



## CENTER FOR SENSORIMOTOR NEURAL ENGINEERING

*Improving lives by connecting brains and technology*

**December, 2016**

### **Upcoming Seminars, Lectures, Courses, Conferences**

- 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 is offered at the University of Washington, Winter Quarter, 2017. Register now!
- Pre-Application Webinar for RFA-MH-17-250 "**BRAIN Initiative Fellows**: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (F32), December 8, 2016:  
<http://grants.nih.gov/grants/guide/notice-files/NOT-MH-17-002.html>
- Applications for the **Washington Research Foundation Innovation Postdoctoral Fellowships in Neuroengineering** at the University of Washington in Seattle are now being accepted. These fellowships are offered through the UW Institute for Neuroengineering (UWIN), which links advances in biology, computing, devices, data science, and computational neuroscience to solve some of today's greatest scientific challenges about neural system function. The fellowships provide two years of funding including a \$65,000 annual salary and a \$25,000 research stipend. Applications are due by January 16, 2017. For more information, see:  
<http://uwin.washington.edu/post-docs/>
- The 2016-2017 **Center for Sensorimotor Neural Engineering Hackathon** application is now open. The hackathon will take place February 10-13, 2017, in Seattle, WA. Airfare, hotel, and food will be provided to accepted participants. For more information about the hackathon and an application form, see the hackathon website at:  
<http://www.csnehackathon.org/>
- Applications for the summer 2017 **CSNE Research Experience for Undergraduates** and **CSNE Research Experience for Veterans** are now available at:  
<http://csne-erc.org/content/research-experience-undergraduates>  
<http://csne-erc.org/content/veterans>
- **Allen Institute for Brain Science Showcase Symposium 2016**, December 13-14, 2016 in Seattle, WA:  
<http://www.alleninstitute.org/events-training/showcase-symposium-2016/>

### **New CSNE Publications**

- **Goering, S.** and Yuste, R. On the necessity of ethical guidelines for novel neurotechnologies, *Cell*, 167:882-885, 2016.
- **Herron, J.A., Thompson, M.C., Brown, T., Chizeck, H.J., Ojemann, J.G. and Ko, A.L.**, Chronic electrocorticography for sensing movement intention and closed-loop deep brain stimulation with wearable sensors in an essential tremor patient, *J. Neurosurgery*,



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online November 18, 2016, ahead of print.

<http://thejns.org/doi/abs/10.3171/2016.8.JNS16536>

- Straus, K.M. and **Chudler, E.H.**, Online teaching resources about medicinal plants and ethnobotany. CBE-Life Science Education, December 1, 2016, 15:fe910.1187/cbe.16-06-0190.

### CSNE in the News

- “(Re)Wiring The Brain: Brain Waves Can be Used to Move Robotic Limbs”:  
<http://futurism.com/rewiring-the-brain-brain-waves-can-be-used-to-move-robotic-limbs/>
- “Neurological Disease Growth Drives Neuroprosthetics”:  
<http://electronics360.globalspec.com/article/7634/neurological-disease-growth-drives-neuroprosthetics>
- “For the first time, brain surface stimulation provides 'touch' feedback to direct movement”:  
[http://www.spacedaily.com/reports/For\\_the\\_first\\_time\\_brain\\_surface\\_stimulation\\_provides\\_touch\\_feedback\\_to\\_direct\\_movement\\_999.html](http://www.spacedaily.com/reports/For_the_first_time_brain_surface_stimulation_provides_touch_feedback_to_direct_movement_999.html)
- “Supporting Students with Disabilities in STEM Fields”:  
[http://www.dailyuw.com/wellness/article\\_9da3867a-ac83-11e6-b3cc-3b8999f9c565.html](http://www.dailyuw.com/wellness/article_9da3867a-ac83-11e6-b3cc-3b8999f9c565.html)
- “Learning to Feel Again”:  
[http://www.dailyuw.com/science/article\\_73363ec6-afa5-11e6-be30-73a8ea142172.html](http://www.dailyuw.com/science/article_73363ec6-afa5-11e6-be30-73a8ea142172.html)
- The paper “New Perspectives on Neuroengineering and Neurotechnologies: NSF-DFG Workshop Report” by Chet T. Moritz, Patrick Ruther, Sara Goering, Alfred Stett, Tonio Ball, Wolfram Burgard, Eric H. Chudler, and Rajesh P. N. Rao is featured on the IEEE Brain web site at:  
<http://brain.ieee.org>

### New CSNE Blog Posts

- The CSNE and Amazon encourage student engagement with industry:  
<http://csne-erc.org/engage-enable/post/csne-and-amazon-encourage-student-engagement-industry>
- Neuroethics: A conversation with Dr. Sara Goering  
<http://csne-erc.org/engage-enable/post/neuroethics-conversation-dr-sara-goering>

### Recent Papers of Interest to the CSNE Community

- Capogrosso, M. et al., A brain–spine interface alleviating gait deficits after spinal cord injury in primates, *Nature*, 539:284–288, 2016.



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- Hara, S.A., Kim, B.J., Kuo, J.T.W., Lee, C.D., Meng, E., Pikov, V., Long-term stability of intracortical recordings using perforated and arrayed Parylene sheath electrodes, *Journal of Neural Engineering*, Volume 13, Number 6, 2016.
- Myrden, A. and Chau, T., Towards psychologically adaptive brain–computer interfaces, *Journal of Neural Engineering*, Volume 13, Number 6, 2016.
- Jackson, A. and Hall, T.M., Decoding local field potentials for neural interfaces. DOI 10.1109/TNSRE.2016.2612001, *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2016.
- Garden, H., Bowman, D.M., Haesler, S. and Winickoff, D.E., Neurotechnology and society: Strengthening responsible innovation in brain science, *Neuron*, 92:642-646, 2016.
- Fiederer, L.D.J., Lahr, J., Vorwerk, J., Lucka, F., Aertsen, A., Wolters, C.H., Schulze-Bonhage, A. and Ball, T., Electrical Stimulation of the Human Cerebral Cortex by Extracranial Muscle Activity: Effect Quantification with Intracranial EEG and FEM Simulations, *IEEE Transactions on Biomedical Engineering*, 63:2552-2563, 2016.

### Grant Opportunities

- NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) Award (F99/K00):  
<http://grants.nih.gov/grants/guide/rfa-files/RFA-NS-17-009.html>
- Integrative Strategies for Understanding Neural and Cognitive Systems (NSF-NCS):  
[https://www.nsf.gov/publications/pub\\_summ.jsp?WT.z\\_pims\\_id=505132&ods\\_key=nsf17519](https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=505132&ods_key=nsf17519)

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