

Workshop IV: Algebraic and Probabilistic Aspects of Universality

MAY 20 - 24, 2024

Scientific Overview

The interplay of integrable models of statistical mechanics with combinations of probability theory and algebraic methods such as transfer matrix formalism, diagram algebras, and quantum group techniques, has proved fruitful in the past decades in both mathematics and physics. It has been particularly beneficial to enhance interactions between researchers working at the interfaces of these areas. The aim of this workshop is to bring together experts in algebraic and probabilistic aspects of solvable lattice models as well as researchers working on related algebraic subjects who have a common interest in understanding universal phenomena such as KPZ behavior, limit shapes, and convergence of lattice models to CFT predictions. In particular, we aim to develop interactions between different approaches to the study of lattice models, such as Bethe ansatz, (inhomogeneous) CFT methods and the tangent method. Other topics of potential interest include multi-species, forest fires and sandpile models, for which such interactions are less developed as for now. We also intend to foster interactions between researchers studying quantum groups and CFT on the one hand and probabilists working on SLE/CLE topics on the other, hoping for a fruitful synthesis of ideas and techniques.

Long Program Schedule

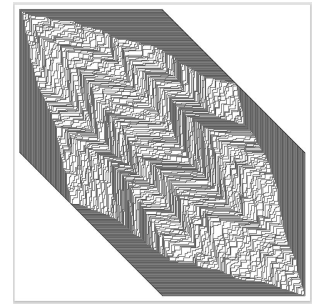
This workshop is part of the long program Geometry, Statistical Mechanics, and Integrability

- Geometry, Statistical Mechanics, and Integrability Opening Day : March 11, 2024
- Geometry, Statistical Mechanics, and Integrability Tutorials : March 12-15, 2024
- Workshop I: Statistical Mechanics and Discrete Geometry : March 25-29, 2024
- Workshop II: Integrability and Algebraic Combinatorics : April 15-19, 2024
- Workshop III: Statistical Mechanics Beyond 2D : May 6-10, 2024
- **Workshop IV: Vertex Models: Algebraic and Probabilistic Aspects of Universality : May 20-24, 2024**
- Geometry, Statistical Mechanics, and Integrability Culminating Workshop at Lake Arrowhead : June 9-14, 2024

Participation

Additional information about this workshop including links to register and to apply for funding, can be found on the webpage listed below.

Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.



Organizers

Dmitry Chelkak (University of Michigan)
Jan de Gier (University of Melbourne)
Eveliina Peltola (Aalto University)

Invited Speakers

Jacopo Borga (Stanford University)
Alexei Borodin (Massachusetts Institute of Technology)
Luigi Cantini (Université de Cergy-Pontoise)
Filippo Colomo (Università di Firenze)
Ivan Corwin (Massachusetts Institute of Technology)
Philippe Di Francesco (University of Illinois at Urbana-Champaign)
Hugo Duminil-Copin (The University of Geneva)
Chiara Franceschini (University of Illinois at Urbana-Champaign)
Sasha Garbali (University of Melbourne) **Promit Ghosal** (Massachusetts Institute of Technology)
Vadim Gorin (University of California, Berkeley (UC Berkeley))
Jesper Jacobsen (École Normale Supérieure)
Rinat Kedem (University of Illinois at Urbana-Champaign)
Richard Kenyon (Yale University)
Jeffrey Kuan (Texas A&M University - College Station)
Olya Mandelshtam (University of Waterloo)
Leonid Petrov (University of Virginia)
Istvan Prause (University of Eastern Finland)
Daniel Remenik (Universidad de Chile)
Marianna Russkikh (University of Notre Dame)
Wioletta Ruszel (Utrecht University)
Tomohiro Sasamoto (Tokyo Institute of Technology)
Michael Wheeler (University of Melbourne)



For more information, visit the program web page:

www.ipam.ucla.edu/GSIWS4