

CENTRAL MICHIGAN UNIVERSITY

Department of Mathematics

GRADUATE STUDENT SEMINAR

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LESSONS FROM MSRI: AN INTRODUCTION TO MINING AND MODELING NEUROSCIENCE DATA

Tuesday, November 10, 4:00 pm - 5:00 pm
Pearce Hall, Room 227

“The human brain has been called the most complex object in the known universe, and in many ways it is the final frontier of science. With a hundred billion neurons, close to a quadrillion connections between them, there's still more work to be done to even understand a single cell.”

Neuroscience is a multidisciplinary science that is concerned with the study of the structure and function of the nervous system. Traditionally, neuroscience has been seen as a branch of Biology. However, with advancement in tools and technology, over the years it has become an interdisciplinary science that collaborates with many other fields such as Mathematics and Statistics.

In this talk, we focus on the map from stimulus to response. Specifically, we will look at how neurons carry information, and talk about some of the techniques used for analyzing and modeling neuroscience data sets. This will include image statistics which focuses on neural activity in the primary visual cortex of the brain. These are some of the topics which were presented in the 2015 MSRI summer course in mining and modeling neuroscience data, organized by Dr. Fritz Sommer, Dr. Jeff Teeters, and others from UC Berkeley Department of Neuroscience.