



Pacific Institute *for the*
Mathematical Sciences

PIMS MONTHLY CONNECTION | **January 2022**



Hello and Happy New Year from PIMS

Welcome to 2022! We hope you enjoyed the holidays, had a restful break, and are ready for a new year of activities with PIMS. We are pleased to share our [2022 event highlights calendar](#). Due to the changing rules around meetings and large gatherings, please check our [scientific](#) and [educational](#) event pages for more details on the meeting formats or date changes.

PIMS is welcoming [applications for support of education activities](#) aimed at creating opportunities for students to learn, for teachers to improve their knowledge of mathematics, statistics, and computer science, and their capacity to teach. Examples include math fairs, summer camps, hack-a-thons, and teacher training workshops. The deadline for submission is **January 24, 2022**.

UPCOMING DEADLINES

January 10, 2022 - [Contributions in Honour of Fred Brauer](#)

January 24, 2022 - [PIMS Education Call For Proposals](#)

February 15, 2022 - [Accommodation Applications- Summer School on Optimal Transport](#)

April 15, 2022 - [Call for Network-wide Graduate Courses 2022-2023](#)

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

Sincerely,
The PIMS Team

NEWS & ANNOUNCEMENTS

[Math^Industry 2021 Final Report](#)

The second annual Math^Industry virtual workshop took place during August 2021. The workshop program began with a 10-day training bootcamp followed by a two-week experience working as part of a team on a real problem provided by an industry or government agency partner. Teams approached these problems through advanced mathematical modelling, statistics, optimization, and computational techniques. The MathIndustry 2021 Final Report compiles the results obtained by each of the ten workshop teams on their industry challenge.



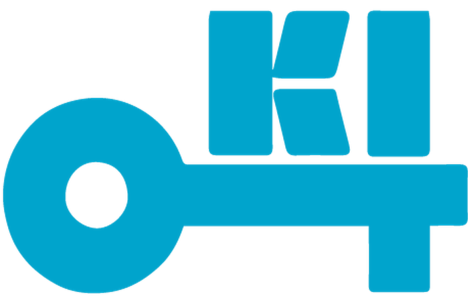


[PIMS Education Call For Proposals - Deadline is January 24, 2022](#)

PIMS welcome proposals aimed at creating opportunities for students to learn (Math Fairs, Math Mania, Summer Camps, Problem Solving Workshops, Hackathons), for teachers to improve their knowledge of mathematics, statistics and computer science and their capacity to teach (Teacher training workshops). We welcome proposals that address historical challenges faced by First Nations, Inuit, and Métis. We encourage submissions with new ideas! The deadline for submission is **January 24, 2022**.

[Postdoctoral Applications Open: Pacific Interdisciplinary Hub on Optimal Transport - Applications close Feb 15, 2022](#)

The Kantorovich Initiative (KI) invites applications for its inaugural postdoctoral position. KI is an interdisciplinary collaborative research group focusing on the mathematics of optimal transport and its applications to different branches of mathematics, biology, economics, engineering, statistics and data science. This position is funded by PIMS through the Collaborative Research Grant, the Pacific Interdisciplinary Hub on Optimal Transport (PIHOT). More information on KI and PIHOT can be found at Kantorovich.org.



FEATURE EVENTS

Emergent Research:

The PIMS Postdoctoral Fellow Seminar

Jan 12, 2022 | 9:30am Pacific

Knotted Objects Confined to Tubes in the Simple Cubic Lattice

Puttipong Pongtanapaisan

University of Saskatchewan



[The PIMS Postdoctoral Fellow Seminar: Puttipong Pongtanapaisan \(USask\).](#) **Jan 12. Online.**

Knotted Objects Confined to Tubes in the Simple Cubic Lattice: In this talk, we will discuss the size of the smallest lattice tube that can contain certain families of knotted objects. We will take advantage of a theorem of Arsuaga et al., which allows us to study entanglements in lattice tubes by analyzing how level spheres coming from the standard height function intersect the knotted object.

Read more about Puttipong, his work and other interests on our [Medium blog](#).



PIMS Network-wide Colloquium Series

January 20, 1:30pm Pacific

Benoît Perthame
Sorbonne Université



[PIMS Network Wide Colloquium: Benoît Perthame](#)

Jan 20. Online.

Monge-Kantorovich Distance and PDEs: The Monge-Kantorovich distance is not easy to use for Partial Differential Equations and the method of doubling the variables is one of them. It is very intuitive in terms of stochastic processes and this provides us with a method for conservative PDEs as parabolic equations (possibly fractional), homogeneous Boltzman equation, scattering equation or porous medium equation.

Emergent Research:

The PIMS Postdoctoral Fellow Seminar

Jan 26, 2022 | 9:30am Pacific



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EKR-Module Property

Venkata Pantangi

University of Lethbridge / University of Regina



[The PIMS Postdoctoral Fellow Seminar: Venkata Pantangi \(ULethbridge\)](#)

Jan 26. Online.

EKR-Module Property: We will discuss about a few more infinite classes of group actions that satisfy the EKR property. I will also provide a few non-examples and a characterization of the EKR property using characters of SG .

Read more about Venkata, his work and other interests on our [Medium blog](#).

UPCOMING DEADLINES

SAVE THE DATE!

February 2, 2022 | Online



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JOIN IN CELEBRATING FRED BRAUER'S 90TH BIRTHDAY

Mini-symposium in Honour of Professor Fred Brauer

Coming together to honour Fred's scholarship, mentorship,
friendship and legacy

Accepting submissions of short stories, memories, and research
highlights until January 10, 2022



[Mini-symposium in Honour of Professor Fred Brauer](#)

Feb 2. Online.

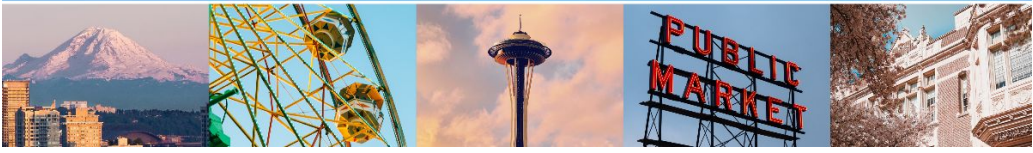
Submissions of short stories, memories, and research highlights are being accepted until January 10, 2022. [Registration is open](#).

PIMS-IFDS-NSF Summer School on Optimal Transport

This meeting's goal is to expose talented students and junior researchers to the exciting and manifold research opportunities arising from Optimal Transport and its applications.

Accommodation for junior participants is available

Apply before
February 15, 2022



[PIMS- IFDS- NSF Summer School on Optimal Transport](#)

June 19–July 1. Seattle.

The stunning mathematical development of OT has recently permeated into several fields of applications. Speakers are chosen from the fields of analysis, biology, data science, economics, and probability, are leaders in their respective fields whose work intimately involves OT.

Accommodation for junior participants is available. Apply before Feb 15, 2022.

SAVE THE DATE

[Pacific Rim Mathematical Association \(PRIMA\) Congress 2022](#)

Dec 4–9, 2022. Vancouver.

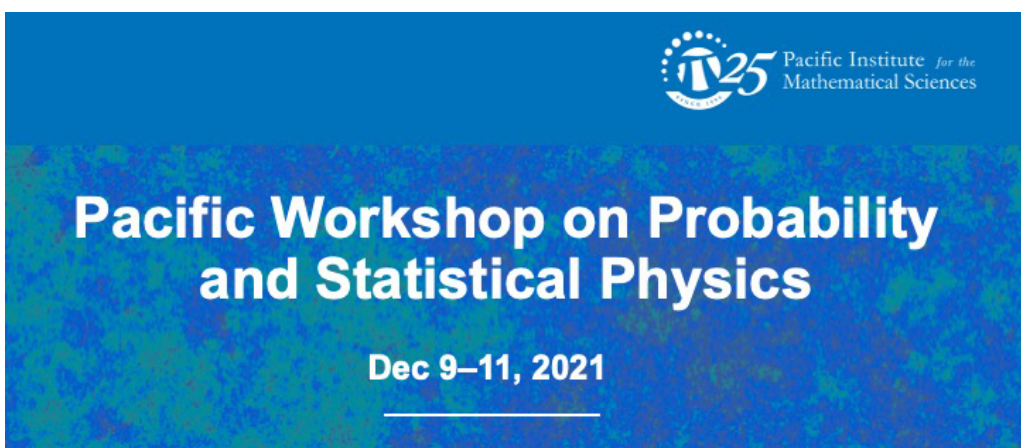
PRIMA is an association of mathematical sciences institutes, departments and societies from around the Pacific Rim, established in 2005 with the aim of promoting and facilitating the development of the mathematical sciences throughout the Pacific Rim region.



Click below for upcoming events

Scientific

MEDIA



The [Pacific Workshop on Probability and Statistical Physics](#) took place from December 9–11, 2021. This workshop brought together top researchers in this field, from around the Pacific, with the overall goal of presenting a panoramic view of the most active research directions in current times. [Watch it again!](#)



PIMS Postdoctoral Fellow Seminars

Connect with emerging research in the mathematical sciences from a PIMS Postdoctoral Fellow. PIMS PDFs are amongst the top young researchers in Canada, and this is an excellent opportunity to learn about them and their work. Our series was recorded and hosted on mathtube.org. [Watch it again!](#)

PIMS COMMUNITY RECENT PUBLICATIONS

1. **Halyun Jeong**, [Atomic Decomposition via Polar Alignment: The Geometry of Structured Optimization](#), *Foundations and Trends in Optimization*, 3(4):280–366, 2020, joint work with Zhenan Fan, Michael P. Friedlander, Yifan Sun.
2. **Boyu Li**, [Wold Decomposition on Odometer Semigroups](#). Proceedings of the Royal Society of Edinburgh, 2021, 1{18. doi:10.1017/prm.2021.31.

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.

[Feedback](#)

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](#)

[Donate to PIMS](#)

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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 *Səl̓íl̓wətaʔ/Selilwitulh* (Tsleil-Waututh) Nations.

www.native-land.ca