



CENTER FOR SENSORIMOTOR NEURAL ENGINEERING

Improving lives by connecting brains and technology

June, 2017

Honors and Awards

- Congratulations to CSNE research leader Dr. Polina Anikeeva who was recently granted tenure at Massachusetts Institute of Technology.
- Surabhi Mundada, 2016 CSNE YSP student in Dr. Josh Smith's lab, participated in the Intel International Science and Engineering Fair in Los Angeles last month. Surabhi placed third in the Biomedical Engineering category and received an invitation to attend a 3-week summer school in Italy and a scholarship from IEEE. Surabhi's project was titled "MyHealth: A Novel Wearable Solution for Early Detection and Monitoring of Parkinson's Disease and a Transformation from Subjective to Quantifiable Testing."

Upcoming Seminars, Lectures, Courses, Conferences

- Department of Biological Structure and Vision Training Grant Seminar, Dr. Michael Stryker (Professor, Department of Physiology, University California, San Francisco), "A neural circuit that regulates cortical state and enhances plasticity," Thursday, June 8, 1:00 pm, University of Washington, HSB D-209.
- Dr. William Bialek (John Archibald Wheeler/Battelle Professor in Physics, Princeton University) will present the 2017 Crill Lecture titled "Thinking about a thousand neurons" on June 20, 2017, 4:00-5:00 pm, University of Washington, HSB D-209.
- BrainLinks-BrainTools International Conference, June 28-30, 2017, Freiburg, Germany: <http://www.brainlinks-braintools.uni-freiburg.de/news/id/560/>
- SMC 2017, Workshop on Brain-Machine Interfaces, IEEE International Conference on Systems, Man, and Cybernetics, Banff, Canada, October 5-8, 2017.
- Brain Computer Interface Hackathon (IEEE), October 7-8, 2017, Banff, Canada: https://documents.epfl.ch/users/c/ch/chavarri/www/smc2017/smc2017_hackathon.html

New CSNE Publications

- Remington, E. and **Jazayeri, M.**, Late Bayesian inference in sensorimotor behavior, bioRxiv 130062; doi: <https://doi.org/10.1101/130062>.
- Zylberberg, J., Pouget, A., Latham, P.E. and **Shea-Brown, E.**, Robust information propagation through noisy neural circuits, PLoS Comput Biol, 13(4): e1005497, 2017.
- **Herron, J.A., Thompson, M.C., Brown, T., Chizeck, H.J., Ojemann, J.G., and Ko, A.L.**, Cortical brain computer interface for closed-loop deep brain stimulation, IEEE Transactions on Neural Systems and Rehabilitation Engineering, DOI 10.1109/TNSRE.2017.2705661.



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- **Gilbert, F.**, Deep brain stimulation: Inducing self-estrangement, Neuroethics, doi:10.1007/s12152-017-9334-7, 2017.

CSNE in the News

- Using brainwaves to guess passwords
<https://www.technologyreview.com/s/604293/using-brainwaves-to-guess-passwords/>
- Protecting our neural privacy
<http://www.cbc.ca/radio/quirks/stay-out-of-my-brain-a-hollywood-dinosaur-and-the-nose-knows-1.4111940/protecting-our-neural-privacy-1.4111948>
- ARM and CSNE from the University of Washington partner to develop brain-implantable chips
<https://community.arm.com/iot/embedded/b/embedded-blog/posts/arm-and-csne-team-up-to-develop-brain-implantable-chips>
- Implantable computer chips being developed for brain injuries
<http://www.foxnews.com/tech/2017/05/16/implantable-computer-chips-being-developed-for-brain-injuries.html>

New CSNE Blog Posts

- New postbac student, Juhi Farooqui, joins the CSNE
<http://csne-erc.org/engage-enable/post/new-postbac-student-juhi-farooqui-joins-csne>
- Investigating how learning to use a brain-computer interface impacts connectivity in the whole brain
<http://csne-erc.org/engage-enable/post/investigating-how-learning-use-brain-computer-interface-impacts-connectivity>

Recent Papers of Interest to the CSNE Community

- Hiremath, S.V., Tyler-Kabara, E.C., Wheeler, J.J., Moran, D.W., Gaunt, R.A., Collinger, J.L., Foldes, S.T., Weber, D.J., Chen, W., Boninger, M.L. and Wang, W., (2017) Human perception of electrical stimulation on the surface of somatosensory cortex. PLoS ONE 12(5): e0176020.
- Dubljević, V. and Racine, E., Moral enhancement meets normative and empirical reality: Assessing the practical feasibility of moral enhancement neurotechnologies, Bioethics, 2017; 31 (5): 338 DOI: 10.1111/bioe.12355
- Lee, H.C., Ejserholm, F., Gaire, J., Currlin, S., Schouenborg, J., Wallman, L., Bengtsson, M., Park, K. and Otto, K.J., Histological evaluation of flexible neural implants; flexibility limit for reducing the tissue response?, J Neural Eng., 14 (2017) 036026, <https://doi.org/10.1088/1741-2552/aa68f0>



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- Bundy, D.T., Souders, L., Baranyai, K., Leonard, L., Schalk, G., Coker, R., Moran, D.W., Huskey, T. and Leuthardt, E.C., Contralesional brain–computer interface control of a powered exoskeleton for motor recovery in chronic stroke survivors, *Stroke*. 2017; <https://doi.org/10.1161/STROKEAHA.116.016304>

Grant Opportunities

- 2017 WRF Innovation Graduate Fellowships in Neuroengineering
<http://uwin.washington.edu/students/graduate-students/apply-graduate-students/>
- Society for Neuroscience Trainee Professional Development Award
<http://www.sfn.org/Awards-and-Funding/Individual-Prizes-and-Fellowships/Professional-Development-Awards/Trainee-Professional-Development-Awards>

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