



## Symposium at the 41<sup>st</sup> Annual SfN Meeting in Washington DC

### Microelectrode and Multielectrode Recording Techniques

Monday, November 14<sup>th</sup> 2011, 6.30 p.m. - 9 p.m.

Walter E. Washington Convention Center, Room 147A

Intended for scientists interested in electrophysiology, this symposium will include methodological talks by international scientists within the field. Speakers from diverse areas will present results illustrating advances in neuroscience made possible by innovative instrumentation for micro- and multielectrode techniques.

The microelectrode techniques section will illustrate a variety of new applications such as electroporation, single cell stimulation, and high resolution recording addressable with improved devices. The multielectrode techniques will illustrate the growing field of multielectrode array technology on different preparations *in vivo*. Organized by ALA Scientific Instruments, Farmingdale, New York, USA; Multi Channel Systems Reutlingen, Germany, and npi electronic, Tamm, Germany.

#### Topics:

- 6:40 p.m. **Single Neurons within Oscillating Networks: Different Approaches of Recording and Analysis**  
Martin Both, Department of Neuro- and Sensory Physiology, University of Heidelberg, Germany  
Bähner F, Weiss EK, Birke G, Maier N, Schmitz D, Rudolph U, Frotscher M, Traub RD, **Both M**, Draguhn A. 2011, Cellular correlate of assembly formation in oscillating hippocampal networks in vitro, *Proceedings of the National Academy Sciences USA*, 108(35):E607-16.  
Reichinnek S, Künsting T, Draguhn A, **Both M**. 2010, Field potential signature of distinct multicellular activity patterns in the mouse hippocampus. *Journal of Neuroscience*. 30(46):15441-9.
- 7:05 p.m. **Perforated Multielectrode Array Recordings Combined with Patch Clamp Recordings from Hippocampal Slices**  
Stefano Vicini, Department of Pharmacology, Georgetown University, Washington DC, USA  
Dzhala VI, Staley KJ. 2003, Excitatory actions of endogenously released GABA contribute to initiation of ictal epileptiform activity in the developing hippocampus, *Journal for Neuroscience*, 23(5):1840-6.  
Dzhala VI, Staley KJ. 2003, Transition from interictal to ictal activity in limbic networks in vitro, *Journal for Neuroscience*, 23(21):7873-80.
- 7:30 p.m. **Whole-Cell Recordings in the Hippocampus of Freely Moving Rats**  
Albert Lee, Howard Hughes Medical Institute, Janelia Farm Research Campus, Ashburn, VA  
Epsztein J, Brecht M, **Lee AK**. 2011, Intracellular determinants of hippocampal CA1 place and silent cell activity in a novel environment. *Neuron*, 70(1):109-20.  
Epsztein J, **Lee AK**, Chorev E, Brecht M. 2010, Impact of spikelets on hippocampal CA1 pyramidal cell activity during spatial exploration. *Science*. 327(5964):474-7.
- 7:55 p.m. **Enhanced Neural Culture Recording from MEAs Using Microtunnels**  
Bruce Wheeler, Department of Biomedical Engineering, University of Florida, Gainesville, FL  
Dworak BJ and **Wheeler BC**. 2009, Novel MEA platform with PDMS microtunnels enables detection of action potential propagation from isolated axons in culture, *Lab on Chip*, 9, 404-410.  
Pan L., Alagapan S., Franca E., Brewer GJ, **Wheeler BC**, 2011, Propagation of action potential activity in a predefined microtunnel neural network, accepted, *Journal of Neural Engineering*.

#### Contact:

**ALA Scientific Instruments**

Maulik Oza

sales@alascience.com

[www.alascience.com](http://www.alascience.com)

Booth no. 2436

**Multi Channel Systems**

Karl-Heinz Boven

info@multichannelsystems.com

[www.multichannelsystems.com](http://www.multichannelsystems.com)

Booth no. 2437

**npi electronic GmbH**

Hans Reiner Polder

support@npielectronic.com

[www.npielectronic.com](http://www.npielectronic.com)

Booth no. 2440

Please visit our booths (Sunday, Nov. 13th – Wednesday, Nov. 16th, 2011, 9:30 a.m. – 5 p.m.)