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# Gabriella M. Marino

## Education

- 2026                      Ph.D. in Neuroscience  
                              Biomedical Sciences - Neuroscience  
                              Marquette University, Milwaukee, WI
- May 2021                B.A in Psychology; Minors in Biology, Neuroscience, Music  
                              Marquette University, Milwaukee, WI

## Research Experience

- Jan 2022-Present      **Graduate Researcher; Sleep, Circadian Rhythms, and Metabolism Lab**  
**Dr. Deanna Arble, Milwaukee, WI**  
Currently studying the relationship between environmental light and breathing. Also developed a novel mouse model to understand the relationship between leptin receptor expression and clock gene expression.
- Jan 2019-May 2021    **Undergraduate Researcher; Aging, Imaging, and Memory Lab**  
**Dr. Kristy Nielson, Milwaukee, WI**  
Examined genetic risk and bilateral recruitment with ERP data from Famous Names Discrimination Task. Also aided in project analyzing diffused scalp maps and neural activity in order to further understand hemispheric difference waves using EEG imaging.
- June 2019-May 2021   **Undergraduate Researcher; Sleep, Circadian Rhythms, and Metabolism Lab**  
**Dr. Deanna Arble, Milwaukee, WI**  
Examined the effects of photoperiod on breathing patterns in mice under various light/dark cycles. Also aided in a project studying the effects on leptin and melatonin on breathing patterns in wild type and diet-induced obese mice.

## Teaching Experience

- August 2020 - May 2023      **Teaching Assistant; Marquette University, Milwaukee, WI**  
Assisted in leading lecture and discussion sessions for General Chemistry, Systems Neuroscience, Microbiology, Experimental Physiology, and Experimental Cellular Neurobiology. Also aided in grading assignments, taking

attendance, and facilitating exam review sessions.

January 2024

**Guest Lecturer; Marquette University, Milwaukee, WI**

Led a discussion in Honors in Psychology regarding the graduate school application process and career discernment

November 2021,  
November 2022

**Guest Lecturer; Marquette University, Milwaukee, WI**

Led 1-3 lectures in Systems Neuroscience regarding sleep and circadian rhythms.

December 2021

**Guest Lecturer; New Berlin West High School, New Berlin, WI**

Led an educational event regarding neuroscientific topics including sensation, perception, and gross neuroanatomy.

## Bibliography

### *Peer Reviewed Publications*

**Marino, G.M.**, Arble, D.M., (2023). Peripheral clock disruption and metabolic disease: Moving beyond the anatomy to a functional approach. *Frontiers in Endocrinology*.

Jones, A.A., **Marino, G.M.**, Spears, A.R., Arble, D.M. (2023). The molecular circadian clock of Phox2b-expressing cells drives daily variation of the hypoxic but not hypercapnic ventilatory response in mice. *Function*.

Jones, A.A., Nelson, L.R., **Marino, G.M.**, Chappelle, N.A., Joye, D.A.M., Arble, D.M. (2021). Photoperiod manipulation reveals a light-driven component to daily patterns of ventilation in C57Bl/6J mice. *J Biol Rhythms*.

### *Abstracts*

**Marino, G.M.**, Arble D.A. (2024). The timing and duration of light exposure differentially affects breathing in male mice. Poster Presentation. Society for Research in Biological Rhythms. San Juan, Puerto Rico.

**Marino G.M.**, Nelson L.R., Arble D.A. (2023). Molecular Clock Dysfunction Within Leptin-Receptor Expressing Cells Increases Leptin Sensitivity in Mice. Oral Presentation. Advances in Sleep and Circadian Science. Clearwater, FL.

**Marino G.M.**, Nelson L.R., Arble D.A. (2023). Molecular Clock Dysfunction Within Leptin-Receptor Expressing Cells Increases Leptin Sensitivity in Mice. Poster Presentation. Advances in Sleep and Circadian Science. Clearwater, FL.

**Marino G.M.**, Nelson L.R., Arble D.A. (2022). Molecular Clock Dysfunction Within Leptin-Receptor Expressing Cells Increases Leptin Sensitivity in Mice. Poster Presentation. Keystone Symposia: Sleep and Circadian Biology. Novato, CA. *Canceled*.

**Marino, G.M.**, Gregg, T.A., Paitel, E.R., Nielson, K.A. (2021). APOE ε4 and ERP Intraindividual Variability: Emerging Diagnostic Targets for Alzheimer's Disease. Poster Presentation. Marquette University, Milwaukee, WI.

Jones, A.A., Nelson, L.R., **Marino, G.M.**, Chappelle, N.A., Arble, D.M. (2020). Photoperiod manipulation reveals a light-driven component to the daily oscillation in ventilatory drive. Poster Presentation. Society for Research on Biological Rhythms biennial meeting. Virtual Conference.

## Research Techniques

Rodent animal care and handling. Colony maintenance. Glucose tolerance tests. Intraperitoneal injections. Intermittent hypoxia and hypercapnic ventilatory response testing. Whole-body plethysmography. Mouse brain dissection. Mouse spinal cord harvest. Cryostat brain slicing. Immunohistochemistry. Gel electrophoresis. Polymerase chain reaction (PCR).

## Computer Techniques

GraphPad Prism®. IBM SPSS Statistics®. Microsoft Excel®. BioRender®.

## Research Interests

1. Biological mechanisms underlying sleep, breathing, and dietary rhythms
2. Effects of sex differences on biological rhythms
3. Translational research concerning sleep apnea, obesity, and diabetes

## Honors and Awards

2023-Present	GAANN Fellowship Recipient
2021-Present	Marquette University Neuroscience Graduate Fellowship
2021	Graduated Summa Cum Laude
2021-Present	Phi Beta Kappa Honor Society
2021	Recipient of the Contemplatives in Action Student Leadership Award
2019-Present	Alpha Sigma Nu Jesuit Honor Society
2018-2021	Disciplinary Honors in Psychology Program
2018-Present	Psi Chi Psychology Honors Society
2017-Present	George M. Pullman Educational Foundation Scholar
2017-2021	Marquette University Core Honors Program

## Relevant Courses

Fall 2023	Health, Science, & Environment
Spring 2023	Advanced Physiology
Fall 2022	Diseases of the Brain

Spring 2022	Endocrinology
Spring 2022	Foundations of Neuroscience 2
Fall 2021	Foundations of Neuroscience 1
Fall 2021	Functional Neuroanatomy
Spring 2021	Genetics
Fall 2020	Experimental Cell Biology
Fall 2020	Physiology
Spring 2020	Cellular Neurobiology

## Relevant Work Experience

May 2023-August 2023	<p><b>Summer Research Program Student Mentor; Marquette University, Milwaukee, WI</b></p> <p>Mentored students and served as a resource for the Summer Research Program within the Biology Department. Planned poster session, directed weekly courses, and coordinated social and academic events.</p>
May 2021-August 2021	<p><b>Research Technician; Sleep, Circadian Rhythms, and Metabolism Lab Dr. Deanna Arble, Milwaukee, WI</b></p> <p>Assisted in lab protocols including colony maintenance, gel electrophoresis, and dissection procedures. Also facilitated lab meetings and maintained general lab upkeep.</p>
June 2018 - Jan 2019	<p><b>Clinical Assistant; Midwestern University, Downers Grove, IL</b></p> <p>Executed tasks such as organizing medical documents, setting up appointments, and supporting physicians. Also assisted in the clinical laboratory with specimen collection and culture analysis.</p>

## Relevant Volunteer Experience

January 2024-Present	<p><b>Grafton High School Mentor, Marquette University, Milwaukee, WI</b></p> <p>Served as a mentor to five high school students on a biological mechanism of interest. Instructed students on topic material and oversaw a semester-long project on the biological clock.</p>
August 2023-Present	<p><b>Undergraduate Mentor, Marquette University, Milwaukee, WI</b></p> <p>Served as a mentor to two undergraduate students through the Marquette Intra-Collegiate Student Mentor Program.</p>
Jan 2022-Present	<p><b>Undergraduate Tutor; Marquette University, Milwaukee, WI</b></p> <p>Worked with a small group of undergraduate students to facilitate learning in various topics, including molecular and cellular biology, neuroscience, and physiology.</p>
Jan 2020-Jan 2022	<p><b>Research Liaison; Marquette University, Milwaukee, WI</b></p>

Worked with Marquette University Student Government to support a more comprehensive relationship between the student body and research community. Also conducted and participated in interviews with various Marquette personnel.