

STATISTICS COLLOQUIUM

MONDAY, APRIL 02, 2012

TALK: 4:00 PM — SCIENCE CENTER RM. 309

RECEPTION: 5:15 PM — SCIENCE CENTER, 7TH FLOOR

“Evolutionary Forces in Humans and Pathogens”

Pardis Sabeti
Harvard University

ABSTRACT

We are in the midst of a revolution in the fields of genomics and public health. The completion of the human genome sequence, the availability of genome sequence from increasing numbers of related species, the availability of genome-wide human variation data, and the ability to rapidly generate new data have created unprecedented opportunities to study human biology, evolution, and disease. These same tools are also making it possible to carry out unprecedented studies in the microbial pathogens that affect humans. With a background in both biology and medicine, my research goals are to use the rapidly emerging resources to: (1) Develop and apply methods to detect natural selection in the human genome; (2) Investigate the underlying functional changes driving human evolution; (3) Study the genomic evolution of the microbial pathogens that affect humans; and (4) Build new computational tools for studies of genomics and public health. The key infectious diseases of my lab's current studies are *Plasmodium Falciparum* malaria, *Vibrio Cholerae* cholera, and Lassa virus fever.