



**THE UNIVERSITY OF GEORGIA  
DEPARTMENT OF STATISTICS**

# *Colloquium Series*

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**3:50 PM, Thursday, September. 2nd, 2021**  
Zoom link: <https://zoom.us/j/98995461231>

### **Space-Filling Designs for Computer Experiments**

Computer models are powerful tools used to study complex systems from almost every field in natural and social sciences. However, its high cost has prevented the implementation. This issue calls for computer experiments, which aim at building a statistical surrogate model based on the data generated from computer models. Space-filling designs is one of the most accepted designs for computer experiments.

In this talk, a broad introduction to space-filling designs will be presented, as well as some theoretical construction results on a class of space-filling designs, i.e., strong orthogonal arrays. The application of space-filling designs to big data research will also be discussed. Because numerous challenges rise from statistical analysis of big data using limited computing resources, sub-data selection becomes necessary. The existing work on sub-data selection relies heavily on specified models and therefore calls for an approach that is robust to model misspecification.

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