



CENTER FOR SENSORIMOTOR NEURAL ENGINEERING

Improving lives by connecting brains and technology

November, 2016

Upcoming Seminars, Lectures, Courses, Conferences

- UW Biological Structure and The Vision Training Grant seminar, Prakash Kara, PhD (Associate Professor of Neuroscience, Ophthalmology, and Bioengineering at the Medical University of South Carolina) will present: "Synaptic, Spiking and Vascular Cortical Maps of Sensory Stimulus Selectivity," Wednesday, November 2, 2016, 11:00 am, UW HSB T739
- The CSNE's Tech Sandbox competition is now the Neural Engineering Tech Studio, BIOEN 461/561. This course/competition is for both undergraduate and graduate students, and it's offered at the University of Washington, Winter Quarter, 2017. Register now!
- Visit the CSNE at its booth (#3807) at the upcoming Society for Neuroscience Annual Meeting in San Diego (November 12-16, 2016). Meet faculty, students and staff to learn about CSNE research and educational opportunities.
- The UW Institute for Neuroengineering presents short talks by Ione Fine (Professor, Department of Psychology, University of Washington): "From pulse to percept: Modeling the perceptual experience of bionic vision" and Josh Smith (Associate Professor, Departments of Computer Science & Engineering and Electrical Engineering, University of Washington): "Battery-free wireless cameras: A platform for neurally inspired information processing research"; Wednesday, November 9, 2016, 3:30pm Univ. Washington, Health Sciences Building K-069

New CSNE Publications

- Su, Y., Routhu, S., **Moon, K.S.**, Lee, S.Q., Youm, W. and **Ozturk Y.A.**, Wireless 32-Channel Implantable Bidirectional Brain Machine Interface. *Sensors (Basel)*. 2016 Sep 24;16(10). pii: E1582. doi: 10.3390/s16101582.
- Brinkman, B.A., Weber, A.I., **Rieke, F.**, **Shea-Brown, E.** How Do Efficient Coding Strategies Depend on Origins of Noise in Neural Circuits? *PLoS Comput Biol*. Oct 14;12(10):e1005150. doi: 10.1371/journal.pcbi.1005150, 2016.

CSNE in the News

- Girl who survived brain surgery playing drums after help from UW team: <http://www.kiro7.com/news/local/video-girl-who-survived-brain-surgery-playing-drums-after-help-from-uw-team/461380520>
- For the first time in humans, researchers use brain surface stimulation to provide 'touch' feedback to direct movement: <http://www.washington.edu/news/2016/10/26/for-the-first-time-in-humans-researchers-use-brain-surface-stimulation-to-provide-touch-feedback-to-direct-movement/>



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- Brain surface stimulation provides 'touch' feedback to direct movement:
<https://www.sciencedaily.com/releases/2016/10/161026133231.htm>
- Electrodes on the brain could return sense of 'touch feedback' to patients with spinal cord injuries:
<http://www.geekwire.com/2016/electrodes-brain-return-sense-touch-feedback-patients-spinal-cord-injuries/>
- Wiring the brain with artificial senses and limb control:
<http://newatlas.com/artificial-sense-control/46146/>
- UW engineering center combines medicine with robotics to help bodies heal, feel again:
<http://crosscut.com/2016/10/uw-engineering-center-combines-medicine-with-robotics-to-help-bodies-heal-feel-again/>
- Can thoughts be harnessed to move robotic limbs?
<http://www.seattletimes.com/nwshowcase/university-of-washington/can-thoughts-be-harnessed-to-move-robotic-limbs/>

New CSNE Blog Posts

- Kavli Coffee Hour:
<http://www.csne-erc.org/engage-enable/post/kavli-brain-coffee-hour>
- CSNE Student Leadership Council Open House:
<http://www.csne-erc.org/engage-enable/post/csne-student-leadership-council-open-house>
- Summer Research at BrainLinks-BrainTools (Freiburg, Germany):
<http://www.csne-erc.org/engage-enable/post/summer-research-brainlinks-braintools-freiburg-germany>

Recent Papers of Interest to the CSNE Community

- Flesher, S.N. et al., Intracortical microstimulation of human somatosensory cortex, Science Translational Medicine, Oct 19 2016, DOI: 10.1126/scitranslmed.aaf8083
- Fernández-Rodríguez, A., Velasco-Álvarez, F. and Ron-Angevin, R., Review of real brain-controlled wheelchairs, J. Neural Eng., 13:6, 2016.
- Normann, R.A. and Fernandez, E., Clinical applications of penetrating neural interfaces and Utah Electrode Array technologies, J. Neural Eng., 13:6, 2016.
- Osuagwu, B.C.A., Wallace, L., Fraser, M. and Vuckovic, A., Rehabilitation of hand in subacute tetraplegic patients based on brain computer interface and functional electrical stimulation: a randomised pilot study, J. Neural Eng., 13:6, 2016.



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- Patel, P.R., Zhang, H., Robbins, M.T., Nofar, J.B., Marshall, S.P., Kobylarek, M.J., Kozai, T.D.Y., Kotov, N.A. and Chestek, C.A., Chronic in vivo stability assessment of carbon fiber microelectrode arrays, *J. Neural Eng.*, 13:6, 2016.

Grant Opportunities

- BRAIN Initiative: Research Career Enhancement Award for Investigators to Build Skills in a Cross-Disciplinary Area (K18):
<http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-17-022.html>

Join the CSNE Facebook site at:

<https://www.facebook.com/groups/134997836537779/>

Please send additional news and events items for inclusion in this newsletter to Dr. Eric Chudler (CSNE, Executive Director) at chudler@uw.edu.