

NEURAL ENGINEERING SEMINAR SERIES

Reproducibility in functional neuroimaging studies and brain networks through the lens of multiplicity

<https://psu.zoom.us/j/92405373420>

October 18, 2023

12:15 -1:15 p.m. (ET)
W306 Millennium Science
Complex



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ABSTRACT:

Of late much attention has been focused on problems of reproducibility in the scientific literature, with many published studies failing to meet what seems a minimal standard. Functional neuroimaging research has not been immune to these criticisms. As a reaction to the reproducibility crisis in science, a variety of solutions have been proposed, most of which touch on, in one way or another, issues of multiple testing and Type I error control. In this talk, I will discuss the question of reproducibility in functional neuroimaging via the perspective of multiplicity. I will also discuss implications for brain network studies, and alternative approaches that may show better performance.

BIOGRAPHY:

Dr. Nicole Lazar is Professor in the Department of Statistics at Penn State. She was formerly on the faculty at Carnegie Mellon University and the University of Georgia. Her research interests lie in the foundations of statistics, the analysis of functional neuroimaging data, and, more recently, issues of Open Science, research transparency, and statistical reform. She is a Fellow of the American Statistical Association, a Fellow of the Institute of Mathematical Statistics, and an Elected Member of the International Statistical Institute. She has served on the editorial boards of many leading statistics journals, and was the 2019 President of the Caucus for Women in Statistics.