Patrick Monari, PhD

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EDUCATION

University of Wisconsin-Madison — *Madison, WI*
Ph.D., Department of Psychology; Area Group: Biological Psychology — *Sep 2018 – Dec 2023*
Wisconsin Alumni Research Foundation Graduate School Fellow
National Science Foundation Graduate Research Fellow

University of Wisconsin-Madison — *Madison, WI*
M.S., Department of Psychology; Area Group: Biological Psychology — *Sep 2018 – Dec 2019*

Swarthmore College — *Swarthmore, PA*
B.A., majors: Biology, Psychology — *Jun 2013*
Sigma Xi honors

RESEARCH POSITIONS

Fulbright Scholar, *University of Auckland School of Biological Sciences* — *Auckland, NZ*
Prof. Kristal Cain, Ph.D. — *Jan 2024 – Present*

Exploring the endocrine mechanisms of avian vocal communication and social motivation using molecular and computational methods. Developing a project on the complex interplay between sleep deprivation and neuroendocrine dysregulation on open-ended song learning/production and flocking in the common myna.

Ph.D. Student, *University of Wisconsin-Madison Department of Psychology* — *Madison, WI*
Prof. Catherine Marler, Ph.D. — *Sep 2018 – Dec 2023*

Investigated the functional neural plasticity of social behaviors from an endocrine perspective in the monogamous, bi-parental California mouse. Developed and implemented behavioral paradigms, endocrine manipulations, and computational methods for studying cooperation, communication, and territorial defense.

Research Assistant, *Princeton University Neuroscience Institute* — *Princeton, NJ*
Prof. Elizabeth Gould, Ph.D. — *Dec 2015 – Aug 2017*

Developed and led projects exploring neuropeptide regulation of dendritic spine density and granule cell proliferation in the dentate gyrus of the adult rodent hippocampus. Performed behavioral assays, surgical procedures, histology, imaging, and analysis for graduate and postdoctoral projects investigating neuronal and glial structural plasticity and its functional consequences in adult rodents.

Research Assistant, *Swarthmore College Department of Psychology* — *Swarthmore, PA*
Prof. Allen Schneider, Ph.D. — *Sep 2010 – Jun 2013*

Investigated contextual fear memory and the role of stress in memory consolidation and reconsolidation in rodents. Summer work funded by HHMI Undergraduate Student Grant and NSF Research Experience for Undergraduates.

PUBLICATIONS

Monari, P., Hammond, E., Zhao, X., Maksimoski, A., Petric, R, Malone, C., Riters, L., & Marler. C. Conditioned preferences: Gated by experience, context, and endocrine systems. *Hormones and Behavior* 161 (2024): 105529. DOI: doi.org/10.1016/j.yhbeh.2024.105529.

Monari, P., Herro, Z., Bymers, J., & Marler, C. Chronic intranasal oxytocin increases acoustic eavesdropping and adult neurogenesis. *Hormones & Behavior*. 2023. 156 (2023): 105443. DOI: doi.org/10.1016/j.yhbeh.2023.105443.

Monari, P.*, Hammond, E.*, Malone, C.*, Cuarenta, A., Hiura, L., Wallace, K., Taylor, L., & Pradhan, D. Leveraging individual power to improve racial equity in academia. *Hormones & Behavior*. 2023. 152 (2023): 105358. DOI: doi.org/10.1016/j.yhbeh.2023.105358. ***Equal contribution**

Rieger, N., Guoynes, C., **Monari, P.**, Hammond, E., Malone, C., & Marler, C. Neuroendocrine mechanisms of aggression in rodents. *Motivation Science*. 2022. 8(2), 81. DOI: doi.org/10.1037/mot0000260.

Monari, P., Rieger, N., Schefelker, J., & Marler, C. Intranasal oxytocin drives coordinated social approach. *Scientific Reports*. 2021. 17923. DOI: doi.org/10.1038/s41598-021-97468-0.

Rieger, N.*, **Monari, P.***, Hartfield, K., Schefelker, J., & Marler, C. Pair-bonding leads to convergence in approach behavior to conspecific vocalizations in California mice (*Peromyscus californicus*). *Plos one*. 2021. 16(8), e0255295. DOI: doi.org/10.1371/journal.pone.0255295. ***Equal contribution**

Marler, C. & **Monari, P**. Neuroendocrine control of vocalizations in rodents. *Neuroendocrine Regulation of Animal Vocalizations*. 2020. 201-216. DOI: https://doi.org/10.1016/B978-0-12-815160-0.00014-1.

Cope, E. C., LaMarca, E. A.*, **Monari, P**.*, Olson, L. B., Martinez, S., & Gould, E. Microglia play an active role in obesity-associated cognitive decline. *The Journal of Neuroscience*. 2018; *38*(41), 8889-8904. DOI: 10.1523/JNEUROSCI.0789-18.2018. ***Equal contribution**

Brockett, A. T., Kane, G. A., **Monari, P.**, Briones, B. A., Vigneron, P. A., Barber, G., Bermudez, A., Dieffenbach, U., Kloth, A. D., Buschman, T., J., & Gould, E. Evidence supporting a role for astrocytes in the regulation of cognitive flexibility and neuronal oscillations through the Ca^{2+} binding protein S100β. *PLoS One*. 2018. *13*(4), e0195726. DOI: 10.1371/journal.pone.0195726.

Opendak, M., Offit, L., **Monari, P.**, Schoenfield, T. J., Sonti, A. N., Cameron, H., A., & Gould, E. Lasting adaptations in social behavior produced by social disruption and inhibition of adult neurogenesis. *The Journal of Neuroscience*. 2016; 36(26):7027-7038. DOI: 10.1523/JNEUROSCI.4435-15.2016.

MANUSCRIPTS IN PREPARATION OR SUBMITTED

Monari, P., Hammond, E., Marji, M., Douglas, B., Cleveland, D., & Malone, C. Building racial equity learning-action communities in academia. *Submitted*.

Hammond, E., **Monari, P**. Kilponnen, L., Chen, Y., & Marler, C. Oxytocin impairs wound healing during social isolation in female and male California mice (*Peromyscus californicus*). *Submitted*.

Monari, P., Malone, C., Hu, Z., Karnati, S., Xue, Z., Li, L., Jang, Y., Hammond, E., Chen, Y., Carreras-Simons, L., & Marler, C. Chronic OXT impairs movement synchrony and communication across social contexts. *In preparation*.

Hart, A., **Monari, P.**, Cieraad, E., Borkin, K., Pattermore, D., Cain, K. Anthropogenic noise exposure reduces foraging activity in native New Zealand bats. *In preparation*.

Kihntopf, M.*, **Monari, P.***, Olson, S., Cox, K., Hammond, E., & Marler, C. Paternal deprivation enhances social peer preference in a monogamous mouse during peri-adolescence. *In preparation*. ***Equal contribution**

Monari, P., Chen, J., Olson, S., & Marler, C. Sex-specific impairment of adult olfactory neurogenesis using intranasal recombinant adeno-associated virus in California mice. *In preparation*.

Monari, P., Hammond, E., Hu, Z., Karnati, S., Xue, Z., Li, L., Daino, E., Kilponnen, L., Jang, Y., & Marler, C. Ventral hippocampal neurogenesis regulates bonding-dependent anxiety in a monogamous species. *In preparation*.

AWARDS, SCHOLARSHIPS, & FELLOWSHIPS

Fulbright Scholar to New Zealand	*Jan 2024 - present*
Rising Stars in Neuroscience Program, University of Utah	*May 2023*
Student Activism Award, Morgridge Institute	*Apr 2023*
Commitment to Engagement and Activism Bucky Award, UW-Madision	*Mar 2023*
Psychology Department Graduate Student Service Award, UW-Madision	*Apr 2022*
Sigma Xi Research Honors Society Grant-in-Aid of Research	*Aug 2021*
Riken Brain Science Institute Summer Lecture Program	*July 2021*
Menzies and Royalty Research Award	*Dec 2019, Feb 2021*
National Science Foundation Graduate Research Fellowship	*Apr 2019 – Apr 2022*
Hertz Foundation Travel Award	*Jun 2019, July 2020*
Wisconsin Alumni Research Foundation Graduate Student Fellowship	*Sep 2018 – May 2023*
Daniel Brenner Academic Scholarship for Behavioral Biologists	*Sep 2012 – May 2013*
National Science Foundation Research Experience for Undergraduates	*May 2012 – Aug 2012*
Howard Hughes Medical Institute Summer Research Fellowship	*Jun 2011 – Aug 2011*
Cornelia Dashiell and Dino Enea Petech McCurdy Academic Scholarship	*Sep 2010 – May 2012*
Japanese American Citizens League Undergraduate Scholarship	*Sep 2009*

INVITED TALKS

Too much of a good thing: Long-term oxytocin signaling impairs communication and coordination in a monogamous rodent. University of Auckland School of Biological Sciences Seminar Series, 2024. Auckland, NZ.

Chronic intranasal oxytocin disrupts vocal communication and coordination across social contexts in a monogamous rodent. Bridging Brains and Bioacoustics Virtual Seminar, 2023. Virtual.

Intranasal oxytocin, social coordination, and adult neurogenesis. Rising Stars in Neuroscience, 2023. Salt Lake City, UT.

Building and sustaining racial equity learning-action groups. The Crossing Symposium on Working Towards Justice, 2023. Madison, WI.

Tools for building and sustaining racial equity learning-action groups. Annual meeting, Society for Behavioral Neuroendocrinology, 2022. Atlanta, GA.

Oxytocin drives behavioral convergence. University of Wisconsin-Madison Psychology Department First Year Seminar, 2019. Madison, WI.

PRESENTATIONS & POSTERS

Monari, P., Hammond, E., Malone, C., Cuarenta, A., Hiura, L., Wallace, K., Taylor, L., & Pradhan, D. Leveraging individual power to improve racial equity in academia. Annual meeting, Society for Integrative and Comparative Biology, 2024. Seattle, WA. *Poster*.

Hammond, E., **Monari, P.**, Kilponen, L., Marler, C. Oxytocin increases sickness-like and huddling behavior following LPS-induced inflammation. Society for Behavioral Neuroendocrinology, 2023. Tours, France. *Poster*.

Monari P., Malone C., Hammond E., Chen Y., Jang Y., Carreras-Simons L., Teachey Z., & Marler C. Chronic oxytocin increases vocalization complexity in pair-bonded California mice (*Peromyscus californicus*). Annual meeting, Society for Behavioral Neuroendocrinology, 2022. Atlanta, GA. *Poster*.

Hammond, E., **Monari, P.**, Kilponen, L., Chen, Y., Marler, C. Negative effects of oxytocin on wound healing in isolated individuals of a monogamous species. Animal Behavior Society, 2022. *Virtual poster*.

Monari, P., Cuarenta, A., Hiura, L., Wallace, K., Taylor, L., & Pradhan, D. Leveraging individual power to improve racial equity in academia. Annual meeting, Society for Behavioral Neuroendocrinology, 2022. Atlanta, GA. *Panel moderator*.

Monari P., Malone C., Hammond E., Chen Y., Jang Y., Carreras-Simons L., Teachey Z. Marler C. Vocalization complexity in pair-bonded California mice (*Peromyscus californicus*). Annual meeting, Animal Behavior Society, 2022. *Virtual poster*.

Monari, P., Herro, Z., & Marler, C. Chronic intranasal oxytocin produces lasting changes in social recognition behavior. Annual Meeting, Society for Behavioral Neuroendocrinology Virtual Conference, 2021. *Virtual poster*.

Monari, P., Herro, Z., & Marler, C. Intranasal oxytocin increases hippocampal immature neuron density and social approach following delay. Annual Meeting, Society for Neuroscience Global Connectome Virtual Conference, 2021. *Virtual poster*.

Monari, P., Schefelker, J., & Marler, C. Ultrasonic vocalizations in Peromyscus californicus are modulated by oxytocin. Annual Meeting, Federation of European Neuroscience Societies Virtual Forum, 2020. *Virtual poster*.

Monari, P., Schefelker, J., Hertfield, K., Rieger, N., & Marler, C. Effects of oxytocin on response to aversive vocal stimuli following pair bond formation. Annual Meeting, Society for Behavioral Neuroendocrinology, 2019. Bloomington, IN. *Poster*.

Schefelker, J., **Monari, P**., & Marler, C. Examining the role of oxytocin in response to aversive vocal stimuli following pair bond formation. Annual Meeting, Wisconsin Psychological Association, 2019. Wisconsin Dells, WI. *Poster*.

TEACHING AND MENTORSHIP

Hilldale Fellowship Mentor, *University of Wisconsin-Madison* — *Madison, WI*
Worked with three undergraduates to apply for and successfully receive summer funding to conduct independent research projects in the Marler Lab. Trained and advised students through project completion. — *Sep 2020 – Present*

Research Mentor, *University of Wisconsin-Madison Department of Psychology* — *Madison, WI*
Directly mentor/mentored 18 undergraduate researchers. — *Sep 2018 – Present*

Undergraduate Program Mentor, *University of Wisconsin-Madison WISCIENCE* — *Madison, WI*
Design and lead workshops and discussions for summer research program students in the Biological Interactions Summer Program. Directly mentored summer program students. — *May 2020 – Jan 2023*

Undergraduate Program Mentor, *University of Wisconsin-Madison PREP* — *Madison, WI*
Mentored summer undergraduate student through the Psychology Research Experience Program. Trained and advised student through project completion. — *May 2022 – Aug 2022*

Undergraduate Program Mentor, *University of Wisconsin-Madison URS* — *Madison, WI*
Directly mentored undergraduate student through the Undergraduate Research Scholars Program. Trained and advised student through project completion. — *Jan 2021 – May 2021*

Undergraduate Program Mentor, *University of Wisconsin-Madison WISCIENCE* — *Madison, WI*
Discussion facilitator and mentor for first-year undergraduates interested in Biology in the BioHouse First Year Program. — *Sep 2018 – Dec 2020*

Teaching Assistant, *University of Wisconsin-Madison Department of Integrative Biology* — *Madison, WI*
Neurobiology Early Summer Course — *May 2019 – June 2019*

Reader/Grader, *University of Wisconsin-Madison Department of Psychology* — *Madison, WI*
Hormones and Behavior course — *Jan 2019 – May 2019*

Teaching Assistant, *University of Wisconsin-Madison Department of Psychology* — *Madison, WI*

Animal Behavior course — *Sep 2018 – Dec 2018*

Teaching Assistant, *Rakuhoku Junior and Senior High School* — *Kyoto, Japan*

Full-time teaching assistant in 8 English and Science-English classes. — *Jul 2013 – Jul 2014*

ADVOCACY

Chair and founder, *Antiracism Learning and Action in Neuroscience* — *Madison, WI*

alaneuro.weebly.com — *Jul 2020 – Present*

In light of the longstanding national movement to dismantle systemic racism, I formed a learning-action group committed to racial justice in neuroscience spaces and communities. This group is specifically intended to examine topics of race - including those at the intersection of gender, sexual orientation, and ability - and develop actions that leverage academic privilege. It has met weekly since the summer of 2020 and in the two and a half years since its formation, members of ALAN have spearheaded a number of initiatives, including a university-wide catalog of life science labs that prioritize hiring undergraduate researchers of color, a yearly "Science Expo" at a local underserved high school, which brings over 70 university scientists to speak with students to foster science identities, two DEI panels at a science society conference, a "grad guide" to help address the hidden curriculum for succeeding as a graduate student, and a published commentary on leveraging privilege to improve racial equity in academia.

Personal accomplishments in this position:

Co-lead Author, Commentary on forming racial equity learning-action groups in neuroscience — *Aug 2022 – Present*

Co-coordinator and Volunteer, High School Science Expo — *Sep 2020 – Present*

Manager, Research Opportunity Catalog for Underrepresented Undergraduates in the Life Sciences — *Sep 2021 – Present*

Meeting and content facilitator, Antiracism Learning and Action in Neuroscience weekly meetings — *Jul 2020 – Present*

Co-lead Author, Commentary on leveraging privilege to improve racial equity in academia — *Jun 2022 – Jan 2023*

Moderator, Society for Behavioral Neuroendocrinology Professional Development DEI Panel — *Jun 2022*

Presenter, Society for Behavioral Neuroendocrinology Professional Development DEI Workshop — *Jun 2022*

ADDITIONAL VOLUNTEER ACTIVITIES AND SCIENCE OUTREACH

Member, Supporters of Tiritiri Matangi — *Mar 2024 – Present*

Member, Society for Behavioral Neuroendocrinology Professional Development Committee — *Jan 2022 – Present*

Chair and Founder, Antiracism Learning and Action in Neuroscience — *Jul 2020 – Present*

Member, Psychology Department Climate and Diversity Committee — *Sep 2019 – May 2022*

Member, Psychology Department Colloquium Committee — *Mar 2019 – May 2022*

Secretary and Board, Community for Underrepresented Students in STEM, UW-Madison — *Sep 2018 – May 2020*

Volunteer, Junior Science Café, UW-Madison — *Mar 2019 – May 2020*

Member, *Princeton Citizen Scientists, Princeton University* — *Feb 2017 – Sep 2017*

Volunteer, Spring Science Expo, *Princeton University* — *Apr 2017*

Fellow, Science Communication and Education Network, *Princeton University* — *Mar 2017 – Sep 2017*

Volunteer, Science-English Seminar for Summer Exchange Students, *Momoyama High School* — *May 2014*

Volunteer, Super Science High School Poster Session coordinator, *Rakuhoku High School* — *Mar 2014*

Volunteer, International High School Poster Session volunteer, *Ritsumeikan University* — *Feb 2014*