



## CENTER FOR SENSORIMOTOR NEURAL ENGINEERING

*Improving lives by connecting brains and technology*

**May, 2017**

### **Honors and Awards**

- Eric Chudler's BrainWorks TV show received a 54th Annual Northwest Regional Emmy nomination:  
<http://bioe.uw.edu/eric-chudlers-brainworks-receives-54th-annual-northwest-regional-emmy-nomination/>

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

- NeuroFutures 2017 and Brain Clearing Workshop. July 9-11, 2017 and July 12, 2017; University of British Columbia Forest Sci. Building Neurofutures 2017 and Brain Clearing Workshop Koerner Pavilion: <https://www.eply.com/Neurofutures2017>
- University of Washington, Graduate Program in Neuroscience Seminars:
  - May 1, 2017: Dr. LiBin Xu (Assistant Professor, Department of Medicinal Chemistry, University of Washington)
  - May 8, 2017: Dr. Eric Chudler (Executive Director, Center for Sensorimotor Neural Engineering; Research Associate Professor, Department of Bioengineering, University of Washington)
  - May 15, 2017: Dr. David Gire (Assistant Professor, Department of Psychology, University of Washington)
  - May 22, 2017: Dr. Bill Catterall (Professor, Department of Pharmacology University of Washington)
- The 2017 Society for Neuroscience Annual Meeting will take place in Washington, D.C., November 11-15, 2017. Abstract submission is now open and closes at 5 p.m. EDT on Thursday, May 4, 2017.
- UWIN seminar: "Engineering tools for optical monitoring and control of neuronal activity" by Andre Berndt (Assistant Professor, Department of Bioengineering, University of Washington) and "Predictive dynamical models for human sensorimotor control of teleoperated robots" by Sam Burden (Assistant Professor, Department of Electrical Engineering, University of Washington), Wednesday, May 17, 3:30pm–4:30pm, UW Husky Union Building, Room 337.

### **New CSNE Publications**

- Lu, C., Park, S., Richner, T.J., Derry, A., Brown, I., Hou, C., Rao, S., Kang, J., Moritz, C.T., Fink, Y., and Anikeeva, P., Flexible and stretchable nanowire-coated fibers for optoelectronic probing of spinal cord circuits, *Science Advances*, 2017;3: e1600955 29 March 2017.
- Perlmutter, S.I., Reaching again: A glimpse of the future with neuroprosthetics, *The Lancet*, published online March 28, 10176, [http://dx.doi.org/10.1016/S0140-6736\(17\)30562-7](http://dx.doi.org/10.1016/S0140-6736(17)30562-7).



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- Rembado, I., Zanos, S. and Fetz, E.E. (2017). Cycle-triggered cortical stimulation during slow wave sleep facilitates learning a BMI task: a case report in a non-human primate. *Front. Behav. Neurosci.* 11:59. doi: 10.3389/fnbeh.2017.00059
- Stocco, A., Murray, N.L., Yamasaki, B.L., Rennoa, T.J., Nguyen, J. and Prat, C.S. Individual differences in the Simon effect are underpinned by differences in the competitive dynamics in the basal ganglia: An experimental verification and a computational model, *Cognition*, 164:31–45, 2017.
- Park, S., Guo, Y., Jia, X., Choe, H.K., Grena, B., Kang, J., Park, J., Lu, C., Canales, A., Chen, R., Yim, Y.S., Choi, G.B., Fink, Y. and Anikeeva, P., One-step optogenetics with multifunctional flexible polymer fibers, *Nature Neuroscience*, 20: 612–619, 2017.

### CSNE in the News

- Melding mind and machine: How close are we?  
<http://theconversation.com/melding-mind-and-machine-how-close-are-we-75589>
- The sanity of the long-distance runner  
<http://news.mit.edu/2017/sanity-of-the-long-distance-runner-polina-anikeeva-0413>

### New CSNE Blog Posts

- The CSNE welcomes four new industry affiliates  
<http://csne-erc.org/engage-enable/post/csne-welcomes-four-new-industry-affiliates>
- AccessERC helps NSF-funded Engineering Research Centers welcome and engage people with disabilities  
<http://csne-erc.org/engage-enable/post/accesserc-helps-nsf-funded-engineering-research-centers-welcome-and-engage-people>

### Recent Papers of Interest to the CSNE Community

- Kao, J.C., Nuyujukian, P., Ryu, S.I., Shenoy, K.V., A high-performance neural prosthesis incorporating discrete state selection with hidden Markov models, *IEEE Transactions on Biomedical Engineering*, 64: 935-945, 2017.
- Ajiboye, A.B., et al., Restoration of reaching and grasping movements through brain-controlled muscle stimulation in a person with tetraplegia: a proof-of-concept demonstration, *The Lancet*, Published online March 28, 2017  
[http://dx.doi.org/10.1016/S0140-6736\(17\)30601-3](http://dx.doi.org/10.1016/S0140-6736(17)30601-3).
- Clites, T.R., Carty, M.J., Srinivasan, S., Zorzos, A.N. and Herr, H.M., A murine model of a novel surgical architecture for proprioceptive muscle feedback and its potential application to control of advanced limb prostheses, *J. Neural Engineering*, Volume 14, Number 3, 2017.



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- Barz, F., Livi, A., Lanzilotto, M., Maranesi, M., Bonini, L., Paul, O. and Ruther, P., Versatile, modular 3D microelectrode arrays for neuronal ensemble recordings: from design to fabrication, assembly, and functional validation in non-human primates, J. Neural Engineering, Volume 14, Number 3, 2017.
- Ienca, M. and Andorno, R., Towards new human rights in the age of neuroscience and neurotechnology, Life Sciences, Society and Policy, (2017) 13:5, DOI 10.1186/s40504-017-0050-1

### **Grant Opportunities**

- NIH Stimulating Peripheral Activity to Relieve Conditions (SPARC): Technologies to Understand the Control of Organ Function by the Peripheral Nervous System (OT2) <https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-17-010.html>
- DARPA Lifelong Learning Machines (L2M): [https://www.fbo.gov/index?s=opportunity&mode=form&id=557cc1ffdb7ef3a1a9792a890086c488&tab=core&\\_cview=0](https://www.fbo.gov/index?s=opportunity&mode=form&id=557cc1ffdb7ef3a1a9792a890086c488&tab=core&_cview=0)
- Neuroscience Scholars Program; Society for Neuroscience <http://www.sfn.org/nsp>

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).