



Member Publications  
October 2011 – December 2017

- Publications supported directly by CSNE funding.

## Amir Alimohammad

- Hennessy, A. and Alimohammad, A., Design and implementation of a digital secure code-shifted reference UWB transmitter and receiver, IEEE Transactions on Circuits and Systems I: Regular papers, March 2017, pp. 1-10.

## Richard Andersen

- Zhang, C.Y., Aflalo, T., Revechkis, B., Rosario, E.R., Ouellette, D., Pouratian, N. and Andersen, R.A., Partially mixed selectivity in human posterior parietal association cortex, Neuron, doi: 10.1016/j.neuron.2017.06.040.

## Polina Anikeeva

2011

- Anikeeva, P., Andalman, A.S., Witten, I., Warden, M., Goshen, I., Grosenick, L., Gunaydin, L.A., Frank, L.M. and Deisseroth, K., Optetrode: a multichannel readout for optogenetic control in freely moving mice. Nat. Neurosci., 15:163-170, 2011.

2012

- Anikeeva, P. and Deisseroth, K., Photothermal genetic engineering. ACS Nano, 6:7548-7552, 2012.

2013

- Liske, H., Towne, C., Anikeeva, P., Zhao, S., Feng, G., Deisseroth, K. and Delp, S., Optical inhibition of motor nerve and muscle activity in vivo. Muscle & Nerve, 47:916-921, 2013.
- Chen, R., Christiansen, M.G. and Anikeeva, P., Maximizing hysteretic losses in magnetic ferrite nanoparticles via model-driven synthesis and materials optimization. ACS Nano, 7:8990-9000, 2013.

2014

- Birmingham, K., Gradinaru, V., Anikeeva, P., Grill, W.M., Pikov, V., McLaughlin, B., Pasricha, P., Weber, D., Ludwig, K., Famm, K., Bioelectronic medicines: a research roadmap. Nat Rev Drug Discov., 13:399-400, 2014.
- Lu, C., Froriep, U. P., Koppes, R. A., Canales, A., Caggiano, V., Selvidge, J., Bizzi, E. and Anikeeva, P., Polymer fiber probes enable optical control of spinal cord and muscle function *in vivo*. Adv. Funct. Mater. 24: 6594–6600, 2014.
- Pashaie, R., Anikeeva, P., Lee, J-H., Prakash, R., Yizhar, O., Prigge, M., Chander, D., Richner, T.J. and Williams, J. , Optogenetic brain interfaces. IEEE Reviews in Biomedical Engineering, 7:3-30, 2014.

2015

- Canales, A., Jia, A., Froriep, U. P., Koppes, R. A., Tringides, C.M., Selvidge, J., Lu, C., Hou, C., Wei, L., Fink, Y. and Anikeeva, P., Multifunctional fibers for simultaneous optical, electrical and chemical interrogation of neural circuits *in vivo*. Nature Biotechnology (2015) doi:10.1038/nbt.3093
- Chen, R., Romero, G., Christiansen, M.G., Mohr, A., and Anikeeva, P., Wireless magnetothermal deep brain stimulation. Science, 1261821, Published online 12 March 2015
- Park, S., Koppes, R.A., Froriep, U.P., Jia, X., Achyuta, A.K., McLaughlin, B.L., Anikeeva, P., Optogenetic control of nerve growth. Sci Rep. 2015 May 18;5:9669. doi: 10.1038/srep09669.
- Loynachan, C.N., Romero, G., Christiansen, M.G., Chen, R., Ellison, R., O'Malley, T.T., Froriep, U.P., Walsh, D.M. and Anikeeva, P., Targeted magnetic nanoparticles for remote magnetothermal disruption of amyloid- $\beta$  aggregates. Adv Healthc Mater. 2015 Aug 19. doi: 10.1002/adhm.201500487
- Anikeeva, P. and Koppes, R.A., Restoring the sense of touch. Science 350:274-275, 2015.
- Matsumoto, Y., Chen, R., Anikeeva, P., and Jasanoff, A. Engineering intracellular biomineralization and biosensing by a magnetic protein. Nat Commun. 2015 Nov 2;6:8721.
- Anikeeva, P. and Jia, X., Remote-controlled mice. Cell Systems, 1:104-105, 2015. DOI: 10.1016/j.cels.2015.08.005

## 2016

- Koppes, R.A., Park, S., Hood, T., Jia, X., Poorheravi, N.A., Achyuta, A.H., Fink, Y. and Anikeeva, P., Thermally drawn fibers as nerve guidance scaffolds. Biomaterials, 81:27-35, 2016.
- Anikeeva, P., Optogenetics unleashed. Nat Biotechnol., 34:43-44, 2016.
- Chen, R., Christiansen, M.G., Sourakov, A., Mohr, A., Matsumoto, Y., Okada, S., Jasanoff, A. and Anikeeva P., High-performance ferrite nanoparticles through nonaqueous redox phase tuning. Nano Lett. 2016 Jan 13.
- Schuerle, S., Dudani, J.S., Christiansen, M.G., Anikeeva, P. and Bhatia, S.N., Magnetically actuated protease sensors for *in vivo* tumor profiling. Nano Lett. 2016 Oct 12;16(10):6303-6310.
- Anikeeva, P. and Jasanoff, A., Problems on the back of an envelope. Elife. 2016 Sep 8;5. pii: e19569. doi: 10.7554/eLife.19569.

## 2017

- 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.
- 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.

- Chen, R., Canales, A. and Anikeeva, P., Neural recording and modulation technologies, *Nature Reviews Materials*, 2:1-16, 2017.

### Askkan Ashrafi

2013

- Nguyen, T.T., Ashrafi, A., Thomas, J.D., Riley, E.P. and Simmons, R.W., Children with heavy prenatal alcohol exposure have different frequency domain signal characteristics when producing isometric force. *Neurotoxicol Teratol*, 35:14-20, 2013.
- Ashrafi, A. and Harris, F.J., A novel square-root nyquist filter design with prescribed ISI energy. *Signal Processing*, 93:2626-2635, 2013.
- Chaurasiya, P.K., Ashrafi, A. and Nagaraj, S., Novel spectrally efficient UWB pulses using zinc and Walsh basis functions. *The ETRI Journal*, 35:406-413, 2013.
- Ashrafi, A., Optimized linear phase square-root nyquist FIR filters satisfying the CDMA IS-95 and UMTS standards. *Signal Processing*, 93:866-873, 2013.
- Nguyen, T.T., Ashrafi, A., Thomas, J.D., Riley, E.P. and Simmons, R.W., Children with heavy prenatal alcohol exposure have different frequency domain signal characteristics when producing isometric force. *Neurotoxicology and Teratology*, 35:14-20, 2013.

2014

- Ashrafi, A., Optimization of the quantized coefficients for DDFS utilizing polynomial interpolation methods. *IEEE Transactions on Circuits and Systems II: Express Briefs*, 1:105-109, 2014.

2016

- 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)*.

### Les Atlas

2012

- Li, X., Nie, K., Imennov, N.S., Won, J.H., Drennan, W.R., Rubinstein, J.T. and Atlas, L.E., Improved perception of speech in noise and Mandarin tones with acoustic simulations of harmonic coding for cochlear implants. *J Acoust Soc Am.*, 132:3387-3398, 2012.

2013

- Li, X., Nie, K., Imennov, N., Rubinstein, J. and Atlas, L., Improved perception of music with a harmonic based algorithm for cochlear implants. *IEEE Trans Neural Syst Rehabil Eng.*, 21:684-694, 2013.

- Clark, P., Kirsteins, I. and Atlas, L., Complementary envelope estimation for frequency-modulated random signals. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 5363-5367, 2013.
- Wisdom, S., Atlas, L. and Pittore, J., Extending coherence time for analysis of modulated random processes. 2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2014: 340-344.
- Powers, T., Atlas, L., Hanusa, E. and Krout, D.W., 2014 17th International Conference on Information Fusion (FUSION), 2014: 1 – 6.

#### Scott Bellman

2014

- Bellman, S., Burgstahler, S., and Ladner, R., Work-based learning experiences help students with disabilities transition to careers: A case study of University of Washington projects. WORK: A Journal of Prevention, Assessment & Rehabilitation. 48, 399-405, 2014.

#### Bing Brunton

2015

- Kopec, C.D., Erlich, J.C., Brunton, B.W., Deisseroth, K. and Brody, C.D., Cortical and subcortical contributions to short-term memory for orienting movements. Neuron, DOI: <http://dx.doi.org/10.1016/j.neuron.2015.08.033>
- Erlich, J.C., Brunton, B.W., Duan, C.A., Hanks, T.D. and Brody, C.D., Distinct effects of prefrontal and parietal cortex inactivations on an accumulation of evidence task in the rat. Elife. 2015 Apr 14;4. doi: 10.7554/eLife.05457.
- Hanks, T.D., Kopec, C.D., Brunton, B.W., Duan, C.A., Erlich, J.C. and Brody, C.D., Distinct relationships of parietal and prefrontal cortices to evidence accumulation. Nature. 2015 Apr 9;520(7546):220-3. doi: 10.1038/nature14066. Epub 2015 Jan 19.
- Brunton, B.W., Johnson, L.A., Ojemann, J.G. and Kutz, J.N., Extracting spatial-temporal coherent patterns in large-scale neural recordings using dynamic mode decomposition. J Neurosci Methods. 2015 Oct 31. pii: S0165-0270(15)00382-9. doi: 10.1016/j.jneumeth.2015.10.010.

2016

- 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.

#### Howard Chizeck

2011

- Matlack, C., Chizeck, H.J., Davis, T.B. and Linnes, J., A low-cost solar disinfection indicator for safe water. IEEE Global Humanitarian Technology Conference, Seattle, Oct/Nov 2011.

## 2012

- Nia Kosari, S., Ramadurai, S., Chizeck, H.J. and Hannaford, B., Robotic compression of soft tissue. Proc. 2012 IEEE International Conference on Robotics and Automation, St. Paul-Minneapolis, May 2012.
- Ramadurai, S., Nia Kosari, S., King, H.H., Chizeck, H.J. and Hannaford, B., Application of unscented Kalman filter to a cable driven surgical robot: A simulation study. Proc. 2012 IEEE International Conference on Robotics and Automation, St. Paul-Minneapolis, May 2012.
- Matlack, C., Moritz, C. and Chizeck, H.J., Applying best practices from digital control systems to BMI implementation. 34<sup>th</sup> IEEE Engineering in Medicine and Biology Conference, San Diego, Aug. 2012.
- Rydén, F. and Chizeck, H.J., Forbidden-region virtual fixtures from streaming point clouds: remotely touching and protecting a beating heart. IEEE/RSJ International Conference on Intelligent Robots and Systems, Vilamoura, Portugal, Oct. 2012.
- Chizeck, H.J., Algorithms for haptic rendering and virtual fixtures for robotic surgery. RSS 2012 Workshop on Algorithmic Frontiers in Medical Robotics: Manipulation in Uncertain, Deformable, Heterogeneous Environments, Sydney, Australia, July 2012.
- Bonaci, T. and Chizeck, H.J., Surgical telerobotics meets information security. RSS 2012 Workshop on Algorithmic Frontiers in Medical Robotics: Manipulation in Uncertain, Deformable, Heterogeneous Environments, Sydney, Australia, July 2012.
- Rydén, F., Nia Kosari, S. and Chizeck, H.J., A computer vision approach to virtual fixtures in surgical robotics. RSS 2012 Workshop on Algorithmic Frontiers in Medical Robotics: Manipulation in Uncertain, Deformable, Heterogeneous Environments, Sydney, Australia, July 2012.
- Bonaci, T. and Chizeck, H.J., Telerobotic surgery meets information security. 21<sup>st</sup> Usenix Security Symposium, Bellevue, WA. August 8-10, 2012.
- Bonaci, T. and Chizeck, H.J., On potential security threats against rescue robotic systems. IEEE International Symposium on Safety, Security, and Rescue Robotics, College Station, Texas, Nov. 5-8, 2012.
- Matlack, C.B., Chizeck, H.J. and Moritz, C.T., Improving BMI performance metrics via ensemble chance simulations and Fitts' Law. DARPA RE-NET PI Meeting, New Orleans, Nov 12-14, 2012.

## 2013

- Rydén, F. and Chizeck, H.J., A proxy method for real-time 3-DOF haptic rendering of streaming point cloud data. IEEE Trans. Haptics, 6:257-267, 2013.
- Rydén, F. and Chizeck, H.J., A method for constraint-based six degree-of-freedom haptic interaction with streaming point clouds. International Conference on Robotics and Automation (ICRA), 2013 IEEE 10.1109/ICRA.2013.6630896, 2353-2359.

- Matlack, C., Chizeck, H.J. and Moritz, C., Correctly applying performance metrics to neuroprosthetic control interfaces. Fifth International Brain-Computer Interface Meeting, Pacific Grove, California, June 3-7, 2013.
- Kosari, S.N, Ramadurai, S., Chizeck, H.J. and Hannaford, B., Control and tension estimation of a cable driven mechanism under different tensions. To appear Proc. ASME IDETC/CIE2013, Portland, Oregon, August 4-7, 2013.

2014

- Hebb, A.O., Zhang, J.J., Mahoor, M.H., Tsiokos, C., Matlack, C., Chizeck, H.J. and Pouratian, N., Creating the feedback loop: closed-loop neurostimulation. *Neurosurg Clin N Am*, 25:187-204, 2014.
- Bonaci, T., Herron, J., Matlack, C. and Chizeck, H.J., Securing the exocortex: A twenty-first century cybernetics challenge. 2014 IEEE Conference on Norbert Wiener in the 21st Century (21CW), DOI: 10.1109/NORBERT.2014.6893912, 2014: 1-8.
- Matlack, C., Haddock, A., Moritz, C.T. and Chizeck, H.J., Motor cortical decoding performance depends on controlled system order. 2014 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), DOI: 10.1109/EMBC.2014.6944143, 2014: 2553-2556.
- Bonaci, T., Calo, R., and Chizeck, H.J., App stores for the brain: Privacy & security in brain-computer interfaces. 2014 IEEE International Symposium on Ethics in Science, Technology and Engineering, DOI: 10.1109/ETHICS.2014.6893415, 2014: 1-7.
- Herron, J. and Chizeck, H.J., Prototype closed-loop deep brain stimulation systems inspired by Norbert Wiener. 2014 IEEE Conference on Norbert Wiener in the 21st Century (21CW), DOI: 10.1109/NORBERT.2014.6893922, 2014: 1-6.

2015

- Bonaci, T., Calo, R. and Chizeck, H.J., App stores for the brain. Privacy and security in brain computer interfaces. *IEEE Technology and Society*, June 2015, pp. 32-39.
- Houston, B., Blumenfeld, Z., Quinn, E., Bronte-Stewart, H. and Chizeck H. Long-term detection of Parkinsonian tremor activity from subthalamic nucleus local field potentials. *Conf Proc IEEE Eng Med Biol Soc*. 2015 Aug;2015:3427-31. doi: 10.1109/EMBC.2015.7319129.

2016

- Malekmohammadi, M., Herron, J., Velisar, A., Blumenfeld, Z., Trager, M.H., Chizeck, H.J. and Bronte-Stewart, H., Kinematic adaptive deep brain stimulation for resting tremor in Parkinson's disease. *Movement Disorders*, 2016 Jan 27. doi: 10.1002/mds.26482.
- Rossi, P. J., Aysegul, G., Jack, J., Linda, W., Andre, M., Giordano, J.J., Elias, W.J., Alterman, R.L., Rossi, M.A., Butson, C.L., Fox, M.D., McIntyre, C.C., Pouratian, N., Swann, N.C., de Hemptinne, C., Gross, R.E., Chizeck, H.J., Tagliati, M., Lozano, A.M., Goodman, W., Langevin, J-P., Akbar, U., Gerhardt, G.A., Grill, W.M., Hallett, M., Herrington, T., Herron, J., van Horne, C., Kopell, B.H., Lang, A.E., Lungu, C., Martinez-

Ramirez, D., Mogilner, A.Y., Molina, R. Opri, E., Otto, K.J., Oweiss, K.G., Pathak, Y., Shukla, A., Shute, J., Sheth, S.A., Shih, L.C., Steinke, G.K., Traster, A.I., Vanegas, N., Zaghloul, K., Cendejas-Zaragoza, L., Verhagen, L., Foote, K.D., Okun, M.S., Proceedings of the Third Annual Deep Brain Stimulation Think Tank: A Review of Emerging Issues and Technologies. *Frontiers in Neuroscience*, 10, 2016, DOI=10.3389/fnins.2016.00119

- Thompson, M.C., Herron, J.A., Brown, T., Ojemann, J.G., Ko, A.L. and Chizeck, H.J., Demonstration of a stable chronic electrocorticography-based brain-computer interface using a deep brain stimulator. *Intl. Conf. On Systems, Man, And Cybernetics*, Budapest, Hungary, 9-12 Oct 2016
- Matlack, C., Chizeck, H. and Moritz, C.T., Empirical movement models for brain computer interfaces. *IEEE Trans Neural Syst Rehabil Eng.* 2016.
- Deeb, W., Giordano, J.J., Rossi, P.J., Mogilner, A.Y., Gunduz, A., Judy, J.W., Klassen, B.T., Butson, C.R., Van Horne, C., Deny, D., Dougherty, D.D., Rowell, D., Gerhardt, G.A., Smith, G.S., Ponce, F.A., Walker, H.C., Bronte-Stewart, H.M., Mayberg, H.S., Chizeck, H.J., Langevin, J.P., Volkmann, J., Ostrem, J.L., Shute, J.B., Jimenez-Shahed, J., Foote, K.D., Wagle Shukla, A., Rossi, M.A., Oh, M., Pourfar, M., Rosenberg, P.B., Silburn, P.A., de Hemptine, C., Starr, P.A., Denison, T., Akbar, U., Grill, W.M. and Okun, M.S., Proceedings of the Fourth Annual Deep Brain Stimulation Think Tank: A Review of Emerging Issues and Technologies. *Front Integr Neurosci.* 2016 Nov 22;10:38.

2017

- Haddock, A., Velisar, A., Herron, J., Bronte-Stewart, H. and Chizeck, H., Model predictive control of deep brain stimulation for parkinsonian remor. *Accepted for 8th International IEEE EMBS Conference On Neural Engineering (NER'17)*, Shanghai, China . May 25-28 2017.
- Houston, B., Thompson, M., Ojemann, J., Ko, A. and Chizeck, H., Classifier-based closed-loop deep brain stimulation for essential tremor. *Accepted for 8th International IEEE EMBS Conference On Neural Engineering (NER'17)*, Shanghai, China . May 25-28 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.

Eric Chudler

2012

- Ritchie, S.J., Chudler, E.H. and Della Sala, S., Don't try this at school: the attraction of 'alternative' educational techniques. In *Neuroscience in Education: The Good, The Bad and The Ugly*, New York: Oxford University Press, 244-264, 2012.
- Chudler, E.H., Phokpe, T., Chophel, S. and Johnson, B., Neuroscience for Tibetan Buddhist monastics. Program No. 28.02., Society for Neuroscience abstract, 2012.

2013

- Chudler, E.H., *The Little Book of Neuroscience Haiku*, New York: W.W. Norton and Co., Inc., 2013.



2014

- Chudler, E.H. and Bergsman, K.C., Explain the brain: Web sites to help scientists teach neuroscience to the general public. CBE-Life Science Education, 577-583, 2014.

2015

- Straus, K.M. and Chudler, E.H., Botanical heart throbs: heart rate in blackworms. Science Scope, 39:26-31, 2015.

2016

- Chudler, E.H. and Bergsman, K.C., Brains-computers-machines: Neural engineering in science classrooms. CBE-Life Science Education, March 1, 2016 15:fe1; doi:10.1187/cbe.15-11-0242
- Straus, K.M. and Chudler, E.H., Online teaching resources about medicinal plants and ethnobotany. CBE-Life Science Education, December 1, 2016, 15:fe910.1187/cbe.16-06-0190

2017

- Chudler, E.H. and Johnson, L.A., Brain Bytes. Quick Answers to Quirky Questions about the Brain. New York: W.W. Norton and Company, 2017.
- Chudler, E.H. and Smith, K. Exploring color perception with the Stroop effect. ChildArt, October-December: 21-22, 2017.

#### Horacio de la Iglesia

2011

- Beckwith, E.J., Lelito, K.R., Hsu, Y.W., Medina, B.M., Shafer, O., Ceriani, M.F. and de la Iglesia, H.O., Functional conservation of clock output signaling between flies and intertidal crabs. J Biol Rhythms, 26:518-529, 2011.
- Schwartz, W.J., Tavakoli-Nezhad, M., Lambert, C.M., Weaver, D.R. and de la Iglesia, H.O., Distinct patterns of period gene expression in the suprachiasmatic nucleus underlie circadian clock photoentrainment by advances or delays. Proc Natl Acad Sci U S A, 108:17219-17224, 2011.

2012

- Han, S., Tai, C., Westenbroek, R.E., Yu, F.H., Cheah, C.S., Potter, G.B., Rubenstein, J.L., Scheuer, T., de la Iglesia, H.O. and Catterall, W.A., Autistic-like behaviour in Scn1a<sup>+/-</sup> mice and rescue by enhanced GABA-mediated neurotransmission. Nature, 489:385-390, 2012.
- Hut, R.A., Kronfeld-Schor, N., van der Vinne, V., and de la Iglesia, H., In search of a temporal niche: environmental factors. Prog Brain Res, 199:281-304, 2012.

- Plano, S.A., Agostino, P.V., de la Iglesia, H.O. and Golombek, D.A., cGMP-phosphodiesterase inhibition enhances photic responses and synchronization of the biological circadian clock in rodents. *PLoS One*, 7:e37121, 2012.
- Smarr, B.L., Morris, E. and de la Iglesia, H.O., The dorsomedial suprachiasmatic nucleus times circadian expression of *Kiss1* and the luteinizing hormone surge. *Endocrinology*, 153:2839-2850, 2012.
- Han, S., Yu, F.H., Schwartz, M.D., Linton, J.D., Bosma, M.M., Hurley, J.B., Catterall, W.A. and de la Iglesia, H.O., Na(V)1.1 channels are critical for intercellular communication in the suprachiasmatic nucleus and for normal circadian rhythms. *Proc Natl Acad Sci U S A*, 109:E368-377, 2012.
- Lilley, T.R., Wotus, C., Taylor, D., Lee, J.M. and de la Iglesia, H.O., Circadian regulation of cortisol release in behaviorally split golden hamsters. *Endocrinology*, 153:732-738, 2012.
- Smarr, B.L., Schwartz, M.D., Wotus, C. and de la Iglesia, H.D., Reexamining 'temporal niche.' *Integrative and Comparative Biology*, 53:165-174, 2013.
- Kronfeld-Schor, N., Dominoni, D., de la Iglesia, H.O., Levy, O., Herzog, E.D., et al., Chronobiology by moonlight. *Proc R Soc B*, 280:20123088, 2013.
- Yao, J., de la Iglesia, H.O., Bajjalieh, S.M., Loss of the SV2-like protein SVOP produces no apparent deficits in laboratory mice. *PLoS One*, 8:e68215, 2013.
- Wotus, C., Lilley, T.R., Neal, A.S., Suleiman, N.L., Schmuck, S.C., Smarr, B.L., Fischer, B.J. and de la Iglesia, H.O., Forced desynchrony reveals independent contributions of suprachiasmatic oscillators to the daily plasma corticosterone rhythm in male rats. *PLoS One*, 8:e68793, 2013.

2013

- Smarr, B.L., Gile, J.J. and de la Iglesia, H.O., Oestrogen-independent circadian clock gene expression in the anteroventral periventricular nucleus in female rats: Possible role as an integrator for circadian and ovarian signals timing the LH surge. *J Neuroendocrinol*, doi: 10.1111/jne.12104, 2013.
- Wotus, C., Lilley, T.R., Neal, A.S., Suleiman, N.L., Schmuck, S.C., Smarr, B.L., Fischer, B.J. and de la Iglesia, H.O., Forced desynchrony reveals independent contributions of suprachiasmatic oscillators to the daily plasma corticosterone rhythm in male rats. *PLoS ONE* 8:e68793, 2013.

Tom Daniel

2012

- Sponberg, S. and Daniel, T.L., Abdicating power for control: a precision timing strategy to modulate function of flight power muscles. *Proc Biol Sci*. 279:3958-3966, 2012.
- Tanner, B.C., Daniel, T.L. and Regnier, M., Filament compliance influences cooperative activation of thin filaments and the dynamics of force production in skeletal muscle. *PLoS Comput Biol*, 8:e1002506, 2012.

- George, N.T., Sponberg, S. and Daniel, T.L., Temperature gradients drive mechanical energy gradients in the flight muscle of *Manduca sexta*. *J Exp Biol*, 215:471-479, 2012.
- Tsang, W.M., Stone, A.L., Otten, D., Aldworth, Z.N., Daniel, T.L., Hildebrand, J.G., Levine, R.B. and Voldman, J., Insect-machine interface: a carbon nanotube-enhanced flexible neural probe. *J Neurosci Methods*, 204:355-365, 2012.
- Williams, C.D., Regnier, M. and Daniel, T.L., Elastic energy storage and radial forces in the myofilament lattice depend on sarcomere length. *PLoS Comput Biol*, 8:e1002770, 2012.
- Hinterwirth, A.J., Medina, B., Lockey, J., Otten, D., Voldman, J., Lang, J.H., Hildebrand, J.G. and Daniel, T.L., Wireless stimulation of antennal muscles in freely flying hawkmoths leads to flight path changes. *PLoS One*, 7:e52725, 2012.

2013

- Dyhr, J.P., Morgansen, K.A., Daniel, T.L. and Cowan, N.J., Flexible strategies for flight control: an active role for the abdomen. *The Journal of Experimental Biology* 216:1523-1536, 2013.
- George, N.T., Irving, T.C., Williams, C.D. and Daniel, T.L., The cross-bridge spring: can cool muscles store elastic energy? *Science*, 340:1217-1220, 2013.

2014

- Dickerson, B.H., Aldworth, Z.N. and Daniel, T.L., Control of moth flight posture is mediated by wing mechanosensory feedback. *J. Exp Biol.* 2014 Apr 15.
- Eberle, A.L., Reinhall, P.G. and Daniel, T.L., Fluid-structure interaction in compliant insect Wings. *Bioinspir. Biomim.* 2014 May 22;9(2):025005).
- Cowan, N.J., Ankarali, M.M., Dyhr, J.P., Madhav, M.S., Roth, E., Sefati, S., Sponberg, S., Stamper, S.A., Fortune, E.S. and Daniel, T.L., Feedback control as a framework for understanding tradeoffs in biology. *Integr Comp Biol.* 2014 Jun 3. pii: icu050.
- Dieudonne, A., Daniel, T.L., and Sane, S.P., Encoding properties of the mechanosensory neurons in the Johnston's organ of the hawk moth, *Manduca sexta*. *J Exp Biol.* 217:3045-3056, 2014.

### Felix Darvas

2013

- Smith, M., Weaver, K., Grabowski, T. and Darvas, F., Utilizing high gamma (HG) band power changes as a control signal for non-invasive BCI. *Brain-computer interface research, a state-of-the-art summary.* SpringerBriefs in Electrical and Computer Engineering, 2013.
- Smith, M., Weaver, K., Grabowski, T. and Rao, R., Darvas, F., Correlating high gamma power and fMRI bold response [abstract]. In: *Organization for Human Brain Mapping, June 16-20, 2013, Seattle, WA.*

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.

### Adrienne Fairhall

2012

- Fairhall, A., Shea-Brown, E. and Barreiro, A., Information theoretic approaches to understanding circuit function. *Curr Opin Neurobiol*, 22:653-659, 2012.

2013

- Mease, R.A., Famulare, M., Gjorgjieva, J., Moody, W.J. and Fairhall, A.L., Emergence of adaptive computation by single neurons in the developing cortex. *The Journal of Neuroscience*, 33:12154-12170, 2013.

2014

- Fairhall, A., The receptive field is dead. Long live the receptive field? *Current Opinion Neurobiology*, 25C:ix-xii, 2014.
- Fairhall, A. and Sompolinsky, H., Editorial overview: Theoretical and computational neuroscience. *Curr Opin Neurobiol*, 25:v-viii, 2014.
- Mease, R.A., Lee, S., Moritz, A.T., Powers, R.K., Binder, M.D. and Fairhall, A.L., Context-dependent coding in single neurons, *J. Comput. Neurosci.* 2014 Jul 3.
- Barnett, H.M., Gjorgjieva, J., Weir, K., Comfort, C., Fairhall, A.L., and Moody, W.J., Relationship between individual neuron and network spontaneous activity in developing mouse cortex. *J Neurophysiol.* 2014 Sep 3. pii: jn.00349.2014.
- Gjorgjieva, J., Mease, R.A., Moody, W.J. and Fairhall, A.L., Intrinsic neuronal properties switch the mode of information transmission in networks. *PLoS Comput Biol.* 2014 Dec;10(12):e1003962.

2015

- Schwemmer, M.A., Fairhall, A.L., Denéve, S., and Shea-Brown, E.T., Constructing precisely computing networks with biophysical spiking neurons. *J Neurosci.*, 35:10112-10134, 2015.
- Pang, R. and Fairhall, A.L., Let music sound while she doth make her choice. *Neuron*, 87:1126-1128, 2015.
- Yuste, R. and Fairhall, A.L., Temporal dynamics in fMRI resting-state activity. *Proc Natl Acad Sci USA*, 112:5263-5264, 2015.
- van Breugel, F., Riffell, J., Fairhall, A.L. and Dickinson, M.H., Mosquitoes use vision to associate odor plumes with thermal targets. *Curr. Biology* 25:2123-2129, 2015.

- Sponberg, S., Daniel, T. and Fairhall, A. Dual dimensionality reduction reveals independent encoding of motor features in a muscle synergy for insect flight control. *PLoS Comp. Biol.* 11(4):e1004168 (2015)

2016

- Pang, R., Lansdell, B.J. and Fairhall, A.L., Dimensionality reduction in neuroscience. *Curr Biol.*, 26(14):R656-660, 2016, doi: 10.1016/j.cub.2016.05.029.
- Aljadeff, J., Lansdell, B.J., Fairhall, A.L. and Kleinfeld, D., Analysis of neuronal spike trains, deconstructed. *Neuron*, 91(2):221-259, 2016, doi: 10.1016/j.neuron.2016.05.039.

2017

- Mease, R.A., Kuner, T., Fairhall, A.L. and Groh, A. Multiplexed spike coding and adaptation in the thalamus. *Cell Rep.* 2017 May 9;19(6):1130-1140. doi: 10.1016/j.celrep.2017.04.050.
- Machens, C. and Fairhall, A. Editorial overview: Computational neuroscience. *Curr Opin Neurobiol.* 2017 Sep 28. pii: S0959-4388(17)30236-2. doi: 10.1016/j.conb.2017.09.009.
- Budzilloa, A., Duffy, A., Miller, K.E., Fairhall, A.L. and Perkel, D.J. Dopaminergic modulation of basal ganglia output through coupled excitation–inhibition, *PNAS*, 114:5713–5718, 2017.

### Eberhard Fetz

2012

- Fetz, E.E., Artistic explorations of the brain. *Front Hum Neurosci*, 6:9, 2012.
- Seki, K. and Fetz, E.E., Gating of sensory input at spinal and cortical levels during preparation and execution of voluntary movement. *Journal of Neuroscience* 32:890-902, 2012.
- Zanos, S., Zanos, T.P., Marmarelis, V.Z., Ojemann, G.A. and Fetz, E.E., Relationships between spike-free local field potentials and spike timing in human temporal cortex. *Journal of Neurophysiology*, 107:1808-1821, 2012.
- Richardson, G. and Fetz, E.E., Brain-state dependence of electrically evoked potentials monitored with head-mounted electronics. *IEEE Transactions on Neural Systems & Rehabilitation Engineering*, 20:756-761, 2012.
- Miller, K.J., Hermes, D., Honey, C.J., Hebb, A.O., Ramsey, N.F., Knight, R.T., Ojemann, J.G. and Fetz, E.E., Human motor cortical activity is selectively phase-entrained on underlying rhythms. *PLoS Computational Biology*, 8:1-21, 2012.
- Sacchet, M.D., Mellinger, J., Sitaram, R., Braun, C., Birbaumer, N. and Fetz, E., Volitional control of neuromagnetic coherence. *Frontiers in Neuroscience*, 6:189, 2012.

2013

- Fetz, E.E., Volitional control of cortical oscillations and synchrony. *Neuron*. 77:216-218, 2013.
- Lucas, T.H. and Fetz, E.E., Myo-cortical crossed feedback reorganizes primate motor cortex output. *J Neurosci*, 33:5261-5274, 2013.
- Nishimura, Y., Perlmutter, S.I. and Fetz, E.E., Restoration of upper limb movement via artificial corticospinal and musculoskeletal connections in a monkey with spinal cord injury. *Front Neural Circuits*, 7:57, 2013.
- Edwardson, M., Lucas, T., Carey, J. and Fetz, E., New modalities of brain stimulation for stroke rehabilitation. *Experimental Brain Research* 224:335-358, 2013.
- Nishimura, Y., Perlmutter, S.I., Eaton, R.W. and Fetz, E.E., Spike-timing-dependent plasticity in primate corticospinal connections induced during free behavior. *Neuron*, 80:1301-1309, 2013.

2014

- Potter, S.M., El Hady, A. and Fetz E.E., Closed-loop neuroscience and neuroengineering. *Front Neural Circuits*. 8:115, doi: 10.3389/fncir.2014.00115.eCollection 2014.

2015

- Fetz, EE, Restoring motor function with bidirectional neural interfaces, In Dancause N, Rossignol S, Nadeau S, editors: *Sensorimotor Rehabilitation: At the Crossroads of Basic and Clinical Sciences*, Progress in Brain Research, Volume 218, 241-252, 2015.
- Edwardson, M.A., Avery, D.H., Fetz, E.E., Volitional muscle activity paired with transcranial magnetic stimulation increases corticospinal excitability. *Front Neurosci*. 8:442. doi: 10.3389/fnins.2014.00442, 2015.
- Fetz, E.E., Bidirectional interactions between the brain and implantable computers. *Proceedings of the Bial Foundation 10th Symposium "Behind and Beyond the Brain"*, pp 27-36, 2015.
- Zaidi, A.D., Munk, M.H., Schmidt, A., Risueno-Segovia, C., Bernard, R., Fetz, E., Logothetis, N., Birbaumer, N. and Sitaram R, Simultaneous epidural functional near-infrared spectroscopy and cortical electrophysiology as a tool for studying local neurovascular coupling in primates. *Neuroimage*. 120:394-399, 2015.
- Fetz, E., Volitional Control of Neural Activity – Past and Future. Keynote Lecture for Symposium on Real-time Functional Imaging and Neurofeedback, University of Florida, Gainesville, FL, February 12-13, 2015
- Fetz, E., Clinical applications of bidirectional brain-machine interfaces. 2015 International Workshop on Clinical Brain-Machine Interfaces, Tokyo, Japan, March 13-15, 2015.
- Fetz, E., Applications of closed-loop brain computer interfaces, British Neuroscience Association Meeting, Edinburgh, Scotland, April 12-16, 2015

- Fetz, E., Bidirectional interactions between the brain and implantable computers. 2015 Alberta Motor Control Meeting, Jasper, Alberta, Canada, September 25, 2015.

2016

- Eaton, R.W., Libey, T. and Fetz, E.E., Operant conditioning of neural activity in freely behaving monkeys with intracranial reinforcement, *J Neurophysiol.* 2016 Dec 28;:jn.00423.2016.
- Lajoie, G., Krouchev, N.I., Kalaska, J.F., Fairhall, A.L. and Fetz, E.E., Correlation-based model of artificially induced plasticity in motor cortex by a bidirectional brain-computer interface. *PLoS Comput Biol.* 2017 Feb 2;13(2):e1005343. doi: 10.1371/journal.pcbi.1005343.
- 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

2017

- Kajal, D.S., Braun, C., Mellinger, J., Sacchet, M.D., Ruiz, S., Fetz, E., Birbaumer, N. and Sitaram, R. (2017). Learned control of inter-hemispheric connectivity: Effects on bimanual motor performance. *Human Brain Mapping*, <http://dx.doi.org/10.1002/hbm.23663>
- Libey, T. and Fetz, E.E. Open-source, low cost, free-behavior monitoring, and reward system for neuroscience research in non-human primates. *Front. Neurosci.* 11:265. doi: 10.3389/fnins.2017.00265, 2017.
- Clausen, J., Fetz, E., Donoghue, J., Ushiba, J., Spörhase, U., Chandler, J., Birbaumer, N and Soekadar, S.R., Help, hope, and hype: Ethical dimensions of neuroprosthetics, *Science*, 356:1338-1339, 2017.

### Frédéric Gilbert

2017

- Gilbert, F., Deep brain stimulation: Inducing self-estrangement, *Neuroethics*, doi:10.1007/s12152-017-9334-7, 2017.
- Gilbert, F., Goddard, E., Viaña, J.N.M., Carter, A. and Horne, M., I Miss Being Me: Phenomenological Effects of Deep Brain Stimulation, *AJOB Neuroscience*, 8:96-109, 2017.

### Sara Goering

2012

- Kelley, M., Edwards, K., Starks, H., Fullerton, M., James, R., Goering, S., Holland, S., Disis, M. and Burke, W., Values in translation: how asking the right questions can move translational science toward greater health impact. *Clinical and Translational Science*, 5:445-451, 2012.

2014

- Goering, S., Is it still me? DBS, agency, and the extended, relational me. *AJOB Neuroscience* 5: 50-51, 2014.

2015

- Goering, S., Rethinking disability: the social model of disability and chronic disease. *Current Reviews in Musculoskeletal Medicine*, 8:134-138, 2015.
- Goering, S., Stimulating autonomy: DBS and the prospect of choosing to control ourselves through stimulation. *AJOB Neuroscience* 6:1-3, 2015.
- Brown, T., A relational take on advisory brain implant systems. *AJOB Neuroscience* 6:46-47, 2015.

2016

- Brown, T., Moore, P., Herron, J., Thompson, M., Bonaci, T., Chizeck, H. and Goering, S., Personal responsibility in the age of user-controlled neuroprosthetics. 2016 IEEE International Symposium on Ethics in Engineering, Science and Technology (ETHICS) Pages: 1 - 12, DOI: 10.1109/ETHICS.2016.7560039, 2016.
- Brown, T., Thompson, M.C., Herron, J., Ko, A., Chizeck, H. and Goering, S., Controlling our brains – a case study on the implications of brain-computer interface-triggered deep brain stimulation for essential tremor. *Brain-Computer Interfaces*, pages 1-6, 14 Sep 2016, <http://dx.doi.org/10.1080/2326263X.2016.1207494>
- Goering, S. and Yuste, R. On the necessity of ethical guidelines for novel neurotechnologies. *Cell*, 167:882-885, 2016.

2017

- Goering, S., Klein, E., Dougherty, D.D. and Widge, A.S., Staying in the Loop: Relational Agency and Identity in Next-Generation DBS for Psychiatry, *AJOB Neuroscience*, 8:2, 59-70, 2017.

### Thomas Grabowski

2013

- Madhyastha, T.M. and Grabowski, T., Age-related differences in the dynamic architecture of intrinsic networks, brain connectivity. doi:10.1089/brain.2013.0205.
- Emmorey, K., McCullough, S., Mehta, S. and Grabowski T.J., How sensory-motor systems impact the neural organization for language: direct contrasts between spoken and signed language. *Front Psychol.* 2014 May 27;5:484. doi: 10.3389/fpsyg.2014.00484.

2014

- Madhyastha, T.M., Askren, M.K., Boord, P. and Grabowski, T.J., Dynamic connectivity at rest predicts attention task performance. *Brain Connectivity*. doi:10.1089/brain.2014.0248.



- Emmorey, K., McCullough, S., Mehta, S., and Grabowski, T.J., How sensory-motor systems impact the neural organization for language: direct contrasts between spoken and signed language. *Front Psychol.* 2014 May 27;5:484. doi: 10.3389/fpsyg.2014.00484. eCollection 2014.
- Chou C.A., Kampa, K., Mehta, S.H., Tungaraza, R.F., Chaovalitwongse, W.A. and Grabowski, T.J. Voxel selection framework in multi-voxel pattern analysis of fMRI data for prediction of neural response to visual stimuli. *IEEE Trans Med Imaging.* 2014 Apr;33(4):925-34. doi: 10.1109/TMI.2014.2298856.
- Madhyastha, T.M. and Grabowski, T.J. Age-related differences in the dynamic architecture of intrinsic networks. *Brain Connect.* 2014 May;4(4):231-41. doi: 10.1089/brain.2013.0205. Epub 2014 Jan 30.

2016

- Boord, P., Madhyastham, T.M., Askren, M.K. and Grabowski, T.J., Executive attention networks show altered relationship with default mode network in PD. *Neuroimage Clin.* 2016 Nov 5;13:1-8.

### Brian Hafner

2012

- Stein, R.B., Everaert, D.G., Abrams, G.M., Elovic, E.P., Francisco, G.E., Hafner, B.J., Huskey, T., Munin, M.C., Nolan, J.K. and Kufta, C., Multicenter randomized controlled trial comparing walking with a foot drop stimulator and ankle-foot orthosis after stroke. *Proceedings of the 17th Annual International FES Society Conference.* Banff, Canada. September 9-12, 2012.

2013

- Sawers, A.B. and Hafner, B.J., Outcomes associated with the use of microprocessor-controlled prosthetic knees among individuals with unilateral transfemoral limb loss: a systematic review. *J Rehabil Res Dev,* 50:273-314, 2013.
- Halsne, E.G., Waddingham, M.G. and Hafner, B.J., Long-term activity in and among persons with transfemoral amputation. *J Rehabil Res Dev,* 50:515-530, 2013.
- Everaert, D.G., Stein, R.B., Abrams, G.M., Dromeric, A.W., Francisco, G.E., Hafner, B.J., Huskey, T., Munin, M.C., Nolan, J.K. and Kufta, C., Effect of a foot drop stimulator and ankle-foot orthosis on walking ability after stroke: a multicenter randomized controlled trial. *Neurorehabil Neural Repair,* 27:579-591, 2013.
- Redfield, M., Cagle, J., Hafner, B.J. and Sanders, J.E., Classifying prosthetic use via accelerometry in people with trans-tibial amputations. *J Rehabil Res Dev,* 50:1201-1212, 2013.
- Morgan, S.J., Kelly, V.E. and Hafner, B.J., The impact of transfemoral amputation on the cognitive load associated with walking. *Proceedings of the 14th World Congress of the International Society of Prosthetics and Orthotics,* Hyderabad, India, February 4-7, 2013.

2014

- Fiedler, G., Slavens, B., Smith, R.O., Briggs, D. and Hafner, B.J., Criterion and construct validity of prosthesis-integrated measurement of joint movement data in persons with trans-tibial amputation. *J. Appl. Biomech.*, March 4, 2014.
- Hafner, B.J. and Sanders, J.E. Considerations for development of sensing and monitoring tools to facilitate treatment and care of persons with lower-limb loss: A review. *J Rehabil Res Dev.* 51:1-14, 2014.

### Blake Hannaford

2012

- Naerum, E., Elle, O.J. and Hannaford, B., The effect of interaction force estimation on performance in bilateral teleoperation. *IEEE Transactions on Haptics*, VOL. 5, NO. 2, April-June 2012.
- Hannaford, B., Rosen, J., Friedman, D., King, H., Roan, P., Cheng, L., Glozman, D., Ma, J., Nia Kosari, S. and White, L., Raven-II: an open platform for surgical robotics research. *IEEE Trans Biomed Eng*, 60:954-959, 2012.
- Friedman, D.C., Lendvay, T.S. and Hannaford, B., Instrument failures for the da Vinci surgical system: a Food and Drug Administration MAUDE database study. *Surg Endosc*, 27:1503-1508, 2013.
- Nia Kosari, S., Ramadurai, S., Chizeck, H.J. and Hannaford, B., Robotic compression of soft tissue. 2012 IEEE International Conference on Robotics and Automation, RiverCentre, Saint Paul, Minnesota, USA, May 14-18, 2012.
- Velasquez, C.A., King, H., Hannaford B. and Yoon, W.J., Development of a flexible imaging probe integrated to a surgical telerobot system: Preliminary remote control test and probe design. The Fourth IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, Roma, Italy, June 24-27, 2012.

2013

- Lendvay, T.S., Hannaford, B., and Satava, R.M., Future of robotic surgery. *Cancer J.*, 19:109-119, 2013.
- Jiang, I., Ishikawa, Y., Lindsay, J., and Hannaford, B., Design and optimization of support structures for tactile feedback. *IEEE World Haptics Conference 2013*, pp. 485-490.
- Lindsay, J., Adams, R. and Hannaford, B., Improving tactile feedback with an impedance adapter. *IEEE World Haptics Conference 2013*, p. 485-490.
- Lendvay, T.S., Brand, T.C., White, L., Kowalewski, T., Jonnadula, S., Mercer, L.D., Khorsand, D., Andros, J., Hannaford, B. and Satava, R.M., Virtual reality robotic surgery warm-up improves task performance in a dry laboratory environment: A prospective randomized controlled study. *J Am Coll Surg*, 216:1181-1192, 2013.

### Ke Huang

2016

- Agrawal, M., Vidyashankar, S. and Huang, K., On-chip implementation of ECoG signal data decoding in brain-computer interface. 2016 IEEE 21st International Mixed-Signal Testing Workshop (IMSTW), 2016, Pages: 1 - 6, DOI: 10.1109/IMS3TW.2016.7524225

## Judy Illes

2012

- Bubela, T., Reshef, A., Li, M.D., Atkins, H., Caulfield, T., Culme-Seymour, E., Gold, E.R., Illes, J., Isasi, R., McCabe, C., Ogbogu, U., Piret, J. and Mason, C., Enabling advanced cell therapies (EnACT): invitation to an online forum on resolving barriers to clinical translation. *Regen Med*, 7:735-740, 2012.
- Kwon, B.K., Ghag, A., Dvorak, M.F., Tetzlaff, W. and Illes, J., Expectations of benefit and tolerance to risk of individuals with spinal cord injury regarding potential participation in clinical trials. *J Neurotrauma*, 29:2727-2737, 2012.
- Anderson, J.A., Eijkholt, M. and Illes, J., Research accountability: Mandate ethics methods in papers. *Nature*, 487:432, 2012.
- Eijkholt, M., Kwon, B.K., Mizgalewicz, A. and Illes, J., Decision-making in stem cell trials for spinal cord injury: the role of networks and peers. *Regen Med*, 7:513-522, 2012.
- Kwon, B.K., Ghag, A., Reichl, L., Dvorak, M.F., Illes, J. and Tetzlaff, W., Opinions on the preclinical evaluation of novel therapies for spinal cord injury: A comparison between researchers and spinal cord-injured individuals. *J Neurotrauma*, 29:2367-2374, 2012.
- Borgelt, E.L., Buchman, D.Z., Weiss, M. and Illes, J., In search of anything that would help: Parent perspectives on emerging neurotechnologies. *J Atten Disord*, May 22, 2012.
- Di Pietro, N.C., Whiteley, L., Mizgalewicz, A. and Illes, J., Treatments for neurodevelopmental disorders: evidence, advocacy, and the internet. *J Autism Dev Disord*, 43:122-133, 2013.
- Buchman, D.Z., Borgelt, E.L., Whiteley, L. and Illes, J., Neurobiological narratives: experiences of mood disorder through the lens of neuroimaging. *Sociol. Health Illn*, 35:66-81, 2013.
- Wolf, S.M., Crock, B.N., Van Ness, B., Lawrenz, F., Kahn, J.P., Beskow, L.M., Cho, M.K., Christman, M.F., Green, R.C., Hall, R., Illes, J., Keane, M., Knoppers, B.M., Koenig, B.A., Kohane, I.S., Leroy, B., Maschke, K.J., McGeeveran, W., Ossorio, P., Parker, L.S., Petersen, G.M., Richardson, H.S., Scott, J.A., Terry, S.F., Wilfond, B.S. and Wolf, W.A. Managing incidental findings and research results in genomic research involving biobanks and archived data sets. *Genet Med*, 14:361-384, 2012.
- Scott, N.A., Murphy, T.H. and Illes, J., Incidental findings in neuroimaging research: a framework for anticipating the next frontier. *J Empir Res Hum Res Ethics*, 7:53-57, 2012.
- Scott, C.T., Caulfield, T., Borgelt, E. and Illes, J., Personal medicine—the new banking crisis. *Nat Biotechnol*, 30:141-147, 2012.

- Eijkholt, M., Anderson, J.A. and Illes, J., Picturing neuroscience research through a human rights lens: imaging first-episode schizophrenic treatment-naive individuals. *Int J Law Psychiatry*, 35:146-152, 2012.
- Borgelt, E.L., Buchman, D.Z. and Illes, J., Neuroimaging in mental health care: voices in translation. *Front Hum Neurosci*, 6:293, 2012.
- Peters, K.R., Beattie, B.L., Feldman, H.H. and Illes, J., A conceptual framework and ethics analysis for prevention trials of Alzheimer disease. *Prog Neurobiol*, 110:114-123, 2013.

2013

- Borgelt, E., Anderson, J.A. and Illes, J., Managing incidental findings: lessons from neuroimaging. *Am J Bioeth*, 13:46-47, 2013.
- Anderson, J.A., Eijkholt, M. and Illes, J., Ethical reproducibility: towards transparent reporting in biomedical research. *Nature Methods* 10:843-845, 2013.

### Mehrdad Jazayeri

2015

- de Lafuente, V., Jazayeri, M. and Shadlen, M.N., Representation of accumulating evidence for a decision in two parietal areas. *J Neurosci*, 2015; 35(10):4306-18. PMID: 25762677, PMCID: PMC4355201
- Remington, E. and Jazayeri, M., Sensory measurement and motor planning are not separable in interval timing. *J Vision*. 2015; 15(12):977. PMID: 26326665
- Finnerty, G.T., Shadlen, M.N., Jazayeri, M., Nobre, A.C. and Buonomano, D.V., Time in cortical circuits. *J Neurosci*. 2015; 35(41):13912-6. PMID: 26468192, PMCID: PMC4604229
- Jazayeri, M. and Shadlen, M.N., A neural mechanism for sensing and reproducing a time interval. *Current Biology : CB*. 2015; 25(20):2599-609. NIHMSID: NIHMS717967 PMID: 26455307, PMCID: PMC4618078
- Remington, E.D., Hosseini, E. and Jazayeri, M., Sensory measurement and motor planning are not separable in interval timing. *Society for Neuroscience*, 2015.
- Egger, S.W., Chang, C.J. and Jazayeri, M., Response of neurons in the medial prefrontal cortex during a time interval integration task. *Society for Neuroscience*, 2015.
- Remington, E.D. and Jazayeri, M., Sensory measurement and motor planning are not separable in interval timing. *Vision Sciences Society*, 2015.

2017

- Jazayeri, M. and Afraz, A., Navigating the neural space in search of the neural code, *Neuron*. 2017 Mar 8;93(5):1003-1014. doi: 10.1016/j.neuron.2017.02.019.

- Remington, E. and Jazayeri, M., Late Bayesian inference in sensorimotor behavior, bioRxiv 130062; doi: <https://doi.org/10.1101/130062>.
- Wang, J., Narain, D., Hosseini, E. and Jazayeri, M., Flexible control of speed of cortical dynamics, bioRxiv 155390; doi: <https://doi.org/10.1101/155390>

#### Lise Johnson

2012

- Johnson, L.A., Blakely, T., Hermes, D., Hakimian, S., Ramsey, N.F. and Ojemann, J.G., Sleep spindles are locally modulated by training on a brain-computer interface. *Proc Natl Acad Sci U S A*, 109:18583-18588, 2012.

2013

- Johnson, L.A., Wander, J.D., Sarma, D., Su, D.K., Fetz, E.E. and Ojemann, J.G., Direct electrical stimulation of the somatosensory cortex in humans using electrocorticography electrodes: a qualitative and quantitative report. *J. Neural Eng.*, 10:036021, 2013.

#### Sam Kassegne

2013

- Kassegne, S., Graphite-based flexible microelectrode array for neural recording and sensing. 224th ECS Meeting, San Francisco, October, 2013.
- Hirabayashi, M., Mehta, B., Vahidi, N., Khosla, A., and Kassegne, S., Functionalization and characterization of pyrolyzed polymer based carbon microstructures for bionanoelectronics platforms. *Journal of Micromechanics and Microengineering*, 23:115001, 2013.

2014

- Vahidi, N., Hirabayashi, M., Mehta, B., Khosla, A., and Kassegne, S., Bionanoelectronics platform with DNA molecular wires attached to high aspect-ratio 3D metal microelectrodes. *ECS Journal of Solid State Science and Technology* 3:Q29-Q36, 2014.
- Kassegne, S., Khosla, A., Patel, D., Paramesh, N., Harwood, N. and Arya, B., Coriolis force for facilitating DNA molecular migration and hybridization in compact disk microfluidic platforms. *Journal of Microsystem Technologies*, Springer, DOI: 10.1007/s00542-014-2087-x, 2014.

2015

- Kassegne, S., Vomero, M., Gavuglio, R., Hirabayashi, M., Ozyilmaz, E., Nguyen, S., Rodriguez, J., Ozyilmaz, E., van Niekerk, P., Khosla, A., Electrical impedance, electrochemistry, mechanical stiffness, and hardness tunability in glassy carbon MEMS ECoG electrodes. *J Microelectronics Engineering*, 133:36-44, 2015.

- Kassegne, S.K., van Niekerk, P., Vomero, M., and Perlmutter, S., New generation of neural prosthetic ECoG arrays using glassy carbon based micromachined microelectrodes. *Microfluidics, BioMEMS, and Medical Microsystems XIII, SPIE West Photonics*, Paper No 9320-9322, San Francisco, CA, February 2015.
- Kassegne, S.K. and Vomero, M., Glassy carbon-based microelectrodes for neural signal sensing and stimulation. *Invited Book Chapter, C-MEMS Handbook*, Momentum Press, March 2015.
- Kassegne, S., Wibowo, D., Chi, J., Ramesh, V., Narenji, A., Khosla, A. and Mokili, J., AC electrical characterisation and insight to charge transfer mechanisms in DNA molecular wires through temperature and UV effects. *IET Nanobiotechnol.* 2015 Jun;9(3):153-63. doi: 10.1049/iet-nbt.2014.0044.

2016

- Vomero, M., van Niekerk, P., Nguyen, V., Gong, N., Hirabayashi, M., Cinopri, A., Logan, K., Moghadasi, A., Varma, P. and Kassegne, S., A novel pattern transfer technique for mounting glassy carbon microelectrodes on polymeric flexible substrates. *J Micromech Microengineering*, Vol 26( 2), 2016.
- Kassegne, S., Vomero, M., van Niekerk and Hirabayashi, M., Glassy carbon microelectrodes for neural signal sensing and stimulation. In *Carbon: The Next Silicon. Book 2-Applications*, edited by M.J. Madou, V.H. Perez-Gonzalez and B. Pramanick, New York: Momentum Press, LLC., pages 101-122, 2016.
- Goshi, N., Vomero, M., Dryg, I., Seidman, S. and Kassegne, S., Modeling and characterization of tissue/electrode interface in capacitive  $\mu$ ECoG glassy carbon electrodes. 229<sup>th</sup> ECS Meeting, San Diego, CA, May 31, 2016.
- Hirabayashi, M., Kassegne, S., Ievins, 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  $\mu$ -electrodes and histological analysis of brain tissue after chronic implants. 229th ECS Meeting, San Diego, CA, May 31, 2016.
- Golkar Narenji, A., Goshi, N., Coste, M., Burns, D., Lee, R., Ngo, K., Purse, B., and Kassegne, S. Electrochemical characterization of synthetic hybrid DNA molecular wires. 229th ECS Meeting, San Diego, CA, May 31, 2016.

2017

- Vomero, M., Castagnola, E., Ciarpella, F., Maggiolini, E., Goshi, N., Zucchini, E., Carli, S., Fadiga, L., Kassegne, S. and Ricci, D. Highly stable glassy carbon interfaces for long-term neural stimulation and low-noise recording of brain activity. *Sci. Rep.* 7, 40332; doi: 10.1038/srep40332 (2017).
- Hirabayashi, M., Huynh, N.U., Witsell, S., Perez Jr., A., Sandoval, L., Yamada, N. and Kassegne, S., In-Vitro Real-Time Coupled Electrophysiological and Electrochemical Signals Detection with Glassy Carbon Microelectrodes. *J. Electrochem Soc.* 164 (5) B3113-B3121 (2017) B3113.

- Vomero, M., Castagnola, E., Ordonez, J.S., Carli, S., Zucchini, E., Maggiolini, E., Gueli, C., Goshi, N., Fadiga, L., Ricci, D., Kassegne, S. and Stieglitz, T., Improved long-term stability of thin-film glassy carbon electrodes through the use of silicon carbide and amorphous carbon, 8th International IEEE EMBS Conference on Neural Engineering, Shanghai, China, May 25-28 , 2017.
- Castagnola, E., Carli, S., Vomero, M., Scarpellini, A., Prato, M., Goshi, N., Fadiga, L., Kassegne, S. and Ricciless, D., Multilayer poly(3,4-ethylenedioxythiophene)-dexamethasone and poly(3,4-ethylenedioxythiophene)-polystyrene sulfonate-carbon nanotubes coatings on glassy carbon microelectrode arrays for controlled drug release, *Biointerphases* 12, 031002 (2017); <http://doi.org/10.1116/1.4993140>
- Vomero, M., Castagnola, E., Ordonez, J.S., Carli, S., Zucchini, E., Maggiolini, E., Gueli, C., Goshi, N., Ciarpella, F., Cea, C., Fadiga, L., Ricci, D., Kassegne, S., and Stieglitz, T., Incorporation of silicon carbide and diamond-like carbon as adhesion promoters improves in vitro and in vivo stability of thin-film glassy carbon electrocorticography arrays, *Adv. Biosys.* 2017, <https://doi.org/10.1002/adbi.201700081>

#### Valerie Kelly

2012

- Kelly, V.E., Eusterbrock, A.J. and Shumway-Cook, A., A review of dual-task walking deficits in people with Parkinson's disease: motor and cognitive contributions, mechanisms, and clinical implications. *Parkinsons Dis.* 2012:918719, 2012.
- McGough, E.L, Logsdon, R.G., Kelly, V.E. and Teri, L., Functional mobility limitations and falls in assisted living residents with dementia: physical performance assessment and quantitative gait analysis. *J Geriatr Phys Ther*, 36:78-86 2013.
- Kelly, V.E., Eusterbrock, A.J. and Shumway-Cook, A., Factors influencing dynamic prioritization during dual-task walking in healthy young adults. *Gait Posture*, 37:131-134, 2013.
- Kelly, V.E., Eusterbrock, A.J. and Shumway-Cook, A., The effects of instructions on dual-task walking and cognitive task performance in people with Parkinson's disease. *Parkinsons Dis.* 2012:671261, 2012.

2013

- Sawers, A., Kelly, V.E., Kartin, D. and Hahn, M.E., Gradual training reduces the challenge to lateral balance control during practice and subsequent performance of a novel locomotor task. *Gait Posture*, 38:907-911, 2013.

#### Eran Klein

2013

- Klein, E.P., The ability to consent to Parkinson disease research. *Neurology*, 81: e62-e64, 2013.
- Klein, E.P. and Kaye, J., Dementia specialists and early adoption of amyloid imaging. *J Alzheimers Dis.*, 33:445-450, 2013.

- Klein, E.P. and Bourdette, D., Postmarketing adverse drug reactions: A duty to report? *Neurology: Clinical Practice*, 3:288–294, 2013.
- Solomon, A. and Klein, E.P., Disclosing a misdiagnosis of multiple sclerosis: Do no harm? *Continuum: Lifelong Learning in Neurology*, 19:1087-1091, 2013.

2014

- Klein, E.P., Patient health incentives: ethical challenges and frameworks. *Int J Behav Med.*, 21:995-1004, 2014.

2015

- Solomon A.J., Klein, E.P., Corboy, J.R. and Bernat, J.L., Patient perspectives on physician conflict of interest in industry-sponsored clinical trials for multiple sclerosis therapeutics. *Mult Scler.*, 2015 Oct;21(12):1593-9. doi: 10.1177/1352458515569101. Epub 2015 Feb 25.
- Klein, E., Brown, T., Sample, M., Truitt, A.R. and Goering, S., Engineering the brain: Ethical issues and the introduction of neural devices. *Hastings Center Report* 45, 6: 26-35, 2015
- Klein, E., Are Brain-computer interface devices (BCI) a form of internal coercion? *AJOB Neuroscience* 6(4): 32-34, 2015.
- Klein, E., Models of the patient-machine-clinician relationship in closed-loop machine neuromodulation. *Machine Medical Ethics*, 273–290, 2015.

2016

- Klein, E., Solomon, A.J., Corboy, J. and Bernat, J., Physician compensation for industry-sponsored clinical trials in multiple sclerosis influences patient trust. *Multiple Sclerosis and Related Disorders*, 8:4-8, 2016
- Klein, E. and Ojemann, J., Informed consent in implantable BCI research: identification of research risks and recommendations for development of best practices. *Journal of Neural Engineering*, 2016 Aug;13(4):043001. doi: 10.1088/1741-2560/13/4/043001. Epub 2016 Jun 1.
- Klein, E., Goering, S., Gagne, J., Shea, C.V., Franklind, R., Zorowitz, S., Dougherty, D.D. and Widge, A.S., Brain-computer interface-based control of closed-loop brain stimulation: attitudes and ethical considerations. *Brain-Computer Interfaces*, 2016, <http://dx.doi.org/10.1080/2326263X.2016.1207497>
- Klein, E. and Nam, C.S., Neuroethics and brain-computer interfaces. *Brain-Computer Interfaces*, 3:123-125, 2016.
- Klein, E., Informed consent in implantable BCI research: Identifying risks and exploring meaning. *Science and Engineering Ethics*. 5:1299-1317, 2016.

2017



- Klein, E., Neuromodulation ethics: Preparing for brain-computer interface medicine, in Neuroethics. Anticipating the Future, edited by Judy Illes, Oxford: Oxford University Press, pp. 123-143, 2017.

### Glenn Klute

2012

- Segal, A.D., Zelik, K., Klute, G.K., Morgenroth, D.C., Hahn, H.E., Orendurff, M.S., Adamczyk, P.G., Collins, S.H., Kuo, A.D. and Czerniecki, J.M., The effects of a controlled energy storage and return prototype prosthetic foot on transtibial amputee ambulation. *Human Movement Science*, 31:918-931, 2012.
- Sundara-Rajan, K., Bestick, A., Rowe, G.I., Klute, G.K., Ledoux, W.R. and Mamishev, A.V., An interfacial stress sensor for biomechanical applications. *Measurement Science and Technology*, 23:10pp., 2012.
- Panzenbeck, J.T. and Klute, G.K., A powered inverting and everting prosthetic foot for balance assistance in lower limb amputees. *Journal of Prosthetics and Orthotics*, 24:175-180, 2012.
- Fey, N.P., Klute, G.K. and Neptune, R.R., Optimization of prosthetic foot stiffness to reduce metabolic cost and intact knee loading during below-knee amputee walking: A theoretical study. *Journal of Biomechanical Engineering*, 134:111005, 2012.

2013

- Fey, N.P., Klute, G.K. and Neptune, R.R., Altering prosthetic foot stiffness influences foot and muscle function during below-knee amputee walking: A modeling and simulation analysis. *Journal of Biomechanics*, 46:637-644, 2013.

### Jeffery Lang

2011

- Fernandez, V.I., Dusek, J., Schulmeister, J., Maertens, A., Hou, S., Srivatsa, K., Dahl, J., Lang, J.H. and Triantafyllou, M.S. Pressure sensor arrays to optimize high-speed performance of ocean vehicles. *Proceedings: 11<sup>th</sup> International Conference of Fast Sea Transportation (FAST 2011)*, 1-8, Honolulu, HI, September 26-29, 2011.

2012

- Murarka, A., Paydavosi, S., Andrew, T.L., Wang, A.I., Lang, J.H. and Bulovic, V., Printed MEMS membranes on silicon. *Proceedings: IEEE Workshop on Micro Electro Mechanical Systems*, 309-312, Paris, France, January 29 - February 2, 2012.
- Yaul, F.M., Bulovic, V. and Lang, J.H., A flexible underwater pressure sensor array using a conductive elastomer strain gauge. *Proceedings: IEEE Workshop on Micro Electro Mechanical Systems*, 500-503, Paris, France, January 29 - February 2, 2012.
- Yaul, F.M., Bulovic, V. and Lang, J.H., A flexible underwater pressure sensor array using a conductive elastomer strain gauge. *IEEE/ASME Journal of Microelectromechanical Systems*, 21:897-907, 2012.

- Dusek, J., Kottapalli, A.G.P., Asadnia, M., Woo, M.E., Triantafyllou, M., Lang, J.H., Miao, J., Development and testing of bio-inspired MEMS pressure sensor arrays for increased situational awareness by marine vehicles. *Smart Mater. Struct.* 22 (2013) 014002, doi:10.1088/0964-1726/22/1/014002.

2014

- Niroui, F., Deotare, P.B., Sletten, E.M., Wang, A.I., Yablonovitch, E., Swager, T.M., Lang, J.H. and Bulovic, V., Nanoelectromechanical tunneling switches based on self-assembled molecular layers. 2014 IEEE 27th International Conference on Micro Electro Mechanical Systems (MEMS), 2014: 1103 - 1106
- Wang, A., Chang, W., Murarka, A., Lang, J.H. and Bulovic, V., Transfer-printed composite membranes for electrically-tunable organic optical microcavities. 2014 IEEE 27th International Conference on Micro Electro Mechanical Systems (MEMS), 2014: 1217 – 1220.
- Chen, M., Araghchini, M., Afridi, K.K., Lang, J.H., Sullivan, C.R. and Perreault, D.J., A systematic approach to modeling impedances and current distribution in planar magnetics. 2014 IEEE 15th Workshop on Control and Modeling for Power Electronics (COMPEL), 2014: 1-17.
- Dusek, J., Triantafyllou, M.S., Woo, M.E. and Lang, J.H., Carbon black - PDMS composite conformal pressure sensor arrays for near-body flow detection. Proceedings: IEEE/MTS Oceans Conference, 1-7, Taipei, Taiwan, April 7-10, 2014; also online publication doi:10.1109/OCEANS-TAIPEI.2014.6964479
- Murarka, A., Wang, A.I., Jean, J., Lang, J.H. and Bulovic, V., Printed MEMS membrane electrostatic microspeakers. Proceedings: Solid-State Sensors, Actuators and Microsystems Workshop, 311-314, Hilton Head Island, SC, June 8-12, 2014.

2015

- Niroui, F., Wang, A.I., Sletten, E.M., Song, Y., Kong, J., Yablonovitch, E., Swager, T.M., Lang, J.H., and Bulović, V., Tunneling nanoelectromechanical switches based on compressible molecular thin films. *ACS Nano*, 9:7886–7894, 2015.
- Niroui, F., Sletten, E.M., Deotare, P.B., Wang, A.I., Swager, T.M., Lang, J.H. and Bulovic, V., Controlled fabrication of nanoscale gaps using stiction. Proceedings: IEEE MEMS Workshop, Online publication doi: 10.1109/MEMSYS.2015.7050892}, Estoril, Portugal, January 18-22, 2015.
- Chang, W., Murarka, A., Wang, A., Bulovic, V. and Lang, J.H., Electrically tunable organic vertical-cavity surface-emitting laser. Proceedings: CLEO 2015; Online publication doi: 10.1364/CLEOSI.2015.SW1F.8, San Jose, CA, May 10-15, 2015.
- Niroui, F., Sletten, E.M., Song, Y., Kong, J., Swager, T.M., Lang, J.H. and Bulovic, V., Tunneling nanoelectromechanical switches. Proceedings: 4th Berkeley Symposium on Energy Efficient Electronic Systems, Online publication {doi: 10.1109/E3S.2015.7336790}, Berkeley, CA, October 1-2, 2015.
- Ong, W.J., Sletten, E.M., Niroui, F., Lang, J.H., Bulovic, V. and Swager, T.M., Electromechanically actuating molecules. Proceedings: 4th Berkeley Symposium on Energy Efficient Electronic Systems, Online publication doi: 10.1109/E3S.2015.7336809, Berkeley, CA, October 1-2, 2015.

2016

- Murarka, A., Lang, J.H. and Bulovic, V., Printed membrane electrostatic MEMS microspeakers. Proceedings: IEEE MEMS Workshop, Shanghai, China, January 24-28, January 2016.
- D'Asaro, M.E., Sheen, D.B. and Lang, J.H., Thin flexible and stretchable tactile sensor based on a deformable microwave transmission line. Proceedings: Hilton Head Sensors, Actuators and Microsystems Workshop, 278--281, Hilton Head, SC, June 5-9, 2016.
- D'Asaro, M.E., Sheen, D.B. and Lang, J.H., A fully-shielded flexible and stretchable microwave transmission-line tactile pressure sensor. Proceedings: Sensors Conference, 144-146, Orlando, FL, October 30 - November 2, 2016.

2017

- D'Asaro, M.E., Otten, M.S., Chen, S. and Lang, J.H., Multi-dimensional characterization of piezoresistive carbon black silicon rubber composites. Applied Polymer Science, January 6, 2017, DOI: 10.1002/app.44773

Adrian KC Lee

2012

- Maddox, R.K., Cheung, W. and Lee, A.K.C., Selective attention in an overcrowded auditory scene: implications for auditory-based brain-computer interface design. Journal of the Acoustical Society of America Express Letters, 132:EL385-390, 2012.
- Lee, A.K.C. and Larson, E.A., Framework to combine neuroscience and engineering to improve brain-state classification. 3rd Annual World Congress of Neuro Talk-2012, Beijing, China, May 18-20, 2012.

2013

- Wronkiewicz, M., Larson, E. and Lee, A.K.C., Towards a next-generation hearing aid through brain state classification and modeling. IEEE-EMBS, Osaka, July 3-7, 2013. (Symposium co-organizer, Neural Engineering in Speech & Hearing)
- Lee, A.K.C., Atlas, L.E. and Li, X., Complementary correlation may offer a new approach to better understand temporal fine structure coding. 165th Meeting of the Acoustical Society of America, Montreal, Canada, June 2-7, 2013.
- Larson, E. and Lee, A.K.C., Switching auditory attention using spatial and non-spatial features recruits different cortical networks. 36th Mid-Winter Meeting of the Association for Research in Otolaryngology, Baltimore, USA, February 16-20, 2013.
- Lee, A.K., Atlas, L.E. and Li, X., Complementary correlation may offer a new approach to better understand temporal fine structure coding. J Acoust Soc Am, 133:3380, 2013.

2014

- Larson, E., Maddox, R.K. and Lee, A.K.C., Improving spatial localization in MEG inverse imaging by leveraging intersubject anatomical differences. *Frontiers in Neuroscience*, 8: Article 330. doi: 10.3389/fnins.2014.00330, PMC3952190, 2014.
- Maddox, R.K., Pospisil, D.A., Stecker, G.C. and Lee, A.K.C., Directing eye gaze enhances auditory spatial cue discrimination. *Current Biology*, 24: 784-752. PMC3977936, 2014.
- Larson, E. and Lee, A.K.C., Potential use of MEG to understand abnormalities in auditory function in clinical populations. *Frontiers in Human Neuroscience*, 8: Article 151. PMC3952190, 2014.
- Bharadwaj, H.M., Lee, A.K.C. and Shinn-Cunningham, B.G., Measuring auditory selective attention using frequency tagging. *Frontiers in Integrative Neuroscience*, 8: Article 6. PMC3913882, 2014.
- Lee, A.K.C., Larson, E., Maddox, R. and Shinn-Cunningham, B., Using neuroimaging to understand the cortical mechanisms of auditory selective attention. *Hearing Research*, 307:111-120, 2014.
- Larson, E. and Lee, A.K.C., Switching auditory attention using spatial and non-spatial features recruits different cortical networks. *Neuroimage* 84: 681-687, 2014.

#### Karen May-Newman

2012

- May-Newman, K. and Cornwall, G.B., Teaching medical device design using design control. *Expert Rev Med Devices*, 9:7-14, 2012.

#### William Moody

2012

- Scott, A., Weir, K., Easton, C., Huynh, W., Moody, W.J. and Folch, A., A microfluidic microelectrode array for simultaneous electrophysiology, chemical stimulation, and imaging of brain slices. *Lab Chip*, 13:527-535, 2013.

2014

- Easton, C.R., Weir, K., Scott, A., Moen, S.P., Barger, Z., Folch, A., Hevner, R.F. and Moody, W.J., Genetic elimination of GABAergic neurotransmission reveals two distinct pacemakers for spontaneous waves of activity in the developing mouse cortex. *J Neurosci*, 34:3854-3863, 2014.

#### Kee Moon

2012

- Moon, K.S., Morsi, K., Kassegne, S.K. and Lee, S.Q., Mechanical vibration induced electrospinning of polyvinylidene difluoride. SPIE paper 8342-8380, SPIE Smart Structures/NDE, San Diego, California, USA, March 11-15, 2012.

2013

- Numula, A., El-Desouky, A., Moon, K.S., Kassegne, S.K. and Morsi, K., Reactive current activated tip-based sintering of Ni-Al intermetallics. *Metallography, Microstructure, and Analysis* (in press), 2013.
- El Desouky, A., Moon, K.S., Kassegne, S.K. and Morsi, K., Green compact temperature evolution during current-activated tip-based sintering (CATS) of nickel. *Metals*, 3:178-187, 2013.
- El Desouky, A., Kassegne, S., Moon, K.S., McKittrick, J. and Morsi, K., Rapid processing & characterization of micro-scale functionally graded porous materials. *J. Materials Processing Technol.*, 213:1251-1257, 2013.

2014

- Lee, S.Q., Youm, W., Hwang, G., Moon, K.S. and Ozturk, Y., Resonant ultrasonic wireless power transmission for bio-implants. *Proc. SPIE 9057, Active and Passive Smart Structures and Integrated Systems 2014*, 90570J (10 March 2014); doi:10.1117/12.2046600
- Zhao, S., Ozturk, Y. and Moon, K.S., Wireless photoplethysmograph knuckle sensor system for measuring finger motions. *Proceedings of International Symposium on Optomechanronic Technologies*, Seattle, Washington, USA, November 5-7, pp. 205-209, 2014

#### Samira Moorjani

2016

- Moorjani, S., Miniaturized technologies for enhancement of motor plasticity. *Front. Bioeng. Biotechnol.*, 4:1-13, 2016.

#### Kristi Morgansen

2012

- Hinson, B.T. and Morgansen, K.A., Flowfield estimation in the wake of a pitching and heaving airfoil. *American Control Conference (ACC)*, 2012:1085-1091, 2012.
- Powel, N.D. and Morgansen, K.A., Multiserver queueing for supervisory control of autonomous vehicles. *American Control Conference (ACC)*, 2012:3179-3185, 2012.
- Baillieul, J., Leonard, N.E. and Morgansen, K.A., Interaction dynamics: The interface of humans and smart machines. *Proceedings of the IEEE*, 100:567-570, 2012.
- Woodruff, C., Linh, V., Morgansen, K.A. and Tomlin, D., Deterministic modeling and evaluation of decision-making dynamics in sequential two-alternative forced choice tasks. *Proceedings of the IEEE*, 100:734-750, 2012.
- Dyhr, J., Colmanares, D., Cowan, N., Daniel, T.L. and Morgansen, K.A., Autostabilizing airframe articulation: Animal inspired air vehicle control. *Proceedings of the IEEE Conference on Decision and Control*, December 2012.

- Demir, A., Mert Ankarali, M., Dyhr, J.P., Morgansen, K.A., Daniel, T.L. and Cowan, N.J., Inertial redirection of thrust forces for flight stabilization. In Proceedings of the WSPC, 2012.
- 

2013

- Alaeddini, A. and Morgansen, K.A., Autonomous state estimation using optic flow sensing. Proceedings of the American Control Conference, June 2013, pp. 585-590.
- Boardman, B., Hedrick, T.L., Theriault, D.H., Fuller, N.W., Betke, M. and Morgansen, K.A., Collision avoidance in biological systems using collision cones. Proceedings of the American Control Conference, June 2013, pp. 2964-2971.
- Hinson, B.T. and Morgansen, K.A., Observability optimization for the nonholonomic integrator. Proceedings of the American Control Conference, June 2013, pp. 4257-4262.
- Hinson, B.T., Binder, M.K. and Morgansen, K.A., Path planning to optimize observability in a planar uniform flow field. Proceedings of the American Control Conference, June 2013, pp. 1392-1399.

2015

- Hinson, B.T. and Morgansen, K.A., Gyroscopic sensing in the wings of the hawkmoth *Manduca sexta*: the role of sensor location and directional sensitivity. *Bioinspir Biomim.* 2015 Oct 6;10(5):056013. doi: 10.1088/1748-3190

### Chet Moritz

2012

- Matlack, C., Moritz, C. and Chizeck, H., Applying best practices from digital control systems to BMI implementation. *Conf Proc IEEE Eng Med Biol Soc.* 2012:1699-1702, Aug, 2012.
- Matlack, C., Chizeck, H.J. and Moritz, C.T., Improving BMI performance metrics via ensemble chance simulations and Fitts' Law. DARPA RE-NET PI Meeting, New Orleans, Nov 12-14, 2012.

2013

- Sunshine, M.D., Cho, F.S., Lockwood, D.F., Fechko, A.S., Kasten, M.R., and Moritz, C.T., Cervical intraspinal stimulation evokes robust forelimb movements before and after injury. *Journal of Neural Engineering*, 10:036001, 2013.
- Rios, D.C., Gilbertson, T., McCoy, S.W., Price, R., Gutman, K., Miller, K.E.F. and Moritz, C.T., NeuroGame therapy to improve wrist control in children with cerebral palsy: A case series. *Devel. Neurorehab.*, 16:398-409, 2013.
- Kasten, M.R., Sunshine, M.D., Secrist, E.S., Horner, P.J. and Moritz, C.T., Therapeutic intraspinal microstimulation improves forelimb function after cervical contusion injury. *J. Neural Eng.*, 10:044001, 2013.

- Nutt, S.E., Chang, E.A., Suhr, S.T., Schlosser, L.O., Mondello, S.E., Moritz C.T., Cibelli, J.B. and Horner, P.J., Caudalized human iPSC-derived neural progenitor cells produce neurons and glia but fail to restore function in an early chronic spinal cord injury model. *Exp Neurol.*, 248:491-503, 2013.

2014

- Mehić, E., Xu, J.M., Caler, C.J., Coulson, N.K., Moritz, C.T. and Mourad, P.D., Increased anatomical specificity of neuromodulation via modulated focused ultrasound. *PLoS One*, 9:e86939, 2014.
- Mondello, S.E., Kasten, M.R., Horner, P.J, and Moritz, C.T., Therapeutic intraspinal stimulation to generate activity and promote long-term recovery. *Front Neurosci.*, 8:21, 2014.
- Widge, A.S. and Moritz, C.T., Pre-frontal control of closed-loop limbic neurostimulation by rodents using a brain-computer interface. *J Neural Eng.*, 11:024001, 2014.
- Donoso Brown, E.V., Westcott McCoy, S., Fechko, A.S., Price, R., Gilbertson, T. and Moritz, C.T., A preliminary investigation of an electromyography-controlled video game as a home program for persons in the chronic phase of stroke recovery. *Arch Phys Med Rehabil.*, 95:1461-1469, 2014.
- Widge, A.S., Dougherty, D.D. and Moritz, C.T., Affective brain-computer interfaces as enabling technology for responsive psychiatric stimulation. *Brain Comput Interfaces (Abingdon)*. 2014 Apr 1;1(2):126-136.

2015

- Donoso Brown, E.V., Dudgeon, B.J., Gutman, K., Moritz, C.T., McCoy, S.W., Understanding upper extremity home programs and the use of gaming technology for persons after stroke. *Disabil Health J.*, 8:507-513, 2015.
- Mondello, S.E., Sunshine, M.D., Fishedick, A.E., Moritz, C.T., Horner, P.J., A cervical hemi-contusion spinal cord injury model for the investigation of novel therapeutics targeting proximal and distal forelimb functional recovery. *J Neurotrauma*. 2015 May 1.
- Kasten, M R., levins, A.M., and Moritz, C.T., (January 2015) Neural prostheses. In: eLS. John Wiley & Sons, Ltd: Chichester. DOI: 10.1002/9780470015902.a0024011
- Milovanovic, I., Robinson, R., Fetz, E.E. and Moritz, C.T., Simultaneous and independent control of a brain-computer interface and contralateral limb movement, *Brain-Computer Interfaces*, 2015, <http://dx.doi.org/10.1080/2326263X.2015.1080961>.

2016

- Moritz, C.T., Ruther, P., Goering, S., Stett, A., Ball, T., Burgard, W., Chudler, E.H. and Rao, R.P.N., New perspectives on neuroengineering and neurotechnologies: NSF-DFG workshop report. *IEEE Transactions on Biomedical Engineering*, 7:1354-1367, 2016.

2017

- Lansdell, B., Milovanovic, I., Mellema, C., Fetz, E.E., Fairhall, A.L., Moritz, C.T. Reconfiguring motor circuits for a joint manual and BCI task, *Neurons and Cognition (q-bio.NC)*, arXiv:1702.07368, 2017.
- Moritz, C.T., and Ambrosio, F., Regenerative rehabilitation: Combining stem cell therapies and activity-dependent stimulation, *Pediatric Physical Therapy*. 29:S10–S15, 2017.

### Khaled Morsi

2012

- Morsi, K., The diversity of combustion synthesis processing: A review. *Journal of Materials Science*, invited paper, part of the Journal's 45th Anniversary reviews v47, No. 1, p 68-92 (2012).

### Jeff Ojemann

2011

- Wray, C.D., Kraemer, D.L., Yang, T., Poliachik, S.L., Ko, A.L., Poliakov, A., Hebb, A.O., Novotny, E.J. and Ojemann, J.G., Freehand placement of depth electrodes using electromagnetic frameless stereotactic guidance. *J Neurosurg Pediatr.*, 8:464-467, 2011.

2012

- Yang, T., Temkin, N., Barber, J., Geyer, J.R., Leary, S., Browd, S., Ojemann, J.G. and Ellenbogen, R.G., Gross-total resection correlates with long-term survival in pediatric patients with glioblastoma. *World Neurosurg.*, 79:537-544, 2013.
- Miller, K.J., Hermes, D., Honey, C.J., Hebb, A.O., Ramsey, N.F., Knight, R.T. and Ojemann, J.G., Fetz, E.E., Human motor cortical activity is selectively phase-entrained on underlying rhythms. *PLoS Comput Biol.*, 8:e1002655, 2012.
- Ojemann, J.G., Hersonskey, T.Y., Abeshaus, S., Geyer, J.R., Saneto, R.P., Novotny, E.J., Kollros, P., Leary, S. and Holmes, M.D., Epilepsy surgery after treatment of pediatric malignant brain tumors. *Seizure*, 21:624-630, 2012.
- Solovey, G., Miller, K.J., Ojemann, J.G., Magnasco, M.O. and Cecchi, G.A., Self-regulated dynamical criticality in human ECoG. *Front Integr Neurosci.*, 6:44, 2012.
- Drane, D.L., Ojemann, J.G., Phatak, V., Loring, D.W., Gross, R.E., Hebb, A.O., Silbergeld, D.L., Miller, J.W., Voets, N.L., Saindane, A.M., Barsalou, L., Meador, K.J., Ojemann, G.A. and Tranel, D., Famous face identification in temporal lobe epilepsy: Support for a multimodal integration model of semantic memory. *Cortex*, 49:1648-1667, 2013.
- Drane, D.L., Roraback-Carson, J., Hebb, A.O., Hersonskey, T., Lucas, T., Ojemann, G.A., Lettich, E., Silbergeld, D.L., Miller, J.W. and Ojemann, J.G., Cortical stimulation mapping and Wada results demonstrate a normal variant of right hemisphere language organization. *Epilepsia*, 53:1790-1798, 2012.



- Levitt, M.R., O'Neill, B.R., Ishak, G.E., Khanna, P.C., Temkin, N.R., Ellenbogen, R.G., Ojemann, J.G. and Browd, S.R., Image-guided cerebrospinal fluid shunting in children: catheter accuracy and shunt survival. *J Neurosurg Pediatr.*, 10:112-117, 2012.
- Wray, C.D., Blakely, T.M., Poliachik, S.L., Poliakov, A., McDaniel, S.S., Novotny, E.J., Miller, K.J. and Ojemann, J.G., Multimodality localization of the sensorimotor cortex in pediatric patients undergoing epilepsy surgery. *J Neurosurg Pediatr.*, 10:1-6, 2012.
- Wray, C.D., McDaniel, S.S., Saneto, R.P., Novotny, E.J. Jr. and Ojemann, J.G., Is postresective intraoperative electrocorticography predictive of seizure outcomes in children? *J Neurosurg Pediatr.*, 9:546-551, 2012.
- Hatlen, T.J., Shurtleff, D.B., Loeser, J.D., Ojemann, J.G., Avellino, A.M. and Ellenbogen, R.G., Nonprogrammable and programmable cerebrospinal fluid shunt valves: a 5-year study. *J Neurosurg Pediatr.*, 9:462-467, 2012.
- Ishak, G.E., Poliakov, A.V., Poliachik, S.L., Saneto, R.P., Novotny, E.J. Jr., McDaniel, S., Ojemann, J.G., Shaw, D.W. and Friedman, S.D., Tract-based spatial statistical analysis of diffusion tensor imaging in pediatric patients with mitochondrial disease: Widespread reduction in fractional anisotropy of white matter tracts. *AJNR Am J Neuroradiol.*, 33:1726-1730, 2012.
- Levitt, M.R., Niazi, T.N., Hopper, R.A., Ellenbogen, R.G. and Ojemann, J.G., Resolution of syndromic craniosynostosis-associated Chiari malformation Type I without suboccipital decompression after posterior cranial vault release. *J Neurosurg Pediatr.*, 9:111-115, 2012.
- D'Ambrosio, R., Eastman, C.L., Darvas, F., Fender, J.S., Verley, D.R., Farin, F.M., Wilkerson, H.W., Temkin, N.R., Miller, J.W., Ojemann, J., Rothman, S.M. and Smyth, M.D., Mild passive focal cooling prevents epileptic seizures after head injury in rats. *Ann Neurol.*, 73:199-209, 2013.

## 2013

- Ojemann, G.A., Ojemann, J. and Ramsey, N.F., Relation between functional magnetic resonance imaging (fMRI) and single neuron, local field potential (LFP) and electrocorticography (ECoG) activity in human cortex. *Front Hum Neurosci.*, 7:34, 2013.
- Su, D.K. and Ojemann, J.G., Electrocorticographic sensorimotor mapping. *Clin Neurophysiol.*, 124:1044-1048, 2013.
- Weaver, K.E., Chaovalitwongse, W.A., Novotny, E.J., Poliakov, A., Grabowski, T.J. and Ojemann, J.G., Local functional connectivity as a pre-surgical tool for seizure focus identification in non-lesion, focal epilepsy. *Front Neurol.*, 4:43, 2013.
- Minkina, I., Ojemann, J.G., Grabowski, T.J., Silkes, J.P., Phatak, V. and Kendall, D.L., Treatment of proper name retrieval deficits in an individual with temporal lobe epilepsy. *Am J Speech Lang Pathol.*, 22:S250-255, 2013.
- James, G.A., Tripathi, S.P., Ojemann, J.G., Gross, R.E. and Drane, D.L., Diminished default mode network recruitment of the hippocampus and parahippocampus in temporal lobe epilepsy. *J Neurosurg.*, 119:288-300, 2013.

- Wander, J.D., Blakely, T., Miller, K.J., Weaver, K.E., Johnson, L.A., Olson, F.D., Fetz, E.E., Rao R.P.N. and Ojemann, J.G., Distributed cortical adaptation during learning of a brain–computer interface task. *PNAS* 110:10818-10823, 2013.
- Miller, K.J., Honey, C.J., Hermes, D., Rao, R.P., Dennijs, M. and Ojemann, J.G., Broadband changes in the cortical surface potential track activation of functionally diverse neuronal populations. *Neuroimage*, 85 Pt. 2:711-721, 2014.
- Ko, A.L., Weaver, K.E., Hakimian, S. and Ojemann, J.G., Identifying functional networks using endogenous connectivity in gamma band electrocorticography. *Brain Connect*, 3:491-502, 2013.

2014

- Loring D.W., Gaillard, W.D., Bookheimer, S.Y., Meador, K.J. and Ojemann, J.G. Cortical cartography reveals political and physical maps. *Epilepsia*. 55:633-637, 2014.
- Blakely, T., Ojemann, J.G. and Rao, R.P. Short-time windowed covariance: a metric for identifying non-stationary, event-related covariant cortical sites. *J Neurosci Methods*. 222:24-33, 2014.
- Miller, K.J., Honey, C.J., Hermes, D., Rao, R.P., denNijs, M. and Ojemann, J.G. Broadband changes in the cortical surface potential track activation of functionally diverse neuronal populations. *Neuroimage*. 85 Pt 2:711-720, 2014
- Miller, K.J., Ojemann, J.G. and Henderson, J.M. Instantaneous interactions between brain sites can distinguish movement from rest but are relatively poor at resolving different movement types. *Conf Proc IEEE Eng Med Biol Soc*. 2014 Aug;2014:5200-3. doi: 10.1109/EMBC.2014.6944797.

2015

- Sun, H., Blakely, T.M, Darvas, F., Wander, J.D., Johnson, L.A., Su, D.K., Miller, K.J., Fetz, E.E. and Ojemann, J.G. Sequential activation of premotor, primary somatosensory and primary motor areas in humans during cued finger movements. *Clinical Neurophysiol.*, Accepted: January 11, 2015; Published Online: January 23, 2015, DOI: <http://dx.doi.org/10.1016/j.clinph.2015.01.005>
- Miller, K.J., Hermes, D., Witthoft, N., Rao, R.P.N., Ojemann, J.G., The physiology of perception in human temporal lobe is specialized for contextual novelty. *J Neurophysiol.*, May 2015, DOI: 10.1152/jn.00131.2015

2016

- Casimo, K., Darvas, F., Wander, J., Ko, A., Grabowski, T., Novotny, E., Poliakov, A., Ojemann, J. and Weaver, K., Regional patterns of cortical phase synchrony in the resting state. *Brain Connect*. 2016 Mar 28.
- Ojemann, J., Editorial: Noninvasive biomarkers: are we there yet? *J Neurosurg Pediatr.*, 17:1-3, 2016.

- Kellis, S., Sorensen, L., Darvas, F., Sayres, C., O’Neill III, K., Brown, R.B., House, P., Ojemann, J. and Greger, B., Multi-scale analysis of neural activity in humans: Implications for micro-scale electrocorticography. *Clinical Neurophysiology*, 127:591-601, 2016.
- Collins, K.L, Guterstam, A., Cronin, J., Olson, J.D., Ehrsson, H.H. and Ojemann, J.G., Ownership of an artificial limb induced by electrical brain stimulation. *PNAS* 2016 ; published ahead of print December 19, 2016, doi:10.1073/pnas.1616305114

2017

- Casimo, K., Weaver, K.E., Wander, J. and Ojemann, J.E., BCI use and its relation to adaptation in cortical networks, *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, DOI 10.1109/TNSRE.2017.2681963, 2017.
- Wu, J., Casimo, K., Caldwell, D.J., Rao, R.P.N. and Ojemann, J.G. Electrocorticographic Dynamics Predict Visually Guided Motor Imagery of Grasp Shaping, 8th International IEEE EMBS Conference on Neural Engineering, arXiv:1702.06251, 2017.
- Casimo, K., Levinson, L.H., Zanos, S., Gkogkidis, C.A., Ball, T., Fetz, E., Weaver, K.E. and Ojemann, J.G., An interspecies comparative study of invasive electrophysiological functional connectivity. *Brain Behav.* 2017;e00863. <https://doi.org/10.1002/brb3.863>
- Weaver, K.E., Poliakov, A., Novotny, E.J., Olson, J.D., Grabowski, T.J. and Ojemann, J.G., Electrocorticography and the early maturation of high-frequency suppression within the default mode network, *J. Neurosurg: Pediatrics*, Published online December 1, 2017; DOI: 10.3171/2017.7.PEDS17269.

#### Jared Olson

2015

- Olson, J.D., Wander, J.D., Johnson, L., Sarma, D., Weaver, K., Novotny, E.J., Ojemann, J.G. and Darvas, F., Comparison of subdural and subgaleal recordings of cortical high-gamma activity in humans. *Clin Neurophysiol.* 2015 Apr 9. pii: S1388-2457(15)00230-8. doi: 10.1016/j.clinph.2015.03.014.

2017

- 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.

#### Yusuf Ozturk

2016

- Paladugu, P., Hernandez, A., Gross, K., Su, Y., Neseli, A., Gombatto, S., Moon, K. and Ozturk, Y., A sensor cluster to monitor body kinematics. 2016 IEEE 13th International Conference on Wearable and Implantable Body Sensor Networks, June 14-17, 2016, DOI: 10.1109/BSN.2016.7516262

- Su, Y., Routhu, S., Moon, K.S., Lee, S.Q., Youm, W. and Ozturk, Y., A wireless 32-channel implantable bidirectional brain machine interface. *Sensors (Basel)*. 2016 Sep 24;16(10). pii: E1582. doi: 10.3390/s16101582.

### Steve Perlmutter

2012

- Powers, B.E., Lasiene, J., Plemel, J.R., Shupe, L., Perlmutter, S.I., Tetzlaff, W. and Horner, P.J., Axonal thinning and extensive remyelination without chronic demyelination in spinal injured rats. *J Neurosci.*, 32:5120-5125, 2012.

2013

- Wu, G. and Perlmutter, S.I., Sensitivity of spinal neurons to GABA and glycine during voluntary movement in behaving monkey. *J Neurophysiol.*, 109:193-201, 2013.

2015

- McPherson, J.G., Miller, R.R. and Perlmutter, S.I., Targeted, activity-dependent spinal stimulation produces long-lasting motor recovery in chronic cervical spinal cord injury. *Proc Natl Acad Sci U S A*. 2015 Sep 29;112(39):12193-8. doi: 10.1073/pnas.1505383112. Epub 2015 Sep 14.

2017

- Seeman, S.C., Mogen, B.J., Fetz, E.E. and Perlmutter, S.I. Paired stimulation for spike-timing dependent plasticity in primate sensorimotor cortex Perlmutter *Journal of Neuroscience* 16 January 2017, 2046-16; DOI: <https://doi.org/10.1523/JNEUROSCI.2046-16.2017>
- Perlmutter, S.I., Reaching again: A glimpse of the future with neuroprosthetics, *The Lancet*, published online March 28, 2017, [http://dx.doi.org/10.1016/S0140-6736\(17\)30562-7](http://dx.doi.org/10.1016/S0140-6736(17)30562-7).

### Rajesh Rao

2012

- Wander, J.D., Blakely, T., Johnson, L.A., Darvas, F., Miller, K.J., Rao, R.P.N. and Ojemann, J.G., Dynamics of distributed cortical activity demonstrated over the course of learning to use a brain-computer interface. *Society for Neuroscience meeting*, 2012.

2013

- Huang, Y. and Rao, R.P., Reward optimization in the primate brain: A probabilistic model of decision making under uncertainty. *PLoS One*, 8:e53344, 2013.
- Huang, Y., Friesen, A.L., Hanks, T.D., Shadlen, M.N. and Rao, R.P.N., How prior probability influences decision making: A unifying probabilistic model. *Advances in Neural Information Processing Systems (NIPS)* 26 1277-1285.

- Darvas, F., Rao, R.P. and Murias, M., Localized high gamma motor oscillations respond to perceived biologic motion. *J Clin Neurophysiol.*, 30:299-307, 2013.
- Rao, R.P.N., *Brain-Computer Interfacing: An Introduction*. Cambridge University Press, 2013.
- Bryan, M.J., Martin, S.A., Cheung, W. and Rao, R.P., Probabilistic co-adaptive brain-computer interfacing. *J Neural Eng.*, 10:066008, 2013.

2014

- Blakely, T., Ojemann, J.G. and Rao, R.P., Short-time windowed covariance: A metric for identifying non-stationary, event-related covariant cortical sites. *J Neurosci Methods*, 222:24-33, 2014.
- Smith, M.M., Weaver, K.E., Grabowski, T.J., Rao, R.P. and Darvas, F., Non-invasive detection of high gamma band activity during motor imagery. *Front Hum Neurosci.* 2014;8:817.
- Rao, R.P.N., Stocco, A., Bryan, M., Sarma, D., Youngquist, T.M., Wu, J. and Prat, C.S., A direct brain-to-brain interface in humans. *Plos One*, DOI: 10.1371/journal.pone.0111332, 2014.
- Wander, J.D. and Rao, R.P.N., Brain-computer interfaces: a powerful tool for scientific inquiry. *Current Opinion in Neurobiology*, 25:70–75, 2014.
- Blakely, T.M., Olson, J.D., Miller, K.J., Rao, R.P. and Ojemann, J.G., Neural correlates of learning in an electrocorticographic motor-imagery brain-computer interface. *Brain Comput Interfaces (Abingdon)*, 1:147-157, 2014.
- Stocco, A., Prat, C.S., Losey, D.M., Cronin, J.A., Wu, J., Abernethy, J.A. and Rao, R.P.N., Playing 20 questions with the mind: collaborative problem solving by humans using a brain-to-brain interface. *PLoS ONE* 10(9): e0137303. doi:10.1371/journal.pone.0137303, 2015.

2015

- Chung, M.J., Friesen, A.L., Fox, D., Meltzoff, A.N. and Rao, R.P., A bayesian developmental approach to robotic goal-Based imitation learning. *PLoS One*. 2015;10(11):e0141965.
- Miller, K.J., Schalk, G., Hermes, D., Ojemann, J.G. and Rao, R.P.N., Near-instantaneous classification of perceptual states from cortical surface recordings. In *Brain-Computer Interface Research. A State-of-the-Art Summary*, edited by C. Guger, G. Müller-Putz, B. Allison, New York: Springer, pages 105-114, 2015.

2016

- Miller, K.J., Schalk, G., Hermes, D., Ojemann, J.G. and Rao, R.P.N., Spontaneous decoding of the timing and content of human object perception from cortical surface recordings reveals complementary information in the event-related potential and broadband spectral change. *PLOS Comp Bio*, January 28, 2016, DOI: 10.1371/journal.pcbi.1004660

- Wang, N.X., Olson, J.D., Ojemann, J.G., Rao, R.P., Brunton, B.W., Unsupervised decoding of long-term, naturalistic human neural recordings with automated video and audio annotations. *Front Hum Neurosci*. 2016 Apr 21;10:165. doi: 10.3389/fnhum.2016.00165. eCollection 2016.
- Wu, J., Shuman, B.R., Brunton, B.W., Steele, K.M., Olson, J.D., Rao, R.P.N., and Ojemann, J.G., Multistep model for predicting upper-limb 3D isometric force application from pre-movement electrocorticographic features. 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2016, arXiv:1605.05291 [q-bio.NC].
- Huang, Y. and Rao, R.P., Bayesian inference and online learning in poisson neuronal networks. *Neural Comput*. 2016 Jun 27:1-24.
- Cronin, J., Wu, J., Collins, K., Sarma, D., Rao, R., Ojemann, J. and Olson, J., Task-specific somatosensory feedback via cortical stimulation in humans. *IEEE Trans Haptics*. 2016 Jul 18. 10.1109/TOH.2016.2591952.
- Losey, D.M., Stocco, A., Abernethy, J.A. and Rao, R.P.N., Navigating a 2D virtual world using direct brain stimulation. *Front. Robot. AI*, 16 November 2016 | <http://dx.doi.org/10.3389/frobt.2016.00072>
- Wander, J.D., Sarma, D., Johnson, L.A., Fetz, E.E., Rao, R.P.N., Ojemann, J.G. and Darvas, F., (2016) Cortico-cortical interactions during acquisition and use of a neuroprosthetic skill. *PLoS Comput Biol* 12(8): e1004931. doi:10.1371/journal.pcbi.1004931

2017

- Caldwell, D.J., Wu, J., Casimo, K., Ojemann, J.G. and Rao, R.P.N. Interactive Web Application for Exploring Matrices of Neural Connectivity, IEEE NER 2017, arXiv:1702.06405

### Matt Reynolds

2015

- Lipworth, G., Ensworth, J., Seetharam, K., Lee, J.S., Schmalenberg, P., Nomura, T., Reynolds, M., Smith, D.R. and Urzhumov, Y., Quasi-static magnetic field shielding using longitudinal mu-near-sero metamaterials, *Scientific Reports* 5, 12764 (2015), doi:10.1038/srep12764.
- Cnaan-On, S., Krolik, T.J. and Reynolds, M., Multichannel backscatter communication and ranging for distributed sensing with an FMCW radar. *IEEE Transactions on Microwave Theory and Techniques*, vol. 63, no. 7, pp. 2375-2383 (2015).
- Sleasman, T., Imani, M.F., Xu, W., Hunt, J., Driscoll, T., Reynolds, M. and Smith, D.R., Waveguide-fed tunable metamaterial element for dynamic apertures. *IEEE Antennas and Wireless Propagation Letters*, 2015 (in press).
- Besnoff, J. and Reynolds, M., Single-wire radio frequency transmission lines in biological tissue. *Applied Physics Letters*, 106:1-4, 2015.
- Ensworth, J., Hoang, A. and Reynolds, M., A timer based boost converter for RF energy harvesting. *Proceedings IEEE Wireless Power Transfer Conference*, pp. 1-4, 2015.

- Ensworth, J. and Reynolds, M., Every smartphone is a backscatter reader: Modulated backscatter compatibility with Bluetooth 4.0 low energy (BLE) devices. Proceedings of IEEE RFID 2015, pp. 78-85.
- Shao, S., Gudan, K., Hull, J., Ensworth, J. and Reynolds, M., Ultra-low power 2.4GHz RF energy arvesting and storage system with -25dBm sensitivity. Proceedings of IEEE RFID 2015, pp. 40-46.

2016

- Ensworth, J. and Reynolds, M., BLE-Backscatter: Ultra-low-power IoT nodes compatible with Bluetooth 4.0 Low Energy (BLE) smartphones and tablets. submitted to IEEE Transactions on Microwave Theory and Techniques.
- Sharma, A., Kampianakis, E., and Reynolds, M.S., A dual-band HF and UHF antenna system for implanted neural recording and stimulation devices. IEEE Antennas and Wireless Propagation Letters, 2016.
- Gowda, V.R., Yurduseven, O., Lipworth, G., Zupan, T., Reynolds, M.S. and Smith, D.R., Wireless power transfer in the radiative near-field. IEEE Antennas and Wireless Propagation Letters, 2016.
- Fu, X., Sharma, A., Kampianakis, E., Pedross-Engel, A., Arnitz, D., and Reynolds, M.S., A low cost 10.0-11.1~GHz X-band microwave backscatter communication testbed with integrated planar wideband antennas. IEEE RFID 2016.
- Hoang, F. Nekoogar, K. Coonley, Reynolds, M., A battery-free EPC generation 2 computational RFID tag with fiber-optic tamper detection, submitted to IEEE RFID 2016.
- Arnitz, D. and Reynolds, M.S., MIMO wireless power transfer for mobile devices. Pervasive Computing, Oct-Dec: 36-44, 2016

### Fred Rieke

2012

- Schwartz, G.W., Okawa, H., Dunn, F.A., Morgan, J.L., Kerschensteiner, D., Wong, R.O. and Rieke, F., The spatial structure of a nonlinear receptive field. Nat Neurosci., 15:1572-1580, 2012.
- Lugo, K., Miao, X., Rieke, F. and Lin, L.Y., Remote switching of cellular activity and cell signaling using light in conjunction with quantum dots. Biomed Opt Express, 3:447-454, 2012.

2013

- Cafaro, J. and Rieke, F., Regulation of spatial selectivity by crossover inhibition. J Neurosci., 33:6310-6320, 2013.
- Angueyra, J.M. and Rieke, F., Origin and effect of phototransduction noise in primate cone photoreceptors. Nat Neurosci., 16:1692-1700, 2013.

2014

- Barreiro, A.K., Gjorgjieva, J., Rieke, F. and Shea-Brown, E., When do microcircuits produce beyond-pairwise correlations? *Front. Comput. Neurosci.*, 8:10, 2014.
- Grimes, W.N., Schwartz, G.W. and Rieke F., The synaptic and circuit mechanisms underlying a change in spatial encoding in the retina. *Neuron*, 82:460-473, 2014.
- Grimes, W.N., Hoon, M., Briggman, K.L., Wong, R.O. and Rieke, F., Cross-synaptic synchrony and transmission of signal and noise across the mouse retina. *Elife*. 2014 Sep 1:e03892. doi: 10.7554/eLife.03892.

2016

- Rudd, M.E. and Rieke, F., Brightness in human rod vision depends on slow neural adaptation to quantum statistics of light, *J Vis.* 16:23, 2016.

### Chris Rudell

2013

- Bhagavatula, V., Wesson, W.C., Shin, S.K. and Rudell, J.C., A fully integrated, regulatorless CMOS power amplifier for long-range wireless sensor communication. *IEEE Journal of Solid-State Circuits*, 48:1225-1236, 2013.
- Yoo, S.M., Walling, J.S., Degani, O., Jann, B., Sadhwani, R., Rudell, J.C. and Allstot, D.J., A class-G switched-capacitor RF power amplifier. *IEEE Journal of Solid-State Circuits*, 48:1212-1224, 2013.
- Bhagavatula, V. and Rudell, J.C., Analysis and design of a transformer-feedback-based wideband receiver. *IEEE Transactions on Microwave Theory and Techniques*, 61:1347-1358, 2013.

2014

- Pepin, E., Micheletti, D., Perlmutter, S. and Rudell, J.C., High-voltage compliant, capacitive-load invariant neural stimulation electronics compatible with standard bulk-CMOS integration 2014 IEEE Biomedical Circuits and Systems Conference (BioCAS), DOI: 10.1109/BioCAS.2014.6981712, 2014: 260-263.

2015

- Zhang, T., Suvarna, A.R., Bhagavatula, V. and Rudell, J.C., An Integrated CMOS Passive Self-Interference Mitigation Technique for FDD Radios. *IEEE Journal of Solid-State Circuits*, Year: 2015, Volume: 50, Issue: 5 Pages: 1176-1188, DOI: 10.1109/JSSC.2015.2408324
- Zhang, T, Taghivand, M. and Rudell, J.C., A 55–70GHz two-stage tunable polyphase filter with feedback control for quadrature generation with  $<2^\circ$  and  $<0.32\text{dB}$  phase/amplitude imbalance in 28nm CMOS process. *European Solid-State Circuits Conference (ESSCIRC)*, ESSCIRC 2015 - 41<sup>st</sup>, 2015, Pages: 60-63, DOI: 10.1109/ESSCIRC.2015.7313828

2016



- Bhagavatula, V., Zhang, T., Suvarna, A.R., and Rudell, J.C., An ultra-wideband IF millimeter-wave receiver with a 20 GHz channel bandwidth using gain-equalized transformers. *IEEE J. Solid-State Circuits*, 51: 323-331, 2016.
- Pepin, E., Uehlin, J., Micheletti, D., Perlmutter, S.I., and Rudell, J.C., A high-voltage compliant, electrode-invariant neural stimulator front-end in 65nm bulk-CMOS. *European Solid-State Circuits Conference*, 2016.

### Joan Sanders

2011

- Sanders, J.E. and Fatone, S., Residual limb volume change: systematic review of measurement and management. *J Rehabil Res Dev.*, 48:949-986, 2011.
- Sanders, J.E., Harrison, D.S., Myers, T.R. and Allyn, K.J., Effects of elevated vacuum on in-socket residual limb fluid volume: case study results using bioimpedance analysis. *J Rehabil Res Dev.*, 48:1231-1248, 2011.

2012

- Sanders, J.E., Harrison, D.S., Allyn, K.J., Myers, T.R., Ciol, M.A. and Tsai, E.C., How do sock ply changes affect residual-limb fluid volume in people with transtibial amputation? *J Rehabil Res Dev.*, 49:241-256, 2012.
- Sanders, J.E., Severance, M.R. and Allyn, K.J., Computer-socket manufacturing error: how much before it is clinically apparent? *J Rehabil Res Dev.*, 49:5675-82, 2012.
- Sanders, J.E., Harrison, D.S., Cagle, J.C., Myers, T.R., Ciol, M.A. and Allyn, K.J., Post-doffing residual limb fluid volume change in people with trans-tibial amputation. *Prosthet Orthot Int.*, 36:443-449, 2012.
- Karchin, A., Wang, Y.N. and Sanders, J.E., Modulation of gene expression using electrospun scaffolds with templated architecture. *J Biomed Mater Res A.*, 100:1605-1614, 2012.
- Sanders, J.E., Cagle, J.C., Harrison, D.S. and Karchin, A., Amputee socks: how does sock ply relate to sock thickness? *Prosthet Orthot Int.*, 36:77-86, 2012.
- Sanders, J.E., Murthy, R., Cagle, J.C., Allyn, K.J., Phillips, R.H. and Otis, B.P., Device to monitor sock use in people using prosthetic limbs: Technical report. *J Rehabil Res Dev.*, 49:1229-1238, 2012.
- Sanders, J.E., Allyn, K.J., Harrison, D.S., Myers, T.R., Ciol, M.A. and Tsai, E.C., Preliminary investigation of residual-limb fluid volume changes within one day. *J Rehabil Res Dev.*, 49:1467-1478, 2012.

2013

- Sanders, J.E., Cagle, J.C., Harrison, D.S., Myers, T.R. and Allyn, K.J., How does adding and removing liquid from socket bladders affect residual limb fluid volume? *Journal of Rehabilitation Research and Development*, 50:845-860, 2013.

- Sanders, J.E., Severance, M.R., Swartzendruber, D.L., Allyn, K.J. and Ciol, M.A., Influence of prior activity on residual limb volume and shape measured using plaster casting: results from individuals with trans-tibial limb loss. *Journal of Rehabilitation Research and Development*, 50:1007-1016, 2013.
- Redfield, M.T., Cagle, J.C., Hafner, B.J. and Sanders, J.E., Classifying prosthetic use via accelerometry in persons with trans-tibial amputations. *Journal of Rehabilitation Research and Development*, 50:1201-1212, 2013.
- D'Silva, K., Hafner, B.J., Allyn, K.J. and Sanders, J.E., Self-reported prosthetic sock use among persons with transtibial amputation. *Prosthet Orthot Int.*, Aug 28, 2013, DOI: 10.1177/0309364613499064
- Cagle, J.C., Yu, A.J., Ciol, M.A., Sanders, J.E., Amputee socks: Thickness of multiple socks. *Prosthet Orthot Int.*, Nov 15, 2013, DOI: 10.1177/0309364613506915

### Mahasweta Sarkar

2012

- Vohra, A., Sarkar, M. and Lee, G., A smart transmission scheme for emergency data from a network of bio-sensors on the human body. *Proceedings of IEEE International Conference on Multisensor Fusion and Information Integration (MFI)*, Hamburg, Germany, September, 2012.

2015

- Tripathy, A., Chinara, S. and Sarkar, M., An application of wireless brain computer interface for drowsiness detection, *Journal of Biocybernetics and Biomedical Engineering*, Elsevier Inc, September 2015.
- Rani, S., Talwar, R., Malhotra, J., Ahmed, S.H., Sarkar, M. and Song, H., A novel scheme for an energy efficient Internet of things based on wireless sensor networks. *Sensors*, 11:28603-28627, 2015.

2016

- Patel, P., Sarkar, M., Nagaraj, S. and Kushalad, K., Channel modelling based on statistical analysis for brain-computer-interface (BCI) applications. In *International Conference on Computer Communications*, IEEE INFOCOM 10-15th April 2016, San Francisco, California.
- Patel, P., Sarkar, M., and Nagaraj, S., Ultra wideband channel characterization for invasive biomedical applications. In *Wireless and Microwave Technology Conference*, IEEE WAMICON 11-13th April 2016, Clearwater Beach, Florida.
- 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.

- Basu, S., Sarkar, M., Nagaraj, S. and Chinara, S., A survey on ultra wideband and ultrasonic communication for body area networks. Intern. J Ultra Wideband Comm Sys, 3, DOI: 10.1504/IJUWBCS.2016.080171

### Visvesh Sathe

2016

- Smith, W.A., Mogen, B.J., Fetz, E.E., Sathe, V.S. and Otis, B.P., Exploiting electrocorticographic spectral characteristics for optimized signal chain design: A 1.08  $\mu$ W analog front end with reduced ADC resolution requirements. IEEE Trans Biomed Circuits Syst. 2016 Apr 6.

### Eric Shea-Brown

2014

- Lajoie, G., Thivierge, J.P. and Shea-Brown, E., Structured chaos shapes spike-response noise entropy in balanced neural networks. Front Comput Neurosci., 8:123. doi: 10.3389/fncom.2014.00123. eCollection 2014.
- Hu, Y., Trousdale, J., Josić, K. and Shea-Brown, E., Local paths to global coherence: cutting networks down to size. Phys Rev E Stat Nonlin Soft Matter Phys. 2014 Mar;89(3):032802. Epub 2014 Mar 10.
- Hu, Y., Zylberberg, J. and Shea-Brown, E., The sign rule and beyond: boundary effects, flexibility, and noise correlations in neural population codes. PLoS Comput Biol. 2014 Feb 27;10(2):e1003469. doi: 10.1371/journal.pcbi.1003469. eCollection 2014 Feb.
- Barreiro, A.K., Gjorgjieva, J., Rieke, F. and Shea-Brown E., When do microcircuits produce beyond-pairwise correlations? Front Comput Neurosci. 2014 Feb 6;8:10. doi: 10.3389/fncom.2014.00010. eCollection 2014.

2015

- Leen, D.A. and Shea-Brown, E., A simple mechanism for beyond-pairwise correlations in integrate-and-fire neurons. J Math Neurosci. 2015 Dec;5(1):30. doi: 10.1186/s13408-015-0030-9. Epub 2015 Sep 1.
- Schwemmer, M.A., Fairhall, A.L., Denéve, S. and Shea-Brown, E.T., Constructing precisely computing networks with biophysical spiking neurons. J Neurosci. 2015 Jul 15;35(28):10112-34. doi: 10.1523/JNEUROSCI.4951-14.2015.
- Cayco-Gajic, N.A., Zylberberg, J. and Shea-Brown, E., Triplet correlations among similarly tuned cells impact population coding. Front Comput Neurosci. 2015 May 18;9:57. doi: 10.3389/fncom.2015.00057. eCollection 2015.

2016

- Zylberberg, J., Cafarom J., Turner, M.H., Shea-Brown, E and Rieke F., Direction-selective circuits shape noise to ensure a precise population code. Neuron, 89:369-383, 2016.

- Brinkman, B.A., Weber, A.I., Rieke, F., Shea-Brown, E. How do efficient coding strategies depend on origins of noise in neural circuits? PLoS Comput Biol. Oct 14;12(10):e1005150. doi: 10.1371/journal.pcbi.1005150, 2016.
- Lajoie, G., Lin, K.K., Thivierge, J.P. and Shea-Brown E. Encoding in balanced networks: Revisiting spike patterns and chaos in stimulus-driven systems. PLoS Comput Biol. 2016 Dec 14;12(12):e1005258.

2017

- 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.
- Fyall, A.M., El-Shamayleh, Y., Choi H., Shea-Brown, E. and Pasupathy, A., Dynamic representation of partially occluded objects in primate prefrontal and visual cortex, eLife 2017;6:e25784 doi: 10.7554/eLife.25784.

### Joshua Smith

2012

- Christ, A., Douglas, M.G., Roman, J., Cooper, E.B., Sample, A.P., Waters, B.H., Smith, J.R. and Kuster, N., Evaluation of wireless resonant power transfer systems with human electromagnetic exposure limits. IEEE Transactions on Electromagnetic Compatibility, 99:1-10, 2012.
- Waters, B.H., Sample, A.P., and Smith, J.R., Adaptive impedance matching for magnetically coupled resonators. PIERS Proceedings; pp. 694-701, Moscow, Russia, August 19-23, 2012.
- Carter, M.T., Stetter, J.R., Smith, J.R., Parks, A.N., Zhao, Y., Findlay, M.W. and Patel, V., Printed low power amperometric gas sensor employing RF energy harvesting. The Electrochemical Society, January 2012.
- Waters, B.H., Sample, A.P. and Bonde, P., Smith, J.R., Powering a ventricular assist device (VAD) with the free-range resonant electrical energy delivery (FREE-D) system. Proceedings of the IEEE, 100:138-149, 2012.
- Jiang, L.-T. and Smith, J.R., Pretouch sensing for manipulation, robotics. Science and systems (RSS) Workshop: Alternative Sensing Techniques for Robotic Perception. July 11-12, 2012.
- Jiang, L.-T. and Smith, J.R., A unified framework for grasping and shape acquisition via pretouch sensing. IEEE International Conference on Robotics and Automation (ICRA), Karlsruhe, Germany, May 6-10, 2013.
- Balasubramanian, R., Xu, L., Brook, P., Smith, J.R. and Matsuoka, Y., Physical human interactive guidance: Identifying grasping principles from human-planned grasps. IEEE Transactions on Robotics (T-RO).
- Jiang, L.-T. and Smith, J.R., Seashell effect pretouch sensing for robotic grasping. IEEE International Conference on Robotics and Automation (ICRA), St. Paul, USA, May 5-12, 2012.

- Chang, L. and Smith, J.R., Fox, D., Interactive singulation of objects from a pile. IEEE International Conference on Robotics and Automation (ICRA), May 5-12, 2012.
- Bryan, M., Nicoll, G., Thomas, V., Chung, M., Smith, J.R. and Rao, R.P.N., Automatic extraction of command hierarchies for adaptive brain-robot interfacing. Proceedings of ICRA 2012, May 5-12, 2012.
- Sample, A.P., Macomber, C., Jiang, L.-T., Smith, J.R., Optical localization of passive UHF RFID tags with integrated LEDs. 2012 IEEE International Conference on Digital Object Identifier, 10.1109/RFID.2012.6193038, 116-123, 2012.

## 2013

- Lee, G., Waters B., Shi, C., Park, W., and Smith, J.R., Design considerations for asymmetric magnetically coupled resonators used in wireless power transfer applications. IEEE Topical Meeting on Biomedical Wireless Technologies, Networks and Sensing Systems (BioWireless), January 20-23, 2013 Austin, TX.
- Parks, A., Sample, A., Zhao, Y. and Smith J.R., A wireless sensing platform utilizing ambient RF energy. IEEE Topical Meeting on Wireless Sensors and Sensor Networks (WiSNET), January 20-23, 2013 Austin, TX.
- Talla, V., Buettner, M., Wetherall, D. and Smith, J.R., Hybrid analog-digital backscatter platform for high data rate, battery-free sensing. IEEE Topical Meeting on Wireless Sensors and Sensor Networks (WiSNET), January 20-23, 2013 Austin, TX.
- Dementyev, A., Taylor, S., Smith, J.R. and Hodges, S., Power consumption analysis of bluetooth low energy, ZigBee, and ANT sensor nodes in cyclic sleep scenario. IEEE International Wireless Symposium, April 14-18, 2013 Beijing, China.
- Dementyev, A., Gummeson, J., Thrasher, D., Parks, A., Ganesan, D., Smith, J.R., and Sample, A.P., Wirelessly powered bistable display tags. Proc. 2013 ACM International Joint Conference on Pervasive and Ubiquitous Computing, Zurich, Switzerland, September 8-12, 2013.
- Jiang, L.-T. and Smith, J.R., A unified framework for grasping and shape acquisition via pretouch sensing. 2013 IEEE International Conference on Robotics and Automation (ICRA), 10.1109/ICRA.2013.6630695, Page(s): 999-1005.
- Sample, A.P., Waters, B.H., Wisdom, S. and Smith, J.R., Seamless wireless power delivery in dynamic environments. (Invited) Proceedings of the IEEE, 101:1343-1358, 2013.
- Talla, V., Waters, B.H. and Smith, J.R., A study of detuning effects and losses in implantable coils for biomedical wireless power transfer. Progress in Electromagnetics Research Symposium PIERS, 1369, 2013.

## 2014

- Wang, J.X., Smith, J.R. and Bone, P., Energy transmission and power sources for mechanical circulatory support devices to achieve total implantability. Annals Thoracic Surg., 97:1467-1474, 2014.

2015

- Waters, B., Mahoney, B., Ranganathan, V and Smith, J.R., Power delivery and leakage field control using an adaptive phased-array wireless power system. IEEE Transactions on Power Electronics 30 (11), 6298-6309 2\* 2015.
- Naderiparizi, S., Zhao, Y., Youngquist, J., Sample, A.P., and Smith, J.R., Self-localizing battery-free cameras. Proceedings of the 2015 ACM International Joint Conference on Pervasive and... 2015.
- Talla, V., Waters, B.H. and Smith, J.R., Optimal operating frequency for wirelessly powered implanted systems, PIERS, Prague, 1079 2015.
- Huang, K., Jiang, L.T., Smith, J.R. and Chizeck, H.J., Sensor-aided teleoperated grasping of transparent objects. 2015 IEEE International Conference on Robotics and Automation (ICRA), 4953-4959, 2015.
- Talla, V. Kellogg, B., Ransford, B., Naderiparizi, S., Gollakota, S. and Smith, J.R., Powering the next billion devices with Wi-Fi. arXiv preprint arXiv:1505.06815 1 2015.
- Shi, X., Parks, A.N., Waters, B.H. and Smith, J.R., Co-optimization of efficiency and load modulation data rate in a wireless power transfer system. Circuits and Systems (ISCAS), 2015 IEEE International Symposium on, 698-701, 2015.
- Parks, A.N. and Smith, J.R., Active power summation for efficient multiband RF. Energy Harvesting. International Microwave Symposium, 2015.
- Waters, B.H., Fidelman, P.R., Raines, J.D. and Smith, J.R., Simultaneously tuning and powering multiple wirelessly powered devices. Wireless Power Transfer Conference (WPTC), 2015 IEEE, 1-4 2015.
- Shi, X., Waters, B.H. and Smith, J.R., SAR distribution for a strongly coupled resonant wireless power transfer system. Wireless Power Transfer Conference (WPTC), 2015 IEEE, 1-4 2015.
- Ranganathan, V., Waters, B.H. and Smith, J.R., Localization of receivers using phased-array wireless power transfer systems. Wireless Power Transfer Conference (WPTC), 2015 IEEE, 1-4 2015.
- Zhao, Y., Smith, J.R. and Sample, A., NFC-WISP: A sensing and computationally enhanced near-field RFID platform. RFID (RFID), 2015 IEEE International Conference on, 174-181 2015.
- Naderiparizi, S., Parks, A.N., Kapetanovic, Z., Ransford, B. and Smith, J.R., WISPCam: A Battery-free RFID camera. IEEE RFID 2015 2 2015.
- Guo, D., Lancaster, P., Jiang, L-T., Sun, F. and Smith, J.R., Transmissive optical pretouch sensing for robotic grasping. 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2015, Pages: 5891 - 5897, DOI: 10.1109/IROS.2015.7354214

2016

- Lee, G., Waters, B.H., Shin, Y.G., Smith, J.R. and Park, W.S., A reconfigurable resonant coil for range adaptation wireless power transfer. IEEE Transactions on Microwave Theory and Techniques, 2016.

- Iyer, V., Talla, V., Kellogg, B., Gollakota, S. and Smith, J.R., Inter-technology backscatter: Towards Internet connectivity for implanted devices. SIGCOMM '16, August 22-26, 2016, Florianopolis, Brazil; DOI: <http://dx.doi.org/10.1145/2934872.2934894>
- Ranganathan, V., Mahoney, B., Pepin, E., Sunshine, M.D., Moritz, C.T., Rudell, J.C. and Smith, J.R., A high-voltage compliant neural stimulator with HF wireless power and UHF backscatter communication. 2016 IEEE Wireless Power Transfer Conference (WPTC), 2016.
- Tan, J., Pawekczak, P., Parks, A. and Smith, J.R., Wisent: Robust downstream communication and storage for computational RFIDs. IEEE INFOCOM 2016 - The 35th Annual IEEE International Conference on Computer Communications, 2016.
- Zhao, Y. Mahoney, B., Smith, J.R., Analysis of a near field communication wireless power system. 2016 IEEE Wireless Power Transfer Conference (WPTC), Pages: 1 - 4, DOI: 10.1109/WPT.2016.7498827, 2016.

### Laura Specker-Sullivan

2016

- Specker-Sullivan, L., Medical maternalism: beyond paternalism and antipaternalism, *J Med Ethics* doi:10.1136/medethics-2015-103095, 2016.
- Specker-Sullivan, L., Do implanted brain devices threaten autonomy or the “sense” of autonomy. *AJOB Neuroscience* 6:24-26, 2015.
- Specker-Sullivan, L., Uncovering metaethical assumptions in bioethical discourse across cultures. *Kennedy Institute of Ethics Journal*, 26:47-78, 2016.

2017

- Sullivan, L.S., Klein, E., Brown, T., Sample, M., Pham, M., Tubig, P., Folland, R., Truitt, A. and Goering, S. Keeping disability in mind: A case study in implantable brain-computer interface research. *Sci Eng Ethics*. 2017, doi: 10.1007/s11948-017-9928-9.
- Sullivan, L.S. and Illes, J., Models of engagement in neuroethics programs: Past, present and future, in *Debates About Neuroethics: Perspectives on its Development, Focus, and Future* (edited by Eric Racine and John Aspier, Cham (Switzerland): Springer International Publishing, 2017.
- Specker Sullivan, L. and Illes, J., Ethics in published brain computer interface research, *J Neural Eng*. 2017 Sep 21. doi: 10.1088/1741-2552/aa8e05.

### Kat Steele

2015

- Steele, K.M., Tresch, M.C. and Perreault, E.J., Consequences of biomechanically constrained tasks in the design and interpretation of synergy analyses. *J Neurophysiol*. 2015 Jan 14:jn.00769.2013. doi: 10.1152/jn.00769.2013.

- Steele, K.M., Rozumalski, A. and Schwartz, M.H., Muscle synergies and complexity of neuromuscular control during gait in cerebral palsy. *Dev Med Child Neurol.* 2015 Jun 17. doi: 10.1111/dmcn.12826.
- Choi, H., Bjornson, K., Fatone, S. and Steele, K.M., Using musculoskeletal modeling to evaluate the effect of ankle foot orthosis tuning on musculotendon dynamics: a case study. *Disabil Rehabil Assist Technol.* 2015 Feb 2:1-6.
- Lee, S.S., Gaebler-Spira, D., Zhang, L.Q., Rymer W.Z., and Steele, K.M., Use of shear wave ultrasound elastography to quantify muscle properties in cerebral palsy. *Clin Biomech*, 2015 Oct 18. pii: S0268-0033(15)00267-3. doi: 10.1016/j.clinbiomech.2015.10.006.

2016

- Schwartz, M.H., Rozumalski, A. and Steele, K.M. Dynamic motor control is associated with treatment outcomes for children with cerebral palsy. *Dev Med Child Neurol.* 11:1139-1145, 2016.
- Steele, K.M., Ruisinger, J.F., Bates, J., Prohaska, E.S., Melton, B.L. and Hipp, S. Home-based comprehensive medication reviews: pharmacist's impact on drug therapy problems in geriatric patients. *The Consultant pharmacist*, 10:598-605, 2016.
- Choi, H., Wren, T.A. and Steele, K.M., Gastrocnemius operating length with ankle foot orthoses in cerebral palsy. *Prosthetics and Orthotics International.* 2016.
- Butler, E.E., Steele, K.M., Torburn, L., Gamble, J.G. and Rose, J., Clinical motion analyses over eight consecutive years in a child with crouch gait: a case report. *J Med Case Reports*, 10:157, 2016.
- Shuman, B., Goudriaan, M., Bar-On, L., Schwartz, M.H., Desloovere, K. and Steele, K.M., Repeatability of muscle synergies within and between days for typically developing children and children with cerebral palsy, *Gait & Posture*, 45: 127-132, 2016.
- Lee, S.S., Gaebler-Spira, D., Zhang, L.Q., Rymer, W.Z. and Steele KM., Use of shear wave ultrasound elastography to quantify muscle properties in cerebral palsy. *Clinical Biomechanics*, 31: 20-28, 2016.

#### Andrea Stocco

2017

- Stocco, A., Murray, N.L., Yamasakia, 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.
- Stocco, A. (2017), A Biologically Plausible Action Selection System for Cognitive Architectures: Implications of Basal Ganglia Anatomy for Learning and Decision-Making Models. *Cogn Sci.* doi:10.1111/cogs.12506

#### Emo Todorov

2013



- Kumar, V., Xu, Z., and Todorov, E., Fast, strong and compliant pneumatic actuation for dexterous tendon-driven hands. IEEE International Conference on Robotics and Automation, 2013.
- Wu, T., Tassa, Y., Kumar, V., Movellan, J. and Todorov, E., STAC: Simultaneous tracking and calibration. Humanoids, 2013
- Erez, T., Lowrey, K., Kumar, V., Kolev, S. and Todorov, E., An integrated system for real time Model Predictive Control for humanoid robots. Humanoids 2013.
- Zhe, X., Kumar, V. and Todorov, E., A low cost and modular, 20 dof anthropomorphic robotic hand: Design, actuation and modelling. Humanoids 2013.
- Todorov, E., Tassa, Y., Erez, T., Mordatch, I., Kulchenko, P. and Kumar, V., Synthesis of complex behaviors with optimal control. Computational and Systems Neuroscience (COSYNE) 2013.
- Kumar, V., Tassa, Y., Erez, T. and Todorov, E., Real-time behavior synthesis for dynamic hand manipulation. IEEE International Conference on Robotics and Automation, 2014.
- Xu, Z., Kumar, V. and Todorov, E., A low-cost and modular, 20-DOF anthropomorphic robotic hand: Design, actuation and modeling. IEEE/RAS International Conference on Humanoid Robots, 2013.

2014

- Xu, Z., Kolev, S. and Todorov, E., Design, optimization, calibration, and a case study of a 3D-printed, low-cost fingertip sensor for robotic manipulation. 2014 IEEE International Conference on Robotics and Automation (ICRA), DOI: 10.1109/ICRA.2014.6907253, 2014: 2749 – 2756.
- Kumar, V., Tassa, Y., Erez, T. and Todorov, E., Real-time behaviour synthesis for dynamic hand-manipulation. 2014 IEEE International Conference on Robotics and Automation (ICRA), DOI: 10.1109/ICRA.2014.6907864, 2014:6808-6815.
- Lowrey, K., Kolev, S., Tassa, Y., Erez, T. and Todorov, E., Physically-consistent sensor fusion in contact-rich behaviors. International Conference on Intelligent Robots and Systems (IROS 2014), 2014 IEEE/RSJ, DOI: 10.1109/IROS.2014.6942777, 2014: 1656-1662.
- Tassa, Y., Mansard, N. and Todorov, E., Control-limited differential dynamic programming Robotics and Automation (ICRA), 2014 IEEE International Conference on DOI: 10.1109/ICRA.2014.6907001, 2014: 1168–1175.

Joel Voldman

2011

- Toh, Y.C., Blagovic, K., Yu, H. and Voldman, J., Spatially organized in vitro models instruct asymmetric stem cell differentiation. Integr Biol (Camb), 3:1179-1187, 2011.

2012

- Przybyla, L. and Voldman, J., Probing embryonic stem cell autocrine and paracrine signaling using microfluidics. *Annu Rev Anal Chem (Palo Alto Calif)*, 5:293-315, 2012.
- Vahey, M.D. and Voldman, J., Isodielectric separation and analysis of cells. *Methods Mol Biol.*, 853:53-63, 2012.
- Przybyla, L.M. and Voldman, J., Attenuation of extrinsic signaling reveals the importance of matrix remodeling on maintenance of embryonic stem cell self-renewal. *Proc Natl Acad Sci U S A*, 109:835-840, 2012.
- Tsang, W.M., Stone, A.L., Otten, D., Aldworth, Z.N., Daniel, T.L., Hildebrand, J.G., Levine, R.B. and Voldman, J., Insect-machine interface: a carbon nanotube-enhanced flexible neural probe. *J Neurosci Methods*, 204:355-365, 2012.

#### 2013

- Honegger, T., Scott, M.A., Yanik, M.F. and Voldman, J., Electrokinetic confinement of axonal growth for dynamically configurable neural networks. *Lab Chip*, 13:589-598, 2013.
- Przybyla, L.M., Theunissen, T.W., Jaenisch, R. and Voldman, J., Matrix remodeling maintains ESC self-renewal by activating Stat3. *Stem Cells*, 31:1097-1106, 2013.
- Su, H.W., Prieto, J.L. and Voldman, J., Rapid dielectrophoretic characterization of single cells using the dielectrophoretic spring. *Lab Chip*, 13:4109-4117, 2013.

#### 2014

- Dura, B., Liu, Y. and Voldman, J., Deformability-based microfluidic cell pairing and fusion. *Lab Chip*. 2014 Jun 5.
- Castellarnau, M., Szeto, G.L., Su, H.W., Tokatlian, T., Love, J.C., Irvine, D.J. and Voldman, J., Stochastic particle barcoding for single-cell tracking and multiparametric analysis. *Small*. 2014 Sep 2. doi: 10.1002/smll.201401369.
- Dighe, A., Froriep, U.P., Sunshine, M., Ievins, A., Anikeeva, P., Moritz, C. & Voldman, J., Development and in vivo testing of reconfigurable neural probes for chronic electrical recording. Hilton Head Workshop 2014: A Solid-State Sensors, Actuators and Microsystems Workshop 2014.