

R. Clifton Bailey Statistics Seminar Series

Outlier Statistics for Molecular Studies in Cancer

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**ENGR 4201 – Computer Science Conference Room
[4400 University Drive, Fairfax, VA 22030](#)**

April 20, 2018

12:00 P.M. - 1:00pm

Please note the time adjustment for this week only.

Abstract: Pathway dysregulation has been identified as a key driver of carcinogenesis, with proteins in signaling pathways serving as primary targets for drug development. Dysregulation can be driven by a number of molecular events, including gene mutation, epigenetic changes in gene promoters, overexpression, and gene amplifications or deletions. With each patient showing different molecular events that drive tumor development, statistical tests focused on means fail to identify pathways or to aid in personalization of therapy. In the presentation, the use of outlier statistics adapted to the specific biology of cancer are shown to allow pathway elucidation and identification of patient-specific points of dysregulation.