



Pacific Institute *for the*
Mathematical Sciences

PIMS MONTHLY CONNECTION | MAY 2023



UNIVERSITY OF
SASKATCHEWAN

Hello from PIMS

May is here and many of our PIMS member universities are preparing for summer activities, workshops, and conferences. PIMS has designated summer of 2023 as the **PIMS Action on Climate Summer (PIMS-ACTS)**. Throughout this program, we will organize a series of events with the aim of stimulating practical solutions from the mathematical sciences for the climate challenges we face. Details on summer events under this program can be found online [here](#).

The **International Day for Women in Mathematics** will be held this May 12. The PIMS Site at the University of Lethbridge invites you all to join in celebrating this day. The [Schedule](#) of the day includes lectures: "*Twelve on the Twelfth*" by Dr. Kristine Bauer (Co-Director Industry, Pacific Institute for the Mathematical Sciences), "Mathematics for Humanity" by Dr. Laleh Behjat (NSERC Prairie Chair for Women in Science and Engineering), and a panel discussion "Challenges for international mathematicians" (Kristine Bauer, Laleh Behjat, Alia Hamieh, Habiba Kadiri). We hope you will have some time to attend the May 12th events happening near you.

If you are in Vancouver, please visit **Mathemalchemy** - a unique and collaborative art exhibit exploring the beauty of mathematics. The installation will be at the Beaty Biodiversity Museum, from April 1 to 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.

Our **PIMS PDF Seminar Series** continues this month with online presentations from [Kristýna Zemková](#) (UAlberta), [Andrii Arman](#) (UManitoba), [Mohammad Jabbari](#) (URegina), [Shipping Cao](#) (UWashington), and [Amrei Oswald](#) (UWashington). You can also know more about each of our PDFs on our [Medium](#) publication. The seminars are also an excellent opportunity to connect with current PIMS postdoctoral scholars as they continue their research at our member universities.

UPCOMING DEADLINES

- **May 5** - Registration deadline for the [USaskatchewan - PIMS Data Science Bootcamp](#)
- **May 10** - Registration Deadline for the [Western Canada Linear Algebra Meeting](#)
- **May 25** - Registration deadline for [CanaDAM](#)

See below for more details on this month's news, featured events, and publications.

Sincerely,
The PIMS Team

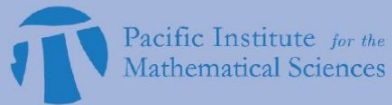
NEWS & ANNOUNCEMENTS



PIMS Board of Directors Meeting Update.

The PIMS Board of Directors held its Spring meeting on April 14th at the University of Regina. Typically, the Board meets twice a year to review and make strategic decisions and provide oversight for the institute. Chaired by Engin Özberk, the Board of Directors comprises senior academic administrators from each of the ten PIMS member universities, as well as members from industry. Additionally, there are nine site directors who serve as non-voting members.

[View Our Board Members Here](#)



PIMS-ICTS EXCHANGE PROGRAM

The Pacific Institute for the Mathematical Sciences (PIMS) is a consortium of universities in western Canada and the Pacific Northwest. PIMS promotes research in the mathematical sciences and their applications, works to create an equitable, diverse and inclusive community, enriches public awareness of and education in the mathematical sciences, and creates

mathematical partnerships with institutes around the world. PIMS activities are funded by the Natural Sciences and Engineering Research Council of Canada (NSERC), Simons Foundation, Prairies Economic Development Canada, member universities and by private donors.

The International Centre for Theoretical Sciences (ICTS) of the Tata Institute of Fundamental Research, established in 2007, is a multi and interdisciplinary centre which hosts programs bringing together physicists, mathematicians, biologists, climate scientists, students and researchers from all over the world, conducts in-house research by high-quality faculty in the theoretical sciences, and connects with members of the public who are interested in the latest developments of scientific research.

PIMS-ICTS Exchange Program.

PIMS and **ICTS** have built a partnership to facilitate exchanges between early-career researchers, with a particular focus on creating strong value for travel, by combining conference travel with collaborative research.

Extending a conference visit to conduct collaborative research, may give you time to meet with more researchers, and could help reduce the carbon impact of your research program by allowing you to plan one extended visit, rather than two shorter visits. Small travel grants are available to support this. PIMS visitors to ICTS for a scientific event are eligible for funding to extend their visit to collaborate with mathematical scientists at ICTS and its partner institutes/universities. Reciprocally, ICTS-affiliated visitors to an event in the PIMS network can extend their visit to collaborate with PIMS mathematical scientists.

Contact international@pims.math.ca or director@icts.res.in if you are interested in the program.

[Read more about PIMS+X Program Details](#)



Math^{Industry} 2023

July 10- 28

M2PI is a full-time training and work-integrated learning opportunity for graduate students and post-doctoral fellows in the mathematical sciences. Applicants in the mathematical sciences gain technical, business and hands-on project skills that they need in order to be ready for industry jobs.

APPLICATIONS ARE NOW OPEN!

Please register using the form below:

https://survey.ucalgary.ca/jfe/form/SV_51D3NYC55TzZrg



M2PI 2023 Fellowship applications now open!

In July 2023, PIMS is holding a hybrid workshop called [Math to Power Industry \(M2PI 2023\)](#).

M2PI 2023 is **green-themed**! Workshop problems will involve clean energy, clean tech, problems related to climate change and other problems in the realm of climate resilience.

M2PI is a full-time training and work-integrated learning opportunity for graduate students and post-doctoral fellows in the mathematical sciences. Undergraduate students are also eligible to apply. Successful applicants will be asked to confirm their availability for full-time participation during July 10 - 28.

- During July 10-14, students will receive professional and technical skills training relevant to non-academic STEM careers through virtual courses.
- During July 17-19, some teams may meet in person either at an employer's site or at a local PIMS host university. Teams will start to work on a project provided by the employer during this time. Travel funding will be provided.
- During July 20-28, teams continue their work virtually and have access to a mentor.
- There will be a virtual career fair where you will have the opportunity to meet employers, learn about careers involving mathematics, and learn about internship or job openings.

Following the workshop, your work will be showcased at a virtual graduation event on July 31. Here you will showcase your skills to a large audience including potential employers in both academic and non-academic fields. You can see examples of successful projects on the [2021 Math to Power Industry website](#).

[M2PI 2023 Application Details](#)

FEATURE EVENTS

Mathematical Cell Biology Symposium.

May 10, 2023: University of British Columbia

The Mathematical Cell Biology Symposium will be held at ESB 4133 (PIMS Lounge) from 10:30 am to 3 pm Pacific. It will have 3 parts: invited talks by visitors, participant talks, and short talks by students. Refreshment will also be served. Many thanks to Leah Keshet (University of British Columbia) for organizing the event. For more information, please contact her at keshet@math.ubc.ca.

Speakers and titles (full abstracts available on the PIMS website):

Carsten Beta: Composite active matter – how motile cells move passive micro-cargo.

Arik Yochelis: Versatile Patterns in the Actin Cortex of Motile Cells.

Eric Cytrynbaum (UBC): How the lizard gets its smile: mechanisms that determine dentition patterns in the gecko.

Anotida Madzvamuse: Developing mechanobiochemical models for 3D cell migration.

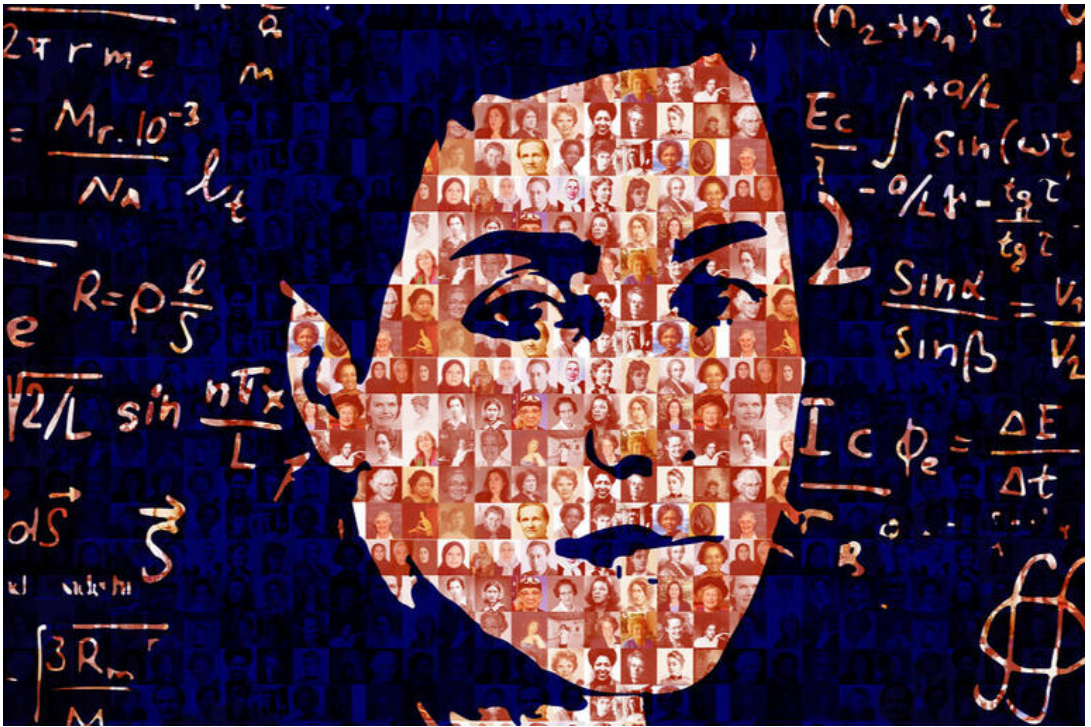
Jack Hughes: A student's perspective on generating bifurcation diagrams for mass-conserved reaction-diffusion systems (PDE bifurcation analysis).

Katie Faulkner: Modeling Type II Diabetes Progression.

Liam Yih: The Mechanisms of Influenza Movement on Cell Surfaces.

Improved single-cell data analysis using spatial transcriptomics and lineage tracing.

Symposium Details



A Day to Celebrate Women and Diversity in Mathematics.

May 12, 2023: University of Lethbridge

May 12 is a joyful opportunity for the mathematical community to celebrate women in mathematics. This year, the May 12 event at the University of Lethbridge is centered around celebrating and supporting resilient mathematicians: due to their gender or the unrest in their country of origin, many mathematicians face challenges, and this can impact their work. For instance, the past year has been the most challenging for Ukrainian and Iranian women, especially students.

Lecture highlights include: "Twelve on the Twelfth" (Kristine Bauer, Co-Director Industry, Pacific Institute for the Mathematical Sciences), "Mathematics for Humanity" (Laleh Behjat, NSERC Prairie Chair for Women in Science and Engineering), and a panel discussion "Challenges for international mathematicians" (**Kristine Bauer, Laleh Behjat, Alia Hamieh, Habiba Kadiri**). This is a **hybrid event**; participants can either attend in-person at the University of Lethbridge - Markin Hall (MH1040) or [join online by registering via Zoom here](#).

Everyone, independent of their gender, is invited to join the discussion.

Event Details



Computational and Mathematical Population Dynamics (CMPD6).

May 23 - 27, 2023: Winnipeg, Manitoba

The sixth edition of the Computational and Mathematical Population Dynamics conference (CMPD6) will take place in Winnipeg (Manitoba, Canada) from May 23 to 27, 2023. Regular registration is now open through the PIMS website. Registration fees include coffee breaks, lunches and a reception. Please note that the PIMS website does not allow to specify dietary restrictions; if you wish to make one known, please email the details to comp.math.pop.dyn.6@gmail.com with the title [Dietary restrictions]. For accommodation needs, please [visit the event homepage](#) for more details. These are on a first-come, first-served basis.



Western Canada Linear Algebra Meeting.

May 27 - 28, 2023: University of Regina

The Western Canada Linear Algebra Meeting (WCLAM) provides an opportunity for all mathematicians in western Canada working in linear algebra and related fields to meet present accounts of their recent research and to have informal discussions. While the meeting has a regional base, it also attracts people from outside the geographical area. Participation is open to anyone who is interested in attending or speaking at the meeting.

WCLAM '23 will be held at the University of Regina in Regina, Saskatchewan on May 27 - 28. The program will include two featured plenary speakers: Jane Breen (Ontario Tech University) and Leslie Hogben (Iowa State University). To register, please email shaun.fallat@uregina.ca. The **deadline to register is on May 10, 2023**. Further information about the conference, the University, and accommodation while attending WCLAM 2023 can be found at the [conference website](#).

[Conference Details](#)

PIMS CRG Summer School on Forecasting and Mathematical Modeling for Renewable Energy.

May 29 - June 9, 2023: University of Calgary







SUMMER SCHOOL
ON FORECASTING AND MATHEMATICAL MODELING FOR RENEWABLE ENERGY

A PIMS CRG on Forecasting and Mathematical Modeling for Renewable Energy

MAY 29 - JUNE 9, 2023

UNIVERSITY OF CALGARY MAIN CAMPUS

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 and power system engineering. In this summer school, the students will receive training in key methodologies for forecasting and mathematical modeling of renewables. We offer the following mini courses:

- Spatio-temporal processes and forecasting
- Atmosphere and fluid dynamics, part 1
- Atmosphere and fluid dynamics, part 2
- Optimization for renewables

Delivery method: In-person/ virtual.
 We will be hosting the students at U Calgary to enable in person peer to peer interaction to form a friendly and energetic atmosphere. There will be field trips to a wind or solar farm and social events such as hikes and picnics.

Financial support:
 All admitted students will be provided financial support up to 1000 CAD to cover travel and accommodation expenses to attend the summer school.

Lectures open to public and available online | https://survey.ucalgary.ca/fe/farm/5W_19V1UE5TE6N2a0



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Subscribe

Past Issues

- Spatio-temporal processes and forecasting
- Atmosphere and fluid dynamics, part 1

- Atmosphere and fluid dynamics, part 2
- Optimization for renewables

All lectures are open to public and will be made available online. **Registration is now closed.** Participation in the exercise sessions require full time in person attendance to the summer school and is subject to admission.

Summer School Details

PIMS Emergent Research-PDF Seminar Series.

May 4, 10, 17, 24 and 31, 2023: Online

PIMS continues to host the Emergent Research PDF Seminar Series. This semester we will host fourteen 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.

Emergent Research:
The PIMS Postdoctoral Fellow Seminar
May 03, 2023 | 9:30am Pacific

Isotropy of quadratic forms in characteristic 2

Kristyna Zemkova
University of Alberta/ University of Victoria



Emergent Research:
The PIMS Postdoctoral Fellow Seminar
May 17, 2023 | 9:30am Pacific

Essential normality of Bergman modules on egg domains

Mohammad Jabbari
University of Regina



Emergent Research:
The PIMS Postdoctoral Fellow Seminar
May 24, 2023 | 9:30am Pacific

Convergence of resistances on generalized Sierpinski carpets

Shiping Cao
University of Washington



Emergent Research:
The PIMS Postdoctoral Fellow Seminar
May 31, 2023 | 9:30am Pacific

Quantum symmetries of finite dimensional algebras

Amrei Oswald
University of Washington



Visit the PIMS website to learn more about the outstanding young researchers, or visit our [Medium](#) blog to learn more about their backgrounds. Our features in April are [Kumar Roy](#) (University of Victoria), [Matthew Rupert](#) (University of Saskatchewan), and [Nicholas Rouse](#) (University of British Columbia).

More Information on the Seminar Series

View our calendars for more meetings and events

Scientific Events

EDUCATION HIGHLIGHTS



SCIENCE RENDEZVOUS is back!

Join the fun and get ready to **CREATE!** on **May 13, 2023**. Science Rendezvous is a **FREE** festival that takes science, technology engineering, art, and math (**STEAM**) research and innovation out of the lab and onto the street.

Visit the Science Rendezvous UBC website at https://www.sciencerendezvous.ca/event_sites/ubc/

Location: UBC Beaty Biodiversity Museum + Multiple sites on campus

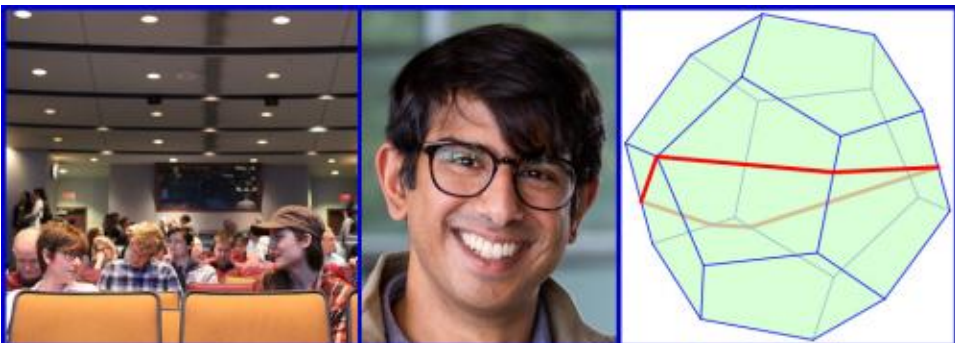
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Science Rendezvous 2023.

Science Rendezvous is a **FREE** festival that takes science, technology, engineering, art, and math (STEAM) research and innovation out of the lab and onto the street. Festival-goers of all ages are able to meet world-class researchers and innovators, participate in hands-on experiments, and see amazing scientific demonstrations at the UBC's Vancouver campus.

Join the fun and get ready to **CREATE!** on **May 13, 2023**. Please see the [Science Rendezvous](#) main page for more details about the event and locations across Canada.

[Science Rendezvous Event Details](#)



Changing The Culture 2023.

The annual Changing the Culture Conference, organized and sponsored by the Pacific Institute for the Mathematical Sciences, brings together mathematicians, mathematics educators and school teachers from all levels to work together towards narrowing the gap between mathematicians and teachers of mathematics, and between those who do and enjoy mathematics and those who think they don't.

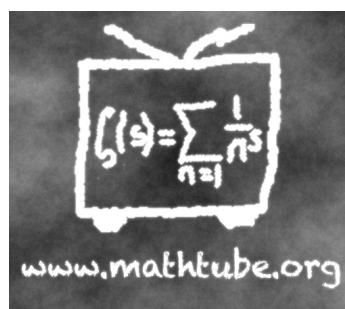
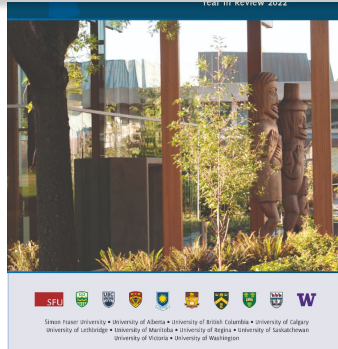
Join us on **Friday, May 19, 2023** at SFU - Vancouver at Harbour Centre. As in past years, registration for this event is free, but we ask you to [complete the registration here](#). Please note that you will have to register for an account on that website to complete the registration process. Please register by **Tuesday May 16th**.

[Changing the Culture Event Details](#)

MEDIA

Our Year in Review publication is now available for download. The publication looks at our scientific successes in 2022, PRIMA 2022 conference highlights, partnerships with international organizations, educational highlights, and a 2023 outlook with an aim to create an equitable, diverse and inclusive community in the mathematical sciences.

[Download it here.](#)



Missed a Lecture? Go to Mathtube.Org

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.

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](#)



Follow PIMS and be a part of our community



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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), Skwxwú7mesh (Squamish), and Səlilwətaʔ/Selilwitulh (Tsleil-Waututh) Nations.

www.native-land.ca