

Centre Interfacultaire Bernoulli (CIB)

# **4th Bernoulli Lecture**

## Thursday 1 June, 2011 Room CM5 - 17h15 to 18h15

## Orbit closures for higher rank actions and topological joinings



### **Elon Lindenstrauss** The Hebrew University of Jerusalem

Elon Lindenstrauss is born in 1970 in Jerusalem. In 1999 he graduated from Hebrew University of Jerusalem; he was subsequently member of the Institute for Advanced Study, Assistant Professor at Stanford University and a long term Prize fellow of the Clay Math. Institute; in 2004, was appointed Professor at Princeton University; and since 2009, he is also Professor at Hebrew University of Jerusalem. Elon Lindenstrauss is the recipient of numerous awards: the 2003 Salem Prize, the 2004 Prize of the European Math. Society, the 2009 Erdös Prize, the 2009 Fermat Prize. In 2010, he was awarded the Fields medal "for his results on measure rigidity in ergodic theory, and their applications to number theory."

#### Abstract

Orbits of diagonalizable groups of rank 2 or more, unlike those of one parameter groups, display very interesting but subtle rigidity properties. In some cases the closure of any orbit has to be an orbit of a possibly larger group, in a way that is reminiscent of Ratner's orbit closure classification theorem. But in many cases, even for the action of the full diagonal group on SL(n, R)/SL(n, Z), n>=3, the situation is more complicated. I will survey some of what is known on this problem including recent joint works with Uri Shapira and Zhiren Wang.