

Signal Processing in Neural Interfaces: Suggested Reading

IEEE Signal Processing Society, Santa Clara Chapter event, May 12, 2016

Speaker: Sarah Felix, sarahfelix@engforlife.com

- ARTICLES

- Perceiving Neural Recordings

- Gibson, Sarah, Jack W. Judy, and Dejan Markovic. "Spike Sorting." IEEE Signal processing magazine 29.1 (2012): 124.
- Koyama, Shinsuke, et al. "Bayesian decoding of neural spike trains." Annals of the Institute of Statistical Mathematics 62.1 (2010): 37-59.
- Fraser, George W., et al. "Control of a brain-computer interface without spike sorting." Journal of neural engineering 6.5 (2009): 055004.
- Kanas, Vasileios G., et al. "Joint spatial-spectral feature space clustering for speech activity detection from ECoG signals." Biomedical Engineering, IEEE Transactions on 61.4 (2014): 1241-1250.

- Stimulating the senses

- Freeman, Daniel K, Joseph F Rizzo, and Shelley I Fried. "Encoding Visual Information in Retinal Ganglion Cells with Prosthetic Stimulation." Journal of neural engineering 8.3 (2011): 035005. PMC. Web. 12 May 2016.
- Rubinstein, Jay T. "How cochlear implants encode speech." Current opinion in otolaryngology & head and neck surgery 12.5 (2004): 444-448.
- Tan, Daniel W., et al. "A neural interface provides long-term stable natural touch perception." Science translational medicine 6.257 (2014): 257ra138-257ra138.

- Closing the loop

- <http://spectrum.ieee.org/biomedical/bionics/smart-neural-stimulators-listen-to-the-body>
- Famm, Kristoffer, et al. "Drug discovery: a jump-start for electroceuticals." Nature 496.7444 (2013): 159-161.

- TEXT BOOKS

- *Statistical Signal Processing for Neuroscience and Neurotechnology*, Karim Oweiss
- *Signal Processing for Neuroscientists*, Wim van Drongelen
- *Analyzing Neural Time Series Data*, Mike X Cohen

- Coursera course: *Computational Neuroscience*, Rajesh Rao & Adrienne Fairhall, University of Washington