



Center for Sleep & Circadian Sciences

The University of Arizona Mel and Enid Zuckerman College of Public Health Internship Advertisement

Organization Name:

University of Arizona Health Sciences Center for Sleep and Circadian Sciences

Organization Background:

Sleep and circadian sciences are biological functions that constitute a core determinant of all domains of health, across the life span, in each individual and across all populations, including minorities, the elderly, children, pregnant women, and individuals of low socioeconomic status. Sleep and circadian rhythms can influence the gamut of health from the cellular level (e.g., clock genes influencing inflammation and cancer risk); organ-systems (e.g., cognition, heart disease, and stroke risk); behavioral health and severe mental illnesses; and at a macroscopic level affect public health and safety (e.g., traffic accidents secondary to sleepiness). There is a long history of sleep research at the University of Arizona spanning over 4 decades with pioneering contributions to the connection between sleep and cardiovascular disease (as a vanguard site for the NIH-funded Sleep Heart Health Study), neurocognition, and behavioral intervention. Since this time, sleep research at the UA has grown exponentially with more than eighteen investigators from five colleges and nine departments across the University of Arizona conducting sleep and circadian rhythms research. This project hopes to help United States special forces members, and society at large, by evaluating a multi-pronged treatment approach to aid in resisting the effects of jet lag.

Organization Website URL: <https://sleep.uahs.arizona.edu/>

Internship Project Title

Jet Lag Study

Project Description:

The Jet Lag Study is a new research project that is looking at various treatments to combat the effects of jet lag, with a focus on promoting circadian synchronization to a shifted schedule (analogous to traveling 8 time zones westward). The circadian system controls many functions, including when one is alert and sleepy, and when one sleeps.. The study is funded by the Department of Defense to support the special operations forces, as well as others in the community, who may suffer from poor circadian synchronization due to rapid overseas deployment, night operations, travel, and shift work. The Jet Lag Study is ongoing for the next two years under the guidance of principal investigator Shawn Youngstedt, professor at Arizona State University, in partnership with the University of Arizona College of Medicine. The project is looking for students who are highly motivated, able to be scheduled in time blocks of at least 4 hours or more to help in the lab, and willing to learn the various study procedures and how to operate in a research environment. Student interns will be interacting with research participants by reaching out to and evaluating potential subjects, as well as facilitating in-person visits including intake screening lab visits, baseline lab visits, and 6 day long in-lab visits where participants will have a simulated jet lag experience while receiving various treatments. Additional research duties that the student intern will conduct include: recruiting participants, helping to prep for in-lab visits, assisting with the

use of machines such as a polysomnogram and Z-Machine that analyze sleep, administering various neurocognitive assessments, administering treatments such as melatonin, urine collection for the purposes of monitoring hormones related to governing circadian rhythms, administering exercise-related treatments using equipment such as a treadmill or stationary exercise bike, preparing and tracking food consumption of participants, data entry and auditing, and helping with overnight shifts during the 6 day in-lab visits. Please note that all student interns will be trained on how to perform these tasks once they have joined the study.

Internship project keywords (check all that apply).

- | | |
|---|---|
| ☐ Health Disparities | ☐ Maternal/Infant Health |
| ☐ Public Health Preparedness | ☐ Tobacco Use |
| ☐ Collaborations with Community | ☐ Injury/Violence Prevention |
| ☐ Collaborations with University | ☐ Immunization |
| ☐ Community health service | ☐ Infectious Disease |
| ☒ Physical Activity | ☐ Oral Health |
| ☐ Substance Abuse | ☐ Evaluation |
| ☒ Mental Health | ☐ Policy Development |
| ☐ Access to care | ☐ Program Planning |
| ☒ Nutrition | ☐ Data Analysis |
| ☐ Reproductive/Sexual Health | ☒ Other Sleep, Circadian Rhythm |
| ☐ Environmental Health | |

When: *When do you want the work done? Check all that apply.*

☒ Fall Semester

☒ Spring Semester

☒ Summer Term

☐ I want this listing to remain active indefinitely and we will accept applications from students for any upcoming semester.

☐ This listing is only for a specific semester/term: _____

Where:

Organization Mailing Address: 2033 E. Speedway Blvd. Unit 103 Tucson, AZ 85719

Address where Student will work (if different from above): *Same as above*

☐ Check here if the student may have the option to work remotely from a site not listed above for all or part of this project.

Student Characteristics:

The Jet Lag Study is seeking student interns who are motivated, organized, willing to learn and follow directions, have a professional demeanor, able to follow and uphold research protocols and guidelines, able to properly handle sensitive research subject information and study data, able to work in-person with research participants, have the scheduling availability to assist in the lab for at least 4 hours at a time and work overnight shifts, and, when necessary, able to keep the research subject engaged.

Level of Expertise Needed:

Either undergraduate public health program interns or graduate level MPH program interns may apply for this project.

Undergraduate: Undergraduate public health program interns that meet the criteria above are requested to apply to this project. This is an invaluable opportunity for student interns to see how the knowledge gained from their science classes can translate to collecting and analyzing data at a real-world research lab.

Graduate: Graduate MPH program interns that meet the criteria above are requested to apply to this project. This project allows for MPH program interns to apply knowledge of biological circadian rhythms, and the hormonal pathway that drives them, to behavioral factors such as mood, vigilance, and neurocognition in a real-world research lab context, which could potentially help alleviate health problems related to sleep in countless individuals. Upon completion of assisting with study activities, the Jet Lag Study will require the MPH program interns to write a 2-4 page summary of the research-related activities they were involved in, as well as demonstrate competency in the administration of multiple lab-related tasks and duties, once they are trained on their administration. If significant dedication and contributions are made to the project, then there may be opportunities for MPH program interns to analyze study data for writing abstracts or help prepare study data for presentations or even publications.

Both experiences prepare students for future employment.

☐ MPH

☒ Undergraduate

☒ Either

Supervision

Dr. Shawn Youngstedt, PhD is a sleep researcher and professor at ASU who is currently collaborating with the University of Arizona for the Jet Lag Study and will be supervising student interns. In addition to having numerous academic publications related to circadian rhythms, mental health, and exercise, Dr. Youngstedt has received a BA from the University of Texas-Austin in Psychology and a PhD from the University of Georgia in Exercise Science, and has held positions as a Post-Doctoral Scholar at UCSD's Department of Psychiatry from 1994 to 2003, an Assistant/Associate Professor at University of South Carolina's Department of Exercise Science from 2003 to 2013, a Research Scientist for Phoenix Veteran Affairs from 2014 to present, and a Professor at ASU's College of Nursing and Health Innovation and College of Health Solutions from 2014 to present.

Compensation/Benefits/Professional Development

In addition to exposure with interacting with research participants and learning research-related protocols and procedures, there is the opportunity for receiving academic credit for research lab experience while working on this project.

Application Contact Information

Please contact Dr. Salma Patel at salmapatel@email.arizona.edu and Dr. Shawn Youngstedt at Shawn.Youngstedt@asu.edu or the Jet Lag Study email at uajetlagstudy@gmail.com for more information about the study and applying for this position.