

2025-2026 Seminar Series



INTEROCEPTIVE AND REWARD NETWORK INTERACTIONS IN DRUG CUE REACTIVITY: INSIGHTS FROM HUMAN NEUROIMAGING



W. Kyle Simmons, Ph.D.

Professor and Director, Biomedical Imaging Center
Oklahoma State University, Center for Health Sciences

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Gallogly Hall, Room 126



ABSTRACT

Drug use remains a leading cause of preventable harm, largely because addictive substances induce maladaptive changes in brain circuits that govern craving, motivation, and reward. Advancing addiction medicine requires a deeper understanding of the neural bases of drug craving and drug-related rewards. In this talk, Dr. Simmons will present research from his laboratory examining how the body's interoceptive state shapes neural responses to drug cues and how addiction disrupts the brain's representation of both drug and non-drug rewards. He will conclude by outlining how these discoveries are driving ongoing and future research initiatives at the OSU Biomedical Imaging Center, including forthcoming career opportunities for graduating students and postdoctoral fellows.

BIO

W. Kyle Simmons, Ph.D. is a Professor in the Department of Pharmacology & Physiology at Oklahoma State University Center for Health Sciences, and Director of the OSU Biomedical Imaging Center. For over 20 years his research has used cutting-edge neuroimaging, psychophysiology, and bioassays of endocrine, metabolic, and immune signaling pathways to explore the biological determinants of health behaviors in both healthy and clinical populations, particularly in depression, obesity, and substance use disorders.