



**THE UNIVERSITY OF GEORGIA
DEPARTMENT OF STATISTICS**

Colloquium Series

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4:00 PM, Thursday, April 14, 2022

Brooks Hall Room 145 (In Person)

Randomization tests and their relevance in the age of data science

Randomized experiment is a quintessential methodology in science, engineering, business and industry for assessing causal effects of interventions on outcomes. Randomization tests, conceived by Fisher, are useful tools to analyze data obtained from such experiments because they assess the statistical significance of estimated treatment effects without making any assumptions about the underlying distribution of the data. Other attractive features of randomization tests include flexibility in the choice of test statistic and adaptability to experiments with complex randomization schemes and non-standard (e.g., binary or count) data. In the past, these tests' major drawback was their possibly prohibitive computational requirements. Modern computing resources make randomization tests pragmatic, useful tools driven primarily by intuition. This talk will provide an intuitive overview of the mechanics and benefits of FRT and discuss some recently developed results on FRT that provides new theoretical insights and can potentially lead to its broader applicability.

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