



2025 SITE DIRECTORS' REPORTS



Pacific Institute *for the*
Mathematical Sciences



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The Pacific Institute for the Mathematical Sciences (PIMS) is a consortium of universities across Western Canada and the University of Washington, working together to advance research, training, and outreach in the mathematical sciences. Through this distributed network, PIMS supports collaborative activity that connects institutions, disciplines, and communities.

PIMS Site Directors are central to this distributed model, providing leadership at their home institutions while working closely with the PIMS Directorate to develop programs that benefit both their local sites and the broader network. Across the consortium, they oversee a diverse portfolio of in-person, online, and hybrid programming, including seminars, workshops, colloquia, outreach initiatives, and the integration of postdoctoral fellows into research communities.

Through this leadership, Site Directors strengthen collaboration across institutions, foster vibrant and inclusive research environments, and extend the reach and impact of PIMS programs throughout the network and beyond.

PIMS Site Directors (2025)

Razvan C. Fetecau — Simon Fraser University
Allen Herman — University of Regina
Wenyuan Liao — University of Calgary
Brian Marcus — University of British Columbia
Nathan Ng — University of Lethbridge
Jayadev Athreya — University of Washington
Stéphanie Portet — University of Manitoba
Anthony Quas — University of Victoria
Steven Rayan — University of Saskatchewan
Eric Woolgar (interim, outgoing) — University of Alberta
Thomas Hillen (incoming) — University of Alberta



UNIVERSITY OF
VICTORIA
Dr. Anthony Quas

In 2025, PIMS supported three postdoctoral fellows at the University of Victoria: Kesav Krishnan, Tylar Jia, and Felix Clemen. Dr. Krishnan, a probabilist, concluded his term at UVic to take up a permanent faculty position at the Indian Institute of Technology. Dr. Jia is supported through a PIMS Collaborative Research Group in Renewable Energy, while Dr. Clemen's research focuses on combinatorics. Together, these appointments contributed to a vibrant research environment and strengthened connections across the PIMS network.

The Maud Menten Institute (MMI), a PIMS Research Network launched in 2024 and hosted jointly at the University of Victoria and the University of Manitoba, continued to expand its activities. MMI organized large-scale events, including summer schools, as well as highly successful seminar series with both in-person and online components. These seminars attracted participants from mathematics and biology across the PIMS network, and the Institute supported visits by several high-profile researchers in the field.

PIMS also supported two highly active seminar series at UVic—in Discrete Mathematics and in Probability—as well as a Women in Mathematics seminar. These programs play an important role in strengthening regional mathematical connections through collaboration and cross-pollination with other mathematics departments.

The University of Victoria both contributed to and benefited from PIMS network-wide courses. During the year, three students from outside UVic enrolled in courses offered locally, while eleven UVic students participated in courses taught at other institutions within the PIMS network, underscoring the value of shared teaching and learning opportunities.



UNIVERSITY OF
BRITISH COLUMBIA
Dr. Brian Marcus

The Network-Wide Online Courses program is one of the most significant recent innovations at PIMS. Developed to expand advanced graduate course offerings across the PIMS network, the program enables graduate students at one member university to enroll in—and receive credit for—courses offered at other institutions. While there was initial skepticism about online instruction, the program launched during COVID, when remote learning became unavoidable. Since then, improvements in technology have made a substantial difference, and the program has proven highly effective.

Thanks in large part to the advocacy of Anthony Quas (UVic), all PIMS institutions—particularly UBC—have benefited. The program works well for both students and instructors: students gain access to a broader range of advanced courses, while faculty can extend the reach and impact of their teaching to other sites via Zoom. Each term, the UBC site has seen strong participation. UBC Math and allied departments in both Vancouver and Kelowna offered a wide variety of courses, including Mathematical Ecology (Nonlinear PDE Models), Theoretical and Computational Biology, Modern Biophysics, Mathematical Foundations of Machine Learning, Applied Stochastic Analysis, Optimal Transport, and Mathematical Classical Mechanics.

Research programs at UBC continued to thrive with numerous conferences, workshops, and regular weekly research seminars across several sub-disciplines. The long-standing PIMS summer schools in probability theory—now partnering with CRM—remain a cornerstone of training in the field, having educated hundreds of emerging probabilists, including one Fields Medalist to date. Mathematics outreach at UBC has also remained strong, thanks to the tireless and creative efforts of Melania Alvarez, with programs that meaningfully engage students and communities, particularly those most in need.

The UBC site is closely integrated with PIMS Central, where many network-wide activities take place. The space includes offices for staff, postdoctoral fellows, and visitors, as well as the PIMS library and conference facilities that host seminars and collaborative work. A defining feature is the open, vibrant atmosphere—one where mathematics is actively lived, discussed, and shared.



SIMON FRASER UNIVERSITY
Dr. Razvan C. Fetecau

In 2025, Simon Fraser University (SFU) continued to host a broad range of PIMS-supported academic activities. Ongoing seminar series supported by PIMS included the Discrete Mathematics Seminar, Operations Research Seminar, Number Theory and Algebraic Geometry Seminar, and the Mathematics of Computation, Applications, and Data (MOCAD) Seminar.

SFU also hosted a workshop on the Mathematical Foundations of Quantum Advantage as part of the new Mathematics for the Future program. In addition, SFU served as the venue for the biennial Testing Gravity Conference and hosted the PIMS Board of Directors Meeting in the fall.

SFU hosted three PIMS postdoctoral fellows during the year, along with two graduate students supported through the Maud Menten Institute. On the education and outreach side, PIMS supported the Changing the Culture conference and SFU Math Camps, contributing to professional development and student engagement. PIMS also supported activities such as Women in Mathematics Day (May 12) and provided travel funding for participants from across Canada to attend SIAM's Biennial Meeting in the Pacific Northwest.



UNIVERSITY OF CALGARY
Dr. Wenyuan Liao

In 2025, the University of Calgary PIMS Site continued to offer a strong and diverse program, featuring several high-profile PIMS-supported activities. The 20th Richard & Louise Guy Lecture Series, held on September 18, featured Joseph Silverman, Professor of Mathematics at Brown University.

The fifth Math to Power Industry (M2PI) workshop, led by Dr. Kristine Bauer, was also held during the summer. The Calgary site welcomed Zheng Zhu as a PIMS postdoctoral fellow working with Dang-Khoa Nguyen. With this appointment, the site supported three postdoctoral fellows in 2025, contributing to research, mentoring, and academic programming.

PIMS Calgary continued its support of outreach and student engagement initiatives, including prizes in mathematics at the Calgary Youth Science Fair, held April 9–11. The site also hosted several PIMS-supported seminar series, including the Algebra and Number Theory Seminar (organized by Dang-Khoa Nguyen), the Biostatistics Seminar (organized by Qingrun Zhang), and the Coffee at the Lounge Series (organized by Cristian Rios). In addition, Mina Aminghafari (University of Calgary) delivered a PIMS Lunchbox Talk titled Machine Learning: Data Quality, Preprocessing, and Denoising on April 17.

The University of Calgary also hosted the 2025 Alberta Mathematics Dialogue (AMD) from May 1–2. The event attracted more than 290 participants, reflecting strong engagement from the regional mathematical sciences community and highlighting Calgary's role as a hub for mathematical collaboration.



UNIVERSITY OF ALBERTA
Dr. Eric Woolgar (outgoing)
Dr. Thomas Hillen (incoming)

During the 2025 academic year, PIMS continued to play a vital role in supporting research activity, training, and community engagement in the mathematical sciences at the University of Alberta. Central to this impact is the PIMS Postdoctoral Fellowship Program, one of the most prestigious programs of its kind in Canada, which attracts outstanding early-career researchers and strengthens the local research environment.

In 2024–2025, the University of Alberta hosted four PIMS Postdoctoral Fellows. Jyoti Bhadana, whose research focuses on stochastic processes and applications, completed her term in September 2024. Eugene (Ievgen) Bilokopytov continued his work in functional analysis and related areas under the supervision of Vladimir Troitsky. Jin-Cheng Guu began a postdoctoral appointment in July 2024, supervised by Terry Gannon and Harshit Yadav. Daniyar Omarov, supported through the Kantorovich Initiative, conducts research in optimal transport, numerical analysis, and optimization under the supervision of Brendan Pass. Collectively, these fellows contributed to research output, highly qualified personnel training, and teaching capacity at the University of Alberta.

PIMS also supported a broad range of scientific activities through competitively awarded grants adjudicated by the PIMS Scientific Review Panel. These included seminar and colloquium series, the Alberta Graduate Mathematics and Statistics Conference, activities linked to the Maud Menten Institute and the Kantorovich Initiative, and data science engagement through ASA DataFest.

In education and outreach, PIMS funding supported initiatives engaging K–12 students and the broader community, including the James Math Circle, mathematics camps, student-led initiatives, and international competitions. These activities strengthen connections between the University of Alberta and the wider community while promoting early engagement with the mathematical sciences.



UNIVERSITY OF LETHBRIDGE
Dr. Nathan Ng

In 2025, there were three PIMS postdoctoral fellows: Nicol Leong, Abbas Maarefparvar, and Emily Quesada-Herrera. In January, Micah Milinovich (University of Mississippi) delivered a Distinguished Speaker Talk on the Riemann Hypothesis and gaps between primes. Now in its 18th year, the Number Theory and Combinatorics Seminar (co-organizers: Kadiri, Maarefparvar, and Quesada-Herrera) featured 15 talks, including seven by external visitors.

The CRG L-Functions in Analytic Number Theory (2022–2025; co-organizers: Kadiri and Ng) concluded in the spring. Final activities included 10 seminars in the online CRG seminar series (co-organized by Quesada-Herrera). The workshop Alberta Number Theory Days (organized by Fiori and Maarefparvar) was held at BIRS in May, and the Quantum Horizons Symposium (co-organized by Das) took place at the Banff Centre in August.

During the year, five students participated in the PIMS Math to Power Industry event, and one student participated in the Women in AI career fair. These initiatives continue to be highly popular and beneficial, with several past participants securing industry internships.

Math outreach included three highly successful K–12 events: Challenge Your Brain (February, 50 participants), Spring Math Fair (March, 74 participants), and Fractals and Snowflakes (December, 57 participants), organized by Archibald, Bohuslavskva, and Ng. Engaging hands-on activities were developed to spark students' interest in mathematics. During Challenge Your Brain, professors and postdoctoral fellows worked with students and their parents to solve mathematical problems. In December, a Math Attacks contest for high school students was also held.



UNIVERSITY OF SASKATCHEWAN
Dr. Steven Rayan

The University of Saskatchewan PIMS Site was actively engaged in a wide range of PIMS-supported activities. In June, USask hosted the inaugural Quantum Days Satellite Series conference, part of Canada’s most prominent and well-attended quantum science conference series. Saskatoon was selected as the host city in recognition of the success of the PIMS Collaborative Research Group (CRG) on Quantum Topology and Its Applications and USask’s leadership in that initiative.

Led by USask PIMS Site Director Prof. Steven Rayan, the conference featured plenary lectures, scientific sessions, panel discussions, and site tours of the Canadian Light Source and the Global Institute for Food Security. The event attracted over 100 registered participants, more than two-thirds of whom were students and postdoctoral researchers. PIMS provided partial support, including sponsorship of the plenary lecture by Dr. Victoria Wright (Quantinuum, UK), who spoke on device-independence in quantum key distribution.

Also in June, the PIMS CRG on Structure-Preserving Discretizations and their Applications, with Prof. Raymond Spiteri serving as a local principal investigator, held a Summer School and Hackathon on Structure-Preserving Scientific Computing and Machine Learning at the University of Washington. Forty student participants took part in a week of intensive mini-courses followed by a series of carefully designed hackathon challenges. A related scientific symposium was later convened at the SIAM/CAIMS Annual Meeting in July in Montreal.

USask researchers continued their strong involvement in the PIMS PRN Maud Menten Institute: Mathematics for the Life Sciences. Prof. Chris Soteros served as the site’s representative on the Scientific Committee, with Profs. Alexey Shevyakov and Juxin Liu participating as members. USask-based postdoctoral fellow Dr. Matthew Schmirler was also recognized with a 2025–2026 MMI Research Accelerator Award.

In addition, the PIMS-supported Geometry, Algebra, and Physics (GAP) Seminar hosted a junior symposium featuring two USask postdoctoral researchers and a visiting PhD student from the University of Melbourne. The USask Mathematics & Statistics Colloquium continued to benefit from PIMS support, bringing in distinguished speakers on a monthly basis during the academic year. The site was also pleased to host three PIMS Postdoctoral Fellows during 2025, supporting the continued development of early-career researchers.



UNIVERSITY OF REGINA
Dr. Allen Herman

2025 was another event-filled year at the University of Regina PIMS Site. A major highlight was the launch of the PIMS Collaborative Research Group Diagram Categories in Homotopy Theory, led by Regina faculty members Martin Frankland and Donald Stanley, together with former Regina PIMS PDF Paul Arnaud Songhafouo Tsopmene (UBC Okanagan). The CRG also includes collaborators Angelica Osorno (Reed College), John Palmieri (University of Washington), and Ben Williams (UBC).

The Department of Mathematics and Statistics hosted two events in its PIMS Distinguished Lecture Series. On April 17, Octav Cornea (Université de Montréal) delivered a virtual lecture on Complexity of Lagrangian Submanifolds, and on September 24, Brent Pym (McGill University) gave an in-person lecture on Periods and Quantization. Recordings of both lectures are available on PIMS MathTube. In addition, the department’s weekly Topology and Geometry Seminar received a PIMS Seminar Award in 2025.

The University of Regina supported six PIMS Postdoctoral Fellows during the year. The three regular PIMS PDFs were Himanshu Gupta (2023–2025), Sushil Singla (2024–2026), and Samir Mondal (2024–2026). Additional fellows included PIMS-CNRS PDF Alice Lacaze-Masmonteil (2024–2026), PIMS-Simons PDF Hermie Monterde (2025–2027), and PIMS CRG PDF Yang Hu (2025–2027). Drs. Gupta, Mondal, and Singla each received a PIMS PDF Travel Award, and a PIMS–BIRS–Simons Travel Award supported a visit by A. S. Razafimahatratra (Carleton University) in October following a Banff workshop.

Two Regina PIMS PDFs played leadership roles in the PIMS First-Year Interest Group Program. Himanshu Gupta led the 2024–2025 group in Polynomial Methods in Combinatorics, while Hermie Monterde is leading the 2025–2026 group in Quantum Walks on Graphs.

PIMS also supported the 2025 Workshop on Matrices and Operators, held at the University of Regina. This hybrid event attracted approximately 50 participants and was organized by Shaun Fallat, Doug Farenick, Sushil Singla, and Chi-Kwong Li. In addition, PIMS provided student travel support for CanaDAM 2025, an international conference with approximately 400 participants, co-organized by Regina faculty member Karen Meagher and held at the University of Ottawa.



UNIVERSITY OF MANITOBA
Dr. Stéphanie Portet

The University of Manitoba continued to host a wide range of PIMS-supported research, training, and outreach activities. PIMS postdoctoral fellows at the site included Poornendu Kumar, Emmanuela Marangone, Jeet Sampat (name-only appointment), and John Jairo Lopez Santander. Together, these fellows contributed to research leadership, graduate mentoring, and program development across several areas of mathematics.

The department hosted a number of notable academic events. PIMS Education Coordinator Darja Barr organized a public screening of the film Counted Out, engaging the broader community in conversations about mathematics and society. A high school workshop followed hosted by U of M faculty members Michelle Davidson, Nicholas Harland, Andrii Arman, and Jamie De Jong, with support from graduate students. Outreach activities continued through Math Mania, an interactive K–12 program presented during Science Rendezvous and Primary Days on Campus.

Research-focused programming included the conference Operator Analysis on Function Spaces, coordinated by PIMS postdoctoral fellows Jeet Sampat and Poornendu Kumar. The conference attracted approximately 40 participants and highlighted emerging subfields at the intersection of functional analysis and operator theory. Immediately following, the University of Manitoba hosted the two-week 3MC–PIMS–IDMS–ICMS Summer School on Quantitative Molecular and Cellular Biology, organized within the Maud Menten Institute. The program engaged over 50 participants and combined lectures with group projects addressing biological questions, using cancer as a unifying theme.

The department welcomed several distinguished visitors, including Dr. Sheehan Olver for a multi-site research visit and Dr. Youngho Yoo, who contributed to collaborative research, a mathematics colloquium, and a computer science seminar. PIMS also supported two First-Year Interest Groups led by postdoctoral fellows, focused on approximation theory and Hardy spaces.



Outreach beyond campus remained a priority. Under Darja Barr's leadership, activities included traveling Math Mania events, Math Prep Workshops for Indigenous and access programs, K-12 school visits, and the "I Don't Do Math" art exhibit. Ongoing initiatives included online seminar series in graphs and matrices, regular Maud Menten Institute seminars, and network-wide colloquium watch parties hosted at the University of Manitoba.



UNIVERSITY OF WASHINGTON

Dr. Jayadev Athreya

PIMS-supported activities at the University of Washington continued to grow in 2025: from PIMS Network-Wide courses on Translation Surfaces and Optimal Transport (the second as part of the Kantorovich Initiative, a PIMS Research Network); a Summer School and Hackathon on Structure-Preserving Scientific Computing and Machine Learning (part of a PIMS CRG); and numerous seminars and colloquia, including the UW-PIMS Colloquium, the Analysis, Geometry, and Dynamics seminar, the Combinatorics Seminar, and many others.

PIMS support has been crucial for the Washington Directed Reading Program (WDRP), which pairs graduate students with undergraduates for one-on-one mentoring. To quote Daniel Rostamloo, who is leading the program, "in a financially challenging time for the department, the funding PIMS provided has been crucial for the continued success of the program and its community-building initiatives."

PIMS educational program support has also been crucial for the WXML-Math for Love Math Teacher's Circles, which have reached over 50 teachers across Seattle for enrichment and professional development work.

Looking ahead to 2026, a number of exciting PIMS initiatives are underway across the network under the leadership of our Site Directors. Together, these efforts build a dynamic, connected, and globally engaged mathematical sciences community.

