

# Alexander R. Nectow

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## ACADEMIC APPOINTMENTS

- 07/2019 - Present      **Columbia University, Department of Medicine • New York, NY**  
Principal Investigator, Nectow Lab
- 03/2016 - 07/2019      **Princeton University, Princeton Neuroscience Institute • Princeton, NJ**  
CV Starr Fellow, Associate Research Scholar  
Principal Investigator, Nectow Lab

## EDUCATION AND TRAINING

- 08/2017 - 04/2020      **Columbia University, College of Physicians and Surgeons • New York, NY**  
MD, 3-Year PhD-MD Program
- 05/2015 - 02/2016      **The Rockefeller University, Molecular Genetics • New York, NY**  
Postdoctoral Fellow, Advisor: Prof. Jeffrey Friedman
- 09/2011 - 05/2015      **The Rockefeller University, Molecular Genetics • New York, NY**  
PhD, Neuroscience, Advisor: Prof. Jeffrey Friedman
- 09/2007 - 05/2011      **Tufts University, School of Engineering • Medford, MA**  
BS, Engineering Science, *magna cum laude*  
MS, Biomedical Engineering, Advisor: Prof. David Kaplan

## AWARDS AND HONORS

- 2020      Titus Munson Coan Prize, College of Physicians and Surgeons, Columbia University
- 2018      Pathway to Stop Diabetes Accelerator Award, American Diabetes Association
- 2018      Innovative Basic Science Award, Core Program, American Diabetes Association
- 2017      NARSAD Young Investigator, Brain and Behavior Research Foundation
- 2017      Dean's Scholarship, College of Physicians and Surgeons, Columbia University
- 2016      Innovation Fund Award, Princeton Neuroscience Institute, Princeton University
- 2016      CV Starr Fellowship, Princeton Neuroscience Institute, Princeton University
- 2016      Clinical and Translational Science Award, Shapiro-Silverberg Fund, The Rockefeller University

- 2016 Salk Helmsley Fellowship, Salk Institute for Biological Studies (*declined*)
- 2015 Travel Award, Postdoctoral Association, The Rockefeller University
- 2014 David Rockefeller Fellowship, The Rockefeller University
- 2014 Finalist, Collegiate Inventors Competition

## KEY PUBLICATIONS

(\*denotes equal contribution; #denotes correspondence)

- 2019 Marc Schneeberger<sup>#,\*</sup>, Luca Parolari<sup>\*</sup>, Tania Das Banerjee<sup>\*</sup>, Varun Bhave, Putianqi Wang, Thomas Topilko, Bindiben Patel, Zhuhao Wu, Chan Hee J. Choi, Paul Cohen, Nicolas Renier, Jeffrey M. Friedman<sup>#</sup>, **Alexander R. Nectow**<sup>#,##</sup>. “Regulation of Energy Expenditure by Brainstem GABA Neurons,” *Cell*, **178**, 672-685. (<sup>##</sup>Lead contact)
- 2017 **Alexander R. Nectow**<sup>#</sup>, Marc Schneeberger, Hongxing Zhang, Bianca C. Field, Nico Renier, Estefania Azevedo, Bindiben Patel, Yupu Liang, Siddhartha Mitra, Marc Tessier-Lavigne, Ming-Hu Han, Jeffrey M. Friedman<sup>#</sup>. “Identification of a Brainstem Circuit Controlling Feeding,” *Cell*, **170**, 429-442.
- 2017 Malavika Murugan, H.J. Jang, Michelle Park, Ellia Miller, Julia Cox, Hee Jae Jang, Joshua Taliaferro, N.F. Parker, Varun Bhave, Hong Hur, Yupu Liang, **Alexander R. Nectow**, Jonathan W. Pillow, Ilana B. Witten<sup>#</sup>. “Combined Social and Spatial Coding in a Descending Projection from the Prefrontal Cortex,” *Cell*, **171**, 1663-1667.
- 2017 **Alexander R. Nectow**<sup>#</sup>, Maria V. Moya, Mats I. Ekstrand, Awni Mousa, Kelly L. McGuire, Caroline E. Sferrazza, Bianca C. Field, Gabrielle S. Rabinowitz, Kirsty Sawicka, Yupu Liang, Jeffrey M. Friedman, Nathaniel Heintz<sup>#</sup>, Eric F. Schmidt<sup>#</sup>. “Rapid Molecular Profiling of Defined Cell Types Using Viral TRAP,” *Cell Reports* **19**, 655-667.
- 2014 Mats I. Ekstrand<sup>\*</sup>, **Alexander R. Nectow**<sup>\*</sup>, Zachary A. Knight, Kaamashri N. Latcha, Lisa E. Pomeranz, Jeffrey M. Friedman<sup>#</sup>. “Molecular Profiling of Neurons Based on Connectivity,” *Cell* **157**, 1230-1242.
- 2013 Christoph Borgers<sup>#</sup> and **Alexander R. Nectow**<sup>#</sup>. “Exponential Time Differencing for Hodgkin-Huxley-like ODEs,” *SIAM Journal on Scientific Computing* **35**, B623-B643.

## OTHER PUBLICATIONS

- 2019 Efrain A. Ribeiro, **Alexander R. Nectow**, Mats I. Ekstrand, Lisa E. Pomeranz, Ja Wook Koo, Rosemary C. Bagot, Eric J. Nestler<sup>#</sup>. “Viral Labeling of Neurons Synaptically Connected to Nucleus Accumbens Somatostatin Interneurons,” *PLoS One*, **14**, e0213476.

- 2018** Hongxing Zhang, Dipesh Chaudhury, **Alexander R. Nectow**, et al. "Alpha1 and Beta3 Adrenergic Receptors Mediate Resilience to Social Stress," *Biological Psychiatry*, **85**, 226-236.
- 2018** Marc Schneeberger\*, Keith Tan\*, **Alexander R. Nectow**, Luca Parolari, Caner Calgar, Estefania Azevedo, Zhiying Li, Ana Domingos, Jeffrey M. Friedman#. "Functional Analysis Reveals Differential Effects of Glutamate and MCH Neuropeptide in MCH Neurons," *Molecular Metabolism*, **13**, 83-89.
- 2016** Sarah A. Stanley, Leah Kelly, Kaamashri N. Latcha, Sarah F. Schmidt, Xiaofei Yu, **Alexander R. Nectow**, Jeremy Sauer, Jonathan P. Dyke, Jonathan S. Dordick, Jeffrey M. Friedman#. "Bidirectional Electromagnetic Control of the Hypothalamus Regulates Feeding and Metabolism," *Nature* **531**, 647-650.
- 2015** **Alexander R. Nectow**#, Mats I. Ekstrand, Jeffrey M. Friedman. "Molecular Characterization of Cell Types Based on Patterns of Projection," *Nature Protocols* **10**, 1319-1327.
- 2014** **Alexander R. Nectow**, Misha E. Kilmer, David L. Kaplan#. "Quantifying Cellular Alignment on Anisotropic Biomaterial Platforms," *Journal of Biomedical Materials Research: Part A* **102**, 420-428.
- 2013** Dipesh Chaudhury\*, Jessica J. Walsh\*, Allyson K. Friedman, Barbara Juarez, Stacy M. Ku, Ja Wook Koo, Deveroux Ferguson, Hsing-Chen Tsai, Lisa Pomeranz, Daniel J. Christoffel, **Alexander R. Nectow**, et al. "Rapid Regulation of Depression-Related Behaviours by Control of Midbrain Dopamine Neurons," *Nature* **493**, 532-536.
- 2013** **Alexander R. Nectow**, Eun Seok Gil, David L. Kaplan, Misha E. Kilmer#. "A Statistical Algorithm for Assessing Cellular Alignment," *Journal of Biomedical Materials Research: Part A* **101**, 884-891.
- 2012** **Alexander R. Nectow**, Kacey G. Marra, David L. Kaplan#. "Biomaterials for the Development of Peripheral Nerve Guidance Conduits," *Tissue Engineering Part B: Reviews* **18**, 40-50.

## **ADVANCED COURSEWORK**

- 2014** Microelectrode Techniques for Cell Physiology. Marine Biological Association. Plymouth, UK. September 2014.