

Combinatorial and Computational Geometry: Tutorials

Tuesday March 11, 2014

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–10:15 **Imre Barany** (Renyi Institute of Mathematics)
(1) The Combinatorial Nullstellensatz
- 10:15–10:45 *Break*
- 10:45–12:00 **Saugata Basu** (Purdue University)
Combinatorial, algebraic and topological complexity of semi-algebraic sets
- 12:00–12:30 *Core Orientation with IPAM Staff*
- 12:30–2:00 *Lunch (on your own)*
- 2:00–3:15 **Neil Lyall** (University of Georgia)
(1) An Introduction to the Falconer Distance, Kakeya and Restriction Conjectures
- 3:15–3:45 *Break*
- 3:45–5:00 **Nathan Kaplan** (Yale University)
Polynomials over Finite Fields and the Finite Field Kakeya Conjecture

Wednesday March 12, 2014

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–10:15 **Imre Barany** (Renyi Institute of Mathematics)
(2) The Combinatorial Nullstellensatz
- 10:15–10:45 *Break*
- 10:45–12:00 **Saugata Basu** (Purdue University)
Combinatorial complexity in o-minimal structures
- 12:00–2:00 *Lunch (on your own)*
- 2:00–3:15 **Neil Lyall** (University of Georgia)
(2) An Introduction to the Falconer Distance, Kakeya and Restriction Conjectures
- 3:15–3:45 *Break*
- 3:45–5:00 **Shakhar Smorodinsky** (Ben-Gurion University of the Negev)
(1) Introduction to combinatorial geometry via hard Erdős problems



Thursday March 13, 2014

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–10:15 **Jozsef Solymosi** (University of British Columbia)
Combinatorial applications of the Subspace Theorem
- 10:15–10:45 *Break*
- 10:45–12:00 **Ernest Croot** (Georgia Institute of Technology)
Almost-periodic convolutions
- 12:00–2:30 *On-Campus Excursion*
- 2:30–3:30 **Misha Rudnev** (University of Bristol)
Applications of incidence theorems to questions of sum-product type
- 3:30–4:00 *Break*
- 4:00–5:00 **Shakhar Smorodinsky** (Ben-Gurion University of the Negev)
(2) Introduction to combinatorial geometry via hard Erdős problems

Friday March 14, 2014

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–10:15 **Jozsef Solymosi** (University of British Columbia)
Elementary Additive Combinatorics
- 10:15–10:45 *Break*
- 10:45–12:00 **Shachar Lovett** (University of California, San Diego (UCSD))
Applications of additive combinatorics in theoretical computer science
- 12:00–2:00 *Lunch (on your own)*
- 2:00–3:15 **Nets Katz** (California Institute of Technology)
The impact of the Kakeya problem on combinatorial geometry and vice versa
- 3:15–3:45 *Break*
- 3:45–5:00 **Shakhar Smorodinsky** (Ben-Gurion University of the Negev)
(3) Introduction to combinatorial geometry via hard Erdős problems

