

SUTER SCIENCE SEMINARS 2025-26

• EMU Faculty Sabbatical Spotlight

Sleep, Fat, and Aging: Investigating the Role of Serotonin and Glutamate in Biological Behaviors

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Tuesday, March 24, 2026

12:10 p.m. • West Dining Room • bring your own lunch

*The biological behaviors of sleep, circadian rhythms, and aging follow from the complex interactions of chemical signaling in the brain. Disrupting the release and reuptake of neurotransmitters affects these behaviors and mood regulation in metazoans. Dr. Copeland uses the fruit fly *Drosophila melanogaster* to investigate the activity of the neurotransmitter serotonin in sleep and circadian rhythms, as well as glutamate in aging. Removal or pharmacological block of the serotonin transporter inhibits the reuptake of serotonin and causes flies to sleep more, eat less, and retain lipids. Further work will probe into the neurological interactions between serotonin and dopamine.*

Dr. Jeffrey Copeland is a Professor of Biology at Eastern Mennonite University, and spends his summers as a Visiting Scholar at the University of Virginia. He earned his Ph.D. from the California Institute of Technology and was a postdoc at the University of California, Los Angeles, before starting his position at EMU. His research investigates the relationship between biological behaviors, such as sleep and circadian rhythms, and the activity of neurotransmitters in the brain of the fruit fly *Drosophila melanogaster*. While not at EMU, Jeff enjoys spending time with his family, reading Calvin and Hobbes, and repairing old car engines.



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