

## CENTER FOR SENSORIMOTOR NEURAL ENGINEERING

*Improving lives by connecting brains and technology*

**March, 2017**

### **Honors and Awards**

- Congratulations to CSNE graduate student **David Caldwell** for passing his UW Department of Bioengineering general examination.
- Congratulations to CSNE graduate student **Tim Brown** for being awarded a Humanities Without Walls Fellowship. Tim was one of 30 doctoral students selected nationwide for this honor:  
<https://simpsoncenter.org/news/2017/01/tim-brown-awarded-humanities-without-walls-fellowship>

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

- UW Neuro Seminar, **Dr. Abigail Person** (Assistant Professor, Department of Physiology and Biophysics University of Colorado School of Medicine) will present “Unraveling the Cerebellar Enigma: Mechanistic Insight into Cerebellar Contributions to Motor Control,” March 6, 2017, 3:30 pm, UW HSB, Room T-747.
- The UW Institute for Neuroengineering presents short talks: “Advances and challenges in large-scale neuronal recordings from the primate brain” by **Dr. Beth Buffalo** (Professor, Department of Physiology and Biophysics, UW) and “Electromagnetics Meets Biology” by **Dr. Matt Reynolds** (Associate Professor, Departments of Electrical Engineering and Computer Science and Engineering, UW), Wednesday, March 8, 2017, 3:30 pm, UW Husky Union Building, Room 337.
- UW Computational Neuroscience Seminar, **Dr. Kendrick Kay** (Assistant Professor, Center for Magnetic Resonance Research, University Minnesota) presents “A fully computable model of stimulus-driven and top-down effects in high-level visual cortex,” Friday, March 11, 2 pm, Data Science Seminar Room, 6th floor, UW Physics/Astronomy Tower.
- Allen L Edwards Public Lecture Series with **Dr. David Gire** (“Sensing and Deciding in the Real World: How Physics Shapes Our Choices”) and **Dr. Zachary Mainen** (“Unraveling the Mysteries of Serotonin Function from Learning and Cognition to Emotion and Depression”), Wednesday, Mar 29, 2017, 7:30-9:30 pm, UW, Kane Hall, Room 130.

### **New CSNE Publications**

- **Olson, J.D., Wander, J.D. and Darvas, F.**, Demonstration of motor-related beta and high gamma brain signals in subdermal electroencephalography recordings. *Clin Neurophysiol*, 128: 395–396. 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*, 2017, doi:10.1038/nn.4510



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### CSNE in the News

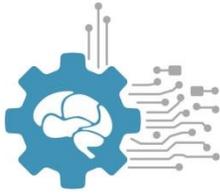
- UW PhD candidates James Wu and Kaitlyn Casimo on the world of cyborgs that await us (KIRO Radio):  
<http://kiroradio.com/listen/10015567/>
- UW students find creative solutions during weekend hackathon:  
<http://q13fox.com/2017/02/14/uw-students-find-creative-solutions-during-weekend-hackathon/>
- Big improvements to brain-computer interface  
[http://newscenter.sdsu.edu/sdsu\\_newscenter/news\\_story.aspx?sid=76593](http://newscenter.sdsu.edu/sdsu_newscenter/news_story.aspx?sid=76593)
- Ethical issues surrounding implantable brain technologies leads academic to US  
<http://www.healthcanal.com/brain-nerves/234990-ethical-issues-surrounding-implantable-brain-technologies-leads-academic-us.html>
- Tiny fibers open new windows into the brain  
<http://news.mit.edu/2017/multifunctional-tiny-fibers-brain-0221>
- Students create solutions to neural engineering problems at 2017 CSNE Hackathon  
<https://depts.washington.edu/bioe/2017-csne-hackathon/>

### New CSNE Blog Posts

- Bringing together a diverse group of students  
<http://csne-erc.org/engage-enable/post/csne-hackathon>
- Building a better electrode for brain-computer interfaces  
<http://csne-erc.org/engage-enable/post/building-better-electrode-brain-computer-interfaces>
- Women's Career-Mentoring Lunch empowers female engineers  
<http://csne-erc.org/engage-enable/post/womens-career-mentoring-lunch-empowers-female-engineers>

### Recent Papers of Interest to the CSNE Community

- Chaudhary U, Xia B, Silvoni S, Cohen LG, Birbaumer N (2017) Brain-computer interface- based communication in the completely locked-in state, PLoS Biol 15(1): e1002593. dx.plos.org/10.1371/journal.pbio.1002593
- Luan, L., et al., Ultraflexible nanoelectronic probes form reliable, glial scar-free neural integration, Science Advances, 15 Feb 2017: e1601966.



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- Yang, C. et al., Potential of human dental stem cells in repairing the complete transection of rat spinal cord, *J. Neural Engineering*, Volume 14, Number 2, 2017.
- Yi, W., Enhancing performance of a motor imagery based brain–computer interface by incorporating electrical stimulation-induced SSSEP, *J. Neural Engineering*, Volume 14, Number 2, 2017.
- Pandarinath, C., et al., High performance communication by people with paralysis using an intracortical brain-computer interface, *eLife* 2017;6:e18554, DOI: <http://dx.doi.org/10.7554/eLife.18554>
- Prsa, M., et al., Rapid integration of artificial sensory feedback during operant conditioning of motor cortex neurons, *Neuron*, February 2017 DOI: m10.1016/j.neuron.2017.01.023

### Grant Opportunities

- The Swartz Center for Theoretical Neuroscience at the University of Washington in Seattle is seeking applications for a Swartz Postdoctoral Fellow. The Fellow should have a strong analytical or computational background and will be free to work on projects with the extensive and vibrant UW theoretical and experimental neuroscience community, <http://compneuro.washington.edu/>. Possibilities also exist for collaborations with the Allen Institute for Brain Science. The Fellowship is available immediately although start date is negotiable, and applications will be considered until the position is filled. Please send a one-page statement of interests and CV with contact information for references. Please send applications to [fairhall@u.washington.edu](mailto:fairhall@u.washington.edu) and [etsb@u.washington.edu](mailto:etsb@u.washington.edu).
- Critical Techniques, Technologies and Methodologies for Advancing Foundations and Applications of Big Data Sciences and Engineering (BIGDATA): [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=504767&WT.mc\\_id=USNSF\\_41&WT.mc\\_ev=click](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504767&WT.mc_id=USNSF_41&WT.mc_ev=click)
- Emerging Frontiers in Research and Innovation (EFRI): [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=13708&WT.mc\\_id=USNSF\\_44&WT.mc\\_ev=click](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13708&WT.mc_id=USNSF_44&WT.mc_ev=click)

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).