CENTER FOR SENSORIMOTOR NEURAL ENGINEERING

Improving lives by connecting brains and technology

March, 2016

Awards

- **Judy Illes** (CSNE member, University of British Columbia) became the third president of the International Neuroethics Society on January 28, 2016.

Upcoming Seminars, Lectures, Courses, Conferences

- **Graduate Certificate:** Graduate students at the University of Washington can now enroll in the Graduate Certificate Program in Neural Computation and Engineering. For details and enrollment into the program, see: http://www.csne-erc.org/education-graduate/graduate-certificate-neural-computation-and-engineering

- **New Course: Neural Computation and Engineering Laboratory** (BIOEN 466, NBIO 405) is a new lab class at the University of Washington that will be offered for the first time during Spring Quarter, 2016. The course is designed for students in engineering or applied math who want to study computational neuroscience and/or neural engineering. Registration is by permission of instructor, Dr. Lise Johnson; see: https://catalyst.uw.edu/collectit/dropbox/liseaj/37464

- **Seminar:** University of Washington Bioengineering Faculty Candidate Seminar, Dr. Amy Orsborn, Postdoctoral Researcher, New York University, "Dissecting Learning and Control in Brain- Machine Interfaces," Thursday, March 3, 2016, 12:30pm, Foege N130.

- **Seminar:** University of Washington Bioengineering Faculty Candidate Seminar, Dr. Azadeh Yazdan-Shahmorad, Postdoctoral Scholar, University of California, San Francisco, "A Large Scale Interface for Optogenetics in Non- human Primates with Application to Sensorimotor Cortical Plasticity," Thursday, March 10, 2016, 12:30pm, Foege N130.

- **Seminar:** The UW Institute for Neuroengineering presents Dr. Jeff Riffell, Associate Professor, Department of Biology, University of Washington, "Odor encoding as a dynamical process: Experiments and computation," Wednesday, March 9, 2016, 3:30pm, Physics/Astronomy Auditorium A110.

- **Workshop:** IEEE SMC 2016's 6th Workshop on Brain-Machine Interface Systems; October 9-12, 2016, Budapest, Hungary: http://go.epfl.ch/smc2016_bmi

New CSNE Publications

- **Chudler, E.H. and Bergsman, K.C**., Brains–Computers–Machines: Neural Engineering in Science Classrooms, CBE Life Sci Educ, March 1, 2016 15:fe1; doi:10.1187/cbe.15-11-0242.

- **Sullivan, L.S**., Medical maternalism: beyond paternalism and antipaternalism, J Med Ethics, Published Online First: February 18, 2016, doi:10.1136/medethics-2015-103095.
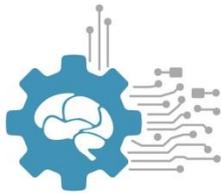
- Brunton, S.L., **Brunton, B.W.,** Proctor, J.L., and Kutz, J.N., Koopman invariant subspaces and finite linear representations of nonlinear dynamical systems for control, , 2016 Feb 26;11(2):e0150171. doi: 10.1371/journal.pone.0150171.

CSNE in the News

- "Processing images in real time" by Aleenah Ansari, UW Daily, February 25, 2015: http://www.dailyuw.com/science/article_12f37784-db77-11e5-b851-1f85625f132e.html

- "Momentum 2016 teams tackle assistive-technology design," The Inside Scoop on DUE, February, 2016: https://due.mit.edu/newsletters/february-2016/inside-scoop-due-february-2016

- "UW team develops technology that cuts Wi-Fi power demand," Seattle Times, February 24, 2016: http://www.seattletimes.com/business/technology/uw-team-develops-technology-that-cuts-wi-fi-power-demand/

Recent Papers of Interest to the CSNE Community

- Oxley, T.J., et al., Minimally invasive endovascular stent-electrode array for high-fidelity, chronic recordings of cortical neural activity, Nature Biotechnology (2016), doi:10.1038/nbt.3428

- Vlachos, I., Deniz, T., Aertsen, A. and Kumar, A., Recovery of dynamics and function in spiking neural networks with closed-loop control. PLoS Comput Biol 12(2): e1004720. doi:10.1371/journal.pcbi.1004720 9 (2016).

- Cogan, S.F., Ludwig, K.A., Welle, C.G. and Takmakov, P., Tissue damage thresholds during therapeutic electrical stimulation, J. Neural Eng., 13:2, 2016.

- Bashashati, H., Ward, R.K. and Bashashati, A., User-customized brain computer interfaces using Bayesian optimization, J. Neural Eng., 13:2, 2016.

- Barrese, J.C., Aceros, J. and Donoghue, J.P., Scanning electron microscopy of chronically implanted intracortical microelectrode arrays in non-human primates, J. Neural Eng., 13:2, 2016.

- Geronimo, A., Simmons, Z., and Schiff, S.J., Performance predictors of brain–computer interfaces in patients with amyotrophic lateral sclerosis, J. Neural Eng., 13:2, 2016.

- Fabbro, A., et al., Graphene-based interfaces do not alter target nerve cells, ACS Nano, 10:615-623, 2016.

- Glannon, W., Ethical issues in neuroprosthetics, J. Neural Eng., 13:2, 2016.
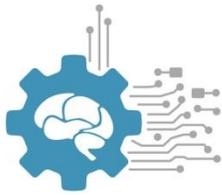
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Grant Opportunities

- NSF National Robotics Initiative
  http://www.nsf.gov/pubs/2016/nsf16517/nsf16517.htm

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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.