

Alexander R. Nectow, MD PhD

Nectow Laboratory (Room 8-425B)
P&S Building, Columbia University
New York, NY 10032

Telephone: (917) 710-4891
Email: arn2136@columbia.edu
URL: www.alexandernectow.com

ACADEMIC APPOINTMENTS

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

EDUCATION

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

TRAINING

- 2022 - Present** **New York Presbyterian Hospital**, Columbia University • New York, NY
Fellow, Cardiology (Research Track)
Expected completion: June 2025
- 2020 - 2022** **New York Presbyterian Hospital**, Columbia University • New York, NY
Resident, Internal Medicine (Clinician-Scientist Pathway)

CLINICAL LICENSURE AND BOARD CERTIFICATION

- 2024** **Medical License**
New York State, USA
- 2023** **Board Certification**, Internal Medicine
American Board of Internal Medicine

AWARDS AND HONORS

- 2025** Emerging-Generation Award, American Society for Clinical Investigation
- 2020** Blue Flame Depositor Award, Addgene
- 2020** Titus Munson Coan Prize, Columbia University

- 2018 Pathway to Stop Diabetes Accelerator Award, 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 Salk Helmsley Fellowship, Salk Institute for Biological Studies (*declined*)
- 2014 Finalist, Collegiate Inventors Competition
- 2014 David Rockefeller Fellowship, The Rockefeller University

KEY PUBLICATIONS

(*equal contribution; #correspondence; ###lead contact)

- 2025 Nachiket G. Kamatkar*, Srikanta Chowdhury*, Ethan Kushnerik, Amajindi Nwankpa, Qiankun Li, Hao Huang, **Alexander R. Nectow**#. "Meal Initiation is a Stochastic Process Regulated by Motivational State," *In Revision*.
- 2025 Srikanta Chowdhury*, Nachiket G. Kamatkar*, Wendy X. Wang*, Christa A. Akerele, Jiahao Huang, Junlin Wu, Charlotte M. Kane, Varun M. Bhave, Hao Huang, Xiao Wang, **Alexander R. Nectow**###. "Brainstem Neuropeptidergic Neurons Link a Neurohumoral Axis to Satiation," In Press, *Cell*.
- 2019 Marc Schneeberger^{#,*}, Luca Parolari*, Tania Das Banerjee*, Varun Bhave, Putianqi Wang, Thomas Topilko, Bindiben Patel, Zhuhao Wu, Chan Hee J. Choi, Paul Cohen, Nicolas Renier, Jeffrey M. Friedman[#], **Alexander R. Nectow**###. "Regulation of Energy Expenditure by Brainstem GABA Neurons," *Cell*, **178**, 672-685.
- 2017 **Alexander R. Nectow**[#], 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[#]. "Identification of a Brainstem Circuit Controlling Feeding," *Cell*, **170**, 429-442.
- 2017 **Alexander R. Nectow**[#], 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[#], Eric F. Schmidt[#]. "Rapid Molecular Profiling of Defined Cell Types Using Viral TRAP," *Cell Reports* **19**, 655-667.
- 2014 Mats I. Ekstrand*, **Alexander R. Nectow***, Zachary A. Knight, Kaamashri N. Latcha, Lisa E. Pomeranz, Jeffrey M. Friedman[#]. "Molecular Profiling of Neurons Based on Connectivity," *Cell* **157**, 1230-1242.

OTHER PUBLICATIONS

(*denotes equal contribution; #denotes correspondence)

- 2024** Suelynn Ren, Torben Ott, Ben-Orli Nathanson, Rodrigo Munoz-Castaneda, Steven Ryu, Shujing Li, Melody Wu, Thomas Klausberger, Junya Hirokawa, Jessica Tollkuhn, Longwen Huang, **Alexander R. Nectow**, Pavel Osten, Adam Kepecs. "Target-defined Subcortical Projection Neuron Types of Rat Orbitofrontal Cortex," *Under Review*.
- 2022** Marc Schneeberger, Nicola L. Brice, Kyle Pellegrino, Luca Parolari, Jordan T. Shaked, Keith J. Page, Francois Marchildon, Douglas W. Barrows, Thomas S. Carroll, Thomas Topilko, Victoria M. Mulligan, Robert Newman, Kevin Doyle, Roland Burli, Daniel F. Barker, Angela Chan, Maria Jose Ortuno, **Alexander R. Nectow**, Nicolas Renier, Paul Cohen, Mark Carlton, Nathaniel Heintz, Jeffrey M. Friedman#. "Pharmacological Targeting of Glutamatergic Neurons Within the Brainstem for Weight Reduction," *Nature Metabolism*, **4**, 1495-1513.
- 2021** Varun M. Bhave and **Alexander R. Nectow**#. "The Dorsal Raphe Nucleus in the Control of Energy Balance," *Trends in Neurosciences*, **44**, 17-32.
- 2020** **Alexander R. Nectow**# and Eric J. Nestler#. "Viral Tools for Neuroscience," *Nature Reviews Neuroscience*, **21**, 669-681.
- 2019** Efrain A. Ribeiro, **Alexander R. Nectow**, Mats I. Ekstrand, Lisa E. Pomeranz, Ja Wook Koo, Rosemary C. Bagot, Eric J. Nestler#. "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.
- 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#. "Combined Social and Spatial Coding in a Descending Projection from the Prefrontal Cortex," *Cell*, **171**, 1663-1667.
- 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 Christoph Borgers[#] and **Alexander R. Nectow**[#]. “Exponential Time Differencing for Hodgkin-Huxley-like ODEs,” *SIAM Journal on Scientific Computing* **35**, B623-B643.

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.

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.

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.

FUNDING

2022 - Present Start-up Funds, Department of Medicine and Division of Cardiology, Columbia University

2021 - 2024 Obesity Initiative Award, Russell Berrie Foundation Research Initiative on the Neurobiology of Obesity, Columbia University

2021 - 2023 Pilot Award, New York Nutrition and Obesity Research Center, Columbia University

2018 - 2023 Pathway to Stop Diabetes Accelerator Award, American Diabetes Association

2018 - 2022 Innovative Basic Science Award, Core Program, American Diabetes Association

2017 - 2019 Investigator, Foundation for Prader-Willi Research

REVIEW WORK (AD HOC)

2019 - Present Nature, Science, Nature Neuroscience, Nature Communications, Science Advances,

Journal of Experimental Medicine, Molecular Metabolism, Molecular Psychiatry,
Neuropharmacology