



Pacific Institute *for the*
Mathematical Sciences

PIMS MONTHLY CONNECTION | OCTOBER 2023



 UNIVERSITY
OF ALBERTA

Hello from PIMS

Summer is slowly leaving us and the leaves are beginning to colour as the Fall season starts across the Northern Hemisphere. Here at PIMS, we are slowly settling down to academic routines and hope you are doing so too.

The [CRM-Fields-PIMS Prize](#) Call for nominations is open. The prize is awarded jointly by the Centre de recherches mathématiques (CRM), the Fields Institute, and the Pacific Institute for the Mathematical Sciences (PIMS). The winner receives a monetary award and an invitation to present a lecture at each institute within one year after the award is announced. **Apply before the deadline--November 1, 2023.**

PIMS is pleased to announce the second iteration of our [Virtual Experimental Mathematics Lab \(VXML\)](#) and the [First Year Interest Groups \(FYIG\)](#). These programs bring together faculty & postdocs with graduate and undergraduate students from across the PIMS network to review exciting research mathematics questions. Deadlines for both programs are fast approaching in October.

We have a few deadlines this month: The PIMS [Call for Proposals](#) will close on **October 1, 2023**. PIMS provides significant sponsorship for events in active areas of mathematical sciences research, and we encourage members of the PIMS network to submit proposals. Also, if you are interested in funding collaborative research with mathematical scientists in France, submit your application for the [PIMS-Europe Fellowship](#) before October 1, 2023, and for the [PIMS CNRS Postes Rouges](#) before October 6, 2023.

The [PIMS Postdoctoral Competition](#) is open until December 1. We invite nominations of outstanding early-career researchers in the mathematical sciences for postdoctoral fellowships beginning in the academic year 2024-2025. To qualify for the competition, candidates must be nominated by a faculty member or department affiliated with PIMS.

The **Mathemalchemy** exhibition, located at the Beaty Biodiversity Museum will run until October 31, 2023. This installation invites you to let go of preconceptions or classroom experiences about art or math and to explore with an open mind. Both art and math illuminate and describe our world and have the power to inspire our imaginations.

Don't forget to join us on October 19, 2023, for the PIMS Network - Wide Colloquium with Scott Sheffield.

Important dates:

October 1: Deadline for applications for PIMS event funding.

October 1: Deadline for applications for the PIMS Europe Fellowship.

October 6: Deadline for applications for the PIMS CNRS Postes Rouges.

October 7: Deadline for applications to the PIMS VXML Program.

October 15: Deadline for application for the PIMS First-Year Interest Groups.

November 1: Deadline for nominations for the CRM-Fields-PIMS Prize.

December 1: Deadline for applications for the PIMS Postdoctoral Competition.

Sincerely,
The PIMS Team

NEWS AND ANNOUNCEMENTS



Mathematics Meets Climate Crisis: PIMS' Approach to Sustainability.

By the Pacific Institute for the Mathematical Sciences.

With the impending climate crisis, many Canadian institutions, organizations, and individuals are taking decisive steps toward creating a sustainable future. One such organization is the Pacific Institute for the Mathematical Sciences (PIMS) — a consortium of western Canadian universities and the University of Washington centered at UBC. In recent years, PIMS has spearheaded activities that bring together researchers in the mathematical sciences with the larger scientific community to understand the complexities of climate change and to craft sustainable solutions such as renewable energy alternatives.

In a timely move, PIMS recently engaged in a suite of activities, designated as the “[PIMS Action on Climate Thematic Summer](#)” or PIMS ACTS, in the summer of 2023. The public panel on “Tackling Climate Change and the Just Transition to Renewable Energy” stood out among the myriad of activities of PIMS ACTS. This event, co-hosted by PIMS and the [French Embassy in Canada](#), was organized as part of a series of French-Ameri-Can Climate Talks (FACTS) that have been held throughout North America in the past decade.

[Read some of the key takeaways from each panel speaker and their talks.](#)

[Read the Full News Article](#)

prize, awarded in recognition of exceptional research achievement in the mathematical sciences. The candidate's research should have been conducted primarily in Canada or in affiliation with a Canadian university. The prize is awarded jointly by the three Canadian mathematics institutes. The winner receives a monetary award and an invitation to present a lecture at each institute within one year after the award is announced.

As part of our commitment to equality, we particularly encourage nominations of women and of members of underrepresented groups. **The deadline to apply is November 1st 2023; Please submit to nominations@crm.umontreal.ca.**

[View the Award Criteria and Guidelines](#)

OPPORTUNITIES ACROSS THE PIMS NETWORK

PIMS Network Wide Courses: Spring 2024 Enrolment.

Fourteen new PIMS Network-Wide Graduate Courses have been approved for Spring 2024 term, and will soon be accepting registrations through 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.

- **Algebraic and probabilistic techniques in combinatorics**, *Bojan Mohar (Simon Fraser University)*
- **Algebraic Number Theory**, *Lior Silberman (University of British Columbia)*
- **Ergodic Theory**, *Anthony Quas (University of Victoria)*
- **Hodge theory, Deligne cohomology and algebraic cycles**, *James D. Lewis (University of Alberta)*
- **Hyperbolic Systems of Conservation Laws**, *Thomas Hillen (University of Alberta)*
- **The geometry and arithmetic of schemes**, *Clifton Cunningham (University of Calgary)*
- **Topics in harmonic analysis: Fourier restriction and decoupling**, *Joshua Zahl (University of British Columbia)*

Please take note that registration deadlines may be up to six or eight weeks in advance of the course start date. We encourage students to check the details of courses they are interested in and contact the course instructors as soon as possible.

[See Future Courses Details](#)

PIMS Virtual Experimental Mathematics Lab (VXML)



Pacific Institute for the Mathematical Sciences

Accepting
Proposals
Now!

Get involved! Faculty members and Postdoctoral students at PIMS member or affiliate universities are now invited to send in proposals for the VXML program. Please complete by **October 7, 2023**.

PIMS Virtual Experimental Mathematics Lab.

PIMS is pleased to announce the second iteration of our [Virtual Experimental Mathematics Lab \(VXML\)](#). This initiative brings together world-leading faculty members and postdocs with graduate students and undergraduate students to work on exciting research problems in mathematics.

Project teams work together over the course of the academic year to tackle challenging research problems through experimental, computational and visual mathematics, showcasing mathematics as a creative discipline. Examples of successful projects from the first iteration [can be found on](#)

If you are a faculty member or postdoc at a PIMS member (or affiliate) university, we are accepting new research problems and would love [to hear from you](#). Project teams are typically formed with the mentor, a graduate student and 2-4 undergraduate students to work on the problem (we encourage teams that integrate members from multiple PIMS sites). Teams normally commit 6 - 8 hours per week to work on the project and meet to discuss their progress and discoveries. Teams can use a mixture of computational tools such as CoCalc (Sage Math Cloud) to work and collaborate.

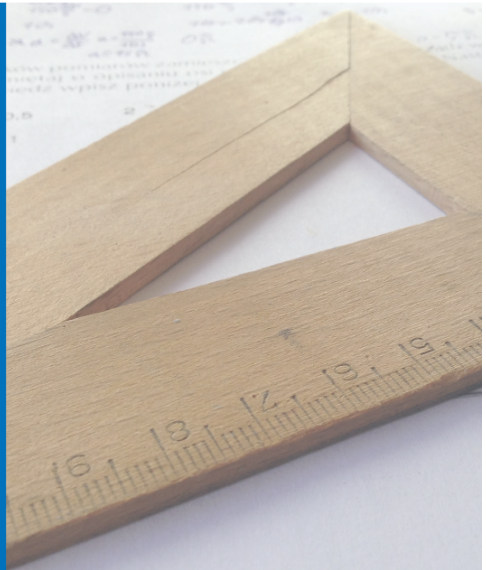
We are now accepting new proposals from faculty and postdocs for projects for the second edition of the VXML. The deadline for project submissions is **October 7th 2023**.

[See Application Details](#)

PIMS First Year Interest Groups

The PIMS **First Year Interest Groups (FYIG) Program** aims to bring together early career researchers to study active research topics in the mathematical sciences.

Graduate scholars interested in applying can do so by **October 15, 2023**.



PIMS First Year Interest Groups.

The PIMS First Year Interest Groups (FYIG) Program aims to bring together early career researchers to study active research topics in the mathematical sciences. Each First Year Interest Group will be led by a PIMS PDF, and center on an accessible subject for beginning graduate students.

The PDF will lead a small reading group (up to four students) of early year (1st and 2nd year MSc or PhD) graduate students on books/papers that inspired them, and are accessible to early graduate students. The groups will meet virtually for an hour once every two weeks through the end of the 2023 - 2024 academic year. More details of the reading groups and the application form can be found below; the application deadline is **October 15th 2023**.

[See Application Details](#)

FEATURE EVENTS

PIMS Network-Wide Colloquium Series | 1.30pm Pacific | Online



September 21
SCOTT SHEFFIELD
MIT

PIMS Network Wide Colloquium: Scott Sheffield.

Speaker Biography:

Scott Sheffield is the Leighton Family Professor of Mathematics at MIT. He is a leading figure at the interface of mathematical physics and probability. He has held positions at Microsoft Research, Berkeley, the Institute for Advanced Study and New York University. He received the Rollo Davidson and Loève prizes in probability and has twice spoken at the International Congress of Mathematicians.

Talks details to follow soon.

[Register Here](#)

PIMS Emergent Research-PDF Seminar Series

October 11 and 25, 2023: Online

The PIMS Emergent Research PDF Seminar Series officially returns for the 2023 Fall term! For the next two semesters, we will host 16 PIMS scholars from across our member universities. PIMS PDFs are amongst the top young researchers in Canada, and this is an excellent opportunity to learn about them and their work. Visit the PIMS [Mathtube](#) page to view their presentations.

Emergent Research:

The PIMS Postdoctoral Fellow Seminar

Oct 11, 2023 | 9:30am Pacific



Pacific Institute *for the*
Mathematical Sciences

Bounds on the Number of Solutions to Thue Equations

Gregory Knapp

University of Calgary



Emergent Research:

The PIMS Postdoctoral Fellow Seminar

Oct 25, 2023 | 9:30am Pacific



Pacific Institute *for the*
Mathematical Sciences

On the eigenvalues of the graphs $D(5, q)$

Himanshu Gupta

University of Regina



[More Information about the PDF Seminar Series](#)

[View our calendars for more meetings and events](#)

[Scientific Events](#)

EDUCATION HIGHLIGHTS

[Mathemalchemy Exhibition.](#)

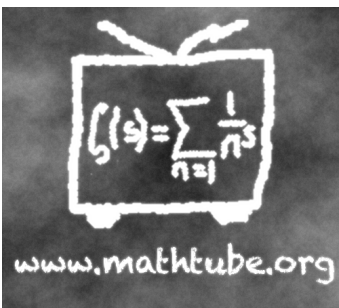


Photo Credit: Kevin Allen

The [Mathemalchemy](#) exhibition is **open until October 31**, so stop by for a visit when you can! The installation is located at the Beaty Biodiversity Museum at the UBC. This installation invites you to let go of preconceptions or classroom experiences about art or math, and to explore with an open mind. Both art and math illuminate and describe our world, and have the power to inspire our imaginations. Feel free to wander, observe, and enjoy.

This exhibit was made possible through the support of the Beaty Museum and the UBC Faculty of Sciences.

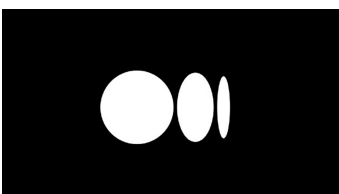
MEDIA



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](#) 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 Series. Do you have an interesting profile from the PIMS Community that we should highlight? [Let us know!](#)

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.

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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 xwməθkwəyəm (Musqueam), Skwxwú7mesh (Squamish), and Səlílwətaʔ/Selilwitulh (Tsleil-Waututh) Nations.

www.native-land.ca