CNL People

Terry Sejnowski: Principal Investigator

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http://www.salk.edu/faculty/faculty_details.php?id=48

Curriculum Vitae

http://cnl.salk.edu/~terry/TJS.shortCV.11.pdf

Biography

Terrence Sejnowski is a pioneer in computational neuroscience and his goal is to understand the principles that link brain to behavior. His laboratory uses both experimental and modeling techniques to study the biophysical properties of synapses and neurons and the population dynamics of large networks of neurons. New computational models and new analytical tools have been developed to understand how the brain represents the world and how new representations are formed through learning algorithms for changing the synaptic strengths of connections between neurons. He has published over 300 scientific papers and 12 books, including The Computational Brain, with Patricia Churchland.

He received his PhD in physics from Princeton University and was a postdoctoral fellow at Harvard Medical School. He was on the faculty at the Johns Hopkins University and he now holds the Francis Crick Chair at The Salk Institute for Biological Studies and is also a Professor of Biology at the University of California, San Diego, where he is co-director of the Institute for Neural Computation and co-director of the NSF Temporal Dynamics of Learning Center. He is the President of the Neural Information Processing Systems (NIPS) Foundation, which organizes an annual conference attended by over 1000 researchers in machine learning and neural computation and is the founding editor-in-chief of Neural Computation published by the MIT Press.

An investigator with the Howard Hughes Medical Institute, he is also a Fellow of the American Association for the Advancement of Science and a Fellow of the Institute of Electrical and Electronics Engineers. He has received many honors, including the NSF Young Investigators Award, the Wright Prize for interdisciplinary research from the Harvey Mudd College, the Neural Network Pioneer Award from the Institute of Electrical and Electronics Engineers and the Hebb Prize from the International Neural Network Society. He was elected to the Institute of Medicine in 2008, to the National Academy of Sciences in 2010, and to the National Academy of Engineering in 2011. He is one of only 10 living persons to be a member of all 3 national academies.

Latest Publications

Veit, J. Hakim, R. Jadi, M. P. Sejnowski, T. J. Adesnik, H. Cortical gamma band synchronization through somatostatin interneurons, Nature Neuroscience, 20(7): 951-959, 2017

Lainscsek, C. Muller , L. E. Sampson, A. L. Sejnowski, T. J. Analytical Derivation of Nonlinear Spectral Effects and 1/f Scaling Artifact in Signal Processing of Real-World Data., Neural Computation, 29(7), 2004-2020, 2017

Lin, T. W. Das, A. Krishnan, G. P. Bazhenov, M. Sejnowski, T. J. Differential Covariance: A New Class of Methods to Estimate Sparse Connectivity from Neural Recordings, Neural Computation, in press

Peterson, D. A. Sejnowski, T. J. A Dynamic Circuit Hypothesis for the Pathogenesis of Blepharospasm, Frontiers in Computational Neuroscience, 11, 11 /doi.org/10.3389/fncom.2017.00011, 2017 PMCID:PMC5340098 **(PDF)**

Das, A. Sejnowski, T. J. Narrowband and Wideband Off-Grid Direction-of-Arrival (DOA) Estimation via Sparse Bayesian Learning, IEEE Journal of Oceanic Engineering, in press

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