

Curriculum Vitae: Daniel A. Svedberg

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Education

- PhD 2024 **Brandeis University, Waltham MA**
 Program in Neuroscience, Quantitative Biology Specialization
 Advisor: Dr. Donald B. Katz
 Dissertation title: *Neural and Behavioral Correlates of Rapid Familiarization to Novel Taste*
- MS 2019 **Brandeis University, Waltham MA.**
 Neuroscience Major
- BA 2017 **University of Minnesota-Twin Cities, Minneapolis MN**
 Physiology Major, Neuroscience Minor

Positions Held

- November 2024 - Present **Harvard School of Medicine Department of Neurobiology**
 Research Fellow in Neurobiology, Advisor: Dr. John Assad
Studied role of dopamine on basal ganglia dynamics and movement
- May-October 2024 **Brandeis University Department of Biology**
 Postdoctoral Associate, Advisor: Dr. Donald B. Katz
Studied influence of taste experience on taste perception dynamics
- Jan 2016-August 2017 **University of Minnesota Department of Integrative Biology & Physiology**
 Research Assistant, Advisor: Dr. Alessandro Bartolomucci
Studied relationship between stress, brown adipose tissue thermogenesis, and obesity in mice
- Jan 2014-May 2016 **University of Minnesota Department of Neuroscience**
 Research Assistant, Advisor: Dr. Marija Cvetanovic
Studied role of microglial activation in Spinocerebellar Ataxia Type-1 in mice

Teaching Experience

- Sept-Dec 2018 **Teaching Assistant, Brandeis University Dept. of Psychology**
 Course: Cognitive Psychology. Director: Dr. Bob Sekuler
Facilitated discussions, assisted with exam creation, and graded exams
- Jan-May 2019 **Teaching Assistant, Brandeis University Dept. of Biology**
 Course: Biology Lab. Director: Dr. Melissa Kosinski-Collins
Gave pre-lab lectures, supervised lab section, graded assignments & projects
- June 2014-Aug 2014 **Teaching Assistant, University of Minnesota Dept. of Integrative Biology & Physiology**
 Course: Physiology: From Cells to Systems. Director: Dr. Lisa Anderson.
Facilitated discussions and graded assignments for upper-level general physiology class.

Fellowships & Awards

- Sept 2019-Sept 2020 **BNC Los Angeles Chapter Endowed Fellowship in Neuroscience and Biomedical Sciences**
 PhD Fellowship funded by Brandeis National Committee Donors
- June 2016-May 2017 **NIH Administrative Supplement Recipient**
 Project: *Molecular dissection of TLQP-21 peptide functions in obesity*
 Funded by PA-13-302, via NIH/NIDDK 1R01DK102496-02S1
- Jan-May 2016 **Louis Stokes Alliance for Minority Participation (LSAMP) Research Fellowship**
 Project: *Role of Sympathetic Innervation of Brown Adipose Tissue in Stress-Induced Obesity*
 Funded by North Star STEM Alliance via NSF grant #1201983

- June-Aug 2015 **Louis Stokes Alliance for Minority Participation (LSAMP) Research Fellowship**
Project: *Investigating the Effects of NF- κ B Inhibition in the Microglia of SCA1 Mice*
Funded by North Star STEM Alliance via NSF grant #1201983
- Jan-May 2015 **University of Minnesota Undergraduate Research Opportunities (UROP) Award**
Project: *Investigating Synaptic Pruning in LysM-Cre IKK β -flox Mice*
- June-Aug 2014 **University of Minnesota Undergraduate Research Opportunities (UROP) Award**
Project: *Impact of Eliminating Expression of IKK β in the Cerebellar Astrocytes of Mice*

Presentations

- June 2024 **International Symposium on Olfaction & Taste. Reykjavík, IS**
Cortical & behavioral correlates of rapid taste familiarization: bistable, or stabilizing? Daniel A. Svedberg, Avi P. Patel, Donald B. Katz
- Jan 2024 **Winter Conference on Brain Research. Breckenridge, CO**
Rapid drift of taste responses is related to taste experience. Daniel A. Svedberg, Donald B. Katz. Poster, **selected for data blitz presentation.**
- April 2023 **ACHEMS XLV. Bonita Springs, FL**
Cortical sensory processing changes with experience across days and trials. Daniel A. Svedberg, Donald B. Katz. Poster.
- Nov 2022 **Society for Neuroscience Conference. San Diego, CA**
Cortical taste processing rapidly accelerates with novel taste exposure. Daniel A. Svedberg, Thomas Gray, Donald B. Katz. Poster
- Sep 2021 **Volen National Center for Complex Systems Scientific Retreat. West Dennis, MA**
Effect of Taste pre-exposure on changes in taste responses related to experience. Daniel A. Svedberg, Donald B. Katz. **Selected for data blitz presentation & award.**
- Aug 2020 **International Symposium on Olfaction and Taste. Virtual/Online**
Neural Correlates of Novel Taste Experience. Daniel A. Svedberg, Donald B. Katz. Virtual Poster
- Jul 2019 **Organization for Computational Neuroscience Annual Meeting. Barcelona, SPA**
Millisecond-Resolution Bayesian Decoding of Taste in Gustatory Cortex. Daniel A. Svedberg, Bradley Stone, Dr. Donald B. Katz. Poster. **Awarded travel grant to conference.**
- Jul 2016 **St. Jude Medical National Undergraduate Research Conference, Memphis TN**
Role of Brown Adipose Tissue Innervation in Resistance to Stress-Induced Obesity at Thermoneutrality. Daniel A. Svedberg, Dr. Maria Razzoli, Dr. Alessandro Bartolomucci. **Poster & talk, awarded travel grant to conference.**
- Apr 2016 **Minnesota Academy of Sciences Winchell Symposium, St. Paul MN**
Inhibiting Microglial NF- κ B Reduces Synaptic Pruning in the Cerebellum. Daniel A. Svedberg, Dr. Marija Cvetanovic. Poster.
- Oct 2015 **SACNAS National Conference, Washington DC**
Effects of Microglial Activation of Spinocerebellar Ataxia Type 1. Daniel A. Svedberg, Dr. Marija Cvetanovic. Poster.
- Apr 2015 **Minnesota Academy of Sciences Winchell Symposium, St. Paul MN**
Effects of Microglial Activation of Spinocerebellar Ataxia Type 1. Daniel A. Svedberg, Dr. Marija Cvetanovic. Poster. **Awarded "Best Neuroscience Poster".**

Research Publications

- Svedberg, Daniel A., and Donald B. Katz. (2024). Neural correlates of rapid familiarization to novel taste. *bioRxiv*, 2024-05.
- Razzoli, M., McGonigle, S., Sahu B.S., Svedberg, D., Rao, L., Ruocco, C., Nisoli, E., Vezzani, B., Frontini, A., Choi, Y., Bartolomucci, A. (2024). A key role for P2RX5 in brown adipocyte differentiation and energy homeostasis. *Under review*.
- Maigler, K. C., Crouse, E., Stone, B. T., Svedberg, D., & Katz, D. B. (2024). Experience-induced drift in the neural coding of individual differences in perception. *bioRxiv*, 2024-04.
- Ogren, I. W., Svedberg, D. A. (2024). Assessing the Uses and Effects of Judicial Threats on the Opinion Writing Process of the United States Supreme Court. *Manuscript in preparation*.
- Lyons, Carey E., et al. (2019). Optogenetic-induced sympathetic neuromodulation of brown adipose tissue thermogenesis. *The FASEB Journal*
- Ferro, A., Qu, W., Lukowicz, A., Svedberg, D., Johnson, A., & Cvetanovic, M. (2018). Inhibition of NF- κ B signaling in IKK β F/F; LysM Cre mice causes motor deficits but does not alter pathogenesis of Spinocerebellar ataxia type 1. *PloS one*, 13(7), e0200013.
- Qu, W., Johnson, A., Kim, J. H., Lukowicz, A., Svedberg, D., & Cvetanovic, M. (2017). Inhibition of colony-stimulating factor 1 receptor early in disease ameliorates motor deficits in SCA1 mice. *Journal of neuroinflammation*, 14(1), 107.

Software

- blechpy**: Python package for extraction, spike clustering and processing of Intan recorded neural data for Katz Lab. Roshan Nanu, Daniel A. Svedberg. Co-author/maintainer. github.com/nubs01/blechpy
- pyBAKS**: Python implementation of Bayesian Adaptive Kernel Smoothing (BAKS) for neuronal firing rate estimation. Daniel A. Svedberg, Nur Ahmadi. Creator/maintainer. github.com/danielsvedberg/pyBAKS
- blechbayes**: MATLAB software for Bayesian decoding from high-dimensional time-series data with single-bin resolution. Daniel A. Svedberg. Creator/maintainer. github.com/danielsvedberg/blechBayes
- repsubsamp**: R software for drawing and evaluating representativeness of subsamples from a population data. Creator/maintainer. github.com/danielsvedberg/repsubsamp

Mentored Awards

- March 2024 **Brandeis Computational Neuroscience Training Grant Summer Fellowship**. Assessing Stability and Drift of Taste Preferences. Avi P. Patel, Daniel A. Svedberg, Donald B. Katz
- March 2024 **Barry Goldwater Scholarship Finalist**. Rapid Change in Taste Preference Suggests Learning. Avi P. Patel, Daniel A. Svedberg, Donald B. Katz
- March 2022 **M.R. Bauer Summer Research Fellowship**. A Novel Approach to Cue-Guided Taste Association Training. Emma Barash, Daniel A. Svedberg, Donald B. Katz.
- March 2021 **M.R. Bauer Summer Research Fellowship**. Taste-Associated Cues Guide Behavioral Responses. Emma Barash, Daniel A. Svedberg, Donald B. Katz

Mentored Presentations

- April 2023 **ACHEMS XLV. Bonita Springs, FL**
A novel approach to investigating anticipatory cortical responses to taste associated cues. Emma Barash, Daniel A. Svedberg, Kathleen Maigler, Donald B. Katz. Poster
Effects of Simultaneously Presented Tastes on Attenuation of Neophobia. Avi P. Patel, Daniel A. Svedberg, Donald B. Katz. Poster
- Sept 2022 **Society for Neuroscience Conference. San Diego, CA**
A novel approach to studying cue-guided food seeking
Emma Barash, Daniel A. Svedberg, Hannah Germaine, Donald B. Katz.

Mentored Theses

Aug 2023

A novel approach to investigating anticipatory responses to taste associated cues
Emma Barash. Master's thesis.

Mentored Software

2023

davis-rig-parser: Python module for preprocessing MedAssociates Davis Rig lickometer data. Avi P. Patel, Bradly T. Stone. github.com/22AviPatel/davis_rig_parser