



האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM



The 22nd Midrasha Mathematicae: Equidistribution, Invariant Measures and Applications: A tribute to the Legacy of Marina Ratner

May 19 - May 24, 2019

Organizers: Konstantin Khanin (University of Toronto), Elon Lindenstrauss (The Hebrew University of Jerusalem), Jens Marklof (University of Bristol), Yakov Pesin (Penn State University), Peter Sarnak (IAS Princeton)

Venue: Israel Institute for Advanced Studies, Edmond J. Safra Campus, Givat Ram, The Hebrew University of Jerusalem

Sunday, May 19

10:00-11:00 Registration

11:00-11:05 Greetings by **Yitzhak Hen**, Director of the IIAS

11:05-12:05 **Barak Weiss** (Tel Aviv University): The Horocycle Flow on the Moduli Space of Translations Surfaces I (minicourse)

12:15-13:15 **Andreas Strömbergsson** (Uppsala University): Kinetic Theory for the Low-density Lorentz Gas

13:15-15:00 *Lunch break - Sherman Restaurant*

15:00-16:00 **Manfred Einsiedler** (ETH Zurich): Adelic Equidistribution of Maximal Semi Simple Orbits

16:00-16:30 *Coffee break*

16:30-17:30 **Hillel Furstenberg** (The Hebrew University of Jerusalem): Three Problems on Rational Orbits and Equidistribution

18:00 Reception at IIAS lobby

Monday, May 20

- 8:30-9:00 Gathering & coffee
- 9:00-10:00 **Elon Lindenstrauss**: Quantitative Behavior of Unipotent Flows and an Effective Avoidance Principle
- 10:00-10:30 *Coffee break*
- 10:30-11:30 **Barak Weiss**: The Horocycle Flow on the Moduli Space of Translations surfaces II (minicourse)
- 11:40-12:40 **Corinna Ulcigrai** (University of Bristol /University of Zurich): Ratner Properties and Disjointness for Smooth Area-preserving Surface Flows
- 12:40-14:15 *Lunch break - Sherman Restaurant*
- 14:15-15:15 **Adam Kanigowski** (University of Maryland): Kakutani Equivalence of Unipotent Flows
- 15:30-16:00 **Or Landesberg** (The Hebrew University of Jerusalem): On Radon Measures Invariant Under Horospherical Flows on Geometrically Infinite Quotients
- 16:00-16:30 *Coffee break*
- 16:30-17:30 **Ilya Khayutin** (Princeton University): Non-accumulation of Periodic Torus Orbits

Tuesday, May 21

- 8:30-9:00 Gathering & coffee
- 9:00-10:00 **Alex Eskin** (The University of Chicago): Random Walks and Measure Rigidity I (minicourse)
- 10:00-10:30 *Coffee break*
- 10:30-11:30 **Hee Oh** (Yale University): Dynamics for Discrete Subgroups of $PSL(2, \mathbb{C})$ and Beyond I (minicourse)
- 11:40-12:40 **Amos Nevo** (Technion - Israel Institute of Technology): Ergodic Theorems for Actions of Lattice Subgroups on Homogeneous Spaces and Applications
- 12:40-13:40 *Light lunch break - IIAS lobby*
- 13:40-14:10 Transportation to the Old City
- 14:10-18:00 Old City tour
- 18:30 Conference dinner - Terasa Restaurant
- 20:30 Transportation back to Prima Park Hotel

Wednesday, May 22

8:30-9:00 Gathering & coffee

9:00-10:00 **Federico Rodriguez Hertz** (Penn State University): Rigidity in Hyperbolic Systems

10:00-10:30 *Coffee break*

10:30-11:30 **Hee Oh**: Dynamics for Discrete Subgroups of $\mathrm{PSL}(2, \mathbb{C})$ and Beyond II (minicourse)

11:40-12:40 **Dmitry Dolgopyat** (University of Maryland): Asymptotic Expansions in Central Limit Theorem

12:40-14:15 *Lunch break - Sherman Restaurant*

14:15-15:15 **Aaron Brown** (The University of Chicago): Smooth Actions of Higher-rank Lattices

15:30-16:00 **Lei Yang** (Sichuan University): Effective Equidistribution for Multiplicative Diophantine Approximation on Planar Lines

16:00-16:30 *Coffee break*

16:30-17:30 **Jacob Tsimerman** (University of Toronto): O-minimality and Hodge Theory

Thursday, May 23

8:30-9:00 Gathering & coffee

9:00-10:00 **Nimish Shah** (The Ohio State University): Limit Distribution of Translates of Shrinking Curves on Homogeneous Spaces

10:00-10:30 *Coffee break*

10:30-11:30 **Tamar Ziegler** (The Hebrew University of Jerusalem): Equidistribution and Extending Polynomial Functions from High Rank Varieties

11:40-12:40 **Uri Shapira** (Technion - Israel Institute of Technology): Classification of Stationary Measures on the Space of 2-lattices in 3-space

12:40-14:30 *Lunch break - IIAS lobby*

Change of Venue: The afternoon sessions will be held at Math Department ([Mathematics Building](#), Lecture Hall #2)

14:30-15:30 **Yves Benoist** (University of Paris-Sud): Arithmeticity of Discrete Groups (Colloquium talk at the Einstein Institute)

15:30-16:00 *Coffee break/refreshments at math department courtyard*

16:00-16:30 **Wenyu Pan** (Penn State): Joining Measures for Horocycle Flows on Abelian Covers

16:40-17:10 **Samuel Edwards** (Yale University): Horocycles in Geometrically Finite Hyperbolic Surfaces

Friday, May 24

8:30-9:00 Gathering & coffee

9:00-10:00 **Alex Eskin**: Random Walks and Measure Rigidity II (minicourse)

10:00-10:30 *Coffee break*

10:30-11:30 **David Fisher** (Indiana University): Arithmeticity, Closed Orbits and Equidistribution

11:30-13:00 *Light lunch at IIAS lobby*