**M&MI 351**

**Functional Genomics and Proteomics: Applications to Immunobiology**

**Overview**
An interdisciplinary course designed for advanced predoctoral trainees and postdoctoral fellows to illustrate the biological applications of functional genomics, proteomics, and other OMICS technologies to address critical issues in immunology. The course combines didactic lectures with student-driven critical evaluations of high impact publications.

**Topics**
Functional genomics uses of the vast wealth of data produced by genomic, transcriptomic, proteomic and metabolomic projects to describe gene and protein functions and their interactions. More recently, systems biology approaches have been applied that rely on computational and mathematical modeling of functional genomics data using a holistic approach to model and predict immune responses. The course focuses on the application of functional genomics to address important issues in immunology.

**Course Structure**
Each week, a preceptor will give a didactic lecture to the class (Mondays: 9:00am-10:00am) providing background on the functional genomics/proteomics and immunology topics. On Wednesday, the preceptor will moderate the discussion of a seminal primary publication(s) that applies the functional genomic approach (Wednesdays: 9:00am-11:00am). The students are expected to lead the discussion of the publication.

**Grades**
Each week, preceptors will give each student a grade based on their participation and knowledge during the Wednesdays’ discussion.