Hello from PIMS

Welcome to the July edition of the PIMS newsletter! We have curated below a list of events and meetings taking place at our member universities this month.

PIMS News:

- PIMS Announces the Departure of Dr. Jayadev Athreya, Co-Director International
- The Pacific Institute for the Mathematical Sciences Announces New Interim Co-Director International

Opportunities Across the Network:

- Nominate a Speaker: The Hugh C. Morris Lecture Series
- Registration is Open: Fall 2024 PIMS Network-Wide Courses

Feature Events:

- July 1st - 12th: Summer School on Koszul Duality in the Local Langlands Program
- July 1st - 19th: 5th Summer School on Theory, Mechanisms and Hierarchical Modelling of Climate Dynamics: Convection and Clouds
- July 7th - 10th: International Workshop on Hyperordered Structures and Quantum Materials
- July 8th - 10th: UBC Girls in Data Science Summer Camp
- July 8th - 12th: Canadian Undergraduate Math Conference
- July 14th - 26th: 2024 Summer School on Forecasting and Mathematical Modeling for Renewable Energy
- July 22nd - August 9th: 2024 Diversity in Research Experiences Across Mathematics (DREAMs) Institute
- July 29th - August 2nd: 2024 Increasing Diversity in the Mathematical Sciences
Dr. Jayadev Athreya, Co-Director International

With mixed emotions, we announce that Jayadev Athreya will be stepping down from his role as Co-Director International at the Pacific Institute for the Mathematical Sciences (PIMS). Jayadev Athreya served as PIMS Interim Director from July 2021 to June 2022, after which he transitioned to the role of Co-Director, International. During his time as Interim Director, he led the proposal to the Simons Foundation, which was successful and funded key programs such as PRIMA, the Institute Exchange Program, PIMS-BIRS Team Up, and the PIMS-Simons Postdoc program. While we will greatly miss Jayadev's leadership and presence, we look forward to him continuing on with PIMS in various capacities.

The Pacific Institute for the Mathematical Sciences Announces New Interim Co-Director International

PIMS is pleased to announce the appointment of Gabriel Paternain as Interim Co-Director International of PIMS, beginning July 1, 2024. Professor Paternain is a faculty member at the University of Washington in the Department of Mathematics. Gabriel Paternain obtained his Licenciatura from Universidad de la Republica in Uruguay in 1987 and his PhD from the State University of New York at Stony Brook in 1991. He joined the University of Cambridge (UK) as a Lecturer in 2001 and became a Professor in 2008. He served as Head of the Department of Pure Mathematics and Mathematical Statistics between 2014-18. Professor Paternain's research interests cover an ample mathematical
PIMS NETWORK OPPORTUNITIES

Nominate a Speaker: The Hugh C. Morris Lecture Series

Hugh C. Morris Lectures are high profile lectures (aimed either at the broader public or the scientific community) and take place around the PIMS Network. Suggestions for speakers in the Hugh C. Morris Lecture Series can be made at any time to the Director of PIMS. Nominations of speakers enhancing PIMS’s mission to reach out to diverse audiences are especially encouraged. Suggested speakers will be evaluated based on their academic distinction, ability to deliver an engaging talk to a broad audience and diversity considerations.

Registration is Open! Fall 2024
PIMS Network-Wide Courses

Three new PIMS Network-Wide Graduate Courses have been approved for the coming academic year. Students at Canadian PIMS member universities may apply for graduate credit via the Western Deans Agreement. Graduate students in your department(s) who may be interested in one or more of the courses offered below are welcome to apply.

- Extremal Combinatorics
- Introduction to Cohomology of Arithmetic Groups
Registration for the Fall 2024 term courses is now open. Please be aware that the WDA deadline at some sites may be as early as July 1st for courses beginning in September. We encourage students to check the details of courses they are interested in and contact the course instructors as soon as possible.

FEATURE EVENTS

Summer School on Koszul Duality in the Local Langlands Program

July 1 - 12, 2024: St Mary's, Berkeley

This summer school provides the mathematical background to recognize Koszul duality in representation theory. The school is especially oriented toward applications in the local Langlands program, with an emphasis on real groups. As Koszul duality patterns have been initially observed in the context of Hecke algebras, our school will also introduce the students to Hecke algebras and their categorifications. There will be two courses, each of which will have multiple lectures, background sessions and problem sessions. There will also be ice-breaking activities, a hike and some evening sessions.
Mechanisms and Hierarchical Modelling of Climate Dynamics: Convection and Clouds

July 1 - 19, 2024: International Center for Theoretical Physics

The International Centre for Theoretical Physics (ICTP) in Italy, with the financial support of PIMS, is hosting the 5th Summer School on Theory, Mechanisms and Hierarchical Modelling of Climate Dynamics: “Convection and Clouds” from July 1st to 19th. The school will include lectures on convective self-aggregation in idealized experiments, precipitation extremes associated with organized convection, convection parameterization and stochastic models, machine learning for convection and clouds, and observations of convective organisation.

International Workshop on Hyperordered Structures and Quantum Materials

July 7 - 10, 2024: University of Saskatchewan

The International Workshop on Hyperordered Structures and Quantum Materials will be held for four days in western Canada in order to exchange ideas between researchers in the fields on both sides of the Pacific. The event will bring together mathematicians, theoretical physicists, material scientists, chemistry, engineers, and other scientists. The event aligns with the national quantum strategies of both Canada and Japan, and aims to foster a new international network in quantum science between Japan and North America.
UBC Girls in Data Science Summer Camp

July 8 - 10, 2024: University of British Columbia

The Department of Statistics at the University of British Columbia (UBC) will host an upcoming Girls in Data Science Camp this summer. This is an excellent opportunity for students to explore the world of data science and statistics, and apply their knowledge on real data sets with the support of experienced mentors in the field. The camp will be held from July 8th - 10th on UBC’s Vancouver campus from 10 AM - 3 PM. Participants should be in grades 8 - 12 and identify as a girl or other gender minority.

Canadian Undergraduate Math Conference

July 8 - 12, 2024: University of British Columbia

The Canadian Undergraduate Mathematics Conference (CUMC) is a national conference organized each summer by undergraduate students for undergraduate students at different institutions across Canada. The University Of British Columbia is pleased to welcome undergraduates in mathematics to the 2024 Canadian Undergraduate Conference from the 8th to the 12th of July at UBC’s Vancouver campus. Participants will present their research, learn from other undergraduates and listen to keynote speakers from across the Canadian mathematics community. This year's events also include the Women and Diversity in Mathematics Panel, coffee chats with graduate students and the undergraduate banquet.

View Summer Camp Details
View Conference Details
2024 Summer School on Forecasting and Mathematical Modeling for Renewable Energy

July 14 - 26, 2024: Banff International Research Station (BIRS), UBC Okanagan, Kelowna

Wind and solar power are the primary sources of renewable energy, and both driven by the weather, hence stochastic and variable. To solve the grand challenges related to their optimal deployment requires an interdisciplinary approach combining expertise in mathematics, statistics, atmospheric sciences, fluid dynamics, engineering and economics. In this summer school, the students will receive training in key methodologies for forecasting and mathematical modeling of renewables.

The following mini-courses are offered:

- **Stochastic dynamical systems, uncertainty quantification, extreme events** (Instructors: Whitney Huang, Mustafa Mohamad)
- **Meteorology of Wind Energy for Complex terrains and Off-shore Wind** (Instructors: Adam Monahan, Richard Karsten)
- **Optimization and applications to microgrids and remote communities** (Instructors: Joshua Brinkerhoff, Serasu Duran)
- **Mean field games and applications to modeling of electricity markets** (Instructors: Roxana Dumitrescu and Michael Ludkovski)

View Summer School Details
Experiences Across Mathematics (DREAMs) Institute

July 22 - August 9, 2024: Online

The Diversity in Research Experiences Across Mathematics (DREAMs) Institute is a three-week online summer enrichment program designed to provide high school students in their last year or two of studies an opportunity to explore the pursuit of mathematics at the University level. Participants will be introduced to foundational areas of mathematics by guest lecturers during the first portion of the program and then work on inquiry based projects with the support of the lecturers and graduate student teaching assistants.

Courses offered include:

- Mathematics of Puzzles (Jordan Kostiuk, Brown University)
- Introduction to Number Theory (Alicia Lamarche, University of Utah)
- Special Relativity (Delilah Gates, Princeton University)
- Scientific Computing (Stefan Mendez-Diez, Bard College)

2024 Increasing Diversity in the Mathematical Sciences

July 29 - August 2, 2024: Dalhousie University

The mathematical institutes in Canada have joined forces to offer annual summer schools geared toward women and underrepresented groups in mathematics and related sciences. The first school will be at Dalhousie University in Summer 2024. The goals of the summer school are two-fold; first, to introduce students to research level mathematics and second, to encourage more female and female-identifying students to pursue graduate school in the mathematical sciences. The research theme of the 2024 summer
environment, we aim to give students the tools and the support structure that will enable them to thrive in graduate school.

View our calendars for more meetings and events

Scientific Events

Education Events

Industrial Events

MEDIA

**Missed a Lecture? Go to Mathtube.Org**

Proceedings for the PIMS-ACTS event series that took place this summer are now available for viewing!

Since 1996, PIMS has collected and maintained an archive of videos and lecture notes covering many areas of the mathematical sciences. If you missed any of the PIMS PDF Colloquium Lectures, visit [www.mathtube.org](http://www.mathtube.org) to see these and other archives.

**Read our feature stories on Medium.**

PIMS is happy to share our stories and short interviews with members of the PIMS Community. We are currently featuring our 2022 PDF Cohort as they speak at the PDF Seminar
ABOUT PIMS

The Pacific Institute for the Mathematical Sciences (PIMS) was created in 1996 to promote discovery, understanding, and awareness in the mathematical sciences. PIMS has expanded from the mathematics community of Alberta and British Columbia to include Washington State, Saskatchewan, and Manitoba. Our mandate is to promote research in and applications of the mathematical sciences, to facilitate the training of highly qualified personnel, to create an equitable, diverse and inclusive community, to enrich public awareness of and education in the mathematical sciences, and to create mathematical partnerships with similar organizations in other countries in the Pacific Rim. PIMS funds Collaborative Research Groups, Post-Doctoral Fellowships, and individual events on a competitive basis.

We Want to Hear from You
Share your feedback on this month’s newsletter and tell us what stories and news you would like to hear more of.

Your Support Makes a Difference
PIMS education and outreach programs touch countless educators, students, and Indigenous communities. Some of our activities include summer schools, mathematics contests and meetings for educators Learn more

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We acknowledge with gratitude that PIMS central office is located on the unceded, traditional, and occupied territory of the Coast Salish peoples. This includes the territories of the xwməθkwəy̓əm (Musqueam),