Pacific Institute *for the* Mathematical Sciences

PIMS MONTHLY CONNECTION | **July 2020**

UNIVERSITY OF ALBERTA

Hello from PIMS

We are happy to see the PIMS community continuing to embrace virtual technologies to keep our communities safe, while shaping and informing policy through research as we navigate the COVID-19 pandemic.

Effective July 1, Thomas Hillen (University of Alberta) and Allen Herman (University of Regina), will be joining us as PIMS Site Directors. They are taking the reins from Terry Gannon (University of Alberta) and Remus Floricel (University of Regina). We thank Terry and Remus for their service and welcome Thomas and Allen. Click here to learn more.

Last week was a busy one for conferences within our community! PIMS was delighted to support both the CAIMS-PIMS Coronavirus Modelling Conference, as well as the Qolloquium: A One-Day Conference on Quivers, Representations, Resolutions. These 2 separate events were hosted over 4 days, enabling over 150 researchers to come together to move their scholarly research forward, while collaborating remotely. Read on to learn more, and catch up with the conference recordings.

Do you have an industry problem you're grappling with? Interested in help tackling it? We want to hear from you! Click here to learn more and submit a problem.

PIMS is pleased to support researchers across the PIMS community in their virtualization ambitions. To aid you in your virtual event planning, a tips and tricks document can be found here.

Sincerely,
The PIMS Team

FEATURE EVENTS

[2020 Diversity in Mathematics: High School Math Camp](#)

High School Application Submissions Due: July 10, 2020

Are you in grade 10, 11 or 12? Do you find math stimulating and fun? Do you want to challenge yourself and learn more math but are not sure how to? Do you wonder if and how math would be helpful for a future career? Do you want to meet new friends from diverse backgrounds who are interested in pursuing STEM majors? Do you want to meet undergraduate mentors in STEM majors studying in universities nationwide and learn about their journey from high school to university? Do you want to be part of the community that promotes diversity and inclusivity in STEM fields? If the answer is yes, then this camp is for you!

[PRIMA 2021 Congress](#)

Save the Date! December 5 - 10 2021: Hosted in Vancouver and Virtually by PIMS

The Pacific Rim Mathematical Association Congress 2021 will take place in Vancouver, Canada between December 5-10, 2021. Mathematicians from around the Pacific Rim will converge to discuss the latest developments in Mathematics. Stay tuned for more details!

[Conference Presentations: Coronavirus Modelling & Qolloquium Videos Now Posted](#)

Virtually hosted by CAIMS, PIMS & the University of Saskatchewan respectively

Coronavirus Modelling Conference
The mathematical modelling of SARS-CoV-2 infection and the spread of the disease COVID-19 is focussing on two major objectives. The first one is to understand and manage the epidemiology of the disease. To understand the transition of the epidemic through society, to forecast the impact of social distancing and other measures, and to help manage the outbreak on the global and local scales. Secondly, modellers are interested in the within-host dynamics of the virus. How does the virus enter the body, how does it spread, how does it interact with the immune system, how does it react to medications, and how does it lead to death in critical cases? Linking the scales, there are people studying the physical transmission characteristics through aerosols, droplets or direct contact.

Qolloquium: A One-Day Conference on Quivers, Representations, Resolutions
This one-day online conference will bring together geometers and representation theorists working on various aspects of quiver varieties and symplectic resolutions. Through both established and emerging research, these topics enjoy multiple points of contact with the investigations into hyperplane arrangements, character varieties, Higgs bundle moduli spaces and Hitchin systems, hyperpolygon spaces, and the geometric Langlands program. Furthermore, both ordinary and Nakajima quiver varieties provide featured examples of integrable systems, mirror symmetry, and symplectic duality. The talks in the Qolloquium conference will explore a

number of these ideas and themes with the goal of creating new connections between researchers and their research programs.

Subscribe   Past Issues

For more lectures and PIMS resources, please visit mathtube.org

---

Click below for all events|July 2020

<div align="center">

Scientific

</div>

NEWS & ANNOUNCEMENTS

Math^Industry: A Career Training Bootcamp

Together with our partners, PIMS will be convening a 4-6 week long workshop designed to help graduate students and PDF's in the mathematical sciences transition to STEM jobs in industry. We see this as an opportunity for economic recovery after the effects of COVID-19 on Canadian industry, to retain HQP, and help diversify the economy. Do you have an industry problem you're grappling with? Interested in help tackling it? Click here to submit an industry problem and to learn more.

New Virtual PIMS Graduate Courses!

PIMS is pleased to announce four new network-wide graduate courses in mathematical sciences! These courses provide remote access to experts across the PIMS network. Students at PIMS Canadian member universities can get graduate credit via the Western Deans Agreement. Be advised, in some cases, students must enrol 6 weeks in advance of the next term.

Please enter your details on this page to receive more information on these courses.

Data-Driven Models in Finance: Risk Forecasting and Algorithmic Trading

Instructors: A. Thavaneswaran (University of Manitoba), Ruppa K. Thulasiram (University of Manitoba)

Graph Theory

Instructors: Karen Meagher (University of Regina), Joy Morris (University of Lethbridge), Karen Gunderson (University of Manitoba)

Mathematical Modeling of Complex Fluids

Instructor: Jimmy Feng (University of British Columbia)

Optimal transport + X

MEDIA

New Blog Post! Looking to the Future: Digital behaviour post-pandemic.

PIMS COMMUNITY RECENT PUBLICATIONS

1. Hu, F. (2019). Cohomological and numerical dynamical degrees on abelian varieties. *Algebra & Number Theory, 13*(8), 1941-1958.

2. Karolinsky, E., Pianzola, A., & Stolin, A. (2019). Classification of Quantum Groups via Galois Cohomology. *Communications in Mathematical Physics,* 1-31

3. Karpenko, N. A. (2019). An ultimate proof of Hoffmann–Totaro's conjecture. *Preprint (revised version of 17 Dec 2019). Available on author's webpage.*

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**. We are proponents of mathematical **collaboration with industry**, **innovation in mathematics education** from K-12 to graduate level initiatives, **public outreach** and **partnerships** with similar organizations around the globe. We fund Collaborative Research Groups, Post-Doctoral Fellowships, individual events, and competitive prizes in mathematics.

FOLLOW US!