Object Oriented Data Analysis

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.

*Refreshments will be served before the seminar at 3:45 pm in 1181 Comstock Hall.*