

Massachusetts Institute of Technology
Department of Mathematics

**LUNCH SEMINAR FOR GRADUATE
STUDENTS**

MONDAY, NOVEMBER 21, 2011
11:00 - 12:00 PM

ROOM 4-149

Sug Woo Shin
(MIT)

“Families and equidistribution”

Abstract

Families are ubiquitous in mathematics. When an invariant can be attached to each member of a family, it is natural to ask how the invariant varies (or how it is distributed) as the member varies in the family. For example, given a family of equations $y^2 = x(x-1)(x-t)$ parametrized by t in the finite field F_p , one can ask how the number of solutions in F_p changes according to t . (The invariant of the equation, or the corresponding algebraic curve, is the number of F_p -points in this case.) After a general introduction to this type of questions, I will consider some exemplary problems in number theory, for instance asking whether the invariants are equally distributed in a suitable sense.

Followed by pizza in room 2-290