

## Workshop II: Integrability and Algebraic Combinatorics

### Monday April 15, 2024

- 8:00–8:55 *Check-in/Breakfast (hosted by IPAM)*
- 8:55–9:00 *Welcome and Opening Remarks*
- 9:00 *SESSION CHAIR: Vadim Gorin (University of California, Berkeley (UC Berkeley))*
- 9:00–9:50 **Jonathan Novak** (University of California, San Diego (UCSD))  
*Hypergeometric Functions of Matrix Argument and their High-Dimensional Behavior*
- 10:00–10:15 *Break*
- 10:15–11:05 **Leonid Petrov** (University of Virginia)  
*Random lozenge waterfall: dimensional collapse of Gibbs measures*
- 11:15–11:30 *Break*
- 11:30–12:20 **Benjamin Young** (University of Oregon)  
*The squish map and the  $SL_2$  double-dimer model*
- 12:30–2:30 *Lunch (on your own)*
- 2:30 *SESSION CHAIR: Vadim Gorin (University of California, Berkeley (UC Berkeley))*
- 2:30–3:20 **Cesar Cuenca** (Ohio State University)  
*The Symplectic Schur Process*
- 3:30–4:00 *Break*
- 4:00–4:50 **Jacopo Borga** (Stanford University)  
*Limit shapes for random Young tableaux via determinantal point processes*
- 5:00–5:15 *Lightning Poster Session*
- 5:20–6:45 *Poster Session & Reception (Hosted by IPAM)*

### Tuesday April 16, 2024

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00 *SESSION CHAIR: Anne Schilling (University of California, Davis (UC Davis))*
- 9:00–9:50 **Olya Mandelshtam** (University of Waterloo)  
*A new compact formula for the symmetric Macdonald polynomials via the ASEP and TAZRP*
- 10:00–10:15 *Break*

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- 10:15–11:05 **Arvind Ayyer** (Indian Institute of Science)  
*The inhomogeneous multispecies PushTASEP*
- 11:15–11:30 *Break*
- 11:30–12:20 **Lauren Williams** (Harvard University)  
*The inhomogeneous multispecies  $t$ -PushTASEP and Macdonald polynomials*
- 12:30–12:45 *Group Photo*
- 12:45–2:30 *Lunch (on your own)*
- 2:30 *SESSION CHAIR: Greta Panova (University of Southern California (USC))*
- 2:30–3:20 **Sergei Korotkikh** (University of California, Berkeley (UC Berkeley))  
*Construction of interpolation symmetric functions from  $q$ -Hahn integrable models.*
- 3:30–4:00 *Break*
- 4:00–4:20 **Yu Feng** (Department of Mathematical Sciences, Tsinghua University)  
*Logarithmic singularity in the density four-point function of two-dimensional critical percolation in the bulk*
- 4:25–4:45 **Yi-Lin Lee** (Indiana University)  
*Further exploration of off-diagonally symmetric domino tilings of the Aztec diamond*
- 4:50–5:10 **Hans Höngesberg** (Polish Academy of Sciences)  
*A combinatorial approach towards Littlewood-type identities related to alternating sign matrices*

### Wednesday April 17, 2024

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00 *SESSION CHAIR: Jan de Gier (University of Melbourne)*
- 9:00–9:50 **Anna Weigandt** (University of Minnesota, Twin Cities)  
*Schubert to Grothendieck via Ice*
- 10:00–10:15 *Break*
- 10:15–11:05 **Paul Zinn-Justin** (University of Melbourne)  
*The MacNeille completion of the type B Bruhat poset*
- 11:15–11:30 *Break*

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- 11:30–12:20 **Hariharan Narayanan** (Tata Institute of Fundamental Research)  
*Sums of GUE matrices and concentration of hives from correlation decay of eigengaps*
- 12:30–2:00 *Lunch (on your own)*
- 2:00 *SESSION CHAIR: Greta Panova (University of Southern California (USC))*
- 2:00–2:50 **Igor Pak** (University of California, Los Angeles (UCLA))  
*Correlation inequalities for Schur functions and Young tableaux*
- 3:00–3:15 *Break*
- 3:15–4:05 **Swee Hong Chan** (Rutgers University)  
*Complexity of log-concave poset inequalities.*
- 4:15–4:30 *Break*
- 4:30–5:20 **Jonathan Leake** (University of Waterloo)  
*Log-concave polynomials, lattice point counting, and the traveling salesperson problem*

### Thursday April 18, 2024

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00 *SESSION CHAIR: Damir Yeliussizov (Kazakh-British Technical University)*
- 9:00–9:50 **Jessica Striker** (North Dakota State University)  
*Rotation-invariant web bases from hourglass planar graphs and symmetrized six-vertex configurations*
- 10:00–10:15 *Break*
- 10:15–11:05 **Laura Escobar** (Washington University in St. Louis)  
*Sums of weighted lattice points of polytopes*
- 11:15–11:30 *Break*
- 11:30–12:20 **Jehanne Dousse** (Université de Genève)  
*The Andrews-Gordon partition identities and commutative algebra*
- 12:30–2:30 *Lunch (on your own)*
- 2:30 *SESSION CHAIR: Alejandro Morales (University of Quebec Montréal)*
- 2:30–3:20 **Pavel Galashin** (University of California, Los Angeles (UCLA))  
*Move-reduced graphs on a torus vs positroid Catalan numbers*
- 3:30–4:00 *Break*

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- 4:00–4:20 **Joshua Swanson** (University of Southern California (USC))  
*Unifying lattices through hourglass planar graphs*
- 4:25–4:45 **Colin Defant** (Harvard University)  
*Toric Promotion with Reflections and Refractions*
- 4:50–5:10 **Sarah Brauner** (University of Quebec Montréal)  
*Spectrum of random-to-random shuffling in the Hecke algebra*

## Friday April 19, 2024

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00 *SESSION CHAIR: Alejandro Morales (University of Quebec Montréal)*
- 9:00–9:50 **Harriet Walsh** (Université d'Angers)  
*Random partitions, Hurwitz number and counting high genus surfaces*
- 10:00–10:15 *Break*
- 10:15–11:05 **Houcine Ben Dali** (Université de Lorraine)  
*Jack characters as generating series of bipartite maps and proof of Lassalle's conjecture*
- 11:15–11:30 *Break*
- 11:30–12:20 **Maciej Dolega** (Polish Academy of Sciences)  
*Global asymptotics of Jack-deformed random Young diagrams via Lukasiewicz paths*

