



THE HEBREW UNIVERSITY OF JERUSALEM
ISRAEL INSTITUTE FOR ADVANCED STUDIES

Ergodic Theory, Fractals and Groups

Celebrating 50 years of ergodic theory in Jerusalem

October 11-15, 2015

All lectures will take place at the Israel Institute for Advanced Studies, room 130,
on the Edmond J. Safra, Givat Ram Campus

Organizers:

Vitaly Bergelson (Ohio State University)

Mike Hochman (The Hebrew University of Jerusalem)

Elon Lindenstrauss (The Hebrew University of Jerusalem)

Shahar Mozes (The Hebrew University of Jerusalem)

Yuval Peres (Microsoft Research, Redmond)

Tamar Ziegler (The Hebrew University of Jerusalem)

Program

Sunday, 11 October

- 09:30 - 10:30 Registration
- 10:30 - 11:30 **Russell Lyons** (Indiana University, Bloomington)
Poisson-Furstenberg boundaries and the
kaimanovich-vershik conjecture
- 11:45 - 12:45 **Abért Miklós** (Hungarian Academy of Sciences)
Local convergence, cellular maps and entropy
- 12:45 - 14:30 Lunch
- 14:30 - 15:30 **Tamar Ziegler** (The Hebrew University of
Jerusalem)
Concatenations of cubic structures and applications
to primes
- 15:30 - 16:00 Coffee Break
- 16:00 - 17:00 **Hillel Furstenberg** (The Hebrew University of
Jerusalem)
Affine group actions and harmonic functions
- 17:30 - 19:30 Reception

Monday, 12 October

- 09:00 - 10:00 **Alexander Gorodnik** (University of Bristol)
Diophantine approximation on group varieties and
ergodic theory
- 10:00 - 10:30 Coffee Break
- 10:30 - 11:30 **Manfred Einsiedler** (ETH Zurich)
Positive entropy and (multiple) quantitative
unipotent recurrence

- 11:45 - 12:45 **Uri Bader** (Technion, Israel Institute of Technology)
Linearity vs. non-linearity of some automorphism groups of buildings
- 12:45 - 14:30 Lunch
- 14:30 - 15:30 **Damien Gaboriau** (Ecole Normale Supérieure de Lyon)
Geometric dimension in orbit equivalence, approximations and Bernoulli percolation at p_u
- 15:30 - 16:00 Coffee Break
- 16:00 - 17:00 **Perla Sousi** (University of Cambridge)
Self-interacting random walks

Tuesday, 13 October

- 09:00 - 10:00 **Lewis Bowen** (University of Texas at Austin)
Entropy theory for actions of nonamenable groups
- 10:00 - 10:30 Coffee Break
- 10:30 - 11:30 **Tim Austin** (New York University)
Additivity of sofic entropy and measures on model spaces
- 11:45 - 12:45 **Brandon Seward** (The Hebrew University of Jerusalem)
Cost, L^2 -Betti numbers, and the sofic entropy of some algebraic actions
- 12:45 - 14:30 Lunch
- 14:30 - 15:30 **Yuval Peres** (Microsoft Research, Redmond)
Cutoff on Ramanujan graphs
- 19:00 - 21:00 **Dinner**
Modern Restaurant (at the Israel Museum)

Wednesday, 14 October

- 09:00 - 10:00 **Pablo Shmerkin** (Universidad Torcuato Di Tella)
Geometric problems at the intersection of fractal geometry and ergodic theory
- 10:00 - 10:30 Coffee Break
- 10:30 - 11:30 **Peter Varju** (University of Cambridge)
Absolute continuity of Bernoulli convolutions
- 11:45 - 12:45 **Jean-Francois Quint** (Université de Bourdeaux)
Absolutely continuous stationary measures
- 12:45 - 14:30 Lunch
- 14:30 - 15:30 **Michael Hochman** (The Hebrew University of Jerusalem)
Generators in Borel dynamics
- 15:30 - 16:00 Coffee Break
- 16:00 - 17:30 **Problem Session**

Thursday, 15 October

- 09:00 - 10:00 **Andres Karlsson** (Université de Genève)
New subadditive and multiplicative ergodic theorems
- 10:00 - 10:30 Coffee Break
- 10:30 - 11:30 **Omri Sarig** (Weizmann Institute of Science)
Temporal distributional limit theorems for dynamical systems
- 11:45 - 12:45 **Bryna Kra** (Northwestern University)
Systems with low complexity
- 12:45 - 14:30 Lunch

14:30 - 15:30 **Emmanuel Breuillard** (Université Paris-Sud 11)
The Furstenberg boundary and C-star simple
groups

Friday, 16 October

08:30 - 13:00 **Tour of Ein Karem and Sataf**