# **Banff Calendar**







#### **JANUARY**

1/04 - 1/09 Uncertainty in Combinatorial and Computational Geometry: Ben Raichel (U. Texas - Dallas), Maike Buchin (Ruhr U. Bochum), Vahideh Keikha (Czech Academy of Science, Institute of Computer Science), Maarten Löffler (Utrecht U.), Jeff Phillips (U. Utah)

1/11 - 1/16 Theory and Practice of SAT and Combinatorial Solving: Jakob Nordstrom (U. Copenhagen and Lund U.), Olaf Beyersdorff (U. Jena), Daniela Kaufmann (TU Wien), Ciaran McCreesh (U. Glasgow)

1/18 - 1/23 Geometry of Algebraic Stacks: Martin Olsson (UC Berkeley), Daniel Bragg (U. Utah), Andres Fernandez Herrero (U. Pennsylvania), Anthony Várilly-Alvarado (Rice U.), Rachel Webb (Cornell U.)

1/25 - 1/30 New Developments in Tensor Categories: Ivan Angiono (U. Nacional de Cordoba), Agustina Czenky (U. Southern California), Thorsten Heidersdorf (Newcastle U.), Victor Ostrik (U. Oregon), Julia Plavnik (Indiana U.)

#### **FEBRUARY**

2/01 - 2/06 High-Dimensional Learning Dynamics: Aukosh Jagannath (U. Waterloo), Andrea Montanari (Stanford U.), Courtney Paquette (McGill U.), Inbar Seroussi (Tel Aviv U.)

2/08 - 2/13 New Mathematical Theory in Eco-Evolutionary Modelling of Host-Symbiont Communities: Maria Martignoni (Georgia Institute of Technology), Jimmy Garnier (CNRS), Joan Roughgarden (U. Hawaiʻi–Mānoa), Rebecca Claire Tyson (UBC Okanagan)

2/15 - 2/20 Heterogeneity and Variability in Pathogen Dynamics and In-host Modelling: Jane Heffernan (York U.), Jessica Conway (Penn State), Morgan Craig (U. Montréal), Laura Liao (Merck & Co., Inc), Amber Smith (U. Tennessee Health Science Center)

2/22 - 2/27 Contextual Stochastic Optimization: Utsav Sadana (U. Montréal), Erick Delage (HEC Montréal), Bistra Dilkina (U. Southern California), Angelos Georghiou (U. Cyprus), Phebe Vayanos (U. Southern California)

## MARCH

3/01 - 3/06 Women in Computational Methods for PDEs: Adrianna Gillman (U. Colorado Boulder), Donna Calhoun (Boise State U.), Julia Kowalski (RWTH Aachen U.), Heather Wilber (U. Washington)

3/08 - 3/13 Localization, Delocalization, and Diffusion in Disordered Systems: Cole Graham (U. Wisconsin—Madison), Laure Dumaz (Ecole Normale Supérieure), Alexander Dunlap (Duke U.), Felipe Hernández (MIT), Hubert Lacoin (Instituto de Matemática Pura e Aplicada)

3/15 - 3/20 Model-Informed Vaccine Development and Quantitative Systems Pharmacology/Toxicology: Terry Easlick (U. Montréal), Fatemeh Beigmohammadi (U. Montréal), Morgan Craig (U. Montréal), Suzan Farhang-Sardroodi (U. Toronto), Anna Sher (GSK)

3/22 - 3/27 Cluster Algebras, Webs, and Canonical Bases: Melissa Sherman-Bennett (UC Davis), Christian Gaetz (UC Berkeley), Joel Kamnitzer (McGill U.), Oliver Pechenik (U. Waterloo)

3/29 - 4/03 The Mathematics of Elections, Fairness, and Representation: David McCune (William Jewell College), Jeanne Clelland (U. Colorado Boulder), Natasa Dragovic (U. Saint Thomas), Ismar Volić (Wellesley College)

# APRIL

4/05 - 4/10 DANGER: Data, Numbers, and Geometry: Edward Hirst (Queen Mary, U. London), Miranda Cheng (Academia Sinica), Sergei Gukov (Caltech), Elli Heyes (Imperial College London)

4/12 - 4/17 Geometric Analysis on Asymptotically Hyperbolic Manifolds: Romain Gicquaud (U. Tours), Tracey Balehowsky (U. Calgary), Mazzeo Rafe (Stanford U.), Anna Sakovich (Uppsala U.), Eric Woolgar (U. Alberta)

4/19 - 4/24 Regularity in Algebra, Combinatorics, and Geometry: Patricia Klein (Texas A&M U.), Daniel Erman (U. Hawai'i–Mānoa), Anna Weigandt (U. Minnesota)

4/26 - 5/01 Applications of Harmonic Analysis to Convex Geometry: Vladyslav Yaskin (U. Alberta), Alexander Koldobsky (U. Missouri—Columbia), Dmitry Ryabogin (Kent State U.), Kateryna Tatarko (U. Waterloo), Artem Zvavitch (Kent State U.)

BIRS ALSO HOSTS FOCUSED RESEARCH GROUPS, RESEARCH IN TEAMS, SUMMER SCHOOLS, HYBRID THEMATIC PROGRAMS, BIRS NOW!, PIMS/BIRS TEAM UP! AND 2-DAY WORKSHOPS.

#### MAY

5/03 - 5/08 Advancing Computational Drug Design: New Mathematical Approaches from Multiscale to AI: Svetlana Sapelnikova (SVConsulting.ca), Khaled Barakat (Thoth Biosimulations Inc.), Mirna Damergi (Rapid Infection Diagnostics Inc.), Andriy Kovalenko (Software for Multiscale Modeling Inc.), Jack Tuszynski (U. Alberta)

5/10 - 5/15 A Roadmap Towards Developing Mechanobiochemical Models for Single and Collective Cell Migration Through Complex Non-Isotropic Environments: Anotida Madzvamuse (U. British Columbia), Stéphanie Portet (U. Manitoba), Padmini Rangamani (UC San Diego), Fred Vermolen (L. Hasselt)

5/17 - 5/22 Modelling of Plant Microtubules: Tim Tian (U. British Columbia), Eric Cytrynbaum (U. British Columbia), Eva Deinum (Wageningen U. & Research), Geoffrey Wasteneys (U. British Columbia)

5/24 - 5/29 Large N Matrix Models and Emergent Geometry: Robert Brandenberger (McGill U.), Suddhasattwa Brahma (U. Edinburgh), Joanna Karczmarek (U. British Columbia), Elliot Paquette (McGill U.), Harold Steinacker (U. Vienna)

5/31 - 6/05 Stein's Method Meets Statistical Learning: Murat Erdogdu (U. Toronto), Krishnakumar Balasubramanian (UC Davis), Larry Goldstein (U. Southern California), Gesine Reinert (U. Oxford)

#### JUNE

6/07 - 6/12 High Dimensional Problems for Statistical Methods in Fundamental Physics Data Analyses: Lydia Brenner (Nikhef), Olaf Behnke (DESY), Kyle Cormier (U. Zurich), Adinda de Wit (CNRS), Philipp Windischhofer (U. Chicago)

6/14 - 6/19 Women in Numbers 7: Alia Hamieh (UNBC), Catherine Hsu (Swarthmore College), Beth Malmskog (Colorado College), Bianca Viray (U. Washington)

6/21 - 6/26 Mathematics Bundle - 2026: Florence Glanfield (U. Alberta), Edward Doolittle (First Nations U. Canada), Betty McKenna (First Nations U. Canada)

6/21 - 6/26 Cross-Community Collaborations in Combinatorics: Natasha Morrison (U. Victoria), Jozef Skokan (London School of Economics and Political Science), Evelyne Smith-Roberge (Georgia Institute of Technology)

6/28 - 7/03 Emerging Challenges in Statistical Modeling for Transportation Research: Aurelie Labbe (HEC Montreal), Ricardo Daziano (Cornell U.), Pratheepa Jeganathan (McMaster U.), Lijun Sun (McGill U.)

## JULY

7/05 - 7/10 Variational Problems in the Physical and Data Sciences: Analysis, Modeling, and Simulation: Ihsan Topaloglu (Virginia Commonwealth U.), Lia Bronsard (McMaster U.), Felix Otto (Max Planck Institute for Mathematics in the Sciences), Raghavendra Venkatraman (U. Utah)

7/12 - 7/17 Additivity Problems in Quantum and Classical Information Theory: Graeme Smith (U. Waterloo), Nilanjana Datta (U. Cambridge), Felix Leditzky (U. Illinois Urbana—Champaign), Debbie Leung (U. Waterloo)

7/19 - 7/24 A Panorama of Quantum Topology - Recent Progress in Quantum Algebra, Low-Dimensional Topology, and Mathematical Physics: Zsuzsanna Dancso (U. Sydney), Hans Boden (McMaster U.), Iva Halacheva (Northeastern U.)

7/26 - 7/31 Toric Topology and Polyhedral Products Collaborative Network: Jelena Grbic (U. Southampton), Martin Bendersky (Hunter College, CUNY), Xin Fu (Beijing Institute of Mathematical Sciences and Applications), Taras Panov (Moscow State U.)

## AUGUST

8/02 - 8/07 Geometric Flows and Related Topics: Jingyi Chen (U. British Columbia), Richard Bamler (UC Berkeley), Arunima Bhattacharya (U. North Carolina—Chapel Hill), Gang Tian (Peking U.), Peter Topping (U. Warwick)

8/09 - 8/14 Catastrophic Events in the Complex World: Mathematics & Statistics of Extremes in the Age of Machine Learning: Rafal Kulik (U. Ottawa), Gloria Buritica (AgroParisTech), Natalia Nolde (U. British Columbia), Gennady Samorodnitsky (Cornell U.), Stilian Stoev (U. Michigan)

8/16 - 8/21 Recent Breakthroughs and New Perspectives on the Interplay between Fluid Mechanics and Kinetic Theory: William Golding (U. Chicago), Dallas Albritton (U. Wisconsin—Madison), Maria P. Gualdani (U. Texas—Austin), Nestor Guillen (Texas State U.)

8/23 - 8/28 Nonlocal Aggregation Models in the Life Sciences: Thomas Hillen (U. Alberta), Valeria Giunta (Swansea U.), Yurij Salmaniw (U. Oxford)

8/30 - 9/04 Nonlinear Diffusion and related PDEs in (non) Euclidean Settings: Matteo Muratori (Politecnico di Milano), Elvise Berchio (Politecnico di Torino), María del Mar González Nogueras (U. Autónoma de Madrid), Prasun Roychowdhury (National Center for Theoretical Sciences), Bruno Volzone (Politecnico di Milano)

#### SEPTEMBER

9/06 - 9/11 Arithmetic, L-functions, and Pseudorandomness: Alina Ostafe (U. New South Wales), William Banks (U. Missouri), Junxian Li (UC Davis), Ilya Shkredov (Purdue U.)

9/13 - 9/18 Kernel Approximation and Gaussian Processes: Integrating and Expanding Perspectives: Grady Wright (Boise State U.), Thomas Hangelbroek (U. Hawaiʻi–Mānoa), Janin Jäger (Catholic U. Eichstätt-Ingolstadt), Cecile Piret (Michigan Technological U.), Christian Rieger (Philipps—U. Marburg)

9/20 - 9/25 Stochastic Modeling for the Resilience of Healthy Ecosystems: Christopher Greyson-Gaito (McMaster U.), Priscilla Greenwood (U. British Columbia), Mary-Lou Zeeman (Bowdoin College)

9/27 - 10/02 Bridging Theoretical Discrete Math Advancements with Open Source Resource Development: Nancy Ann Neudauer (Pacific U.), Jane Butterfield (U. Victoria), David Farmer (American Institute of Mathematics), Lord Kavi (Concordia U. Edmonton), Christine Kelley (U. Nebraska—Lincoln)

#### **OCTOBER**

10/04 - 10/09 The New Frontier of Herglotz-Nevanlinna Functions: Theory, Applications, and Open Problems: Ornella Mattei (San Francisco State U.), Maxence Cassier (CNRS), Annemarie Luger (Stockholm U.), Graeme Milton (U. Utah), Aaron Welters (Florida Institute of Technology)

10/11 - 10/16 Challenging Al for Scientific Discovery: From Neuroscience to Cosmology: Mervyn Chan (U. British Columbia), Audrey Durand (U. Laval), Renee Hlozek (U. Toronto), Flavie Lavoie-Cardinal (U. Laval), Ashish Mahabal (California Institute of Technology)

10/18 - 10/23 Identifiable Representation Learning: Pradeep Ravikumar (Carnegie Mellon U.), Aapo Hyvärinen (U. Helsinki), Dhanya Sridhar (U. Montreal and Mila), Soledad Villar (Johns Hopkins U.)

10/25 - 10/30 The Fluid Mechanics of Volcanic Hazards: Andrew Hogg (U. Bristol), Eric Breard (U. Edinburgh), Chris Johnson (U. Manchester), Alison Rust (U. Bristol), Jenny Suckale (Stanford U.)

## NOVEMBER

11/01 - 11/06 Higher Rank Graphs in Algebra, Geometry and C\*-Algebras: Alina Vdovina (City College of New York, CUNY), Lisa Orloff Clark (Victoria U. Wellington), Eusebio Gardella (U. Gothenburg and Chalmers U. Technology)

11/08 - 11/13 Space-Time Approaches to PDE Solvers: Unlocking the Power of Co-Design: Raymond Spiteri (U. Saskatchewan), Tania Belabbas (U. Sherbrooke), Sarah Nataj (U. Waterloo)

11/15 - 11/20 Advances in Statistical Methodology for the Analysis of Wastewater Data: Robert Delatolla (U. Ottawa), Devan Becker (Wilfrid Laurier U.), Charmaine Dean (U. Waterloo), Joan Hu (Simon Fraser U.), Erwin Nagelkerke (National Institute for Public Health and the Environment Netherlands)

11/22 - 11/27 New Frontiers in Design Theory: Luke Postle (U. Waterloo), Julia Böttcher (London School of Economics and Political Science), Michelle Delcourt (Toronto Metropolitan U.), Peter Keevash (U. Oxford), Tom Kelly (Georgia Institute of Technology)

11/29 - 12/04 Dynamics in Geometric Dispersive Equations and the effects of Trapping, Scattering and weak Turbulence, III: Jeremy Marzuola (U. North Carolina), Albert Ai (U. Wisconsin—Madison), Mihaela Ifrim (U. Wisconsin—Madison), Daniel Tataru (UC Berkeley)

## **DECEMBER**

12/06 - 12/11 Evolving Random Structures and Interactions: Lutz Warnke (UC San Diego), Tom Bohman (Carnegie Mellon U.), Jane Gao (U. Waterloo), Malwina Luczak (U. Manchester), Mehtaab Sawhney (Columbia U.)



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