Daniel Birman

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Education

Stanford University — Stanford, CA
PhD student in Cognitive Neuroscience, Adviser: Justin Gardner — *August 2014 – Present*

Cornell University — Ithaca, NY
Bachelor of Arts in Biology — *August 2008 – June 2012*

Research

Stanford University — Stanford, CA
PhD Student — *August 2014 - Present*

- **A quantitative framework for motion visibility in human cortex**: Mapped retinotopic visual cortex response to motion visibility as defined by contrast, coherence, and duration. (in preparation)
- **Flexible readout of stable cortical representations support motion visibility perception**: Ongoing project linking cortical response to change in motion visibility with psychophysical detection.
- **Integrating abstract rule learning across neuroscience model systems**: Ongoing project looking at how to link behavioral data from multiple model systems together, pilot results presented in a News and Views commentary.

Bernstein Center for Computational Neuroscience — Berlin, Germany
Visiting researcher — *August 2012 - July 2013 and Fall 2016*

- **The point of no return**: Designed a real-time EEG brain-computer interface to look at how far into self-initiated actions participants can veto their actions, i.e. when is the "point of no return".

Publications

Birman, D., & Gardner, J. L. (Submitted) A quantitative framework for motion visibility in human cortex.

Esteban, O., **Birman, D.**, Schaer, M., Koyejo, O. O., Poldrack, R. A., & Gorgolewski, K. J. (2017). MRIQC: Advancing the automatic prediction of image quality in MRI from unseen sites. PLoS One, 12(9), e0184661.

Schultze-Kraft, M., Neumann, M., Lundfall, M., Wagner, P., **Birman, D.**, Haynes, J. D., & Blankertz, B. (2017). Predicting Motor Intentions with Closed-Loop Brain-Computer Interfaces. In Brain-Computer Interface Research (pp. 79-90). Springer, Cham.

Birman, D., & Gardner, J. L. (2016). Parietal and prefrontal: categorical differences? Nature Neuroscience, 19(1), 57.

Birman, D.*, Schultze-Kraft, M.*, Rusconi, M., Allefeld, C., Grgen, K., Dhne, S., Haynes, J.-D. (2016). The point of no return in vetoing self-initiated movements. Proceedings of the National Academy of Sciences, 113(4), 10801085. **Equal author contribution*

Selected Teaching Experience

PSYCH 50: Introduction to Cognitive Neuroscience (2016, 2017, 2018): **Head TA** for undergraduate lecture course (200 students) taught by Professor Justin Gardner

NEPR 207: Cognitive Neuroscience Module (2016, 2017, 2018): TA for graduate core module in Neuroscience taughty by Professors Justin Gardner and Russ Poldrack

Selected Honors

Stanford Centennial Teaching Award (2018)

Stanford CNI Innovation Grants (2015, 2016, 2018)

Stanford Vice Provost for Undergraduate Education Curriculum Development Grant (2018): For the development of online brain simulation tutorials in Psych 50: Introduction to cognitive neuroscience.

Skills

Programming languages: Python, MATLAB, JavaScript

Web backend frontend technology: Node.js, HTML5/CSS, WebGL

fMRI data analysis

Experiment design for visual psychophysics

Convolutional neural networks in neuroscience: Tensorflow