

CENTER FOR SENSORIMOTOR NEURAL ENGINEERING

Improving lives by connecting brains and technology

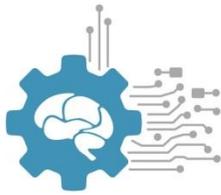
June, 2016

Awards and Honors

- Graduate student **Katherine Pratt** was named one of the Husky 100:
<http://www.washington.edu/husky100/#name=katherine-pratt>
- **Dr. Kat Steele** received the 2016 Junior Faculty Award from the College of Engineering at the University of Washington.
- **Matthew Sample** (Department of Philosophy, University of Washington; CSNE neuroethics graduate student) successfully defended his Ph.D. dissertation titled “Evaluating Neural Futures: Good Technoscience and the Challenge of Co-Production.”
- Graduate student **Jenny Cronin** (Advisors: Jeff Ojemann and Raj Rao) successfully passed her qualifying examination (Department of Bioengineering, University of Washington).
- **Larry Bencivengo** (2015 CSNE RET participant; science teacher at Mercier Island High School) received a grant in the Partners in Science program of the M.J. Murdock Charitable Trust to conduct research during the next two summers in the Department of Ophthalmology at the University of Washington:
<http://www.mercerislandschools.org/site/default.aspx?PageType=3&ModuleInstanceId=15586&ViewID=7b97f7ed-8e5e-4120-848f-a8b4987d588f&RenderLoc=0&FlexDataID=38330&PageID=12569>

Upcoming Seminars, Lectures, Courses, Conferences

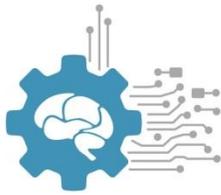
- **CSNE Kavli Seminar: Francisco Valero-Cuevas, Ph.D.** (Professor, Biomedical Engineering; Director, Brain-Body Dynamics Laboratory; University of Southern California) will present “Reverse Engineering Spinal Circuitry” on Monday, June 6, 2016, 1-2 pm at the CSNE (Russell Hall). [Live streaming: http://uofw.adobeconnect.com/kavli_at_csne]
- **Edwin G. Krebs Lecture in Molecular Pharmacology: David J. Julius** (Professor and Chair, Department of Physiology, University of California, San Francisco) will present “Understanding Pain Mechanisms: From Physiology to Atomic Structure” on Thursday, June 9, 2016, 1 pm, UW, Health Sciences Center, Room D-209.
- **Conference: NeuroFutures 2016**, an annual conference designed to explore the advances in neurotechnology, (June 20-21, 2016, Allen Institute headquarters building, Seattle, WA). Registration is now open at <http://neurofutures.us>
- **Conference: 2nd Summer Institute in Statistics for Big Data** (University of Washington, Seattle, WA, July 11-29, 2016):
<http://www.biostat.washington.edu/suminst/sisbid/register>



- **Workshop: Summer Workshop on the Dynamic Brain**, co-hosted by University of Washington Computational Neuroscience Training Program and the Allen Institute for Brain Science, August 20-September 4, 2016, UW Friday Harbor Laboratories: <http://alleninstitute.org/what-we-do/brain-science/events-training/events/summer-workshop-dynamic-brain-2016>

New CSNE Publications

- **Wang, N.X., Olson, J.D., Ojemann, J.G., Rao, R.P. and Brunton, B.W.**, Unsupervised decoding of long-term, naturalistic human neural recordings with automated video and audio annotations, *Front Hum Neurosci.* Apr 21;10:165. doi: 10.3389/fnhum.2016.00165. eCollection 2016.
- **Seeman, S. and Kondiles, B.**, Out of the box outreach: cockroaches and coding, *Neuronline* (Society for Neuroscience), 2016.
- **Darvas, F., Mehić, E., Caler, C.J., Ojemann, J.G. and Mourad, P.D.**, Toward deep brain monitoring with superficial EEG sensors plus neuromodulatory focused ultrasound, *Ultrasound Med Biol.* S0301-5629(16)00113-117, 2016, doi: 10.1016/j.ultrasmedbio.2016.02.020.
- **Patel, P., Sarkar, M. and Nagaraj, S.**, Tracking the behavior of UWB transmissions in invasive BCI applications, In *IEEE 13th Annual International Body Sensor Networks Conference, (IEEE BSN)*, June 14-17, 2016, San Francisco, CA.
- **Patel, R., Sarkar, M., Nagaraj, S. and Patel, P.**, Investigating the feasibility of multiple UWB transmitters in brain computer interface (BCI) applications, In *IEEE 13th Annual International Body Sensor Networks Conference, (IEEE BSN)*, June 14-17, 2016, San Francisco, CA.
- **Tavildar, S. and Ashrafi, A.**, Application of multivariate empirical mode decomposition and canonical correlation analysis for EEG motion artifact removal, *Conference on Advances in Signal Processing (CASP 2016)*.
- **Goshi, N., Vomero, M., Dryg, I., Seidman, S. and Kassegne, S.**, Modeling and characterization of tissue/electrode interface in capacitive μ ECoG glassy carbon electrodes, 229th ECS Meeting, San Diego, CA, May 31, 2016.
- **Hirabayashi, M., Kassegne, S., levins, A., Huynh, N.U., Witsell, S. and Seidman, S.**, Notes on neuroplasticity investigation using coupled electrical and electrochemical sensing through carbon electrodes, 229th ECS Meeting, San Diego, CA, May 31, 2016.
- **Vomero, M., Dryg, I., Maxfield, T., Shain, W., Perlmutter, S. and Kassegne, S.**, *In-vivo* characterization of glassy carbon μ -electrodes and histological analysis of brain tissue after chronic implants, 229th ECS Meeting, San Diego, CA, May 31, 2016.



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- Golkar Narenji, A., **Goshi, N.**, Coste, M., Burns, D., Lee, R., Ngo, K., Purse, B., **Kassegne, S.** Electrochemical characterization of synthetic hybrid DNA molecular wires, 229th ECS Meeting, San Diego, CA, May 31, 2016.

CSNE in the News

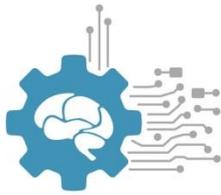
- **Todorov Lab:** Robot hand teaches itself to manipulate objects:
<https://news.cs.washington.edu/2016/05/09/uw-cse-robot-hand-teaches-itself-to-manipulate-objects/>
- **Josh Smith** discusses his work about low-power Wi-Fi:
<https://news.science360.gov/archives/20160525>
- **Chief Sealth IHS student scientists** chosen to assist in CSNE research:
<http://westseattleblog.com/2016/05/congratulations-chief-sealth-ihs-student-scientists-chosen-to-assist-in-uw-research/>

New CSNE Blog Posts

- Undergraduate students learn how to record and interpret data from brain cells
<http://csne-erc.org/engage-enable/post/undergraduate-students-learn-how-record-and-interpret-data-brain-cells>
- The CSNE Practitioner and End-User Roundtable
<http://www.csne-erc.org/engage-enable/post/csne-practitioner-and-end-user-roundtable>

Recent Papers of Interest to the CSNE Community

- Yu, K.J. et al., Bioresorbable silicon electronics for transient spatiotemporal mapping of electrical activity from the cerebral cortex, *Nature Materials*, (2016) doi:10.1038/nmat4624
- Tyler, D.J., Restoring the human touch, *IEEE Spectrum*, May, 2016.
- Flores, T., Goetz, G., Lei, X. and Palanker D., Optimization of return electrodes in neurostimulating arrays, *J Neural Eng.* 2016 Jun;13(3):036010. Epub 2016 Apr 21.
- Naor, O., Krupa, S. and Shoham, S., Ultrasonic neuromodulation, *J Neural Eng.* 2016 Jun;13(3):031003. Epub 2016 May 6.
- McCreery, D., Cogan, S., Kane, S. and Pikov V., Correlations between histology and neuronal activity recorded by microelectrodes implanted chronically in the cerebral cortex, *J Neural Eng.* 2016 Jun;13(3):036012. Epub 2016 Apr 25.
- Rouse, A.G., A four-dimensional virtual hand brain-machine interface using active dimension selection, *J Neural Eng.*, 2016 Jun; 13(3) Epub 2016 May 11.



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Grant Opportunities

- The UW Institute for Neuroengineering (UWIN) has announced that applications are open for the 2016 WRF Innovation Graduate Fellowships in Neuroengineering. Applications are due by Friday, July 15, 2016, with funding starting in September 2016. For more information, see:
<http://uwin.washington.edu/students/graduate-students/apply-graduate-students/>
- NIH Bioengineering Research Grants (BRG) (R01)
<http://grants.nih.gov/grants/guide/pa-files/PAR-16-242.html>
- Request for Information, Guidance for Opportunities in Neuroethics (NIH BRAIN Initiative):
<http://grants.nih.gov/grants/guide/notice-files/NOT-MH-16-014.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.