



Graduate Seminar

The Department of Biomedical
Engineering
presents

**Dr. Kui Zhang, Professor
Mathematical Sciences
Michigan Technological University**

Design and Analysis of Next Generation Sequencing Data

In this talk, I will present my recent research on design and analysis of next generation sequencing (NGS) data. The talk can be divided into two parts. The first part of the talk will focus on developments of novel statistical methods. The Hidden Markov Model in genotype calling from NGS data will be introduced. Its extension that can use additional information from sequencing reads for improvements will be described. The further extensions that can use family samples and admixed sample will be discussed. The second part of the talk will mainly be on several collaborative projects including the identification of genetic variants that are associated with HIV infection in a genetic association study, a study with the RNA sequencing technologies, etc. The problems and the statistical methods used in these analysis will be discussed.

**Friday, October 30-3:00 pm
U113 M&M**

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