Pacific Institute *for the* Mathematical Sciences

PIMS MONTHLY CONNECTION | **June 2020**

THE UNIVERSITY
OF BRITISH COLUMBIA

Hello from PIMS

As we head into summer, we are happy to share the many successes across the PIMS network.

We are excited to announce Dr. Fok-Shuen Leung is the recipient of the PIMS 2020 Education Award. Read on to learn more.

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. More details are below.

Diversity in Mathematics is back for a fourth year! We aim to introduce participants to a sampling of the various careers in mathematics, as well as provide mentorship to women in STEM. More details can be found below.

This past month, PIMS hosted a webinar with the bcCOVID-19 working group on *Real-time modelling of the COVID-19 epidemic: Perspectives from British Columbia*. We connected with over 300 attendees via Zoom.
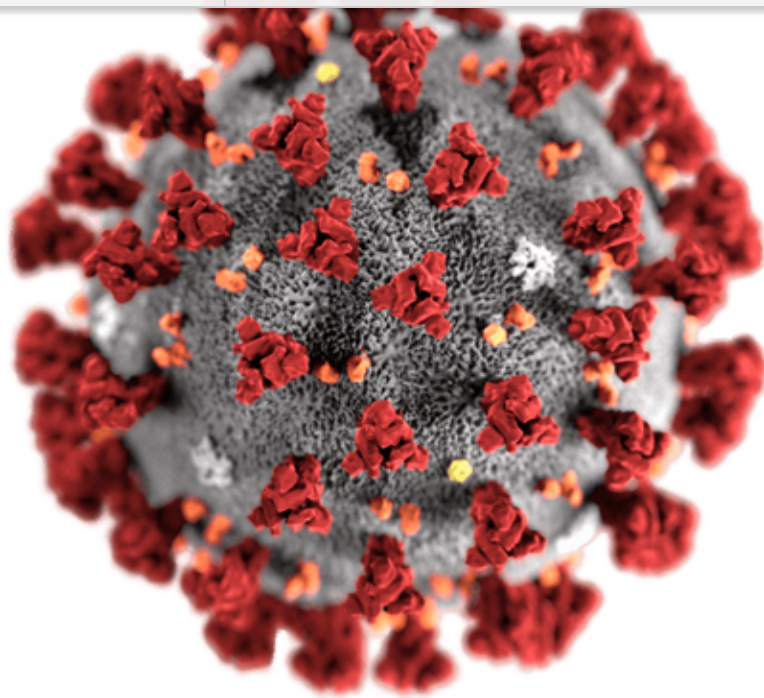
PIMS is happy to see many researchers embracing virtualization, and using it as a mechanism to move their research forward, while connecting with a diverse audience and advancing the mathematical sciences.

Sincerely,
The PIMS Team

FEATURE EVENTS

[Coronavirus Modelling Conference](#)
June 22 - 24: Virtually hosted by CAIMS & PIMS

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 though aerosols, droplets or direct contact.
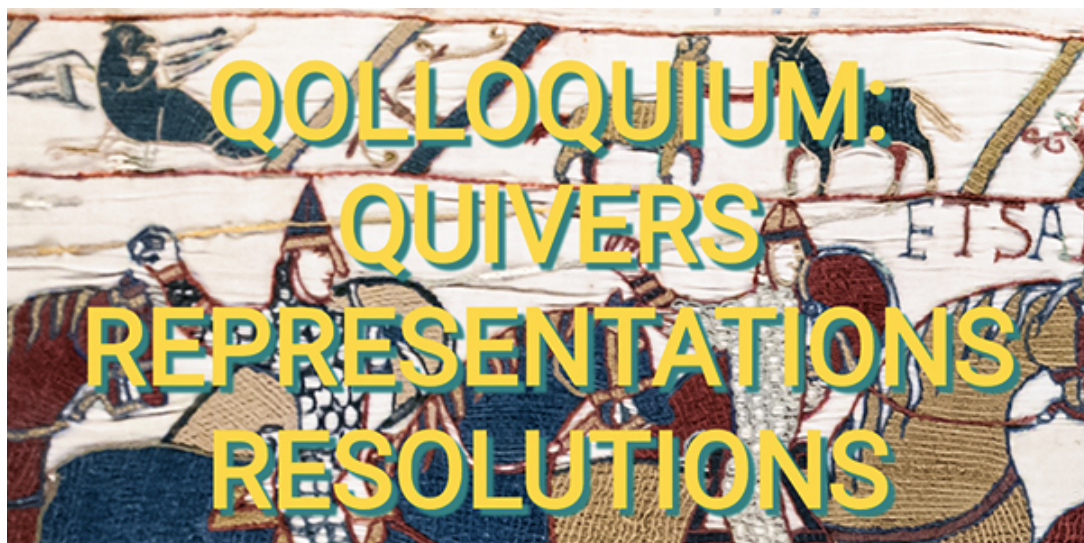
[Qolloquium: A One-Day Conference on Quivers, Representations, Resolutions](#)
June 25: Virtually hosted by the University of Saskatchewan

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.

[2020 Diversity in Mathematics: Undergraduate Summer School](#)
Undergraduate Application Submissions Due: June 19, 2020
High School Application Submissions Due: June 26, 2020

Launching on August 4, this online summer school is open to female-identifying, non-binary and two-spirit undergraduate students studying mathematics or a related discipline such as computer science, physics and statistics at a university in Canada or in the northwest United States, with at least one year of studies remaining in their program. Priority will be given to second and third-year students. Each participant will receive a certificate of participation for attendance.

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

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Click below for all events | June 2020

Scientific

Educational

Industrial

NEWS & ANNOUNCEMENTS

PIMS 2020 Education Award Winner Announced!

PIMS is pleased to announce the winner of the 2020 Education Prize is **Dr. Fok-Shuen Leung**! Dr. Leung is a tenured Senior Instructor in the Department of Mathematics at UBC Vancouver and the recipient of a 2012 Killam Teaching Prize in the Faculty of Science. Dr. Leung's ability to connect with students, organize, and innovate, are amplified in his role as Academic Director, First Year Experience.

Click [here](#) to read the full press release.

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

Instructors: Young-Heon Kim (UBC), Soumik Pal (University of Washington), Brendan Pass (University of Alberta), Yanqin Fan (University of Washington)

SSPROB Moves Online!

Now branded as the Online Open Probability School, or OOPS, the school features a sequence of mini-courses on diverse topics in probability and related topics. All courses will take place online, and are open to all interested participants. This initiative has been supported by PIMS, CRM, SMS, BIRS, and MSRI. Click here to view the full schedule and learn more.

Women in STEM

Six women from the University of Calgary, including Kristine Bauer, PIMS Calgary Site Director, wrote, First Wave, Second Wave, Third Wave: Women in Science, Technology, Engineering, and Mathematics a chapter in Women Negotiating Life in the Academy. The chapter explores how role models from the 1800's impacted them, as we enter the third wave of feminism for women in STEM.

PIMS COMMUNITY RECENT PUBLICATIONS

1. Fiori, A., & Scavia, F. (2019). Embeddings of maximal tori in groups of type F4. *arXiv preprint arXiv:1906.03282.*

2. Bhaskhar, N., Chernousov, V., & Merkurjev, A. (2019). The norm principle for type $D_{\{n\}}$ groups over complete discretely valued fields. *Transactions of the American Mathematical Society,* 372(1), 97-117.

3. Hu, F. (2019). Eigenvalues and dynamical degrees of self-correspondences on abelian varieties. *arXiv preprint arXiv:1909.12296.*

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.