For some substance use disorders, including cocaine use disorder, there remain no approved pharmacological treatments. Basic neuroscience research can help identify novel mechanisms of SUDs and biological targets for potential treatments. The overarching goal of the Spencer lab is to understand the neural mechanisms governing reward and aversion to drugs of abuse and the overlapping and discrete mechanisms governing addition and related neuropsychiatric diseases. In this presentation, Dr. Spencer will present some of her lab’s work to examine the role of adenosine monophosphate (AMPK) in regulating cocaine related behaviors and cocaine reward as well as the potential of repurposing, metformin, an indirect AMPK activator and FDA-approved medication used to treat type 2 diabetes, to treat cocaine use disorder.

**Ernest Everett Just (1883-1941)**

was a pioneer in molecular biology in whose name we hold this lecture series to highlight and celebrate inspiring African American biologists and leaders. Dr. Just was among the first African Americans to earn a PhD from the University of Chicago. The NAACP awarded Just the first Spingarn Medal in 1915, while he was the head of Physiology at Howard University Medical school, in recognition of his outstanding research in biology. His most notable work, *The Biology of the Cell Surface* (1939) serves as an invaluable pillar of cell biology and inspiration to aspiring scientists to this day. We hope the E. E. Just lecture will bring listeners this same inspiration and wonder while underscoring the importance of our continuing mission towards racial equity in science.