THE UNIVERSITY OF GEORGIA
DEPARTMENT OF STATISTICS
Colloquium Series

Thursday, October 13, 2022
4:00 PM, Room 204, Caldwell Building

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Sequential multiple testing

In this talk we will consider the multiple testing problem when the observations are collected in real time over multiple data streams and the goal is to decide as quickly as possible. In this context, a multiple testing procedure consists of not only a decision rule but also a stopping rule. We will present such pairs that minimize asymptotically the expected time for decision, uniformly with respect to the unknown signal configuration, as user-specified bounds on the false positive and the false negative rate go to 0. We will also consider the case where it is not possible to sample all data streams at each time instance, and one needs to additionally specify an adaptive sampling rule. Finally, we will discuss the setup where the decisions for the various binary testing problems can be taken at different times and the goal is to minimize the total sample size.

About the Speaker

Dr. Georgios Fellouris is an Associate Professor in the Department of Statistics of University of Illinois at Urbana-Champaign. He received his PhD from Columbia University in 2010. His research interests include Sequential hypothesis testing, Quickest change detection, Sequential parameter estimation, Sequential design. He is also interested in decision making under communication constraints, and educational measurement and cognitive assessment.