



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

# NEWS

## BHRI RESEARCHER SPOTLIGHT

*Richard Piet, Professor, Department of Biological Sciences*



I am a neuroscientist interested in neurotransmission and neuronal circuits. In the past 13 years or so, my research program has focused on reproductive neuroendocrinology and, in particular, on circuits in the hypothalamus that orchestrate reproductive hormone secretion and fertility. This is achieved by populations of neurons, the kisspeptin neurons, that regulate gonadotropin-releasing hormone (GnRH) secretion from the hypothalamus, subsequent release of gonadotropin hormones from the anterior pituitary gland and, thus, gonadal function. Understanding the functioning of these

neuroendocrine circuits is important because their dysregulation may be associated with certain forms of human infertility.

My group was recently awarded a *National Institutes of Health* (NIH) Ro1 grant entitled “*Suprachiasmatic nucleus to kisspeptin circuit in the circadian control of reproduction*”. In collaboration with the group of Dr. Lehman here at Kent State, this NIH grant will fund the study of mechanisms through which the preovulatory surge in gonadotropin hormone secretion – the neuroendocrine event that causes ovulation in females – is timed by the circadian clock. The central circadian clock is located in the suprachiasmatic nucleus of the hypothalamus and is responsible for maintaining rhythms in our physiology and behavior. Timing of the preovulatory surge by the circadian clock is crucial for reproduction in rodent species and, strikingly, is seen in women as well. This is important because circadian disruptions (the misalignment between our internal rhythms and our schedules) such as those brought about by rotating shift work or chronic jetlag have a negative impact on female fertility in humans. Our research will, therefore, generate new knowledge of the circadian regulation of fertility and may, in the future, open new avenues for potential treatments for the negative effects of circadian disruption on reproduction.

## A LOOK AHEAD

### Town Hall Retreat

September 22, 2023  
KSU Hotel & Conference Center

### 11<sup>th</sup> Annual Neuroscience Symposium

October 26-27, 2023  
KSU Hotel & Conference Center

#### Keynote:

Leigh Hochberg, MD, Ph.D.  
(Brown)

#### Friday Speakers include:

Bolu Ajiboye, Ph.D. (CWRU)  
Ray Goldsworthy, Ph.D. (USC)  
Ayse Gunduz, Ph.D. (Univ. Florida)  
Kwangtaek Kim, Ph.D. (KSU)  
Dawn Taylor, Ph.D. (Cleveland Clinic)  
Eric Trautmann, Ph.D. (Columbia)



# UNDERGRADUATE FELLOWS PROGRAM

## BHRI Fellows 2023

The Brain Health Research Institute Undergraduate Fellows Program offers highly qualified and motivated undergraduate students an immersive program that includes research-intensive experiences in neuroscience, as well as mentoring, skills training, and career development support.

This year, BHRI has a rather large incoming fellowship group of 16 fellows, and it is our largest group so far. There are two freshmen, three sophomores, eight juniors and three seniors. The fellows' majors are extended over many disciplines, and include the following: Integrated Health Studies, Animation Game Design, Neuroscience, Biology (Premed), Speech Pathology & Audiology, and Psychology.

This year's program is scheduled to take place from June 5 – July 28, in collaboration with the Summer Undergraduate Research Experience



2023 UNDERGRADUATE FELLOWS WELCOME MEETING

(SURE) program, since all the fellows are participating SURE as well.

The program started earlier this week with a welcome meeting on June 7, and the final capstone experience meeting will take place in the last week of July.

Use QR Code to go to BHRI's website.



## BRAINS ON TAP

### Kent's Own Café Scientifique

"Brains on Tap," a local event inspired by the Café Scientifique movement, was brought to Kent in 2012 by the local chapter of the Society for Neuroscience (SfN) but became inactive shortly before and throughout the pandemic. At the start of 2023, the BHRI decided to relaunch the series on a quarterly basis as part of the institute's commitment to community outreach.

The BHRI's first event featured Drs. Ridgel and Shaikh presenting "Parkinson's Disease and Exercise: Biking to Retrain the Brain." The event was a success, with wonderful complimentary presentations and numerous questions from the

audience. A segment on WKSU's Sound of Ideas program spotlighted the event and is available on the Ideastream Public Media website – [www.ideastream.org/sound-of-ideas](http://www.ideastream.org/sound-of-ideas).

The BHRI will host its second event on **July 12, from 6 - 7PM**. It will showcase Drs. Huyck and Mussoi presenting "**Can You Hear Me? Communicating Across the Lifespan.**" The event will again be held at the Bell Tower Brewing Company in Kent.

## GOLD PILOT GRANTS

We're pleased to announce the following members have been awarded Gold Pilot Grants for the 2023 Program!

*Dr. Lee Gilman*  
(Psychological Sciences,  
Kent State University)

*How does PMAT deficiency influence behavioral responses to obtain positive outcomes and avoid negative outcomes?*

*Drs. Kasumov and Dengler-Crish*  
(Pharmaceutical Sciences,  
NEOMED)

*Role of acetylation in a tauopathy mouse model of Alzheimer's disease (AD)*

