



**BRAIN HEALTH
RESEARCH INSTITUTE**
at Kent State University

NEWS

BHRI RESEARCHER SPOTLIGHT

Heather Caldwell, Professor, Department of Biological Sciences



My research program is focused on the neural regulation of social behavior, and more specifically on the roles of the oxytocin and vasopressin systems. While I have been studying how these systems modulate aspects of adult behavior for quite some time, over the last ten years or so researchers in my laboratory have begun to evaluate what oxytocin and vasopressin may be doing during brain development. Fortunately for us, this developmental work has been funded by the National Science Foundation, the National Institutes of Health

(NIH), and BHRI.

Our recently funded NIH R15 grant titled “Understanding the central embryonic vasopressin system”, will help shed light on how the vasopressin system contributes to sex-specific brain development and social behavior. While I am always interested in how neurochemistry and behavior may be similar, or different, across species and between males and females, this work may also be relevant to humans. Essentially, some neuropsychiatric disorders that have neurodevelopmental origins are known to be associated with impairments in the vasopressin system. These same neurodevelopmental disorders are often more common in males than in females and are often associated with altered social behavior. Thus, our findings have the potential new avenues of research for better, more targeted, therapies. Beyond the scientific work, this R15 will provide research opportunities for both graduate and undergraduate students.



QR Code to BHRI
Website.

COLLABORATORY NEWS

Neuroimaging Collaboratory

The Neuroimaging Collaboratory is now open. The Collaboratory includes the following resources:

- Olympus VS200 Research Slide Scanner
- Fluorescence & brightfield microscope with MBF Bioscience modules
- Light-sheet Microscope - Miltenyi Biotec Ultra Microscope II
- Image Analysis Software and Computers

All users need to complete training before scheduling use of equipment.

Neurocognitive Collaboratory

In December, the Neurocognitive Collaboratory received the Integrated Artinis Brite fNIRS EEG System. Demos of the equipment will be coming soon.

Phlebotomy Services

Faculty from the College of Nursing met with BHRI leadership to discuss the roles and responsibilities of both nursing faculty and project investigators in collaborative research in which phlebotomy services will be required.



BHRI ADVISORY BOARD

Alumni provide input for future BHRI programming

The newly formed BHRI Advisory Board held its first meeting on Wednesday, February 1. The Advisory Board consists of KSU alumni, many of whom spoke at the 10th Annual Neuroscience Symposium. Earl Miller, Ph.D., KSU Alum and MIT neuroscientist, is the chair for the committee. After introductions and an overview of BHRI activities provided by BHRI Director Mike Lehman, Ph.D., Dr. Miller led a discussion focused on how to create a career guidance

network for current KSU students and recent graduates and how to best communicate with the BHRI alumni community. Suggestions included flexible mentor-mentee matching programs, local networks throughout the country for alumni, and informal podcasts focused on alumni career-life paths. The Advisory Board will meet two more times this year, once virtually and once in-person.

NEURODIVERSITY RESEARCH INITIATIVE

Kickoff event planned for April

The creation of the Neurodiversity Research Initiative (NRI) of the BHRI began in 2022 and reached a new phase with the formalization of its Leadership Committee and the scheduling of its inaugural event during Autism Acceptance Month (April).

The NRI will hold its first Invited Lectureship on Friday, April 21. The guest speaker, Dr. Lawrence Fung, is the director of the Stanford Neurodiversity Project, Director of the Neurodiversity Clinic and an Assistant Professor of Psychiatry and Behavioral Sciences at Stanford University. His talk entitled, "Advancing Neurodiversity Advocacy through Education and Research" will communicate contemporary research for improving the lives of neurodiverse individuals.

Co-directors, Drs. Lisa Audet and Mary Ann Devine, led the Leadership

Committee's first meeting on Thursday, January 26. The Committee is comprised of KSU faculty, students, alumni, and staff, as well as interested parties from the wider community. At the meeting, the co-directors introduced the committee to the mission, aims and first steps for the Initiative and led a brainstorming session to identify its priorities. The NRI will soon be soliciting membership, both within and outside Kent State.

Upcoming Events

March 15
5-6pm

Brains on Tap

Angela Ridgel, Ph.D.,
ACSM-EP, FACSM &
Aasef Shaikh, MD, Ph.D.
Bell Tower Brewing Co.

March 21
12:30-1:30PM

Seminar Series

J. Adam Noah, Ph.D.
(Yale School of Medicine)
ISB 069

April 21
12:30-1:30pm

NRI Invited Lectureship

Dr. Lawrence Fung
(Stanford University)
ISB 069

April 25
12:30-1:30PM

Seminar Series

Michael Schutz
(McMaster University)
co-hosted by the
School of Music
ISB 069

SAVE THE DATE

BHRI Member Retreat

Friday, September 22, 2023

KSU Hotel & Conference Center

