtle cerebellar neurons, *Society for Neuroscience Abstracts* 14, 95 (1988).
16. Jester, J., Stanton, P. K. and Sejnowski, T. J., Asymmetry of associative long-term potentiation (LTP) in hippocampus across the cell body of CA1 pyramidal cells, *Society for Neuroscience Abstracts* 14, 567 (1988).
17. Chattarji, S., Stanton, P. K. and Sejnowski, T. J., CA3 commissural, but not mossy fiber, synapses in hippocampus exhibit associative long-term potentiation (LTP) using rhythmically coactive inputs, *Society for Neuroscience Abstracts* 14, 567 (1988).
18. Stanton, P. K., Jester, J., Chattarji, S. and Sejnowski, T. J., Associative long-term potentiation (LTP) or depression (LTD) is produced in hippocampus dependent upon the phase of rhythmically coactive inputs, *Society for Neuroscience Abstracts* 14, 19 (1988).

19. Stanton, P. K. and Sejnowski, T. J., Long-term depression in hippocampal pyramidal neurons induced by low-frequency presynaptic activity paired with postsynaptic hyperpolarization. *Society for Neuroscience Abstracts* 15, 165 (1989).
20. Lockery, S. R., Wittenberg, G., Kristan, W. B. and Sejnowski, T. J., Connections of identified interneurons in the leech arise in neural networks trained by backpropagation, *Society for Neuroscience Abstracts* 15, 1119 (1989).
21. Chattarji, S., Stanton, P. K. and Sejnowski, T. J., Induction of associative long-term depression (LTD) in hippocampal field CA3 is not mediated by NMDA receptors, *Society for Neuroscience Abstracts* 15, 165 (1989).
22. Wathey, J., Lytton, W. Jester, J. and Sejnowski, T. J., Simulations of synaptic potentials using realistic models of hippocampal pyramidal cells, *Society for Neuroscience Abstracts* 15, 403 (1989).
23. Qian, N. and Sejnowski, T. J., Inhibition on dendritic spines and thin dendrites may be ineffective because of ionic concentration changes, *Society for Neuroscience Abstracts* 15, 184 (1989).
24. Adams, R. J. and Sejnowski, T. J., Measurement of calcium transients in pyramidal neurons of hippocampal slices visualized by confocal microscopy, *Society for Neuroscience Abstracts* 16, 490 (1990).
25. Bush, P. C. and Sejnowski, T. J., Large-scale compartment model of a cerebellar Purkinji cell, *Society for Neuroscience Abstracts* 16, 1298 (1990).
26. Chattarji, S., Stanton, P. K., and Sejnowski, T. J., 2-amino-3-phosphonopropionate (AP3) blocks induction of associative long-term depression (LTD) in hippocampal field CA1, *Society for Neuroscience Abstracts* 16, 660 (1990).
27. Holliday, J., Adams, R. J., Sejnowski, T. J., and Spitzer, N. C., Spatial and temporal resolution of calcium transients produced by stimulation of differentiating amphibian spinal neurons, *Society of Neuroscience Abstracts* 16, 1172 (1990).
28. Lehky, S. R., Desimone, R., and Sejnowski, T. J., Network modeling of spatial properties of units in striate cortex, *Society for Neuroscience Abstracts* 16, 229 (1990).
29. Lockery, S. R. and Sejnowski, T. J., Models of learning without detectable synaptic plasticity in the leech, *Society for Neuroscience Abstracts* 16, 626 (1990).
30. Lytton, W. W. and Sejnowski, T. J., Inhibitory interneurons may help synchronize firing of postsynaptic cells, *Society for Neuroscience Abstracts* 16, 468 (1990).
31. Quartz, S. R., Adams, R. J., and Sejnowski, T. J., Fluorescent mitochondrial stains as vital probes of metabolic activity in the rat hippocampal slice preparation, *Society for Neuroscience Abstracts* 16, 346 (1990).
32. Roskies, A., Armstrong, B., Amaral, D. G., and Sejnowski, T. J., Neuroanatomical model of intrinsic hippocampal circuitry in the rat, *Society for Neuroscience Abstracts* 16, 121 (1990).
33. Pouget, A. and Sejnowski, T. J., A neural network model for computing depth from stereopsis, *Investigative Ophthalmology and Visual Science Supplement* 31, 96 (1990).
34. Adams, R. J. and Sejnowski, T. J., Confocal imaging of calcium transients and whole-cell recording from pyramidal cells in area CA1 of rat hippocampal slices, *Society for Neuroscience Abstracts* 17, 1328 (1991).

35. Bush, P. C., Li, S. and Sejnowski, T. J., Quantal analysis of superimposed excitatory postsynaptic potentials from multiple synapses, *Society for Neuroscience Abstracts* 17, 385 (1991).
36. Jester, J. M. and Sejnowski, T. J., Associative long-term potentiation in the hippocampus using antidromic stimulation as the conditioning tetanus, *Society for Neuroscience Abstracts* 17, 1330 (1991).
37. Lockery, S. R. and Sejnowski, T. J., A neural network model of chemotaxis in simple nervous systems, *Society for Neuroscience Abstracts* 17, 1490 (1991).
38. Sejnowski, T. J. and Lisberger, S. G., Sites of motor learning in the vestibulo-ocular reflex (VOR) predicted by a dynamical network model, *Society for Neuroscience Abstracts* 17, 1382 (1991).
39. Wathey, J. C., Chattarji, S., Lytton, W. W., Jester, J. M. and Sejnowski, T. J., Computer simulation of E-S potentiation in hippocampal CA1 pyramidal cells, *Society for Neuroscience Abstracts* 17, 385 (1991).
40. Berns, G. S., Dayan, P. and Sejnowski, T. J., Development of disparity sensitivity in a correlational-based network model of the visual cortex requires two phases, *Society for Neuroscience Abstracts* 18, 1306 (1992).
41. Lockery, S. R., Loer, C. M. and Sejnowski, T. J., Intracellular and patch-clamp recording in the nematode *c. elegans*, *Society for Neuroscience Abstracts* 18, 532 (1992).
42. Lytton, W. W., Sejnowski, T. J. and Steriade, M., Simulated entrainment of thalamocortical cells by repetitive cortical shocks, *Society for Neuroscience Abstracts* 18, 305 (1992).
43. Nowlan, S. J. and Sejnowski, T. J., Integrating visual motion responses from neurons in cortical area MT by adaptive filter selection, *Society for Neuroscience Abstracts* 18, 1101 (1992).
44. Pouget, A., Albright, T. and Sejnowski, T. J., A dynamical model for computing the position of an object from its retinal location and eye position, *Society for Neuroscience Abstracts* 18, 1396 (1992).
45. Quartz, S. R., Dayan, P., Montague, P. R. and Sejnowski, T. J., Expectation learning in the brain using diffuse ascending projections, *Society for Neuroscience Abstracts* 18, 1210 (1992).
46. Sejnowski, T. J., Koch, C., Douglas, R. J., Lytton, W. W. and Bell, A., *The Computational Neuron*, *Society for Neuroscience Abstracts* 18, 1 (1992).
47. Adams, R. J. and Sejnowski, T. J., Imaging the changes in dendritic calcium ion concentration in response to single stimuli using calcium-sensitive dyes and whole-cell recording in rat hippocampal slices, *Journal of Physiology* 459, 269P (1993).
48. Bonds, A. B., Snider, R. K., Kabara, J. F., Bush, P. and Sejnowski, T. J., On the origins of oscillation in cells of the cat striate cortex, *Investigative Ophthalmology and Visual Science* 34, 934 (1993).
49. Pouget, A., Montague, P., Dayan, P., Sejnowski, T. J. A developmental model of map registration in the Superior colliculus using predictive hebbian learning, *Society for Neuroscience Abstracts* 19, 858 (1993).
50. Destexhe, A., Lytton, W. W., Sejnowski, T. J., McCormick, D. A., Contreras, D., Steriade, M. A model of 7-14 HZ spindling in the thalamus and thalamic reticular nucleus: Interaction between intrinsic and network properties, *Society for Neuroscience Abstracts* 19, 516 (1993).
51. Bush, P., Gray, C., Sejnowski, T. J. Realistic simulations of synchronization in networks of layer V neurons in cat primary visual cortex, *Society for Neuroscience Abstracts* 19, 868 (1993).

52. Campbell, L. W., Jester, J. M., Sejnowski, T. J., Antidromically-conditioned E-S potentiation in not blocked by GABA A inhibitors, *Society for Neuroscience Abstracts* 19, 1328 (1993).
53. Bartol Jr., T. M., Sejnowski, T. J. Model of the quantal activation of NMDA receptors at a hippocampal synaptic spine, *Society for Neuroscience Abstracts* 19, 1515 (1993).
54. Prank, K., Riedel, M., von zur Mühlen, A., Nowlan, S., Sejnowski, T. J. and Brabant, G., Time series prediction of episodic hormone secretion based on neural networks: A new approach for separating the secretory dynamics of growth hormone (GH) in acromegaly from normal subjects, *German Endocrine Society*, 38 (1993).
55. Doya, K. and Sejnowski, T. J., A computational model of song learning in the anterior forebrain pathway of the birdsong control system, *Society for Neuroscience Abstracts* 20, 166 (1994).
56. Mainen, Z. F. and Sejnowski, T. J., Reliability of spike initiation in neocortex, *Society for Neuroscience Abstracts* 20, 1527 (1994).
57. Tsodyks, M., Bell, A., Mainen, Z. F. and Sejnowski, T. J., Why do cortical neurons spike irregularly? *Society for Neuroscience Abstracts* 20, 1527 (1994).
58. Berns, G. S. and Sejnowski, T. J., A computational model of basal ganglia function with output selection and reinforcement learning, *Society for Neuroscience Abstracts* 20, 2 (1994).
59. Lytton, W. W., Contreras, D., Destexhe, A., Sejnowski, T. J. and Steriade, M., Cortical input may abolish model of 2-4 Hz thalamic oscillation, *Society for Neuroscience Abstracts* 20, 3 (1994).
60. Campbell, L. W. and Sejnowski, T. J., GABA inhibitor blocks the expression of antidromically-conditioned EPSP-to-spike potentiation, *Society for Neuroscience Abstracts* 20, 1511 (1994).
61. Zemel, R. S, Nowlan, S. J. and Sejnowski, T. J., A computational model of motion processing in area MST: Learning to segment three-dimensional moving objects, *Society for Neuroscience Abstracts* 20, 772 (1994).
62. Destexhe, A., Contreras, D., Sejnowski, T. J. and Steriade, M., Mechanisms underlying oscillatory activity in the thalamic reticular nucleus, *Society for Neuroscience Abstracts* 20, 124 (1994).
63. Pouget, A. and Sejnowski, T. J., Single neurons in posterior parietal cortex may represent basis functions for spatial transformations, *Society for Neuroscience Abstracts* 20, 1279 (1994).
64. Lytton, W. W., Contreras, D., Destexhe, A., Sejnowski, T. J. and Steriade, M., Computer network models of absence epilepsy, *Epilepsia* 35, 86 supplement 8 (1994).
65. Huguenard, J. R., Joerges, J., Mainen, Z. F., and Sejnowski, T. J., Functional role of axon hillock and initial segment in cortical spike initiation, *Society for Neuroscience Abstracts* 20, 1527 (1994).
66. Prank, K., Nowlan, S., Sejnowski, T. J., Hesch, R. D. and Brabant, G., Self-organized pulse detection (SOPUL) - A new approach for the analysis of episodic hormone secretion based on neural networks, *Exp. Clin. Endocrinol* 101:67 (supplement 1) (1995).
67. Quartz, S. R., Stensmo, M., Makeig, S. and Sejnowski, T. J., Eye blink rate as a practical predictor for vigilance, *Society for Neuroscience Abstracts* 21, 939 (1995).
68. Coenen, O.J.M.D., and Sejnowski, T. J., A model for how the cerebellum anticipates sensory inputs in the vestibuloocular reflex (VOR), *Society for Neuroscience Abstracts* 21, 915 (1995).

69. Stewart, M., Makeig, S., Bell, A. J., Jung, T.-P. and Sejnowski, T. J., Independent component analysis of EEG data, *Society for Neuroscience Abstracts* 21, 437 (1995).
70. Gray, M. S., Pouget, A., Zemel, R. S., Nowlan, S. J. and Sejnowski, T. J., Selective integration: A model for disparity estimation, *Society for Neuroscience Abstracts* 21, 905 (1995).
71. Berns, G. S. and Sejnowski, T. J., A computational model of local memory in the primate pallidal-subthalamic circuit, *Society for Neuroscience Abstracts* 21, 678 (1995).
72. Mainen, Z. F. and Sejnowski, T. J., Minimal models of spike encoding by neocortical neurons, *Society for Neuroscience Abstracts* 21, 584 (1995).
73. Murthy, V. N., Sejnowski, T. J., and Stevens, C. F., Action potential-evoked calcium transients in single presynaptic terminals of cultured hippocampal neurons, *Society for Neuroscience Abstracts* 21, 336 (1995).
74. Tsodyks, M., Skaggs, W., Sejnowski, T. J., and McNaughton, B. L., On the phase relation between excitatory and inhibitory populations during hippocampal theta rhythm, *Society for Neuroscience Abstracts* 21, 941 (1995).
75. Gerrard, J. L., Ginzburg, I., Barnes, C. A., Sejnowski, T. J., and McNaughton, B. L., Accuracy of hippocampal place fields in predicting location is enhanced in the presence of theta rhythm, *Society for Neuroscience Abstracts* 21, 942 (1995).
76. Campbell, L. W., and Sejnowski, T. J., Intracellular correlates of EPSP to spike potentiation, *Society for Neuroscience Abstracts* 21, 1101 (1995).
77. Sejnowski, T. J., Destexhe, A., Contreras, D., Steriade, M. and Huguenard, J. R., *In vivo*, and computational analysis of dendritic currents in thalamic reticular neurons, *Society for Neuroscience Abstracts* 21, 1187 (1995).
78. Destexhe, A., Bal, T., McCormick, D. A., and Sejnowski, T. J., Ionic mechanisms underlying synchronized oscillations and propagating waves in a model of ferret thalamic slices, *Society for Neuroscience Abstracts* 21, 1187 (1995).
79. Pouget, A. and Sejnowski, T. J., Basis functions and hemineglect, *Society for Neuroscience Abstracts* 21, 1760 (1995).
80. Contreras, D., Destexhe, A., Sejnowski, T. J., and Steriade, M., Synchronization of thalamic spindle oscillations is enhanced by cortical feedback input, *Society for Neuroscience Abstracts* 21, 1187 (1995).
81. Ginzburg, I., and Sejnowski, T. J., Dynamics of rule induction by making queries: Transition between a confirmation strategy at low confidence into a diagnostic strategy at high confidence, *Judgment and Decision Making Annual Meeting* (1995).
82. Sejnowski, T. J., Abstracts of the Marschak Colloquium at UCLA, *Mathematical Social Sciences* 29, 95-101 (1995).
83. Doya, K., and Sejnowski T. J., A computational model of birdsong vocalization learning, *Fourth IBRO World Congress of Neuroscience Abstracts*, 502 (1995).
84. Stewart-Bartlett, M., and Sejnowski, T. J., Unsupervised learning of invariant visual representations, *Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society, University of California, San Diego, La Jolla, CA*, 730 (1996).

85. Coenen, O.J.M.D., and Sejnowski, T. J., A predictive perspective on the cerebellum, Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society, University of California, San Diego, La Jolla, CA, 745 (1996).
86. Gray, M. S., Movellan, J. R., and Sejnowski, T. J., Optical flow for visual speech recognition, Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society, University of California, San Diego, La Jolla, CA, 18, 771 (1996).
87. Makeig, S., and Jung, T.-P., Ghahremani, D., Bell, A. J., and Sejnowski, T. J., What (not where) are the sources of the EEG? Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society, University of California, San Diego, La Jolla, CA, 18, 802 (1996).
88. Tang, A. C., and Sejnowski, T. J., An ecological approach to the neural code, Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society, University of California, San Diego, La Jolla, CA, 18, 852 (1996).
89. Destexhe, A., Contreras, D., Sejnowski, T. J., and Steriade, M., Cortical projections to the thalamic reticular nucleus may control the spatiotemporal coherence of spindle and epileptic oscillations, Society for Neuroscience Abstracts 22, 2099 (1996).
90. Berns, G. S., and Sejnowski, T. J., A computational model of the basal ganglia and how pallidotomy alleviates symptoms of Parkinson's disease, Society for Neuroscience Abstracts 22, 2028 (1996).
91. Bartol, T. M. Jr., Stiles, J. R., Salpeter, M. M., Salpeter, E. E., and Sejnowski, T. J., MCell: Generalized Monte Carlo computer simulation of synaptic transmission and chemical signaling, Society for Neuroscience Abstracts 22, 1742 (1996).
92. Makeig, S., Anllo-Vento, L., Jung, T.-P., Bell, A. J., Sejnowski, T. J., and Hillyard, S. A., Independent component analysis (ICA) of event-related potentials during selective attention, Society for Neuroscience Abstracts 22, 1698 (1996).
93. Ritz, R., and Sejnowski, T. J., Correlation coding in a stochastic network model of auditory binding, Society for Neuroscience Abstracts 22, 1622 (1996).
94. Bartels, A. M., McKeown, M. J., Tang, A. C., and Sejnowski, T. J., The contribution of after-hyperpolarization currents to cholinergic enhancement of excitability and preservation of spike timing in a neocortical neuron model, Society for Neuroscience Abstracts 22, 1254 (1996).
95. Coenen, O.J.M.D., and Sejnowski, T. J., A model of adaptation in the cerebellum for learning the modulation of the vestibulo-ocular reflex (VOR), Society for Neuroscience Abstracts 22, 1093 (1996).
96. Murthy, V. N., Sejnowski, T. J., and Stevens, C. F., Local dendritic calcium transients caused by unitary synaptic events in hippocampal neurons, Society for Neuroscience Abstracts 22, 793 (1996).
97. Moortgat, K. T., Bullock, T. H., and Sejnowski, T. J., Pacemaker regularity: Inter-species comparison of electric organ discharge frequency, Society for Neuroscience Abstracts 22, 451 (1996).
98. Coenen, O.J.M.D., and Sejnowski, T. J., A model for how the cerebellum may modulate predictively the vestibulo-ocular reflex (VOR), Neural Control of Movement Society Abstracts 1, 35 (1996).
99. McKeown, M. J., and Sejnowski, T. J., A computational model for the effects of norepinephrine on a pyramidal cell, Neurology, 46, A318 (1996).
100. Wachtler, T., Albright, T. D., and Sejnowski, T. J., Spatial interactions in color perception, Investigative Ophthalmology and Visual Science, 38(4), S898 (1997).

101. McKeown, M. J., Makeig, S., Brown, G. G., Jung, T.-P., Kindermann, S. S., Bell, A. J., and Sejnowski, T. J., Analysis of fMRI data by decomposition into independent components, *Neurology*, 48, A417 (1997).
102. Zhang, K., and Sejnowski, T. J., How to represent object permanence in premotor cortex with a continuous attractor network, *Cognitive Neuroscience Society 1998 Annual Meeting*, p. 17 (1998).
103. Rao, R. P. N., Sejnowski, T. J., and Livingstone, M. S., A model of direction selectivity in macaque V1 based on the morphology of the Meynert cell, *Society for Neuroscience Abstracts*, 24, 143 (1998).
104. Jung, T.-P., Makeig, S., and Sejnowski, T. J., Identifying and visualizing independent components in artifact-free single-trial event-related potentials, *Society for Neuroscience Abstracts*, 24, 168 (1998).
105. Moortgat, K. T., Bullock, T. H., and Sejnowski, T. J., Blocking gap junctions in the electric fish pacemaker nucleus alters the frequency and synchrony of oscillation, *Society for Neuroscience Abstracts*, 24, 186 (1998).
106. Wicklein, M., Strausfeld, N. J., Sejnowski, T. J., Sabes, P., Wiskott, L., Looming sensitivity in hummingbird hawkmoths: Neurons and models, *Society for Neuroscience Abstracts*, 24, 188 (1998).
107. Makeig, S., Jung, T.-P., Sejnowski, T. J., Multiple coherent oscillatory components of the human electroencephalogram (EEG) differentially modulated by cognitive events *Society for Neuroscience Abstracts*, 24, 507 (1998).
108. Westerfield, M., Townsend, J., Covington, J., Makeig, S., Sejnowski, T. J., Courchesne, E., Independent components of the late positive event-related potential in a visual spatial attention task: Normal and clinical subject differences, *Society for Neuroscience Abstracts*, 24, 646 (1998).
109. Zhang, K., Sejnowski, T. J., McNaughton, B. L., Locating the "center of self" by compacting hippocampal place fields, *Society for Neuroscience Abstracts*, 24, 932 (1998).
110. Franks, K. M., Christie, B. R., Seamans J., Sejnowski, T. J., Long-term potentiation (LTP) and long-term depression (LTD) in interneurons within the rat hippocampal stratum radiatum, *Society for Neuroscience Abstracts*, 24, 1070 (1998).
111. Bazhenov, M., Timofeev, I., Steriade, M., Sejnowski T. J., Model for wave propagation in thalamic reticular nucleus *in vivo*, *Society for Neuroscience Abstracts*, 24, 1164 (1998).
112. Houweling, A. R., Bazhenov, M., Timofeev, I., Steriade, M., Sejnowski, T. J., Computational models of intracortical augmenting responses, *Society for Neuroscience Abstracts*, 24, 1164 (1998).
113. Wachtler, T., Albright, T. D., Sejnowski, T. J., Non-local color induction under changing adaptation depends on chromatic contrast, *Society for Neuroscience Abstracts*, 24, 1398 (1998).
114. Eisele, M., Sejnowski, T. J., Unsupervised and reinforcement learning by pyramidal neurons in a layered model of neocortex, *Society for Neuroscience Abstracts* , 24 1571 (1998).
115. Fellous, J.-M., Sejnowski, T. J., The involvement of CA1, CA3 and dentate gyrus cells in carbachol-induced oscillations in the hippocampal slice, *Society for Neuroscience Abstracts* , 24, 1582 (1998).
116. Brown, G. D., Yamada, S., Luebben, H., Sejnowski, T. J., Spike sorting and artifact rejection by independent component analysis of optical recordings from *Tritonia*, *Society for Neuroscience*, 24, 1670 (1998).

117. Humphries, C., McKeown, M. J., Achermann, P., Borbely, A. A., and Sejnowski, T. J., Spatial distribution of temporally independent components of sleep spindles in electroencephalographic (EEG) potentials, Society for Neuroscience Abstracts, 24, 1695 (1998).
118. Jung, T.-P., Makeig, S., and Sejnowski, T. J., Identifying and visualizing independent components in artifact-free single-trial event-related potentials, Society for Neuroscience Abstracts, November 1998.
119. Makeig, S., Jung, T.-P., and Sejnowski, T. J., Multiple coherent oscillatory components of the human electroencephalogram (EEG) differently modulated by cognitive events, Society for Neuroscience Abstracts, November 1998.
120. Zhang, K., and Sejnowski, T. J., How to represent object permanence in premotor cortex with a continuous attractor network, Cognitive Neuroscience Society 1998 Annual Meeting Abstract, page 17.
121. Schultz, L. M., Christie, B. R., and Sejnowski, T. J., Distribution of T-type calcium channels in CA1 stratum oriens interneurons, Society for Neuroscience Abstracts 25, 198 (1999).
122. Egelman and Sejnowski, T. J., A flashed stimulus perceptually lags a moving one due to rewriting of the past, not extrapolation into the future, Society for Neuroscience Abstracts 25, 399 (1999).
123. Fellous, J.-M., Rao, R. P. N., Houweling, A. R., and Sejnowski, T. J., Spike timing reliability in the prefrontal cortex depends on the frequency content of its synaptic inputs, Society for Neuroscience Abstracts 25, 885 (1999).
124. van Praag, H., Christie, B. R., Sejnowski, T. J., and Gage, F. H., Running enhances neurogenesis, learning and long-term potentiation (LTP) in mice, Society for Neuroscience Abstracts 25, 888 (1999).
125. Coenen, O.J.M.D., Arnold, M., Jabri, M.A., Courchesne, E., and Sejnowski, T. J., A hypothesis for parallel fiber coding in the cerebellum, Society for Neuroscience Abstracts 25, 915 (1999).
126. Durstewitz, D., Seamans, J., K., and Sejnowski, T. J., Dopaminergic modulation of activity states in the prefrontal cortex, Society for Neuroscience Abstracts 25, 1216 (1999).
127. Rao, R. P. N., Livingstone, M. S., and Sejnowski, T. J., Direction selectivity from predictive sequence learning in recurrent neocortical circuits, Society for Neuroscience Abstracts 25, 1316 (1999).
128. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Model of spontaneous activity in the isolated cortical slab *in vivo*, Society for Neuroscience Abstracts 25, 1660 (1999).
129. Westerfield, M., Makeig, S., Townsend, J., Jung, T.-P., and Sejnowski, T. J., Functionally independent components of early visual event-related potentials, Society for Neuroscience Abstracts 25, 1631 (1999).
130. Makeig, S., Townsend, J., Jung, T.-P., Enghoff, S., Gibson, C., and Sejnowski, T. J., Early visual evoked response peaks appear to be sums of activity in multiple alpha sources, Society for Neuroscience Abstracts 25, 1631 (1999).
131. Franks, K. M., Bartol, T. M., Egelman, D. M., Poo, M. M. and Sejnowski, T. J., Adaptation of CA2 homeostasis in CA1 pyramidal neurons of calbindin-D28K knockout mice, Society for Neuroscience Abstracts 25, 1989 (1999).

132. Chan, K., Zhang, K., Knierim, J. J., McNaughton, B. L. and Sejnowski, T. J., Comparison of different methods for position reconstruction from hippocampal place cell recordings, Society for Neuroscience Abstracts 25, 2166 (1999).
133. Jung, T. -P., Makeig, S., Townsend, J., Westerfield, M., Hicks, B., Courchesne, E., and Sejnowski, T. J., Single-trial ERPS during continuous fMRI scanning, Society for Neuroscience Abstracts 25, 1389 (1999).
134. Wachtler, T., Sejnowski, T. J., and Albright, T. D., Responses of cells in macaque V1 to chromatic stimuli are compatible with human color constancy, Society for Neuroscience Abstracts 25, 4 (1999).
135. Houweling, A. R., Grenier, F., Timofeev, I., Steriade, M., and Sejnowski, T. J., Termination of spindle oscillations by short-term synaptic plasticity of thalamic reticular connections, Society for Neuroscience Abstracts 25, 361 (1999).
136. Christie, B. R., and Sejnowski, T. J., NMDA-receptor dependent synaptic plasticity in rat hippocampal stratum radiatum interneurons and giant cells, Society for Neuroscience Abstracts 25, 462 (1999).
137. Houweling, A. R., Modi, R. H., Ganter, P., Fellous, J.-M., and Sejnowski, T. J., The frequency preferences of cortical pyramidal cells and interneurons: A modeling study, European Journal of Neuroscience Abstracts 12, 505 (2000).
138. Franks, K. M., Bartol, Jr. T. M., Poo, M. M., and Sejnowski, T. J., High resolution estimates of dendritic calcium concentration using MCell, European Journal of Neuroscience Abstracts 12, 370 (2000).
139. Wicklein, M., and Sejnowski, T. J., In depth in the hummingbird hawkmoth *manduca sexta* (sphingidae lepidoptera, European Journal of Neuroscience Abstracts 12, 90 (2000).
140. Bartol, T., Sejnowski, T. J., Land, B., Salpeter, E., Salpeter, M., A sensitivity analysis of chemical kinetics parameters for the neuromuscular junction, Society for Neuroscience Abstracts 26, 1123 (2000).
141. Pandi-Perumal, S. R., Timofeev, I., Bazhenov, M., Sejnowski, T. J., Steriade, M., Cortical IH plays a role in the generation of paroxysmal activities, Society for Neuroscience Abstracts 26, 1779 (2000).
142. Tiesinga, P. H., Fellous, J.-M., Jose, J. V., Sejnowski, T. J., Computational model of carbachol-induced delta, theta and gamma oscillations in the hippocampus, Society for Neuroscience Abstracts 26, 187 (2000).
143. Jose, J. V., Tiesinga, P. H., Fellous, J.-M., Sejnowski, T. J., Entrainment by synchronized inhibition boosts information transfer in neocortical neurons, Society for Neuroscience Abstracts 26, 188 (2000).
144. Zhang, K., and Sejnowski, T. J., Why is there a universal scaling law between the gray matter and white matter of cerebral cortex?, Society for Neuroscience Abstracts 26, 188 (2000).
145. Brown, G. D., Yamada, S., Nakashima, M, Moore-Kochlacs, C. E., Sejnowski, T. J., Shiono, S., Optical recording of the *Tritonia* swimming central pattern generator, Society for Neuroscience Abstracts 26, 727 (2000).
146. Neubig, M., and Sejnowski, T. J., Propagation in thalamocortical dendrites, Society for Neuroscience Abstracts 26, 894 (2000).

147. Wicklein, M., B., and Sejnowski, T. J., Visual perception of change in depth during hovering flight in *manduca sexta* (sphingidae, lepidoptera, Society for Neuroscience Abstracts 26, 986 (2000).
148. Franks, K. M., Bartol, T. M., Poo, M., M., Sejnowski, T. J., High spatial and temporal resolution estimates of calcium dynamics in dendritic spines using MCell simulations, Society for Neuroscience Abstracts 26, 1122 (2000).
149. Eagleman, D. M., and Sejnowski, T. J., Can the visual system account for latency differences?, Society for Neuroscience Abstracts 26, 1202 (2000).
150. Salinas, E., and Sejnowski, T. J., Impact of correlated input spike trains on the firing rate and variability of a postsynaptic neuron-A modeling study, Society for Neuroscience Abstracts 26, 1203 (2000).
151. Makeig, S., Enghoff, S., Visser, E., Jung, T.-P., Sejnowski, T. J., Dynamics of event-related coherence between independent components of the human EEG, Society for Neuroscience Abstracts 26, 1316 (2000).
152. Sejnowski, T. J., Seamans, J., K., Durstewitz, D., Stevens, C. F., Dopamine D1 receptor activation selectively enhances sustained synaptic inputs to prefrontal cortex neurons, Society for Neuroscience Abstracts 26, 1430 (2000).
153. Fellous, J.-M., Destexhe, A., Sejnowski, T. J., Dynamic clamp of cortical neurons in vitro simulates *in vivo* activity patterns, Society for Neuroscience Abstracts 26, 1623 (2000).
154. Conner, J. M., Franks, K. M., Christie, B. D., Sejnowski, T. J., Tuszynski, M. H., NGF facilitates hippocampal LTP and improves memory in the intact adult rat brain, Society for Neuroscience Abstracts 26, 1867 (2000).
155. Durstewitz, D., and Sejnowski, T. J., Flexible functional connectivity in working memory networks with non-monotonic neural response functions, Society for Neuroscience Abstracts 26, 1902 (2000).
156. Bazhenov, M., Timofeev, I., Steriade, M., Sejnowski, T. J., Model of slow-wave sleep and its transition to activated states in thalamocortical network, Society for Neuroscience Abstracts 26, 2025 (2000).
157. Houweling, A. R., Bazhenov, M., Timofeev, I., Steriade, M., Sejnowski, T. J., A model of reticular thalamic spindle oscillations mediated by GABAA depolarization, Society for Neuroscience Abstracts 26, 2025 (2000).
158. Bazhenov, M., Stopfer, M., Abarbanel, H. D. I., Sejnowski, T. J., Laurent, G., A model of fast odor learning in the locust antennal lobe, Society for Neuroscience Abstracts 26, 2201 (2000).
159. Duann, J.-R., Jung, T.-P., Kuo, W.-J., Yeh, T.-C., Makeig, S., Hsieh, J.-C., Sejnowski, T. J., Direct measurement of hemodynamic response in event-related fMRI, Society for Neuroscience Abstracts 26, 2235 (2000).
160. Sample, P. A., Goldbaum, M. H., Chan, K.-L., Boden, C., Lee, T.-W., Sejnowski, T. J., Johnson, C. A., and Weinreb, R. N., Machine classifiers predict development of abnormal standard visual fields in ocular hypertensive eyes, North American Perimetric Society Meeting. (2000)
161. Delorme A., Makeig, S., Jung, T.-P., Sejnowski, T. J., Automatic rejection of event-related potential trials and components using independent component analysis, Society for Neuroscience Abstracts 27 (2001).

162. Franks, K. M., Weinberg, R. J. Lucic, V., Kennedy, M. B., Bartol, T. M., Sejnowski, T. J., Anatomical and functional microdomains of calcium and calcium-dependent proteins in dendritic spines. Society for Neuroscience Abstracts 27, (2001).
163. Esquenazi, E. I., Coggan, J. S., Bartol, T. M., Shoop, R. D., Sejnowski, T. J., Ellisman, M. H., Berg, D. K., Computer simulation of synaptic ultrastructure and microphysiology in the chick ciliary ganglion, Society for Neuroscience Abstracts 27, (2001).
164. Bartol, T. M., Sejnowski, T. J., Land, B. R., Salpeter, E. E., Salpeter, M. M., Miniature postsynaptic currents with restricted receptor areas, Society for Neuroscience Abstracts 27, (2001).
165. Eagleman, D. M., Sejnowski, T. J., The flash lag illusion is a consequence of adaptive spatial filtering, Society for Neuroscience Abstracts 27, (2001).
166. Fellous, J.-M., Sejnowski, T. J., Dopamine facilitates the sustained firing of rat layer v prefrontal pyramidal cells *in vitro*, Society for Neuroscience Abstracts 27, (2001).
167. Houweling, A. R., Bazhenov, M., Timofeev, I., Topolnik, L., Steriade, M., Sejnowski, T. J. Computational model of seizures induced by cortical deafferentation, Society for Neuroscience Abstracts 27, (2001).
168. Bazhenov, M., Timofeev, I., Steriade, M., Sejnowski, T. J., Model for slow (2-3 Hz) neocortical paroxysmal oscillations *in vivo*, Society for Neuroscience Abstracts 27, (2001).
169. Duann, J.-R., Jung, T.-P., Kuo, W., Yeh, T., Makeig, S., Hsieh, J., Sejnowski, T. J., Event-related bold activation of the optic radiation, Society for Neuroscience Abstracts 27, (2001).
170. Laurent, G., Bazhenov, M., Stopfer, M., Rabinovich, M., Sejnowski, T. J., Dynamical decorrelation of odor representations in the locust antennal lobe, Society for Neuroscience Abstracts 27, (2001).
171. Zhang, K., Bower, M. R., McNaughton, B. L., Sejnowski, T. J., Tracking head location, direction, tilt and roll for determining place cell egocenter in three dimensions, Society for Neuroscience Abstracts 27, (2001).
172. Neubig, M. T., Sejnowski, T. J., Neuronal T-type calcium channel kinetics and burst firing, Society for Neuroscience Abstracts 27, (2001).
173. Jose, J. V., Tiesinga, P. H. E., Fellous, J.-M., Salinas, E., Sejnowski, T. J., Synchronization as a mechanism for attentional modulation, Society for Neuroscience Abstracts 27 (2001).
174. Wicklein, M. B., Sejnowski, T. J., Responses of looming-sensitive neurons in *Manduca sexta* to objects differing in size, velocity and contrast, Society for Neuroscience Abstracts 27, (2001).
175. Tiesinga, P. H. E., Thomas, P.J., Fellous, J.-M., Sejnowski, T. J., Reliability, precision and the neuronal code, Society for Neuroscience Abstracts 27, (2001).
176. Salinas, E., Sejnowski, T. J., Exact solutions for the non-leaky integrate-and-fire model neuron driven by correlated stochastic inputs, Society for Neuroscience Abstracts 27, (2001).
177. Doi, E., Lee, T.-W., Wachtler, T., Inui, Sejnowski, T. J., Spatial and chromatic filters derived from an information-theoretic analysis of natural scenes, Society for Neuroscience Abstracts 27, (2001).
178. Coenen, O.J.-M.D., Eagleman, D. M., Mitsner, V., Bartol, T. M., Bell, A. J., Sejnowski, T. J., Cerebellar glomeruli: Does limited extracellular calcium direct a new kind of plasticity? Society for Neuroscience Abstracts 27, (2001).

179. Sample, P. A., Goldbaum, M. H., Chan, K., Boden, C., Lee, T.-W., Boehm, A., Vasile, C., Sejnowski, T. J., Johnson, C. A., Weinreb, R. N., Predicting development of abnormal standard visual fields in ocular hypertensive eyes: Machine learning classifiers and statpac-like analysis, *The Association for Research in Vision and Ophthalmology Abstracts* (2002).
180. Goldbaum, M. H., Sample, P. A., Chan, K., Lee, T.-W., McGuire, D., Sejnowski, T. J., Weinreb, R. N., Analysis of glaucomatous visual field patterns found with unsupervised learning using independent component analysis and principal component analysis, *The Association for Research in Vision and Ophthalmology Abstracts* (2002).
181. Boden, C., Chan, K., Goldbaum, M., Lee-T.-W., Sejnowski, T. J., Boehm, A. G., Aihara, M., Weinreb, R. N., Sample, P. A., Machine learning classifiers in the diagnosis and follow-up of glaucoma using short-wavelength automated perimetry (SWAP) *The Association for Research in Vision and Ophthalmology Abstracts* (2002).
182. Finelli, L. A., Makeig, S., Schnierow, B., Campbell, K.B., and Sejnowski, T. J., Event-related brain dynamics during sleep onset: Phase resetting of ongoing brain activity, *16th Congress of the European Sleep Research Society*, Reykjavik, Iceland also *J. Sleep Res.*11 (Suppl. 1), 70 (2002).
183. Jose, J. V., Tiesinga, P., Fellous, J.-M., Salinas, E., Sejnowski, T. J., Is attentional gain modulation optimal at gamma frequencies? *Society for Neuroscience Abstracts* 28, (2002).
184. Houweling, A. R., Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Slow-wave sleep oscillations in computational models of deafferented cortex, *Society for Neuroscience Abstracts* 28, (2002).
185. Franks, K. M., Steven, C. F., and Sejnowski, T. J., Independent sources of quantal variability at a central glutamatergic synapse, *Society for Neuroscience Abstracts* 28, (2002).
186. Neubig, M., and Sejnowski, T. J., Computational assays of miniature inhibitory postsynaptic currents (minis, mipscs) in thalamocortical neurons show variability is dominated by intrasynaptic mechanisms, *Society for Neuroscience Abstracts* 28 (2002).
187. Fellous, J.-M., Schreiber, S., Tiesinga, P. H. E., and Sejnowski, T. J., Modulation of the frequency preference and attractor structure of prefrontal cortical neurons, *Society for Neuroscience Abstracts* 28, (2002).
188. Eagleman, D. M., Jacobson, J. E., and Sejnowski, T. J., The temporal neighborhood effect: The perceived brightness, duration, and size of a flash can be modified by temporal properties of its neighbors, *Society for Neuroscience Abstracts* 28, (2002).
189. Tiesinga, P. H. E., and Sejnowski, T. J., Attentional modulation of synchrony in cortical networks, *Society for Neuroscience Abstracts* 28, (2002).
190. Laurent, G. J., Bazhenov, M., Stopfer, M., and Sejnowski, T. J., Fast odor learning and reliability of odor responses in the locust antennal lobe, *Society for Neuroscience Abstracts* 28, (2002).
191. Zhang, K., Bower, M. R., McNaughton, B. I., and Sejnowski, T. J., Does monocular blockage affect the egocenter of hippocampal place fields? *Society for Neuroscience Abstracts* 28, (2002).
192. Bazhenov, M., Jung, T.-P., Timofeev, I., Steriade, M., and Sejnowski, T. J., Foci of trauma-induced seizures localized by independent component analysis, *Society for Neuroscience Abstracts* 28, (2002).

193. Kretzberg, J., Sejnowski, T. J., Warzecha, A. K., and Egelhaaf, M., Variability of postsynaptic responses to spike-mediated and graded synaptic input, *Society for Neuroscience Abstracts* 28, (2002).
194. Wicklein, M., B., and Sejnowski, T. J., Responses of looming sensitive neurons to changes of object contrast, *Society for Neuroscience Abstracts* 28, (2002).
195. Siegel, R. M., Duann, J.-R., Jung, T.-P., and Sejnowski, T. J., Independent component analysis of intrinsic optical signals for gain fields in inferior parietal cortex of behaving monkey, *Society for Neuroscience Abstracts* 28, (2002).
196. Finelli, L. A., Makeig, S., Campbell, K. B., and Sejnowski, T. J., Auditory processing in wakefulness and sleep: Subsecond brain dynamics, *Sleep* 26 Abstract Supplement (2003).
197. Mitsner, V., Eagleman, D. M., Coenen, O.J.M.D., Wood, K., Bartol, T. M., Jones, Y. Z., Ellisman, M. H., and Sejnowski, T. J., Depletion of extracellular calcium in the cerebellar glomerulus, *Society for Neuroscience Abstracts* 29, (2003).
198. Wicklein, M., and Sejnowski, T. J., Looming-sensitive neurons code for motion direction and brightness change, *Society for Neuroscience Abstracts* 29, (2003).
199. Finelli, L. A., Haney, S., Bazhenov, M., Stopfer, M., Sejnowski, T. J., and Laurent, G., Effects of a synaptic learning rule on the sparseness of odor representations in a model of the locust olfactory system, *Society for Neuroscience Abstracts* 29, (2003).
200. Sejnowski, T. J., and Tiesinga, P. H. E., Rapid temporal modulation of synchrony by competition in cortical interneuron networks, *Society for Neuroscience Abstracts* 29, (2003).
201. Eagleman, D. M., and Sejnowski, T. J., Motion biases position judgments: A unified explanation for the feature-flash, flash-lag, flash-drag, and Fröhlich illusions, *Society for Neuroscience Abstracts* 29, (2003).
202. Makeig, S., Sejnowski, T. J., and Anemuller, J., Noninvasive imaging of independent cortical flow patterns, *Society for Neuroscience Abstracts* 29, (2003).
203. Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Model for generating focal cortical paroxysmal activity by increase of extracellular potassium concentration, *Society for Neuroscience Abstracts* 29, (2003).
204. Fellous, J.-M., Spencer, D., Wang, H., Junek, S., Eagleman, D. M., and Sejnowski, T. J., Firing reliably with unreliable synapses, *Society for Neuroscience Abstracts* 29, (2003).
205. Thomas, P. J., Fellous, J.-M., Tiesinga, P. H. E., and Sejnowski, T. J., Experimental characterization of single-neuron spike-time patterns, *Society for Neuroscience Abstracts* 29, (2003).
206. Lopreore, C. L., Keller, D. W., Bartol, T. M., and Sejnowski, T. J., A hybrid electro-diffusion model for neural signaling, *Society for Neuroscience Abstracts* 29, (2003).
207. Stiefel, K. M., Fellous, J.-M., and Sejnowski, T., Interaction of sub-threshold oscillations with synaptic input in the cortex, *Society for Neuroscience Abstracts* 29, (2003).
208. Gutkin, B. S., Stiefel, K. M., and Sejnowski, T. J., Influence of cholinergic neuromodulation on phase resetting curves of cortical pyramidal neurons, *Society for Neuroscience Abstracts* 29, (2003).
209. Sample, P. A., Zhang, Z., Pascual, J., Chan, K., Boden, C., Hao, J., Lee, T.-W., Weinreb, R. N., Sejnowski, T. J., and Goldbaum, M, Unsupervised Machine Learning with Independent Component

- Analysis Identifies Areas of Progression in Glaucomatous Visual Fields, *Invest. Ophthalmol. Vis. Sci.*, May 2004, 45: 3471.
210. Bowd, C., Medeiros, F. A., Zangwill, L. M., Zhang, Z., Hao, J., Chan, K., Lee, T.-W., Goldbaum, M. H., Sejnowski, T. J. and Weinreb, R. N., Support Vector Machine Analysis of VCC Scanning Laser Polarimetry RNFL Thickness Measurements, *Invest. Ophthalmol. Vis. Sci.*, May 2004, 45: 3405.
 211. Goldbaum, M. H., Sample, P. A. Zangwill, L. M., Bowd, C., Boden, C., Lee, T.-W., Zhang, Z., Hao, J., Sejnowski, T. J., and Weinreb, R. N., Probability of Glaucoma Determined from Standard Automated Perimetry and from Optic Disk Topography using Relevance Vector Machine Classifiers, *Invest. Ophthalmol. Vis. Sci.*, May 2004, 45: 2137.
 212. Pascual, J. P., Zhang, Z., Hughes, A. J., Hao, J., Lee, T.-W., Sejnowski, T. J., Goldbaum, M. H., Weinreb, R. N. and Sample, P.A., Diagnosing glaucoma from frequency doubling technology perimetry using supervised machine learning classifiers, *Invest. Ophthalmol. Vis. Sci.*, May 2004, 45: 2124.
 213. Goldbaum, M. H., Sample, P.A., Chan, K., Lee, T., McGuire, D., Sejnowski, T. J., and Weinreb, R. N., Shortened Perimetry for Glaucoma With Top 10 Locations Derived by Feature Selection With Machine Learning Classifiers, *Invest. Ophthalmol. Vis. Sci.*, May 2003, 44: 1041.
 214. Zangwill, L. M., Chan, K., Bowd, C., Medeiros, F., Goldbaum, M. H., Lee, T., Sejnowski, T. J., and Weinreb, R. N., Comparing Confocal Scanning Laser Ophthalmoscopy Measurements of the Optic Nerve Head and Peripapillary Retina for Detecting Glaucoma using Machine Learning Classifiers, *Invest. Ophthalmol. Vis. Sci.*, May 2003, 44: 981.
 215. Boden, C., Chan, K., Goldbaum, M., Lee, T., Sejnowski, T. J., Hao, J., Vasile, C., Medeiros, F. A., Weinreb, R. N., and Sample, P. A., Assessing Validity of Visual Field Clustering Schemes for Standard Perimetry Using Machine Learning Classifiers, *Invest. Ophthalmol. Vis. Sci.*, May 2003, 44: 60.
 216. Neubig, M., and Sejnowski, T. J., Spike trains as internal documents, Society for Neuroscience Abstracts 30, (2004).
 217. Kerr, R. A., Bartol, T. M., Stiles, J. R., Shutenko, T., Kennedy, M. B., and Sejnowski, T. J., MCell3: A next-generation simulator of cellular microphysiology, Society for Neuroscience Abstracts 30, (2004).
 218. Houweling, A. R., Bazhenov, M., and Sejnowski, T. J., Generation of 6-14 Hz burst discharges in models of the thalamic reticular nucleus incorporating synaptic and electrical coupling, Society for Neuroscience Abstracts 30, (2004).
 219. Low, P. S., Gage, F. H., and Sejnowski, T. J., An unbiased automated approach to single channel sleep scoring, Society for Neuroscience Abstracts 30, (2004).
 220. Rosseinsky, N. M., Roddey, J. C., Luu, P., Tucker, D. M., Sejnowski, T. J., and Makeig, S., Spatiotemporal dynamics of a coherent pattern of activity in a network of bipolar sources in human electrophysiological experiments following incorrect speeded motor responses, Society for Neuroscience Abstracts 30, (2004).
 221. Ohayon, E. L., Kwan, H. C., Tsang, P. W., Borrett, D. S., Burnham, M., Timofeev, I., Steriade, M., Sejnowski, T. J., and Bazhenov, M., The effects of lesions on dynamics in network models of epilepsy, Society for Neuroscience Abstracts 30, (2004).

222. Jung, T.-P., Duann, J.-R., Haist, F., Finelli, L. A., Vankov, A., Sejnowski, T. J., and Makeig, S. Assessing brain dynamics with simultaneous EEG and fMRI, *Society for Neuroscience Abstracts* 30, (2004).
223. Mishra, J., Fellous, J.-M., and Sejnowski, T. J., A biophysical neuronal model exploring attention mechanisms in visual cortex, *Society for Neuroscience Abstracts* 30, (2004).
224. Keller, D. X., Sobczyk, A., Bartol, T. M., Svoboda, K., and Sejnowski, T. J., Refined Monte Carlo models of NMDA receptor signaling, *Society for Neuroscience Abstracts* 30, (2004).
225. Finelli, L. A., Bazhenov, M., Stopfer, M., Sejnowski, T. J., and Laurent, G., Synaptic plasticity promotes highly synchronous ensembles of projection neurons in a model olfactory system, *Society for Neuroscience Abstracts* 30, (2004).
226. Watson, B. C., Fu, T. K., Houweling, A. R., Spencer, D. J., Das, P. K., and Sejnowski, T. J., Analog to digital conversion using recurrent spiking neural networks, *Society for Neuroscience Abstracts* 30, (2004).
227. Fuentealba, P., Timofeev, I., Bazhenov, M., Sejnowski, T. J., and Steriade, M., Membrane bistability in cat thalamic reticular neurons during spindle oscillations, *Society for Neuroscience Abstracts* 30, (2004).
228. Froehlich, F., Bazhenov, M., Timofeev, I., Steriade, M., and Sejnowski, T. J., Extracellular potassium dynamics controls transitions between fast and slow seizure-like oscillations, *Society for Neuroscience Abstracts* 30, (2004).
229. Stiefel, K. M., Englitz, B., and Sejnowski, T. J., Irregular firing of cortical interneurons, *Society for Neuroscience Abstracts* 30, (2004).
230. Lopreore, C. L., Bartol, T. M., and Sejnowski, T. J., An electrodiffusion model for ion motion in dendritic spines, *Society for Neuroscience Abstracts* 30, (2004).
231. Kinney, J. P., Bartol, T. M., and Sejnowski, T. J., Monte Carlo model of background glutamate spillover in the hippocampus, *Society for Neuroscience Abstracts* 30, (2004).
232. Mitsner, V., Eagleman, D. M., Coenen, O.J.M.D., Bartol, T. M., Jones, Y. Z., Ellisman, M. H., and Sejnowski, T. J., A Monte Carlo model of extracellular calcium dynamics in the cerebellar glomerulus, *Society for Neuroscience Abstracts* 30, (2004).
233. Ohayon E. L., Bazhenov, M., Sejnowski, T. J., Timofeev, I, Tsang, P.W., Borrett, D. S., Kwan H. C. and Burnham, M.W., Oscillatory activity originating at network lesion boundaries: A model for early posttraumatic epilepsy, *Annals of Neurology* 56, S23-S24 Suppl. 8 (2004).
234. Low, P. S., Gage, F. H., Sejnowski, T. J., A New Way to Look at Sleep, *Society for Neuroscience Abstracts*, Program No. 923.19, (2005).
235. Ohayon, E. L., Kwan, H. C., Tsang, P. W., Borrett, D. S., Burnham, W. M., Timofeev, I., Steriade, M., Sejnowski, T. J., Bazhenov, M., Localized Connectivity Changes Alter Pan-Network Activity Patterns: Implications to Early Post-Traumatic Epilepsy and Neurodegeneration, *Society for Neuroscience Abstracts*, (2005).
236. Kinney, J. P., Bartol, T. M. Jr., Sejnowski, T. J., Influence of Glutamate Transporters on Spillover in a Monte Carlo Model of Hippocampal Neuropil, *Society for Neuroscience Abstracts*, 30, (2005).
237. Wang, H. P., Fellous, J.-M., Spencer, D. J., Sejnowski, T. J., Reliability of Model V1 Cell Responses to Natural Thalamic Stimulus Inputs, *Society for Neuroscience Abstracts*, (2005).

238. Tang, A. C., Sejnowski, T. J., Preservation of Spike Timing and Increased Excitability Under Cholinergic Modulation in Neocortical Neurons, *Society for Neuroscience Abstracts*, (2005).
239. Chukoskie, L. , Schwartz, O., Sejnowski, T.J., Dayan, P., Krauzlis, R. J., Deciding where to look when there's not much to see. *Society for Neuroscience Abstracts*, (2005).
240. Ohayon, E.L., Bazhenov, M., Sejnowski, T. J., Kwan, H. C., Burnham, W. M., Beyond balance: The role of network structure in population dynamics, *Clinical Neurophysiology* 117, e17-e21, (2006). Low, P. S., Sejnowski, T. J., Fine structure of human sleep, *Society for Neuroscience Abstracts*, (2006).
241. Fröhlich, F., Bazhenov, M., Nita, D., Timofeev, I., Sejnowski, T., Homeostatic reorganization of network dynamics at the border between intact and deafferented cortex, *Society for Neuroscience Abstracts*, (2006).
242. Tups, J. V., Fellous, J.-M., Thomas, P. J., Tiesinga, P., Sejnowski, T. J., Stability of in vitro spike patterns under variation of stimulus amplitude, *Society for Neuroscience Abstracts*, (2006).
243. Zhang, W., Bartol, T. M., Harris, K. M., Sejnowski, T. J., Monte Carlo model of presynaptic calcium dynamics of hippocampal neurons, *Society for Neuroscience Abstracts*, (2006).
244. Coggan, J. S., Lopreore, C. L., Bartol, T. M., Keller, D. X., Sosinsky, G. E. Sejnowski, T. J. Ellisman, M. H., Compartment and electrodiffusion models of myelinated axon conduction reliability, *Society for Neuroscience Abstracts*, (2006).
245. Prescott, S. A., De Koninck, Y., Sejnowski, T. J., Integration versus coincidence detection: direction of subthreshold currents explains the antithetical encoding properties of different cell types, *Society for Neuroscience Abstracts*, (2006).
246. Y. De Koninck, Prescott, S. A., Sejnowski, T. J., Reduction of anion reversal potential subverts the inhibitory control of firing rate in spinal lamina I neurons: A biophysical basis for neuropathic pain, *Society for Neuroscience Abstracts*, (2006).
247. Sejnowski, T. J., Makeig, S. Hauser, J., Emmorey, K., Poizner, H., EEG dynamics associated with reaching for targets, *Society for Neuroscience Abstracts*, (2006).
248. Kinney, J. P., Bartol, T. M., Sejnowski, T. J., Influence of background glutamate on synaptic transmission in a Monte Carlo model of hippocampal neuropil, *Society for Neuroscience Abstracts*, (2006).
249. Meier P., Schwartz O., Reinagel P., Sejnowski T. The statistics of natural videos modeled as textures. "Vision by Brains and Machines" (VBM) International Symposium, Montevideo, Uruguay, Nov. 13-17, (2006)
250. Low, P.S., Sejnowski, T.J., REM Revisited, *Society for Neuroscience Abstracts*, (2007).
251. Sejnowski, T.J., Moldakarimov, S., Bazhenov, M., A spiking network model implementing representational sharpening exhibits perceptual priming, *Society for Neuroscience Abstracts*, (2007).
252. Fröhlich, F., Bazhenov, M., Timofeev, I., Sejnowski, T. J., Homeostatic recovery of a partially deafferented neocortical network as a mechanism for posttraumatic epileptogenesis, *Society for Neuroscience Abstracts*, (2007).

253. Nelson, J.D., McKenzie, C.R.M., Cottrell, G.W., Sejnowski, T.J., Optimal experimental design principles explain human attention on a probabilistic categorization task, *Society for Neuroscience Abstracts*, (2007).
254. Nadkarni, S., Bartol, T.M., Sejnowski, T.J., Levine, H., Activity dependent potentiation governed by presynaptic calcium stores at a tripartite synapse, *Society for Neuroscience Abstracts*, (2007).
255. Hasenstaub, A.R., Otte, S., Callaway, E., Sejnowski, T.J., The energetic cost of fast spiking, *Society for Neuroscience Abstracts*, (2007).
256. Kinney, J.P., Spacek, J., Bartol, T.M., Bajaj, C., Harris, K., Sejnowski, T.J., Effect of extracellular space width on a geometric tortuosity in 3D reconstruction of neuropil, *Society for Neuroscience Abstracts*, (2007).
257. Wang, H.P., Spencer, D., Fellous, J.-M., Sejnowski, T.J., Synchronous thalamic inputs drive cortical neurons reliably when excitatory and inhibitory inputs are balanced, *Society for Neuroscience Abstracts*, (2007).
258. Prescott, S.A., Sejnowski, T.J., Effects of different types of spike frequency adaptation on spike timing and rate coding, *Society for Neuroscience Abstracts*, (2007).
259. Cortes, J.M., Sejnowski, T.J., Van Rossum, M., Weight-dependent learning rules with long temporal correlations, *Society for Neuroscience Abstracts*, (2007).
260. Chukoskie, L., Schwartz, O., Albright, T.D., Sejnowski, T.J., Spatial patterns of fixation: bottom-up effects, *Society for Neuroscience Abstracts*, (2007).
261. Ohayon, E.L., Burnham, W.M., Kwan, H.C., Sejnowski, T.J., Bazhenov, M., Diffuse structural changes modulate recurrence period in persistent neural activity, *Society for Neuroscience Abstracts*, (2007).
262. Peterson, D. A., Elliott, C., Song, D. D., Makeig, S., Sejnowski, T. J., Poizner, H., Dopamine Deficiency in Parkinson's Disease Compromises Adaptations in Reward Learning, *Movement Disorders Supplement 23 (1) S105-S105* (2008).
263. Volman, V., Levine, H, Sejnowski, T. J., Active dendritic conductances enhance processing of plastic synaptic stimuli, *BMC Neuroscience 9 (Suppl 1), P44* (2008)
264. Prescott, S. A., Ratté, S., De Koninck, Y., Sejnowski, T. J., How pyramidal neurons switch from integrators in vitro to resonators under in vivo-like conditions, *Society for Neuroscience Abstracts*, (2008).
265. Bonjean, M., Low, P., Wylie, L., Nielsen, B. Sejnowski, T. J. Gage, F. H., Noninvasive EEG In Animals, *Society for Neuroscience Abstracts*, (2008).
266. Frost, W. N., Moore-Kochlacs, C., Hill, E. S., Wang, J., Sejnowski, T. J., Simultaneous Intracellular And Optical Recordings Confirm Blind Separation Of Single Neurons By Independent Component Analysis, *Society for Neuroscience Abstracts*, (2008).
267. Low, P. S., Barton, S. C., Landreth, R., Sejnowski, T. J., R.E.M. Revealed, *Society for Neuroscience Abstracts*, (2008).
268. Moldakarimov, S. B., Bazhenov, M. V., Sejnowski, T. J. Roles of Feedforward, Recurrent and Feedback Connections in Reliable Visual Processing, *Society for Neuroscience Abstracts*, (2008).

269. Ohayon, E.L., W.M. Burnham, H.C. Kwan, T.J. Sejnowski, M. Bazhenov. Heterogeneity and Asymmetry in Neural Network Structure can Effect Non-Evoked Transitions in Population Activity. Society for Neuroscience Abstracts, (2008)
270. Nadkarni, S., Bartol, Jr, T. M., Sejnowski, T. J. Levine, H., Presynaptic Calcium Dynamics and Geometrical Constraints on Plasticity in A Hippocampal Synapse, Society for Neuroscience Abstracts, (2008).
271. Toups, J. V., Fellous, J.-M., Sejnowski, T. J., Tiesinga, P. H., Heuristics for Revealing the Event Structure of Neuronal Spike Trains, Society for Neuroscience Abstracts, (2008).
272. Peterson, D. A., Lotz, D. T., Elliott, C. Makeig, S. Sejnowski, T. J. Poizner, H., Alpha Desynchronization Reflects Prediction Error in Rewarded Learning, Society for Neuroscience Abstracts, (2008).
273. Chukoskie, L., Albright, T. D., Song, D. D., Sejnowski, T.J. Poizner, H., Implicit Learning of Eye Movement Search in Parkinson's Disease, Society for Neuroscience Abstracts, (2008).
274. Peterson, D. A., Elliott, C., Song, D. D., Makeig, S., Sejnowski, T.J., Poizner, H., Dopamine deficiency in Parkinson's disease compromises adaptations in rewarded learning. Movement Disorders 23: S105-S105 (2008).
275. Coggan, J.S., Bartol, T.M., Sejnowski, T.J., Rethinking Axonal Intrinsic Excitability with a Computational Model of Demyelination. Biophysical Society Abstract, (2009).
276. Baker, T., Bonjean, M., Bazhenov, M., Cash, S.S., Dehghani, N., Halgren, E., Sejnowski, T.J., Role of thalamocortical matrix projections in sleep spindles synchronization, Society for Neuroscience Abstracts, (2009).
277. Moldakarimov, S., Bazhenov, M., Sejnowski, T.J., Feedback connections stabilize spike propagation in multilayer cortical neural networks, Society for Neuroscience Abstracts, (2009).
278. Pinto-Duarte, A., Sejnowski, T.S., Synaptic transmission and plasticity in a mouse model with impaired astrocyte calcium signaling, Society for Neuroscience Abstracts, (2009).
279. Peterson, D. A., Lotz, D. T., Ahn, A., Halgren, E., Makeig, S., Sejnowski, T.J., Poizner, H., Frontocentral EEG dissociates learning- and decision making-based expected value, Society for Neuroscience Abstracts, (2009).
280. Rumsey, C.C., Gillette, A., Bettadapura, Mollere, A., Kinney, J.P., Bartol, T.M., Sejnowski, T.J., Harris, K.M., Johnston, D., Bajaj, C., Reconstructing the neuropil from serial section transmission electron microscopy, Society for Neuroscience Abstracts, (2009).
281. Bonjean, M., Baker, T., Lemieux, M., Timofeev, I., Sejnowski, T.J., Bazhenov, M., The role of the cortex in sleep spindles termination, Society for Neuroscience Abstracts, (2009).
282. Ohayon, E.L., Sejnowski, T.J., Bazhenov, M., Local and distributed mechanisms of persistent activity vary as a function of network size and symmetry, Society for Neuroscience Abstracts, (2009).
283. Wang, H.P., Spencer, D., Fellous, J.M., Sejnowski, T.J., Reliable transmission of visual inputs into cortex depends on thalamic synchrony, Society for Neuroscience Abstracts, (2009).
284. Hasenstaub, A., Sejnowski, T. J., Callaway, E. Gene expression analysis and metabolic optimization in cortical fast-spiking interneurons, Frontiers in Systems Neuroscience, Computational and Systems Neuroscience Conference, (2009).

285. Timofeev, I., Bazhenov, M., Seigneur, J., Sejnowski, T.J. Neocortical synchronization, *Epilepsia* 51, 18 Suppl. 5 (2010).
286. Coggan, J.S. and Sejnowski, T.J., Effects of cellular adaptations to partial demyelination on spike patterns in a model axon, *Biophysical Society Abstract*, (2010).
287. Sejnowski, T.J., Kinney, J.P., Behrens, M.M., Early postnatal ablation of mGluR5 in parvalbumin-positive fast-spiking interneurons results in profound alteration of their normal development, *Society for Neuroscience Abstracts*, (2010).
288. Saremi, S., Albright, T.D., Sejnowski, T.J., Sharpee, T., Translation-invariant independent component analysis of natural images yields "double" gabor filters, *Society for Neuroscience Abstracts*, (2010).
289. Filimon, F., Nelson, J.D., Sejnowski, T.J., Sereno, M.I., Cottrell, G.W., Expected value of information overlaps with reward circuits in humans, *Society for Neuroscience Abstracts*, (2010).
290. Moldakarimov, S., Bazhenov, M., Sejnowski, T.J., Feedback model of visual perceptual learning, *Society for Neuroscience Abstracts*, (2010).
291. Lee, H.S., Ghetti, A., Pinto-Duarte, A., Galimi, F., Pina-Crespo, J., Sanna, G., Verma, I., Sejnowski, T.J., Heinemann, S.F., The role of astrocytes in gamma oscillations in the brain, *Society for Neuroscience Abstracts*, (2010).
292. Volman, V., Bazhenov, M., Sejnowski, T.J., Spatial pattern and severity of cortical trauma determine the propensity of post-traumatic epileptogenesis, *Society for Neuroscience Abstracts*, (2010).
293. Pinto-Duarte, A., Bonjean, M., Behrens, M.M., Sejnowski, T.J., Neonatal exposure to NMDA receptor antagonists halts the maturation of parvalbumin-positive fast-spiking interneurons, leading to altered network activity in adulthood, *Society for Neuroscience Abstracts*, (2010).
294. Behrens, M., Hasenstaub, A., Sejnowski, T.J., A role for DNA methylation in the NMDA receptor antagonist-mediated loss of phenotype of parvalbumin-positive fast-spiking interneurons, *Society for Neuroscience Abstracts*, (2010).
295. Peterson, D.A., Mullane, M., Saproo, S., Tran, C., Yazdani, M., Lee, D., Sejnowski, T.J., Poizner, H., Tougher decisions make rougher moves: The kinematics of reaching to make choices during rewarded learning, *Society for Neuroscience Abstracts*, (2010).
296. Ohayon, E.L., Lam, A., Semendeferi, K., Sejnowski, T.J., Bellugi, U., A neurocomputational model relating brain density to neural dynamics in social cognition, *Society for Neuroscience Abstracts*, (2010).
297. Nadkarni, S., Bartol, T.M., Sejnowski, T.J., Levine, H., Stochastic modeling of vesicular release at hippocampal synapses, *Society for Neuroscience Abstracts*, (2010).
298. Huh, D., Todorov, E., Sejnowski, T.J., Infinite horizon optimal control framework for goal directed movements, *Society for Neuroscience Abstracts*, (2010).
299. Cortes, J.M., Marinazzo, P., Series, P., Oram, M.W., Sejnowski, T.J., Van Rossum, M.C.W., Neural adaptation reduces energy cost while preserving coding accuracy, *Society for Neuroscience Abstracts*, (2010).
300. Bonjean, M., Baker, T., Timofeev, I., Sejnowski, T.J., Bazhenov, M., Thalamocortical feedback controls the properties of sleep spindles in vivo, *Society for Neuroscience Abstracts*, (2010).

301. Baker, T., Bonjean, M., Cash, S.S., Bazhenov, M.V., Halgren, E., Sejnowski, T.J., Interactions between core and matrix thalamocortical systems in human sleep spindle synchronization, Society for Neuroscience Abstracts, (2010).
302. Coggan, J., Prescott, S.A., Bartol, T.M., Sejnowski, T.J., Conductance imbalances link diverse symptoms of demyelination diseases, Society for Neuroscience Abstracts, (2010).
303. Chukoskie, L., Alexander, A.S., Kane, N.R., Mozer, M.C., Sejnowski, T.J., Chiba, A.A., Rodents effectively learn statistics of hidden food rewards in a novel search task, Society for Neuroscience Abstracts, (2010).
304. Kinney, J., Bartol, T.M., Regner, B., Bajaj, C.L., Harris, K.M., Sejnowski, T.J., The 3D structure of hippocampal extracellular space has sheets and tunnels, Society for Neuroscience Abstracts, (2010).
305. Volman, V., Bazhenov, M., Sejnowski, T. J. Computational model of neuronal and glial homeostatic synaptic plasticity in posttraumatic epileptogenesis, Society for Neuroscience Abstracts, (2011).
306. Wang, X., Xing, J., Sommer, F. T., Hirsch, J. A., Berger, T., Sejnowski, T. J., Resolving the paradoxical energy efficiency of retinthalamic transmission, Society for Neuroscience Abstracts, (2011).
307. Peterson, D. A., Sejnowski, T. J., Dopamine-dependent STDP at corticostriatal synapses modulates firing patterns in medium spiny neurons, Society for Neuroscience Abstracts, (2011).
308. Broccard, F., Joshi, S., Yu, T., Park, J., Maier, C., Arnold, M., Sejnowski, T. J., Cauwenberghs, G., Silicon large-scale models of neocortical vision, Society for Neuroscience Abstracts, (2011).
309. Nadkarni, S., Bartol, T., Kennedy, M. E., Harris, K., Stevens, C., Levine, H., Sejnowski, T. J., Effects of presynaptic calcium stores on short-term synaptic plasticity, Society for Neuroscience Abstracts, (2011).
310. Jadi, M., Sejnowski, T. J., An inhibition-stabilized network model for stimulus-induced gamma in the visual cortex, Society for Neuroscience Abstracts, (2011).
311. Behrens, M., Volman, V., Sejnowski, T. J., Asynchronous release of GABA reduces network gamma activity in a model of schizophrenia based on downregulation of parvalbumin at inhibitory synapses, Society for Neuroscience Abstracts, (2011).
312. Stoner, G. R., Jadi, M., Sejnowski, T. J., Recurrent connectivity of columnar network and its effect on contextual interactions in area MT of the visual cortex, Society for Neuroscience Abstracts, (2011).
313. Sejnowski, T. J., Tanaka, H., Vector cross products in spatial reference frames serve as motor primitives in dynamic and kinematic motor adaptation, Society for Neuroscience Abstracts, (2011).
314. Tanaka, H., T. J. Sejnowski, T. J., How the motor cortex computes dynamics in spatial reference frames, Society for Neuroscience Abstracts, (2011).
315. Moldakarimov, S., Bazhenov, M., Sejnowski, T. J., Plasticity of top-down feedback projections to primary visual cortex may underlie perceptual learning, Society for Neuroscience Abstracts, (2011).
316. Huh, D., Sejnowski, T. J., Generalized power law for curved movements, Society for Neuroscience Abstracts, (2011).

317. Broccard, F. D., Sejnowski, T. J., Cauwenberghs, G., Temporal dynamics of human and machine reinforcement learning in the game of go, *Society for Neuroscience Abstracts*, (2011).
318. Ohayon, E. L., Lam, A., Bellugi, U., Sejnowski, T. J., The role of interplay between network density and synaptic connectivity in tuning neural dynamics and cognition, *Society for Neuroscience Abstracts*, (2011).
319. O'Donnell, C., Sejnowski, T.J., The computational impact of local dendritic protein translation on synaptic plasticity and memory, *Society for Neuroscience Abstracts*, (2012).
320. Zhou, X., Wang, X., Ji, B., Kim, M., Caldwell, S., Pinto-Duarte, A., Behrens, M., Sejnowski, T.J., Geyer, M.A., Sp4 hypomorphic mice, a hypoglutamatergic genetic model for schizophrenia, *Society for Neuroscience Abstracts*, (2012).
321. Wang, X., Pinto-Duarte, A., Behrens, M., Zhou, X., Sejnowski, T.J., Systematic *in vivo* electroencephalographic characterization of spatial phase coupling in mouse models of schizophrenia, *Society for Neuroscience Abstracts*, (2012).
322. Lopes, M.A., Jadi, M., Albright, T. D., Sejnowski, T.J., Stoner, G.R., Surround suppression across neuronal classes in area MT suggests an inhibition-stabilized network, *Society for Neuroscience Abstracts*, (2012).
323. Solstad, T., Yousif, H., Sejnowski, T.J., Place cell rate remapping in the hippocampus by CA3 collaterals, *Society for Neuroscience Abstracts*, (2012).
324. Moldakarimov, S., Bazhenov, M., Sejnowski, T.J., Modulatory feedback inputs into V1 mediate visual perceptual learning, *Society for Neuroscience Abstracts*, (2012).
325. Puddifoot, C. A., Lister, R., Mukamel, E., Ecker, J., Sejnowski, T.J., Behrens, M., Perinatal disruption of NMDA receptor function results in life-long transcriptional changes in frontal cortex, *Society for Neuroscience Abstracts*, (2012).
326. Veltz, R. J., Sejnowski, T.J., Effects of network symmetries on neural tuning properties, *Society for Neuroscience Abstracts*, (2012).
327. Mukamel, E.A., Lister, R., Nery, J.R., Urich, M., Puddifoot, C.A., Johnson, N.D., Lucero, J., Huang, Y., Dwork, A.J., Schultz, M.D., Yu, M., Toni-Filippini, J., Pastor, W.A., Heyn, H., Hu, S., Wu, J.C., Rao, A., Esteller, M., He, C., Haghghi, F.G., Sejnowski, T. J., Ecker, J.R., Behrens, M.M., Global Reconfiguration of Neuronal and Glial DNA Methylation During Mammalian Brain Development, *Society for Neuroscience Abstracts* (2013).
328. Zhang, W., Wu, S., Sommer, F.T., Hirsch, J.A., Sejnowski, T. J., Wang, X., Information Processing by Retinthalamic Circuits Contributes to Contrast Adaptation, *Society for Neuroscience Abstracts* (2013).
329. Bartol, T.M., Sejnowski, T. J., Nadkarni, S., Levine, H., Activity Dependent Modulation of Synaptic Transmission by Presynaptic Ryanodine Receptors: A dichotomy of Short-Term Depression and Facilitation, *Society for Neuroscience Abstracts* (2013).
330. Yousif, H.N., Solstad, T., Sejnowski, T.J., Distinct CA3 Attractor States Revealed by Mean Field Modeling, *Society for Neuroscience Abstracts* (2013).
331. Pinto-Duarte, A., Behrens, M., Sejnowski, T. J., Early Ablation of mGluR5 Receptor Affects the Maturation of Parvalbumin Interneurons: Consequences for Synaptic Transmission and Plasticity in the Hippocampus, *Society for Neuroscience Abstracts* (2013).

332. Gonzalez, O., Krishnan, G., Sejnowski, T. J., Timofeev, I., Bazhenov, M., Homeostatic Synaptic Scaling Mediates Distinct Types of Paroxysmal Activity Following Brain Trauma, Society for Neuroscience Abstracts (2013).
333. Johnson, N.D., Puddifoot, C.A., Ecker, J.R., Mukamel, E.A., Lister, R., Nery, J.R., Urich, M., Behrens, M.M., Sejnowski, T.J., Hypo-NMDA Receptor Function Leads to Altered Transcription in Frontal Cortex, Society for Neuroscience Abstracts (2013).
334. Ohayon, E. L., Chailangkarn, T., Muotri, A. R., Chu, P. V., Muno, A. R., Bellugi, U., Sejnowski, T. J. Imaging metal distribution in Williams syndrome spatially and across time: From cultured cells to postmortem brain tissue, Society for Neuroscience Abstracts (2013).
335. Lainscsek, C., Hernandez, M.E., Weyhenmeyer, J., Sejnowski, T. J., Poizner, H., Non-linear Dynamical Analysis of EEG Time Series Distinguishes Patients with Parkinson's Disease From Healthy Individuals, Society for Neuroscience Abstracts (2013).
336. Lainscsek, C., Hernandez, M.E., Weyhenmeyer, J., Poizner, H., Sejnowski, T.J., Non-linear Dynamical Classification of Short Time Series of the Rossler System in High Noise Regimes, Society for Neuroscience Abstracts (2013).
337. Moldakarimov, S., Jadi, M., Sejnowski, T. J., Plasticity of Gamma Oscillations in Barrel Cortex Following Sensory Deprivation, Society for Neuroscience Abstracts (2013).
338. Kappe, A.J., Metzler, A.C., Mendoza, M.P., Tupper, K.Y., Mukamel, E.A., Wang, X., Sejnowski, T. J., Behrens, M.M., Postnatal Ablation of mGluR5 in Parvalbumin-Positive Fast-Spiking Interneurons Results in Alterations of Auditory Event-Related Potentials, Society for Neuroscience Abstracts (2013).
339. Barnes, S.A., Sejnowski, T. J., Behrens, M.M., Markou, A., Postnatal mGluR5 Receptor Ablation From Parvalbumin-Positive Interneurons Induced Select Impairments of Relevance to Schizophrenia Pathophysiology, Society for Neuroscience Abstracts (2013).
340. O'Donnell, C., Sejnowski, T. J., Selective Memory Storage by Spatial Patterning of Protein Synthesis, Society for Neuroscience Abstracts (2013).
341. Coggan, J.S., Cerina, M., Goebel, K., Sejnowski, T.J., Meuth, S.G., Prescott, S.A., Subcellular Cooperativity and Ectopic Spiking in Demyelinated Axon Models and Thalamocortical Circuits, Society for Neuroscience Abstracts (2013).
342. Mukamel, E.A., Hagler, D.J. Jr., Krishnan, G.P., Petrillo, E., Cash, S.S., Sejnowski, T. J., Bazhenov, M.V., Halgren, E., Reproduction of whole-head MEG and EEG patterns during Human Sleep Spindles in a large scale neural model with realistic cortical anatomy, Society for Neuroscience Abstracts (2013).
343. Broccard, F. D., Mullen, T., Chi, Y., Peterson, D., Iversen, J. R., Arnold, M. P., Kreutz-Delgado, K., Jung, T.-P., Makeig, S., Poizner, H., Sejnowski, T. J., Cauwenberghs, G., Closed-loop brain-machine-body interface for noninvasive rehabilitation of movement disorders, Society for Neuroscience Abstracts, (2014).
344. Behrens, M., Khan, A. Johnson, N. D., Mukamel, E. A., Lucero, J. D., Sejnowski, T. J., Risbrough, B., Powell, S. B. Delayed cortical maturation, enhanced fear conditioning and social deficits in mice exposed to perinatal ketamine, Society for Neuroscience Abstracts, (2014).

345. Mukamel, E. A., Mo, A., Davis, F. P., Luo, C., Henry, G. L., Eddy, S. R., Sejnowski, T. J., Ecker, J. R., Nathans, J. Cortical neuron cell types develop highly divergent epigenetic configurations, *Society for Neuroscience Abstracts*, (2014).
346. Bromer, C., Bartol, T. M. Jr., Kinney, J., Harris, K., Sejnowski, T. J. Highly precise hippocampal synaptic plasticity, *Society for Neuroscience Abstracts*, (2014).
346. Jadi, M., Sejnowski, T. J., How SOM+ and PV+ inhibitory neurons could differentially modulate surround suppression of cortical neurons, *Society for Neuroscience Abstracts*, (2014).
348. Pinto-Duarte, A., Roberts, A. J., Ouyang, K., Chen, J., Sejnowski, T. J. Long-term memory is defective in mice with impaired astrocytic calcium signaling, *Society for Neuroscience Abstracts*, (2014).
349. Hernandez, M. E., Weyhenmeyer, J., Lainscsek, C., Sejnowski, T. J., Poizner, H. Delay differential analysis of EEG during reaching to grasp virtual objects, *Society for Neuroscience Abstracts*, (2014).
350. Yousif, H. N., Solstad, T., Sejnowski, T. J. Place cell response variance in an attractor network model of hippocampal ca3, *Society for Neuroscience Abstracts*, (2014).
351. Xing, J., Berger, T., Sejnowski, T. J. An energy efficient neuron model with excitatory and inhibitory inputs, *Society for Neuroscience Abstracts*, (2014).
352. Peterson, D. A., Sejnowski, T. J. A theoretical model for the pathogenesis of adult onset dystonia due to GNAL mutations, *Society for Neuroscience Abstracts*, (2014).
353. Moldakarimov, S., Bazhenov, M., Sejnowski, T. J. Feedback connections stabilize propagation of synchronous spiking in cortical neural networks, *Society for Neuroscience Abstracts* (2014).
354. Williams, A. H., O'Donnell, C., Sejnowski, T. J., Marder, E., O'Leary, T Control of spatially patterned gene expression in dendrites, *Society for Neuroscience Abstracts*, (2015)
355. O'Donnell, C., Goncalves, J. T., Portera-Cailliau, C., Sejnowski, T. J. Altered number of neural population activity patterns in Fragile-X mice, *Society for Neuroscience* (2015),
356. Lainscsek, C., Sampson, A., The COGS Investigators, T. Light, G. A., Sejnowski, T. J. Bringing order to the neurophysiological chaos underlying sensory processing dysfunction in schizophrenia, *Society for Neuroscience*, (2015)
357. Um, K., Khan, A., Hariharan, M., Lucero, J., Sejnowski, T. J., Ecker, J. R., Powell, S. B., Behrens, M. Comprehensive gene expression analysis of prefrontal cortex and hippocampus in social isolation rearing mouse model, *Society for Neuroscience* (2015)
358. Hernandez, M.E., Weyhenmeyer, J., Lainscsek, C., Sejnowski, T. J., Poizner, H. Delay differential analysis: a framework for multimodal non-linear classification of Parkinson's disease, *Society for Neuroscience* (2015)
359. Weyhenmeyer, J., Lainscsek, C., Cash, S. S., Sejnowski, T. J. Delay differential analysis: a framework for the analysis of large-scale epileptic electrocorticography recordings, *Society for Neuroscience*, (2015)
360. Hurdato, J., Ramirez, D. F., Sejnowski, T. J. Interactions between neural circuits that mediate social and nonsocial behaviors, *Society for Neuroscience* (2015)

361. Jadi, M. P., Nandy, A. S., Sejnowski, T. J., Reynolds, J. H. Laminar organization of visually evoked gamma power in area V4, Society for Neuroscience, (2015)
362. Lin, W., Lainscsek, C., Krishnan, G. P., Bazhenov, M., Mednick, S., Sejnowski, T. J. Nonlinear dynamical features for improving computational sleep models using Delay Differential Analysis, Society for Neuroscience, (2015)
363. Sampson, A.L. C., Lainscsek, C., Cash, S. S., E. Halgren, E., Sejnowski, T. J. Nonlinear dynamical sleep spindle detection using delay differential analysis, Society for Neuroscience, (2015)
364. Padmanabhan, K., Osakada, F., Callaway, E., Gage, F., Sejnowski, T. J. Origin and identity of feedback projecting neurons to the main olfactory bulb revealed through retrograde viral tracing, Society for Neuroscience, (2015)
365. Krishnan, G. P., Choinski, M. J., Muller, L. E., Hagler, Jr., D. J., Cash, S. S., Sejnowski, T. J., Halgren, E., Bazhenov, M. Structural connectivity between cortex and thalamus determines temporal features of sleep spindles, Society for Neuroscience, (2015)
366. Muller, L. E., Piantoni, G., Cash, S. S., Halgren, E., Sejnowski, T. J. The large-scale spatiotemporal structure of spindle oscillations in human sleep, Society for Neuroscience, (2015)

Meetings Organized:

1. 5/13/84 - 5/15/84 Workshop on Stochastic Parallel Computation, M. I. T. Endicott House, Boston, MA. Organized jointly with Thinking Machines Corporation.
2. 8/23/85 - 9/7/85 First Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
3. 11/11/85 - 11/14/85 Workshop on Connectionist Symbol Processing, St. Michaels, MD.
4. 6/20/86 - 6/29/86 First Connectionist Models Summer School, Carnegie-Mellon University, Pittsburgh, PA.
5. 8/24/86 - 9/1/86 Second Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
6. 9/1/86 - 9/6/86 Current Topics in Neurobiology, Institute for Theoretical Physics, Santa Barbara, CA.
7. 4/1/87 - 4/7/87 Third Annual Snowbird Meeting on Neural Networks for Computing, Snowbird, Utah: General Chairman.
8. 8/30/87 - 9/4/87 Third Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
9. 6/17/88 - 6/26/88 Second Connectionist Models Summer School, Carnegie-Mellon University, Pittsburgh, PA.
10. 8/28/88 - 9/3/88 4th Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
11. 11/28/88 - 12/1/88 NIPS: IEEE Conference on Neural Information Processing Systems, Denver, CO: General Chairman.
12. 8/27/89 - 9/2/89 Fifth Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
13. 5/30/90 - 6/6/90 Cold Spring Harbor Quantitative Symposium: The Brain, Cold Spring Harbor, NY.

14. 6/24/90 - 7/2/90 Third Connectionist Models Summer School, University of California at San Diego, La Jolla, CA.
15. 7/14/90 - 7/27/90 Cold Spring Harbor Laboratory Summer Course on Computational Neuroscience: Learning and Memory, Cold Spring Harbor, NY.
16. 8/26/90 - 9/1/90 Sixth Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
17. 8/25/91 - 8/31/91 Seventh Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
18. 7/29/92 - 7/31/92 NSF Workshop on Facial Expression Understanding, Washington, D. C.
19. 8/22/92 - 8/28/92 Eighth Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
20. 12/5/93 NIPS Post Conference Workshop on the Computational Neuron.
21. 8/21/93 - 8/26/93 Ninth Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
22. 8/27/93 NSF Planning Workshop on Biological and Artificial Neural Systems, Washington, D.C.
23. 3/16/94 - 3/18/94 The Microcircuitry of Cerebral Cortex, Santa Barbara, CA.
24. 7/1/94 - 7/14/94 NSF Workshop on Neuromorphic Engineering, Telluride, CO.
25. 8/22/94 - 8/28/94 Tenth Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
26. 6/25/95 - 7/9/95 Second NSF Workshop on Neuromorphic Engineering, Telluride, CO.
27. 8/21/95 - 8/27/95 Eleventh Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
28. 6/23/96 - 7/14/96 Third NSF Workshop on Neuromorphic Engineering, Telluride, CO.
29. 8/26/96 - 8/30/96 Twelfth Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
30. 6/23/97-7/11/97 Fourth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
31. 8/25/97-8/30/97 Thirteenth Woods Hole Workshop on Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
32. 6/29/98-7/19/98 Fifth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
33. 6/29/99-7/17/99 Sixth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
34. 7/5/99-7/11/99 Fourteenth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
35. 7/2/00-7/6/00 Chair of the Novartis Foundation Symposium on Complexity in Biological Information Processing, Berlin, Germany.
36. 6/25/00-7/18/00 Seventh NSF Workshop on Neuromorphic Engineering, Telluride, CO.
37. 7/11/00-7/16/00 Fifteenth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
38. 9/3/01-9/8/01 Problems in Systems Neuroscience, Dresden, Germany
39. 7/1/01-7/22/01 Eighth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
40. 7/17/01-7/27/01 Sixteenth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
41. 5/1/02-5/3/02 Workshop on the Anterior Cingulate, Inn at Rancho Santa Fe, CA.
42. 5/10/02-5/12/02 From Microscopic to Macroscopic Brain Dynamics, Inn at Rancho Santa Fe, CA.
43. 6/30/02-7/21/02 Ninth NSF Workshop on Neuromorphic Engineering, Telluride, CO.

44. 7/8/02-7/12/02 Seventeenth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
45. 5/16/03 Brain, Rewards and Game Theory, Inn at Rancho Santa Fe, CA.
46. 6/29/03-7/20/03 Tenth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
47. 6/30/03-7/5/03 Eighteenth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
48. 11/14/03-11/16/03 Signals, decisions and meaning in biology, chemistry, physics and Engineering, National Academy of Sciences Keck Futures Conference, Beckman Center, Irvine, CA
49. 5/16/04-5/19/04 Communication in Brain Systems, Banbury Conference Center, Cold Spring Harbor Laboratory, NY.
50. 6/27/04-7/18/04 Eleventh NSF Workshop on Neuromorphic Engineering, Telluride, CO.
51. 7/03/04-7/10/04 Nineteenth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
52. 12/17/04 NIPS Workshop on Overcomplete Representations, Whistler, Canada.
53. 1/6/05-1/8/05 Computational Chronobiology, National Academy of Sciences Beckman Center, Irvine, CA.
54. 6/26/05-7/16/05 Twelfth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
55. 7/04/05-7/8/05 Twentieth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
56. 6/25/06-7/09/06 Thirteenth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
57. 7/05/06-7/7/06 Twenty-first Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
58. 9/29/06-10/1/06 Multi-level Brain Modeling, Rancho Santa Fe, CA.
59. 12/9/06 NIPS Workshop on Decoding the Neural Code, Whistler, Canada.
60. 3/5/07-3/7/07 Neural Identities, HHMI Janelia Farm, Leesburg, VA.
61. 7/23/07-7/25/07 NSF Workshop on Future Challenges for the Science and Engineering of Learning. Washington, D.C.
62. 7/2/07-7/21/07 Fourteenth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
63. 7/9/07-7/13/07 Twenty-second Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
64. 6/29/07-7/19/07 Fifteenth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
65. 9/26/08-9/28/08 Workshop on Insights into Insight, Rancho Santa Fe, CA
66. 7/7/08-7/11/08 Twenty-third Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
67. 12/13/08 NIPS Workshop on Cortical Microcircuits and their Computational Functions, Whistler, Canada
68. 6/24/09-6/27/09 Twenty-fourth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
69. 6/28/09-7/19/09 Sixteenth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
70. 12/11/09 NIPS Workshop on The Curse of Dimensionality Problem: How Does the Brain Solve It? Whistler, Canada
68. 7/5/10-7/9/10 Twenty-fifth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
69. 6/27/10-7/18/10 Seventeenth NSF Workshop on Neuromorphic Engineering, Telluride, CO.
70. 1/16/11-1/19/11 Cognitive Dynamical Systems Workshop, La Jolla, CA.
71. 1/22/11 Crick-Jacobs Center Workshop on Human Genetics: La Jolla, CA.

72. 7/4/11-7/9/11 Twenty-sixth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
73. 7/8/12-7/13/12 Twenty-seventh Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
74. 7/7/13-7/12/13 Twenty-eighth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
75. 12/19/13-12/20/13 Crick-Jacobs Symposium on Transgenic Models of the Human Brain, Salk Institute, La Jolla, CA.
76. 7/6/14-7/11/14 Twenty-ninth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
77. 5/28/14-6/2/14 79th Cold Spring Harbor Symposium on Quantitative Biology: Cognition, Cold Spring Harbor, NY.
78. 11/7/14 Crick-Jacobs Workshop on Regulation of Global Cortical States, Salk Institute, La Jolla, CA
79. 1/19/15 Crick-Jacobs Workshop on Function and Failure of Calcium at Synapses, La Jolla, CA
80. 7/5/14-7/9/14 Thirtieth Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
81. 7/5/15-7/9/15 Thirty-first Woods Hole Workshop on Computational Neuroscience, Telluride, CO.
82. 5/22/16 – 5/26/16 Keystone Symposium on The State of the Brain, Alpbach, Austria
83. 7/3/16-7/8/16 Thirty-second Woods Hole Workshop on Computational Neuroscience, Telluride, CO