

Colin Bredenberg

CONTACT INFORMATION 40 Waterside Plaza, Apt. 23A
New York, NY 10010
Phone: +1 215 384-6752
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EDUCATION **New York University** (Supervisors: Cristina Savin, Eero Simoncelli)
Neural Science Ph.D Candidate **2017-Present**

University of Pittsburgh

BPhil in Mathematical Biology and Neuroscience **2013–2017**
Chemistry Minor

PROFESSIONAL EXPERIENCE

New York University

Graduate Student in Neural Science **2017-present**

University of Pittsburgh (Supervisor: Brent Doiron)

Research assistant **2015-2017**

University of Pittsburgh (Supervisor: Bita Moghaddam)

Research assistant **2013-2014**

University of Pennsylvania (Supervisors: John Trojanowski, Virginia Lee)

Research assistant (Summer) **2013-2017**

PUBLICATIONS Bredenberg, C., Simoncelli, E., & Savin, C. (2020). Learning efficient task-dependent representations with synaptic plasticity. *Advances in Neural Information Processing Systems*, 33.

Robinson, J. L., Lee, E. B., Xie, S. X., Rennert, L., Suh, E., Bredenberg, C., ... & Hurtig, H. I. (2018). Neurodegenerative disease concomitant proteinopathies are prevalent, age-related and APOE4-associated. *Brain*.

Bredenberg, C. (2017). Examining heterogeneous weight perturbations in neural networks with spike-timing-dependent plasticity (BPhil Thesis, University of Pittsburgh).

PRESENTATIONS

Bredenberg C., Savin C., and Kiani R. (2020, February). Recurrent neural circuits overcome partial inactivation by compensation and relearning. Poster presentation, Cosyne 2020.

Bredenberg C., Simoncelli E. P., and Savin C. (2019, December). Learning efficient, task-dependent representations with synaptic plasticity. Poster presentation, NeuRIPS Workshop on Biological and Artificial Reinforcement Learning.

Bredenberg C., Simoncelli E. P., and Savin C. (2019, February). Learning efficient, task-dependent representations with synaptic plasticity. Poster presentation, Cosyne 2019.

Bredenberg C., Doiron B. (2017, February). Examining weight perturbations in plastic neural networks. Poster presentation, Cosyne 2017.

Bredenberg C., Doiron B. (2016, October). Examining Variably Diffuse Weight Perturbations in Plastic Neural Networks. Poster presentation, University of Pittsburgh's Science 2016.

Suh E, Bredenberg C., Van Deerlin V. (2014, October). Screening for Mutations in Frontotemporal Degeneration with a Targeted Next Generation Sequencing Panel. Poster presentation, International Conference on Frontotemporal Dementia.

TEACHING EXPERIENCE

TA for Introduction to Time Series Analysis, taught by Prof. Cristina Savin, Fall 2020.

TA for Introduction to Neural Science, taught by Prof. Anthony Movshon, Fall 2018.

OTHER

NYU NeuWrite lead officer, 2019-2021

Scientist Action and Advocacy Network member, 2018-2021