Sarah M. Mohr

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Education

2017-present Ph.D. Interdepartmental Neuroscience Program, Yale University, New Haven, CT
- **May 2024** Thesis defended: "Cellular, Molecular, and Neuronal Underpinnings of Anorexia During Hibernation"
- **2020** Prospectus: thesis project plan approved
- **Jan 2019** Qualifying Exam: progressed to PhD Candidate
- **2017 – 2019** *Honors* in all program class requirements

2013-2017 B.A. Neuroscience with Honors, *Magna Cum Laude,* Kenyon College, Gambier, OH

Research Experience

2017-present Ph.D. student, Interdepartmental Neuroscience Program, Yale University
Supervisor: Dr. Elena Gracheva
Working thesis: *Neuronal, hormonal and metabolic underpinnings of anorexia during hibernation*

2015-2017 B.A. student, Department of Neuroscience, Kenyon College
Supervisor: Dr. Andrew Engell
Honors Thesis title: *The effect of isolated face parts on the identity sensitive N250r ERP*

Summer 2015 Summer student, Aspiring Summer Scientist Program, University of George Mason, HHMI Janelia, Ashburn, VA
Project title: *Gross morphology and ultrastructure of projection neuron boutons presynaptic to complex claws of Kenyon Cells in the mushroom body of Drosophila melanogaster.*
Supervisors: Dr. Davi Bock and Dr. Scott Lauritzen

Summer 2014 Summer student, NSF REU, Department of Biological Sciences, University of Cincinnati, OH
Project title: *Comparative Electroretinography of Diurnal Chauliognathus pennslyvanicus and Crepuscular Photinus Pyralis.*
Supervisor: Dr. Ilya Vilinksy

Fellowships and awards

2019 NSF GRFP
- Honorable Mention, Yale University

2017 Gruber Science Fellow, Yale University
- Awarded to the most highly ranked applicants to Yale PhD programs in the life sciences, cosmology, and astrophysics

2017 Phi Beta Kappa, Kenyon College

2017 Jon L. Williams Neuroscience Award, Kenyon College
- Awarded to 1st in Class of Graduating Neuroscience Majors for academic achievement, research involvement, and service performed for the program.

2016 Kenyon Summer Science Scholars Fellowship

Publications

Mohr S.M., Dai Pra R., Platt M.P., Feketa V.K., Shanabrough M., Varela L., Kristant A., Cao H., Merriman D.K., Horvath T.L., Bagriantsev S.N., Gracheva E.O. Hypothalamic hormone deficiency enables physiological anorexia in ground squirrels during hibernation. *Nature Communications.* doi: 10.1038/s41467-024-49996-2.

Mohr S.M., Bagriantsev S.N., Gracheva E.O. (2020). Cellular, Molecular, and Physiological Adaptations of Hibernation: The Solution to Environmental Challenges. *Annual Review of Cell and Developmental Biology.* doi: 10.1146/annurev-cellbio-012820-095945.

Dai Pra, R., **Mohr S.M.**, Merriman D.K., Bagriantsev S.N., Gracheva E.O. (2022). Ground squirrels initiate sexual maturation during hibernation. *Current Biology.* doi: 10.1016/j.cub.2022.02.032.

Mohr S., Wang A., & Engell A. D. (2018). Early identity recognition of familiar faces is not dependent on holistic processing. *Social Cognitive and Affective Neuroscience*. doi: 10.1093/scan/nsy079.

Stowasser A., **Mohr S.**, Buschbeck E., & Vilinsky I. (2015). Electrophysiology Meets Ecology: Investigating How Vision is Tuned to the Life Style of an Animal using Electroretinography. *Journal of Undergraduate Neuroscience Education*, *13*(3), A234.

Other Media

American Chemical Society. (2022, Jan 26). *How is climate change affecting hibernation?* [Video] Youtube. https://www.youtube.com/watch?v=XqbQl54SCds. Scientific consultant.

Mountain West News Bureau- NPR. (2022, Feb 2). *How climate change plays havoc on hibernating animals* [Radio and News Article] Wyoming Public Media. https://www.wyomingpublicmedia.org/science/2022-02-02/how-climate-change-plays-havoc-on-hibernating-animals. Scientific consultant.

Talks

Mohr S.M., Dai Pra R., Platt M.P., Feketa V.K., Shanabrough M., Varela L., Kristant A., Cao H., Merriman D.K., Horvath T.L., Bagriantsev S.N., Gracheva E.O. Hypothalamic hormone deficiency enables physiological anorexia. Yale Neuroscience Department Research in Progress (February 2024), Yale University, New Haven, CT.

Mohr S.M., Dai Pra R., Platt M.P., Feketa V.K., Shanabrough M., Varela L., Kristant A., Cao H., Merriman D.K., Horvath T.L., Bagriantsev S.N., Gracheva E.O. Hypothalamic thyroid hormone deficiency underlies reversible anorexia in a mammalian hibernator. Yale Physiology Department Retreat (May 2023), Yale University, New Haven, CT.

Mohr S.M., Dai Pra R., Platt M.P., Feketa V.K., Shanabrough M., Varela L., Kristant A., Cao H., Merriman D.K., Horvath T.L., Bagriantsev S.N., Gracheva E.O. Molecular and cellular underpinning of anorexia during hibernation. Interdepartmental Neuroscience Student Research Talk (Jan 2023), Yale University, New Haven, CT.

Mohr S.M., Dai Prá R., Feng N.Y., Bagrianstev S.N, Gracheva E.O. Molecular and cellular underpinning of anorexia during hibernation. Interdepartmental Neuroscience Student Research Talk (Jan 2022), Yale University, New Haven, CT.

Mohr S.M., Dai Prá R., Feng N.Y., Bagrianstev S.N, Gracheva E.O. Molecular and cellular underpinning of anorexia during hibernation. Yale Neuroscience Department Research in Progress (Feb 2021), Yale University, New Haven, CT.

Mohr S.M., Dai Prá R., Feng N.Y., Bagrianstev S.N, Gracheva E.O. Molecular and cellular underpinning of anorexia during hibernation. Interdepartmental Neuroscience Student Research Talk (Feb 2021), Yale University, New Haven, CT.

Mohr S.M., Dai Prá R., Feng N.Y., Bagrianstev S.N, Gracheva E.O. Molecular and cellular underpinning of anorexia during hibernation. Interdepartmental Neuroscience Student Research Talk (March 2020), Yale University, New Haven, CT.

Mohr S.M., Dai Prá R., Feng N.Y., Bagrianstev S.N, Gracheva E.O. Molecular and cellular underpinning of anorexia during hibernation. Yale Physiology Department Retreat (Dec 2019), Yale University, New Haven, CT.

Mohr S.M., Feng N.Y., Bagrianstev S.N, Gracheva E.O. Cellular and Molecular Underpinnings of Seasonally Regulated Food Consumption in Hibernators. Interdepartmental Neuroscience Student Research Talk (April 2019), Yale University, New Haven, CT.

Mohr S.M., Feng N.Y., Laursen W.J., Feketa V.V., Bagrianstev S.N, Gracheva E.O. Molecular Mechanisms of Noxious Heat Sensation. Interdepartmental Neuroscience Student Research Talk (Jul 2018), Yale University, New Haven, CT.

Conference abstracts

Mohr S.M., Dai Pra, R., Platt, M.P., Feketa, V.F., Shanabrough, M., Varela, L., Kristant, A., Horvath, T., Bagriantsev, S.N., and Gracheva E.O. Hypothalamic thyroid hormone deficiency underlies reversible anorexia in a mammalian hibernator. EuroEvoDevo. *2024 June 25.* Helsinki, Finland.

Mohr S.M., Dai Pra, R., Shanabrough, M., Varela, L., Kristant, A., Horvath, T., Bagriantsev, S.N., and Gracheva E.O. Cellular and Molecular Underpinnings of Hibernation Anorexia. Neuroethology: Behavior, Evolution and Neurobiology Gordon Research Conference. 2023 Aug 6. West Dover, VT, USA.

Mohr S.M., Dai Pra, R., Shanabrough, M., Varela, L., Kristant, A., Horvath, T., Bagriantsev, S.N., and Gracheva E.O. Cellular and Molecular Underpinnings of Hibernation Anorexia. Smith Family Foundation Award Symposium. 2022 Nov 1. Cambridge, MA, USA.

Mohr S.M., Dai Pra, R., Shanabrough, M., Varela, L., Kristant, A., Horvath, T., Bagriantsev, S.N., and Gracheva E.O. Cellular and Molecular Underpinnings of Hibernation Anorexia. International Society for Neuroethology. 2022 Aug 25. Lisbon, Portugal.

Mohr S., Wang A., & Engell A.D. Early identity recognition of familiar faces is not dependent on holistic processing. Society for Neuroscience. 2018 Nov 7. San Diego, CA, USA.

Teaching experience

2023 Guest Lecturer for Exploring the Brain-Body Interface: The Neuroscience of Basic Survival. *Molecular and cellular underpinning of anorexia during hibernation.* Wesleyan University, Middletown, CT.
2021 Teaching Assistant, Foundations of Systems Neuroscience, Yale University
2018 Teaching Assistant, Biology, the World, and Us, Yale College

Outreach involvement

2018 – 2024 Leader of Yale Sensory Physiology Club

- Annual, week-long course focused on exploring the science behind our five senses, using interactive demos. We work with the Pathways to Science Summer Scholars Program to deliver content to middle and high-school students from

underrepresented and underprivileged backgrounds from the local area.

2019 – 2024 Leader of Yale Interdepartmental Neuroscience Program Outreach

- This student-run program organizes interactive field trips to Yale School of Medicine about neuroscience for local middle and high-schools. We cover topics such as addiction and drugs of abuse, neuronal development. sensory physiology, and comparative neuroanatomy.

References

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