BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2.
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NAME	POSITION TITLE
Dieter Jaeger	Associate Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Tübingen University, Germany	B.Sc. equiv.	1980-1984	Biochemistry
University of Michigan	Ph.D.	1984-1990	Neuroscience

A. Positions and Professional Experience

Positions and Employment

1984	Research Assistant w/ Dr. V. Braitenberg, MPI für biologische Kybernetik, Tübingen
1984-1990	Graduate Student w/ Dr. J.W. Aldridge, University of Michigan
1991-1996	Postdoctoral fellow w/ Dr. J.M. Bower, California Institute of Technology
1994-1995	Research Collaboration in the lab of Dr. C. Wilson, University of Tennessee at Memphis
1996	Research Collaboration in the lab of Dr. Y. Yarom, Hebrew University, Jerusalem
1997-2003	Assistant Professor, Dept. of Biology, Emory University, Atlanta
2003-present	Associate Professor, Dept. of Biology, Emory University, Atlanta

Professional Memberships

1985-present	Member, Society for Neuroscience
2003-present	Member, American Physiological Society

Honors

1980-1986	Fellowship for University Studies, Studienstifung des Deutschen Volkes
1989-1990	Predoctoral Fellowship, Rackham Graduate School, U. of Michigan
1995-1996	Postdoctoral Fellow, Sloan Center for Theoretical Neurobiology, Caltech

Reviews

National Institute of Health Panel Reviews:
- Parkinson's Disease RFA, 2001
- Postdoctoral NRSA review, 2002
- Udall Center Grant For Parkionson's Disease Review Panel, 2003, 2004
- SMI study section, June 2004

National Science Foundation Panel Reviews:
- Collaborative Research in Computational Neuroscience (CRCNS), 2004

External Reviews:
- National Science Foundation: 1997,2001
- United States-Israel Binational Science Foundation: 1997, 1999
- Health Research Council of New Zealand: 2000,2003
- Wellcome Trust Senior Research Fellowship Review: 2001

B. Publications

Peer reviewed Journal Articles

Jaeger, D, Gilman, S. and Aldridge, J.W.. (1990) A multiwire electrode for single unit recording in deep brain structures. *J. Neurosci. Meth.*, Vol 32, pp. 143-148

Jaeger,D., Aldridge, J.W., and Gilman, S.. (1993) Primate basal ganglia activity in a precued reaching task. Preparation for movement. Exp. Brain Res. 95: 51-64

Jaeger, D. and Bower, J.M.. (1994) Intracellular recording of cerebellar Purkinje cells *in vitro* and *in vivo*: Prolonged depolarization with granule cell activation. Exp. Brain Res. 100:200-214

Jaeger, D., Kita, H., and Wilson, C.J.. (1994) Surround inhibition among projection neurons is weak or nonexistent in the rat neostriatum. J. Neurophysiol. 72: 2555-2558

Jaeger, D., Aldridge, J.W., and Gilman, S.. (1995) Neuronal Activity in the Striatum and Pallidum of Primates Related to the Execution of Externally Cued Reaching Movements. Brain Research. 694: 111-127

Jaeger D, De Schutter E, Bower JM (1997) The role of synaptic and voltage-gated currents in the control of Purkinje cell spiking: a modeling study. J Neurosci., 17: 91-106, 1997

Stern, E.A., Jaeger D, Wilson, C.J. (1998) Membrane potential synchrony of simultaneously recorded striatal spiny neurons in vivo. Nature, 394: 475-478

Jaeger, D., Bower, J.M. (1999) Synaptic Control of Spiking in Cerebellar Purkinje Cells: Dynamic Current Clamp based on model conductances. J. Neurosci., 19:6090-6101

Gauck, V., Jaeger, D. (2000) The control of rate and timing of spikes in the deep cerebellar nuclei by inhibition. J. Neurosci. 20: 3006-3016

Gauck, V., Thomann, M., Jaeger, D., Borst, A. (2001) Spatial distribution of low and high voltage activated calcium currents in neurons of the deep cerebellar nuclei. Rapid Publication in J. Neurosci. 21, RC158

Hanson, J.E. and Jaeger, D.. (2002) Short-Term Plasticity Shapes the Response to Simulated Normal and Parkinsonian Input Patterns in the Globus Pallidus J. Neurosci. 22: 5164-5172

Santamaria, F., Jaeger, D., De Schutter, E., Bower, J.M. (2002) Modulatory effects of parallel fibers and stellate cell synaptic activity on Purkinje cell responses to ascending segment input: A modeling study. J. comp. Neurosci., 13:217-235

Jaeger, D. (2003) No parallel fiber volleys in the cerebellar cortex: Evidence from cross-correlation analysis between Purkinje cells in a computer model and in recordings from anesthetized rats. J. comp. Neurosci., 14(3):311-27

Gauck, V, Jaeger, D. (2003) The contribution of NMDA and AMPA conductances to the control of spiking in neurons of the deep cerebellar nuclei. J. Neurosci. 23: 8109-8118.

Goldberg, J.A., Kats, S.S., and Jaeger, D. (2003) Globus Pallidus Discharge Is Coincident with Striatal Activity during Global Slow Wave Activity in the Rat. J. Neurosci. 23: 10058-10063.

Hanson, J.E., Smith, Y., Jaeger, D. (2004) Sodium channels and dendritic spike initiation at excitatory synapses in globus pallidus neurons. J. Neurosci. 24:329-340

Suter, K.J., Jaeger, D. (2004) Reliable control of spike rate and spike timing by rapid input transients in cerebellar stellate cells. Neuroscience, 124: 305-317

Steuber V., De Schutter, E. and Jaeger, D. (2004) Passive models of neurons in the deep cerebellar nuclei: the effect of reconstruction errors, Neurocomputing In Press, Corrected Proof, Available online 4 March 2004

Kreiner, L., Jaeger, D. (2004) Synaptic shunting by a baseline of synaptic conductances modulates responses to inhibitory input volleys in cerebellar Purkinje cells. Cerebellum. 3: 112-125.

Book Chapters

Jaeger, D. Accurate reconstruction of neuronal morphology. chapter 6 in: Computational Neuroscience: Realistic Modeling for Experimentalists. De Schutter, E. editor, CRC press, 2000

Jaeger, D. The control of spiking by synaptic input in striatal and pallidal neurons. in: The Basal Ganglia VI. Graybiel, A.M, DeLong, M.R., Kitai, S.T. (edts.) Kluwer Academic/ Plenum Publishers, 2003.

C. Research Support

Ongoing Research Support

"Synaptic Integration in the Deep Cerebellar Nuclei"
Principal Investigator: Dieter Jaeger, PhD; Agency: National Institute of Mental Health (NIMH)
Type: R01 MH065634, Period: 06/01/03 – 05/31/08
This project examines the cellular properties of neurons in the deep cerebellar nuclei with respect to the control of spiking by synaptic input. Single cell compartmental modeling methods, in vitro recordings using brain slices, and in vivo recordings using anesthetized rats are used. The long term objective of this work is to understand how the deep cerebellar nuclei as the final output stage of cerebellar processing contribute to the function of the cerebellum.

"Control of spiking in basal ganglia output neurons"
Principal Investigator: Dieter Jaeger, PhD; Agency: National Institute of Neurological Disorder and Stroke (NINDS)
Type: R01 NS039852 Period: March 1, 2000 to February 28, 2005.
The goal of this project is to determine how the spike frequency and pattern of neurons that provide output from the basal ganglia is controlled by synaptic input. Changes in the activity of these neurons are ultimately responsible for the symptoms of Parkinson's disease. In vitro, in vivo, and computer modeling approaches are combined to examine in detail how synaptic input conductances interact with intrinsic properties of these cells in the control of spike output.

"Dynamical Interactions between Basal Ganglia Structures and Cerebral Cortex: An In Vivo Multi-Site Recording Study.
Principal Investigator: Dieter Jaeger, PhD; Agency: Michael J. Fox Foundation
Type. 2002 Fast Track Award, Period: 01/01/03 – 12/31/04
The goal of this work is to determine the functional interactions between basal ganglia structures in anesthetized rats. Simultaneous EEG, intracellular striatal, and extracellular Globus Pallidus neuron recordings are obtained. The network activity of the basal ganglia is manipulated with inactivation and stimulation of Subthalamic Nucleus in normal and 6OHDA lesioned rats. The objective of this study is to examine possible modes of functional interactions between basal ganglia structures in Parkinson's disease and its treatment by deep brain stimulation.