

Statistics Seminar
Department of Mathematical Sciences

DATE:	Friday, March 16, 2018
TIME:	12:00pm - 1:00pm (special time)
LOCATION:	UU 215 (special location)
SPEAKER:	J. S. Marron, University of North Carolina at Chapel Hill
TITLE:	Object Oriented Data Analysis

Abstract

Object Oriented Data Analysis is the statistical analysis of populations of complex objects. In the special case of Functional Data Analysis, these data objects are curves, where standard Euclidean approaches, such as principal components analysis, have been very successful. Challenges in modern medical image analysis motivate the statistical analysis of populations of more complex data objects which are elements of mildly non-Euclidean spaces, such as Lie Groups and Symmetric Spaces, or of strongly non-Euclidean spaces, such as spaces of tree-structured data objects. These new contexts for Object Oriented Data Analysis create several potentially large new interfaces between mathematics and statistics. The notion of Object Oriented Data Analysis also impacts data analysis, through providing a language for discussion of the many choices needed in many modern complex data analyses.

About the speaker: Prof. James Stephen Marron is the Amos Hawley Distinguished Professor in UNC's Department of Statistics and Operations Research as well as a professor in the Department of Biostatistics at the UNC Gillings School of Global Public Health. Dr. Marron is widely recognized as a world research leader in the statistical disciplines of high dimensional, functional and object oriented data analysis, as well as data visualization. He has made broad major contributions ranging from the invention of innovative new statistical methods, through software development and on to statistical and mathematical theory. His research continues with a number of ongoing deep, interdisciplinary research collaborations with colleagues in Computer Science, Genetics, Medicine, Mathematics and Biology. A special strength is his strong record of mentoring graduate students, postdocs and junior faculty, in both statistics and also related disciplinary fields.

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