Taylor Marcus

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# Education

**PhD** Tulane University, Neuroscience Expected May 2025

*Mentor: Dr. Julie Markant, Ph.D*

**BS** Louisiana State University, Biological Sciences May 2018

*Ogden Honors College*

**BS** Louisiana State University, Psychology May 2018

*Ogden Honors College*

# Honors and Awards

**LSU Academic Nonresident Award** 2014

# Research Experience

**Graduate Student**, Tulane University, New Orleans, LA 2020 to present

Advisor: Dr. Julie Markant

* Projects:
  + fNIRS Studies of Attention and Learning Across Development
  + Attention, Learning, and Memory in Adulthood
  + Longitudinal Investigation of Endogenous and Social-Motivational Predictors of Attention to Caregivers in Infancy
* Role: Manage all aspects of independent and collaborative research projects using behavioral measures, eye tracking and functional near-infrared spectroscopy (fNIRS) methods. Develop study protocols and data processing pipelines. Coordinate and oversee research assistants’ roles in recruitment, data collection and processing.

**Clinical Research Coordinator**, Tulane University, New Orleans, LA 2019 to 2020

Advisor: Dr. Katherine Mills

* Projects:
  + Sodium Lowering and Urinary Protein Reduction (SUPER) Trial
  + Vascular Effects of Dietary Sodium Reduction in Patients with Chronic Kidney Disease (SOLVE) Trial
* Role: Managed all aspects of the SUPER and SOLVE clinical trials, developed an in-depth knowledge of protocol requirements and good clinical practices. Acted as the liaison between patient, investigator, collaborators, IRB and sponsor. Responsible for recruitment, data collection, entry and quality control activities and ensured protocol compliance and patient monitoring.

**Clinical Protocol Technician**, Tulane University, New Orleans, LA 2018 to 2019

Advisor: Dr. Jiang He

* Projects:
  + Chronic Renal Insufficiency Cohort
  + Low-Carbohydrate Dietary Pattern on Glycemic Outcomes Trial
  + Sodium Lowering and Urinary Protein Reduction Trial
  + Vascular Effects of Dietary Sodium Reduction in Patients with Chronic Kidney Disease
* Role: Responsible for conducting the physiological assessments, lab testing and recruitment of participants for several active clinical research studies in the Tulane Office of Health Research.

**Laboratory Assistant**, Baton Rouge LA 2017 to 2018

Advisor: Dr. Brant Faircloth

* Project:
  + Genome Assemblies for Two Neotropical Trees: Jacaranda copaia and Handroanthus guayacan
* Role: Assist in evolutionary biology research efforts. Updated GenBank databases, isolated and quantified DNA samples, and prepare DNA libraries of various organisms.

**Research Assistant**, Baton Rouge LA 2015 to 2017

Advisor: Dr. George Noell

* Projects:
  + Promoting Literacy Development in the Early Childhood Classroom
  + Teaching children with autism to tie their shoes using video prompt-models and backward chaining.
* Role: Responsible for conducting data collection and processing for various research studies in the lab.

**Honors Students Advised**

Anna Wood, *Biased Attention Orienting to the Self-Face during an Attention Capture*

*Task*, Graduated Spring 2023

**Undergraduate Students Advised**

Sam Spirt, Graduated Spring 2023

Sophia Nahabedian, Graduated Spring 2023

Keerthana Krishnan, Expected Graduation Spring 2024

Sarah Bender, Graduated Fall 2022

Carson Heward, Graduated Spring 2023

Bella Mainiero, Expected Graduation Spring 2026

Rose Roskey, Expected Graduation Spring 2024

Max Curl, Expected Graduation Spring 2024

# Teaching Experience

**Courses Taught at Tulane University**

**Undergraduate**

NSCI/PSYC 3300 *Brain and Behavior* Summer 2024

**Guest Lectures**

NSCI/PSYC 4380 *Cognitive Neuroscience* Spring 2023

NSCI/PSYC 3300 *Brain and Behavior* Spring 2024

NSCI/CELL 3310 *Neurodevelopment and Disease*  Spring 2024

PSYC 3210 *Child Psychology* Spring 2024

**Relevant Training**

**Tulane University**, New Orleans, LA Fall 2023

**Graduate Pedagogy Program**

* Three-Semester Graduate Pedagogy Program designed to train and prepare graduate students to be an instructor of record.
  + CELT 7010 The Essentials of Teaching & Learning: Completed Spring 2022
  + CELT 7020 Practical Course Design & Teaching Skills: Completed Fall 2022
  + CELT 7030 Teaching Practicum: Completed Spring 2023

**Tulane University**, New Orleans, LA August 2020 to Spring 2023

**Teaching Assistant**, Neuroscience and Psychology

* Brain and Behavior, Fall 2020
* Biological Psychology. Spring 2021
* Psychopharmacology Lab, Fall 2021
* Neuroanatomy Lab, Spring 2022
* Applied Neuroscience, Spring 2022
* Sensation and Perception Lab, Fall 2022
* Cognitive Neuroscience, Spring 2023

# Publications

King, J., Marcus, T., & Markant, J. *Individual differences in selective attention and engagement shape students’ learning from visual cues and instructor presence during online lessons.* Sci Rep 13, 5075 (2023). https://doi.org/10.1038/s41598-023-32069-7.

## Journal Papers in Preparation

## Tholen, K., Mainero, B., Marcus, T., & Markant, J. (in preparation). Differential effects of working memory on attention capture among musicians and non-musicians.

**Marcus, T**., Hodel, A., Thomas, K.M., & Markant, J. (in preparation). *Inhibition of return at 7 months predicts inhibitory control in early childhood.*

**Marcus, T**., King, J., & Markant, J. (in preparation). *Attending to visual cues and peer videos differentially affects college students’ learning during online lessons.*

Markant, J. & **Marcus, T.** (in preparation). *The Oxford Handbook of The Development of Attention, Learning, and Memory. Chapter title: Attentional Goldilocks effects, when too much/too little attention impairs learning.*

# Presentations and Invited Lectures

***Peer-Reviewed Presentations***

**Marcus, T.,** Montgomery, B. Markant, J. (2024, March). *Infant’s attention biases towards caregivers vs. strangers reflect social network size*. Poster presented at the Cognitive Developmental Society, Pasedena, CA.

**Marcus, T.**, Wood, A., Hunter, B.K. & Markant, J. (2024, March). *Attention is biased to the self-face: investigating the roles of reward and familiarity.* Poster presented at the Society for Affective Science, New Orleans, LA.

**Marcus, T.**, Wood, A., Hunter, B.K. & Markant, J. (2023, November). *Attention is biased to the self-face in an attention capture task: Investigating the role of social reward.* Poster presented at the Psychonomics Society Annual Meeting, San Francisco, CA.

**Marcus, T.**, King, J., & Markant, J. (2023, November). *Visual cues and peer videos differentially affect college students’ looking behaviors and learning during online lessons.* Poster presented at the Psychonomics Society Annual Meeting, San Francisco, CA.

**Marcus, T.**, King, J., & Markant, J. (2022, November). *Attending to visual cues and peer videos differentially affects college students’ learning during online lessons.* Poster presented at the Psychonomics Society Annual Meeting, Boston, MA.

***Local/Non-Peer Reviewed Presentations***

**Marcus, T.** (2024, March). *Investigating the Role of Reward and Familiarity in Attention Biases to the Self-Face.* Presentation at the Tulane Brain Institute Retreat, New Orleans, LA.

* 2nd Place Award: Jean Yocum Harlan Award for Outstanding Graduate Student Presentation

**Marcus, T.**, Wood, A., Hunter, B.K. & Markant, J. (2024, March). *Attention is biased to the self-face in an attention capture task: Investigating the role of social reward.* Poster presented at the Greater New Orleans Society for Neuroscience Retreat, New Orleans, LA.

**Marcus, T**. (2023, September). *Investigating the Role of Social Reward in the Self-Face Bias*. Presentation at Tulane DUNNK.

Wood, A., **Marcus, T**., Hunter, B.K., & Markant, J. (2023, March). *Biased attention orienting to the self-face during an attention capture task.* Poster presented at the Tulane Research, Innovation, and Creativity Summit, New Orleans, LA.

• 2nd Place Award: Presentation by an Undergraduate Student

**Marcus, T.** (2023, March). *Attending to instructor and peer videos during online lessons differentially impacts learning.* Presentation at the Tulane Brain Institute Retreat, New Orleans, LA.

**Marcus, T.**, King, J., & Markant, J. (2022, November). *Attending to visual cues and peer videos differentially affects college students’ learning during online lessons*. Poster presented at the Greater New Orleans Society for Neuroscience Annual Retreat, New Orleans, LA.

**Marcus, T.** (2022, June). *Attending to visual cues and peer videos differentially affects college students’ learning during online lessons*. Presentation at the Greater New Orleans Society for Neuroscience, New Orleans, LA.

**Marcus, T.** (2022, September). *Investigating the role of motivational salience in online learning environments*. Presentation at Tulane DUNNK, New Orleans, LA.

# Professional Training

**NIRx Virtual fNIRS Training Course**

NirX, Virtual, January 25th-February 6th, 2021

Description: This training course provided a solid foundation of the fNIRS technology. This event provided a thorough understanding of how to run a successful fNIRS experiment from selecting hypotheses and designing experiments, to analyzing results and publication.

**Asynchronous Online Teaching Workshop**

Tulane CELT, Virtual, April 5th, 2022

**Developing Anti-Racist Curricula across the Arts, Humanities, Health Sciences, and Social Sciences Workshop**

Tulane CELT, Virtual, April 6th, 2022

# Professional Affiliations

Society for Neuroscience, 2024- Present

Society for Research in Child Development, 2022- Present

Psychonomic Society, 2021- Present

Greater New Orleans Society for Neuroscience, 2020- Present

# Professional Service

**Seminar Co-Organizer**

Greater New Orleans Society for Neuroscience, 2022- Present

**PhD Student Representative**

Tulane University Neuroscience Program, 2023- Present

**Review Activities**

2023 Society for Research in Child Development, Panel #1 Attention, Learning, Memory

# Community Service

**No Days Offline**

Event Volunteer, New Orleans, LA, 2018-present

**Relay for Life**

Fundraising Director, Baton Rouge, LA, 2017

**Emerge Center**

Volunteer, Baton Rouge, LA 2016-2017

# Languages

**English**: Native Language

# Computer Skills

**Programming**: MATLab

**Applications**: PsychoPy, SR-Research Experiment Builder and Data Viewer, NIRStar, NIRSite, NIRSLab

# References

**Dr. Julie Markant**, Principal Investigator

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**Dr. Katherine Mills**, Principal Investigator

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