



# 2024

## Banff Calendar

### JANUARY

1/7 - 1/12 Community in Algebraic and Enumerative Combinatorics: Marni Mishna (Simon Fraser U.), Olya Mandelshtam (U. Waterloo), Shaheen Nazir (Lahore U. Management Sciences), Rosa Orellana (Dartmouth College), Bridget Tenner (DePaul U.)

1/14 - 1/19 Randomness and Quasiperiodicity in Mathematical Physics: Wencai Liu (Texas A&M U.), David Damanik (Rice U.), Constanza Rojas-Molina (CY Cergy Paris U.), Mira Shamis (Queen Mary U. London)

1/21 - 1/26 Higher Segal Spaces and their Applications to Algebraic K-Theory, Hall Algebras, and Combinatorics: Julie Bergner (U. Virginia), Joachim Kock (U. Autònoma de Barcelona), Maru Sarazola (Johns Hopkins U.)

1/28 - 2/2 Bridging Statistical Strategies for Censored Covariates: Tanya Garcia (UNC - Chapel Hill), Joan Hu (Simon Fraser U.), Yanyuan Ma (Penn State U.)

### FEBRUARY

2/4 - 2/9 Exponential Fields: Adele Padgett (McMaster U.), Sebastian Eterovic (U. Leeds), Salma Kuhlmann (U. Konstanz)

2/11 - 2/16 Statistical Aspects of Trustworthy Machine Learning: Jun Yan (U. Connecticut), Stephanie Hicks (Johns Hopkins U.), Keegan Korthauer (UBC), Xiaotong Shen (U. Minnesota), Helen Zhang (U. Arizona)

2/18 - 2/23 Structured Machine Learning and Time-Stepping for Dynamical Systems: Andy Wan (UNBC), Jason Bramburger (Concordia U.), Chris Budd (U. Bath), Jingwei Hu (U. Washington), Nathan Kutz (U. Washington)

2/25 - 3/1 Computational Complexity of Statistical Inference: Tselil Schramm (Stanford U.), Guy Bresler (MIT), Sam Hopkins (MIT), Luca Trevisan (Bocconi U.)

### MARCH

3/3 - 3/8 Fundamental Limitations to Quantum Computation: Daniel Stilck Franca (École Normale Supérieure de Lyon), Salman Beigi (Institute for Research in Fundamental Sciences), Angela Capel Cuevas (U. Tuebingen), Raul Garcia-Patron Sanchez (U. Edinburgh), Yihui Quek (Harvard U.)

3/10 - 3/15 Algorithmic Structures for Uncoordinated Communications and Statistical Inference in Exceedingly Large Spaces: Cynthia Rush (Columbia U.), Jean-Francois Chamberland (Texas A&M U.), Victoria Kostina (Caltech), Yury Polanskiy (MIT), Wei Yu (U. Toronto)

3/17 - 3/22 The Crossroads of Topology, Combinatorics and Biosciences: Deciphering the Entanglement of Multi-Stranded Nucleic Acids: Margherita Maria Ferrari (U. Manitoba), Natasha Jonoska (U. South Florida), Chris Soteros (U. Saskatchewan), Mariel Vazquez (UC - Davis)

3/24 - 3/29 Optimal Transport and Distributional Robustness: Silvana Pesenti (U. Toronto), Yanqin Fan (U. Washington), Marc Henry (Penn State U.)

3/31 - 4/5 Knot Theory Informed by Random Models and Experimental Data: Anastasiia Tsvietkova (Rutgers U. Newark), Chaim Even-Zohar (Technion), Joel Hass (UC - Davis)

### APRIL

4/7 - 4/12 Representation Theory and Topological Data Analysis: Thomas Brüstle (U. Sherbrooke & Bishop's U.), Claire Amiot (U. Grenoble Alpes), Sergio Estrada (U. Murcia), Steve Oudot (Inria), Luis Scoccola (Northeastern U.)

4/14 - 4/19 Bootstrap Percolation and its Applications: Brett Kolesnik (U. Oxford), Jozsef Balogh (UIUC), Janko Gravner (UC - Davis), Karen Gunderson (U. Manitoba), Rob Morris (IMPA)

4/21 - 4/26 Modern Methods for Differential Equations of Quantum Mechanics: Karolina Kropielnicka (Polish Academy of Sciences), Weizhu Bao (National U. Singapore), Arieh Iserles (U. Cambridge), Caroline Lasser (Technische U. Muenchen), Katharina Schratz (Sorbonne U.)

4/28 - 5/3 Building and Enhancing Mathematical Reasoning: Andie Burazin (U. Toronto), Vincent Bouchard (U. Alberta), Veselin Jungic (Simon Fraser U.), Miroslav Lovric (McMaster U.)

### MAY

5/5 - 5/10 Skew Braces, Braids and the Yang-Baxter Equation: Leandro Vendramin (Vrije U. Brussel), Ilaria Colazzo (U. Exeter), Julia Plavnik (Indiana U.), Eric Rowell (Texas A&M U.)

5/12 - 5/17 Analysis of Complex Data: Tensors, Networks and Dynamic Systems: Cun-Hui Zhang (Rutgers U.), Elynn Chen (New York U.), Marc Hallin (U. Libre de Bruxelles), Aukosh Jagannath (U. Waterloo), Tracy Ke (Harvard U.)

5/19 - 5/24 Modeling and Theory in Population Biology: Noah Rosenberg (Stanford U.), Mark Broom (U. London), Emilia Huerta-Sanchez (Brown U.), Ailene MacPherson (Simon Fraser U.), Sally Otto (UBC)

5/26 - 5/31 Advances in Hierarchical Hyperbolicity: Jacob Russell (Rice U.), Carolyn Abbott (Brandeis U.), Jason Behrstock (CUNY)

### JUNE

6/2 - 6/7 Bridging Prediction and Intervention Problems in Social Systems: Lydia Liu (Cornell U.), Arvind Narayanan (Princeton U.), Deborah Raji (UC - Berkeley), Angela Zhou (USC)

6/9 - 6/14 On the Interface of Geometric Measure Theory and Harmonic Analysis: Krystal Taylor (Ohio State U.), Ben Jaye (Georgia Tech), Eyvindur Palsson (Virginia Tech), Alexia Yavicoli (UBC)

6/16 - 6/21 Mathematics of Multiscale and Multiphysics Phenomena in Materials Science: Yekaterina Epshteyn (U. Utah), Rustum Choksi (McGill U.), Chun Liu (Illinois Institute of Technology)

6/23 - 6/28 Cross-Community Collaborations in Combinatorics: Natasha Morrison (U. Victoria), Marthe Bonamy (CNRS, U. Bordeaux), Jozef Skokan (London School of Economics)

6/23 - 6/28 Computational Geometry: Alexander Kasprzyk (U. Nottingham), Alessio Corti (Imperial College London), Elana Kalashnikov (U. Waterloo), Marta Panizzut (Max Planck Institute for Mathematics in the Sciences), Emre Sertoz (Leibniz U. Hannover)

6/30 - 7/5 Mathematical Analysis of Soft Matter: Dmitry Golovaty (U. Akron), Daniel Beller (Johns Hopkins U.), Lia Bronsard (McMaster U.), Carme Calderer (U. Minnesota), Arghir Zarnescu (Basque Center for Applied Mathematics)

### JULY

7/7 - 7/12 Formation of Looping Networks - from Nature to Models: Annemiek Cornelissen (CNRS & U. Paris), Eugenia Corvera (UNAM), Giulio Facchini (U. Libre de Bruxelles), Eleni Katifori (UPenn), Sharon Lubkin (North Carolina State U.)

7/14 - 7/19 Non-Newtonian Flows in Porous Media: Ian Frigaard (UBC), Arezoo Ardekani (Purdue U.), Sujit Datta (Princeton U.), Alex Hansen (Norwegian U. Science and Technology), Laurent Talon (CNRS, U. Paris-Saclay)

7/21 - 7/26 Statistical, Computational, Translational, and Ethical Challenges in Biobank Data Analysis: Hongyu Zhao (Yale U.), Lorin Crawford (Microsoft Research), Celia Greenwood (Lady Davis Institute for Medical Research), Alicia Martin (Massachusetts General Hospital & Broad Institute), Lei Sun (U. Toronto)

7/28 - 8/2 Combinatorics and Geometry of Moduli Spaces of Curves: Jake Levinson (Simon Fraser U.), Vance Blankers (Northeastern U.), Maria Gillespie (Colorado State U.), Sean Griffin (UC - Davis), Diane Maclagan (U. Warwick)

### AUGUST

8/4 - 8/9 What's your trick? A Non-Traditional Conference in Low-Dimensional Topology: Andrew Lobb (Durham U.), John Baldwin (Boston College), Maggie Miller (UT - Austin), Lisa Picarillo (MIT), Liam Watson (UBC)

8/11 - 8/16 Frontiers of Statistical Mechanics and Theoretical Computer Science: Tyler Helmuth (Durham U.), Jane Gao (U. Waterloo), Marcus Michelen (UIC), Will Perkins (Georgia Institute of Technology), Gerónimo Uribe Bravo (UNAM)

8/18 - 8/23 Causal Inference and Prediction for Network Data: Tianxi Li (U. Minnesota), Eric Kolaczyk (McGill U.), Elizaveta Levina (U. Michigan), Elizabeth Ogburn (Johns Hopkins U.)

8/25 - 8/30 Enumerative Geometry Beyond Spaces: Balazs Szendroi (U. Vienna), Jim Bryan (UBC), Kirsten Wickelgren (Duke U.), Maria Yakerson (ETH Zurich)

### SEPTEMBER

9/1 - 9/6 Combinatorial Nonpositive Curvature: Piotr Przytycki (McGill U.), Kasia Jankiewicz (UC - Santa Cruz)

9/8 - 9/13 Stochastics and Geometry: Masha Gordina (U. Connecticut), Todd Kemp (UC - San Diego), Tai Melcher (U. Virginia), Jing Wang (Purdue U.)

9/15 - 9/20 SocioEconomic Mathematical Epidemiology: Rebecca Claire Tyson (UBC - Okanagan), Bert Baumgaertner (U. Idaho), Jane Heffernan (York U.), Bouchra Nasri (U. Montréal)

9/22 - 9/27 Group Operator Algebras: Classification, Structure and Rigidity: Adrian Ioana (UC - San Diego), Ionut Chifan (U. Iowa), Cyril Houdayer (U. Paris-Saclay), Matthew Kennedy (U. Waterloo), Tatiana Shulman (U. Gothenburg)

9/29 - 10/4 New Perspectives in Colouring and Structure: Alex Scott (U. Oxford), Carla Groenland (TU Delft), Bojan Mohar (Simon Fraser U.), Paul Seymour (Princeton U.), Sophie Spirkl (U. Waterloo)

### OCTOBER

10/6 - 10/11 Dynamical Models Inspired by Biology: King Yeung Lam (Ohio State U.), Vincent Calvez (Centre National de la Recherche Scientifique), Bei Hu (U. Notre Dame), Yuan Lou (Shanghai Jiao Tong U.), Bo Zhang (Oklahoma State U.)

10/13 - 10/18 Symmetry and Geometry in Neural Representations: Sophia Sanborn (UBC), Nina Miolane (UC - Santa Barbara), Christian Shewmake (UC - Berkeley)

10/20 - 10/25 New Directions in Machine Learning Theory: Karbasi Amin (Yale U.), Shai Ben-David (U. Waterloo), Ellen Vitercik (Stanford U.)

10/27 - 11/1 Nonlinear Water Waves: Rigorous Analysis and Scientific Computing: Mark Groves (U. Saarlandes), Mariana Haragus (U. Franche-Comté), Emilian Parau (U. East Anglia), Olga Trichtchenko (U. Western Ontario)

### NOVEMBER

11/3 - 11/8 Cartan Subalgebras in Operator Algebras, and Topological Full Groups: Astrid an Huef (Victoria U. Wellington), Anna Duwenig (KU Leuven), Aidan Sims (U. Wollongong), Dilian Yang (U. Windsor)

11/10 - 11/15 Modeling, Learning and Understanding: Modern Challenges between Financial Mathematics, Financial Technology and Financial Economics: Antonis Papapantoleon (TU Delft), Christoph Frei (U. Alberta), Ruimeng Hu (UC - Santa Barbara), Emma Hubert (Princeton U.)

11/17 - 11/22 Detection and Analysis of Gravitational Waves in the era of Multi-Messenger Astronomy: Marco Cavaglia (Missouri U. Science and Technology), Elena Cuoco (European Gravitational Observatory), Shaon Ghosh (Montclair State U.), Jade Powell (Swinburne U. Technology)

11/24 - 11/29 Movement and Symmetry in Graphs: Karen Gunderson (U. Manitoba), Karen Meagher (U. Regina), Joy Morris (U. Lethbridge), Venkata Raghu Tej Pantangi (U. Regina), Mahsa Shirazi (U. Manitoba)

### DECEMBER

12/1 - 12/6 Conformal and CR Geometry: Jeffrey Case (Penn State U.), Azahara DelaTorre Pedraza (Sapienza U. Roma), Pengfei Guan (McGill U.), Andrea Malchiodi (Scuola Normale Superiore), Yi Wang (Johns Hopkins U.)

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