

Workshop IV: Vertex Models: Algebraic and Probabilistic Aspects of Universality

Monday May 20, 2024

- 8:00–8:55 *Check-In/Breakfast (Hosted by IPAM)*
- 8:55–9:00 *Welcome and Opening Remarks*
- 9:00 *Session Chair: Jan de Gier (University of Melbourne)*
- 9:00–9:50 **Alexei Borodin** (Massachusetts Institute of Technology)
Geometry of dimer models
- 10:00–10:15 *Break*
- 10:15–11:05 **Filippo Colomo** (INFN - Sezione di Firenze)
Frozen boundaries and their fluctuations in the square-ice model
- 11:15–11:30 *Break*
- 11:30–12:20 **Marianna Russkikh** (University of Notre Dame)
Perfect t -embedding of uniformly weighted hexagon.
- 12:30–2:00 *Lunch (on your own)*
- 2:00 *Session Chair: Eveliina Peltola (Aalto University)*
- 2:00–2:50 **Leonid Petrov** (University of Virginia)
Vertex model integrability for stochastic particle systems
- 3:00–4:30 *Poster Session + Cookies and Refreshments (Hosted by IPAM)*
- 4:45–4:55 *Break- Walk to Mong Auditorium*
- 5:00–6:00 **Hugo Duminil-Copin** (The University of Geneva)
Green Family Lecture #1: The mathematics of percolation (at UCLA Mong Auditorium)
- 6:00–7:00 *Reception (Location: IPAM Lobby)*

Tuesday May 21, 2024

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00 *Session Chair: Harini Desiraju (Sydney Mathematical Research Institute, University of Sydney)*
- 9:00–9:50 **Philippe Di Francesco** (University of Illinois at Urbana-Champaign)
Arctic curves for vertex models
- 10:00–10:15 *Break*

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- 10:15–11:05 **Alexandr Garbali** (University of Melbourne)
Shuffle algebras, lattice paths and Macdonald functions
- 11:15–11:30 *Break*
- 11:30–12:20 **Wioletta Ruszel** (Utrecht University)
Fermionic Gaussian free field and connections to random lattice models
- 12:30–2:00 *Lunch (on your own)*
- 2:00 *Session Chair: Dmitry Chelkak (University of Michigan)*
- 2:00–2:50 **Promit Ghosal** (Brandeis University)
Tail probabilities of the stochastic six vertex model.
- 3:00–3:15 *Break*
- 3:15–4:05 **Vadim Gorin** (University of California, Berkeley (UC Berkeley))
Six-vertex model in the rare corners regime
- 4:15–4:45 *Cookies & Refreshments (Hosted by IPAM)*
- 5:00–6:00 **Hugo Duminil-Copin** (The University of Geneva)
Green Family Lecture #2: Critical phenomena through the lens of the Ising model (at UCLA Mong Auditorium)

Wednesday May 22, 2024

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00 *Session Chair: Daniel Remenik (Universidad de Chile)*
- 9:00–9:50 **Hugo Duminil-Copin** (The University of Geneva)
Lecture 2. Rotational invariance of planar random cluster models... and beyond?
- 10:00–10:15 *Break*
- 10:15–11:05 **David Keating** (University of Wisconsin-Madison)
Stochastic Box-Ball System
- 11:15–11:30 *Break*

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- 11:30–12:20 **Istvan Prause** (University of Eastern Finland)
Limit shapes of non-intersecting Brownian bridges via harmonic envelopes
- 12:30–12:45 *Group Photo*
- 12:45–2:30 *Lunch (on your own)*
- 2:00 *Session Chair: Wioletta Ruszel (Utrecht University)*
- 2:30–3:20 **Jesper Jacobsen** (École Normale Supérieure)
Exact three- and four-point correlation functions in the $O(n)$ and Potts loop models
- 3:30–4:00 *Break*
- 4:00–5:00 *Discussion Time*

Thursday May 23, 2024

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00 *Session Chair: Philippe Di Francesco (University of Illinois at Urbana-Champaign)*
- 9:00–9:50 **Tomohiro Sasamoto** (Tokyo Institute of Technology)
Skew RSK dynamics
- 10:00–10:15 *Break*
- 10:15–11:05 **Harini Desiraju** (Sydney Mathematical Research Institute, University of Sydney)
Elliptic orthogonal polynomials and their integrability.
- 11:15–11:30 *Break*
- 11:30–12:20 **Jeffrey Kuan** (Texas A&M University - College Station)
Universality of dynamic processes using Drinfel'd twistors
- 12:30–2:30 *Lunch (on your own)*
- 2:00 *Session Chair: Alexandr (Sasha) Garbali (University of Melbourne)*
- 2:30–3:20 **Rinat Kedem** (University of Illinois at Urbana-Champaign)
Closed vs. open Toda chains from Q-systems
- 3:30–4:00 *Break*
- 4:00–4:50 **Jacopo Borga** (Stanford University)
On the geometry of uniform meandric systems

Friday May 24, 2024

- 8:00–9:00 *Check-In/Breakfast (Hosted by IPAM)*
- 9:00 *Session Chair: Jeffrey Kuan (Texas A&M University - College Station)*
- 9:00–9:50 **Daniel Remenik** (Universidad de Chile)
Solving PNG
- 10:00–10:15 *Break*
- 10:15–11:05 **Ivan Corwin** (Columbia University)
Scaling limit of colored ASEP
- 11:15–11:30 *Break*
- 11:30–12:20 **Michael Wheeler** (University of Melbourne)
A vertex model proof of a correspondence due to Imamura–Mucciconi–Sasamoto
- 12:30–2:30 *Lunch (on your own)*
- 2:00 *Session Chair: Rinat Kedem (University of Illinois at Urbana-Champaign)*
- 2:30–3:20 **Richard Kenyon** (Yale University)
On the higher-rank dimer model
- 3:30–4:00 *Break*
- 4:00–5:00 *Discussion Time*

