

Megan L. Woodbury

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RESEARCH INTERESTS

Neurotoxicology, public health, epidemiology, environmental health, endocrine disruptors, psychopharmacology

EDUCATION

PhD in Neuroscience

University of Illinois at Urbana-Champaign

Expected August 2021

BS in Biology & BA in Psychology, *summa cum laude*

Northern Illinois University, DeKalb, Illinois

2014

RESEARCH EXPERIENCE

Graduate Research Assistant, University of Illinois at Urbana-Champaign

*Schantz Lab, Illinois Kids Development Study
Neuroscience Program*

2015 – Present

2018 – Present

- Work with other members of the Illinois Kids Development Study (IKIDS) to study the effects of exposure to compounds commonly found in personal care products and plastic products during and after pregnancy on neurodevelopmental outcomes in children during the first few years of life in the IKIDS cohort as well as contributing to the NIH Environmental influences on Child Health Outcomes (ECHO) program
- Administer cognitive tests using eye tracking software to infants and children
- Interview parents about the health and development of their child as well as environmental factors in their child's life
- Measure non-nutritive sucking in infants for the Zimmerman Speech and Neurodevelopment Lab at Northeastern University
- Collaborate with computer scientists to create automated gaze tracking software for use in infants as young as 1 week old
- Oversaw an undergraduate senior thesis project evaluating the relationship between prenatal exposure to phthalates and social cognition at 7-8 months of age using an automated eye tracking method for assessing social cognitive development in infants
- Train employees and undergraduate research assistants to help with data entry and preparing for and assisting with participant visits
- Use multivariate statistics and regression to evaluate the relationship between exposures and outcomes measured by IKIDS
- Proposed project: evaluating the relationship between prenatal exposure to acetaminophen, phthalates, and the potential synergistic effects of acetaminophen and phthalates and attention at 7-8 months and language development at 2 and 3 years

Eubig Lab

Neuroscience Program

2015 – 2017

- Designed and implemented the novel object recognition paradigm for a project collaboration with Dr. Mary Gilbert of the Environmental Protection Agency studying the effects of maternal thyroid hormone insufficiency during the perinatal period on offspring learning and memory in a rodent model of maternal subclinical hypothyroidism
- Examined the effects of developmental exposure to methamphetamine on attention and impulsive behavior in the 5-choice serial reaction time task and delay-discounting task; also studied the effects of administration of dopaminergic drugs on behavior in the 5-choice serial reaction time task in these animals in collaboration with Drs. Chip Vorhees and Michael Williams of the Cincinnati Children's Hospital

- Collaborated with Dr. Megan Mahoney to study the effects of circadian disruption on impulsive behavior in the 5-choice serial reaction time task and the neurochemical mechanisms of acetylcholine and dopamine in the behavioral effects of circadian disruption

TEACHING AND MENTORING

Admissions Test Prep 101 Instructor

Summer 2020

University of Illinois Graduate College

- Instructed undergraduates in preparation for the analytical writing portion of the GRE
- Created lesson plans based on test prep books provided and the needs of students
- Critiqued students' essays using the GRE scoring guide

Summer Research Opportunities Program Co-Coordinator

Summer 2020

University of Illinois Graduate College

Position offered and accepted, program cancelled due to COVID-19.

Undergraduate Senior Thesis Mentor

Fall 2018 – Spring 2019

University of Illinois Department of Molecular and Cellular Biology

Danah Bakir, "Examining the impact of prenatal phthalate exposure on social cognition in 7.5-month-old infants using the Teddy Bear Task to assess theory of mind"

Summer Research Opportunities Program Research Team Leader

Summer 2017, 2018, 2019

University of Illinois Graduate College

- Created a syllabus based on students' needs
- Guided students doing research in the sciences, technology, engineering, and mathematics through the Summer Research Opportunities Program
- Directed students in writing research proposals and research papers in the style of their field
- Mentored students in presenting their research at professional conferences
- Worked with other Research Team Leaders and Graduate College staff to organize and coordinate the Illinois Summer Research Symposium at the end of the program for students to present their research

Teaching Assistant for MCB 245

Fall 2017

Department of Molecular and Cellular Biology, University of Illinois at Urbana-Champaign

- MCB 245: Human Anatomy & Physiology Laboratory
- Taught fundamentals of human anatomy and physiology lab for non-majors
- Planned lessons, taught twice each week, administered lab and lecture exams, graded lab exams, held office hours

Undergraduate Coordinator

2017

Eubig Lab

- Led planning and organizing weekly lab meetings
- Communicated with undergraduate lab members about lab work
- Organized Brain Awareness Day booths for both labs
- Planned work schedules for undergraduate lab members
- Trained new undergraduates on lab daily procedures
- Oversaw undergraduate activities in the lab daily
- Created and maintained a lab website

Teaching Assistant for MCB 151

Spring 2016

Department of Molecular and Cellular Biology, University of Illinois at Urbana-Champaign

- MCB 151: Molecular and Cellular Biology Laboratory
- Taught an introductory biology laboratory section for non-majors

- Planned lessons, graded lab reports, and held office hours to help students

SERVICE AND OUTREACH

Board Secretary

2020-Present

Alpha Omega Epsilon Sorority Board of Directors

- Define and oversee all administrative procedures
- Record the minutes of official meetings and post to Sorority website
- Maintain the most recent revisions of all documents
- Certify the original or a copy of the Sorority's Bylaws as amended or otherwise altered to date
- Act as custodian of the records and of the seal of the Sorority
- Oversee Risk Management, Chapter Audits, History, and Equity, Diversity, & Inclusion Committees
 - Risk Management Committee: Develops risk management programs and provides relevant information to colonies, chapters, committees, and Directors; reviews and maintains Sorority Risk Management Policy; reviews Event Planning forms
 - Chapter Audits Committee: reviews and maintains Chapter Audit Checklist; routinely audits active chapters and notifies Director of Chapter Services of any concerns; maintains records of chapter audits
 - History Committee: compiles and maintains all permanent records of the Sorority; documents all Sorority events
 - Equity, Diversity, & Inclusion Committee: provides resources to the Sorority regarding social justice and equity; fosters a dialogue at all levels of the Sorority regarding equity, diversity, and inclusion; recommends actions to ensure the Sorority's practices uphold high standards in the areas of equity, diversity, and inclusion

Chapter Advisor, Mu Chapter at Northern Illinois University

2018-2020

Alpha Omega Epsilon Sorority Board of Directors

- Provided guidance to active members on day-to-day activities of the chapter
- Acted as a liaison between the chapter and the Board of Directors
- Verified that the chapter is complying with the Sorority governing documents
- Provided a monthly report to the Regional Advisor regarding the state of the chapter

Makeup Monday: Youth & Safer Beauty Products Workshop

Fall 2019

Collaboration with University of Illinois Interdisciplinary Health

Sciences Institute and University Extension Office

- Developed an interactive workshop to educate members of the public on chemicals found in cosmetics based on graduate work targeted towards pre-teens and teenagers
- Educated attendees about chemicals common in personal care products, such as phthalates and parabens and what common marketing claims mean in order to be more informed consumers
- Attended by a local teacher who wrote about her experience
<https://amayoreduinquirers.edublogs.org/2019/10/27/challenge-6-tinker-somewhere-new/>

Volunteer Coordination Committee Member

2018-Present

Alpha Omega Epsilon Sorority International Executive Board

- Created an interest survey for members interested in volunteering for the organization to evaluate a member's skills and interests
- Interviewed sorority members interested in volunteering at the international level
- Matched members with committees based on committee needs and volunteers' interests and strengths

Programming Committee Chair

2016

Alpha Omega Epsilon Sorority International Executive Board

- Held monthly meetings via conference call with committee members
- Organized and facilitated a mentoring program between active sorority members and alumnae
- Planned additional monthly events to engage members with the international organization

PRESENTATIONS

- Dzwilewski, KLC, **Woodbury, ML**, Aguiar, A, Merced-Nieves, FM, Calafat, AM, Korrick, SA, Schantz, SL. Associations of prenatal exposure to phthalates with measures of cognition in 7.5-month-old infants. (2020, August) Created poster which was presented by Aguiar, A. at the International Society for Environmental Epidemiology. Virtual conference due to COVID-19.
- Sieg Woodbury, ML**, Dzwilewski, KLC, Merced-Nieves, FM, Sprowles, JL, Musaad, S, Aguiar, A, Schantz, SL. Greater exposure to acetaminophen during the first trimester is associated with poorer language development in boys, but not girls, at 2 years of age. Accepted for presentation at the Developmental Neurotoxicology Society Meeting in June 2020 in Charleston, SC, which was canceled due to COVID-19.
- Sieg, ML**, Sprowles, JL, Aguiar, A, Schantz, SL. Association between prenatal exposure to environmental phenols and attention to the eyes in 7.5-month-old infants (2019, November) Poster Presented the University of Illinois Interdisciplinary Environmental Toxicology Program Open House. Urbana, IL.
- Sieg, ML**, Sprowles, JL, Aguiar, A, Schantz, SL. Association between prenatal exposure to environmental phenols and attention to the eyes in 7.5-month-old infants (2019, June) Poster Presented at Developmental Neurotoxicology Society Meeting. San Diego, CA.
- Sieg, ML**. Association between prenatal exposure to environmental phthalates and phenols and attention to eyes in 7.5-month-old infants (2019, May) Oral presentation at the University of Illinois Interdisciplinary Environmental Toxicology Program Seminar Series. Urbana, IL.
- Sieg, ML**. Exploring the effects of prenatal exposure to phthalates and acetaminophen on social cognition and language development (Spring 2018) Oral presentation at the University of Illinois Interdisciplinary Environmental Toxicology Program Seminar Series. Urbana, IL.
- Sieg, ML**, Balachandran RC, Clancy BM, Jablonski SA, Williams MT, Vorhees CV, Eubig PA. The effects of postnatal exposure of methamphetamine in male Sprague-Dawley rats on attention, compulsivity, and impulsivity in the 5-choice serial reaction time task (2017, December) Poster presented at Midwest Brain, Behavior, and Immunity Meeting. Chicago, IL.
- Sieg ML**, Townes CA, Balachandran RC, Gilbert ME, Eubig PA. Maternal hormone insufficiency affects short-term object recognition memory in adult offspring of Long-Evans rats (2017, November) Poster presented at Society for Neuroscience Annual Meeting. Washington, D.C.
- Sieg ML**, Townes CA, Balachandran RC, Gilbert ME, Eubig PA. Maternal hormone insufficiency affects short-term object recognition memory in adult offspring of Long-Evans rats (2017, June) Poster presented at Developmental Neurotoxicology Society Annual Meeting. Denver, CO.
- Sieg ML**, Townes CA, Balachandran RC, Gilbert ME, Eubig PA. Maternal hormone insufficiency affects short-term object recognition memory in adult offspring of Long-Evans rats (2017, May) Poster session presented at Midwest Society of Toxicology Spring Meeting. Mundelein, IL.
- Sieg ML**, Townes CA, Balachandran RC, Gilbert ME, Eubig PA. Maternal hormone insufficiency affects short-term object recognition memory in adult offspring of Long-Evans rats (2017, Apr) Poster session presented at University of Illinois College of Veterinary Medicine Research Day. Urbana, IL.
- Sieg ML**. "Maternal hormone insufficiency affects short-term object recognition memory in adult offspring of Long-Evans rats" (2017, Apr) Oral presentation at the Indiana University Animal Behavior Conference. Bloomington, IN.
- Sieg ML**. "Effects of maternal hormone insufficiency on short-term object recognition memory in adult offspring," (2017, Jan) Oral presentation at the University of Illinois Neuroscience First Year Project Presentations. Urbana, IL.
- Sieg ML**, Townes CA, Balachandran RC, Gilbert ME, Eubig PA. The effects of developmental hypothyroidism on short-term object recognition memory (2016, March) Poster session presented at Indiana University Animal Behavior Conference. Bloomington, IN

PUBLICATIONS

Dzwilewski KLC, Merced-Nieves F, **Woodbury ML**, Strakovsky R, Aguiar, A, Schantz SL (will be submitted to *BMJ Open* upon completion of cohort recruitment). Cohort profile: Illinois Kids Development Study (IKIDS).

Dzwilewski KLC*, **Woodbury ML***, Aguiar A, Korrick SA, Merced-Nieves F, Schantz SL (submitted as an

invited paper for a special issue). Associations of prenatal exposure to phthalates with measures of cognition in 7.5-month-old infants. *Neurotoxicology*.

*Authors contributed to publication equally

Balachandran RC, Hatcher KM, **Sieg ML**, Sullivan EK, Molina LM, Mahoney MM, Eubig PA (2020). Pharmacological Challenges Examining the Underlying Mechanism of Altered Response Inhibition and Attention Due to Circadian Disruption in Adult Long-Evans Rats. *Pharmacology, Biochemistry and Behavior*.

Balachandran R, **Sieg ML**, Tran CTQ, Clancy B, Beaudin S, Eubig PE. (2019). Cholinergic and Dopaminergic Interactions Alter Attention and Response Inhibition in Long-Evans Rats Performing the 5-Choice Serial Response Time Task. *Pharmacology, Biochemistry and Behavior*.

Köppen JR, Stuebing SL, **Sieg ML**, Blackwell AA, Blankenship PA, Cheatwood JL, Wallace DG. (2016). Cholinergic deafferentation of the hippocampus causes non-temporally graded retrograded amnesia in an odor discrimination task. *Behavioural Brain Research*. 299: 97-104

AWARDS AND HONORS

Interdisciplinary Environmental Toxicology Scholar

University of Illinois Interdisciplinary Environmental Toxicology Program

Fall 2018 – Present

Conference Travel Award

Developmental Neurotoxicology Society

Summer 2019

PROFESSIONAL MEMBERSHIPS

Developmental Neurotoxicology Society

Society for Neuroscience

American Association for the Advancement of Science

The Endocrine Society