PIMS MONTHLY CONNECTION | **December 2021**

Hello from PIMS

With the end of the year in sight, we are gearing up for an exciting 2022 with a mix of in-person and online events. As we finalize activities for the coming year, please continue to check our upcoming scientific and educational events.

In addition to PIMS scientific and educational activities, we **invite proposals for graduate courses** in either term of the 2022-2023 academic year. These courses will be designated as PIMS Network-wide graduate courses and will be advertised and promoted throughout the PIMS network. Proposals will be accepted until **April 15, 2022.**

UPCOMING DEADLINES

December 1, 2021 - PIMS Postdoc competition
December 20, 2021 - PIMS Postdoc Position: CRG in L-Functions in Analytic Number Theory
December 31, 2021 - ICTS program proposals
January 10, 2022 - Contributions in Honour of Fred Brauer
February 15, 2022 - Accommodation Applications- Summer School on Optimal Transport

See below for more details on this month's news, featured events, and publications. We wish you all the very best for this festive period and for the coming year.

Sincerely,
The PIMS Team

NEWS & ANNOUNCEMENTS

L-functions in Analytic Number Theory is awarded 2022 Collaborative Research Group (CRG) Funding

PIMS is pleased to award funding for the Collaborative Research Group on L-functions in Analytic

Number Theory. The main focuses of this CRG include moments of L-functions and automorphic forms, explicit results in analytic number theory, and comparative prime number theory.The group, lead by Alia Hamieh (UNBC), Habiba Kadiri (ULethbridge), Greg Martin (UBC), and Nathan Ng (ULethbridge) are enthusiastic about collaborating with graduate students, postdocs, and visiting researchers to make significant progress in this field.

PIMS Education Call For Proposals

PIMS welcomes applications for support of education activities in the mathematical sciences to occur after April 4, 2022. The deadline for submission is **January 24, 2022**. We will be awarding grants from $500 up to $5000. Proposals will be reviewed by the PIMS Education Review Panel in February with awards announced February 28. Where appropriate, cost sharing is encouraged and can enhance the probability of success.

ICTS Invites Proposals for Programs Taking Place Between October 2022–September 2023

The International Centre for Theoretical Sciences (ICTS) in Bangalore, India is one of the partner institutes in our new PIMS + X program, to help facilitate partnerships between PIMS and international institutes. For the past one and half years, ICTS has been organizing many online programs and from January 2022 are starting hybrid programs. ICTS is now inviting proposals for programs to be held between October 1, 2022 to September 30, 2023.

Proposals will be accepted until December 31, 2021. Proposals for schools and programs of length two weeks or more, in any of the traditional areas of physical, mathematical and computational sciences, quantitative biology, complex systems, theoretical computer science as well as in overlapping areas, are being accepted. Interested researchers are encouraged to submit a proposal online. Successful proposals will be conveyed in February 2022.

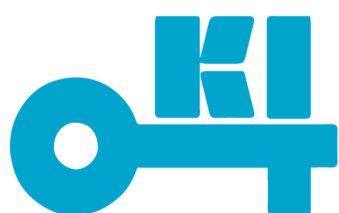## Call for Network-wide Graduate Courses: 2022-2023 Graduate Courses

We invite proposals for graduate courses in the mathematical sciences to take place in either term of the 2022-2023 academic year. Instructors participating in this program will benefit by reaching a larger potential audience, and from interactions with fellow instructors and PIMS staff on how to best develop network-wide offerings. These courses will be designated as PIMS Network-wide graduate courses and will be advertised and promoted throughout the PIMS network. If you are interested in participating as an instructor, please complete the instructor application form, by April 15, 2022.

POSTDOCTORAL POSITIONS

PIMS Postdoctoral Competition - Application Deadline December 1, 2021

PIMS invites nominations of outstanding researchers in the mathematical sciences for postdoctoral fellowships beginning in the academic year 2022-2023. These fellowships are intended to supplement the support provided by the sponsor, and are tenable at any of the PIMS Canadian member universities.

Postdoctoral Applications Open: Pacific Interdisciplinary Hub on Optimal Transport - Applications Open!

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.

The CRG on L-functions in Analytic Number Theory is accepting applications for a Postdoctoral Fellowship at the University of Northern British Columbia (UNBC). The main focuses of this CRG include moments of L-functions and automorphic forms, explicit results in number theory, and comparative prime number theory. **Deadline to apply is December 20, 2022**

FEATURE EVENTS

The PIMS Postdoctoral Fellow Seminar: Jesse Huang (UAlberta)
Dec 1. Online.

Skeleta for Monomial Quiver Relations: Jesse will introduce a skeleton obtained directly from monomial relations in a finite quiver without cycles, and relate the construction to some classical examples in mirror symmetry. This is work in progress with David Favero.

The PIMS Postdoctoral Fellow Seminar: Hansol Park (SFU)
Dec 8. Online.

An Algebraic Approach on Fusions of Synchronization Models: In this talk, we study an algebraic approach to fusions of synchronization models. The Lohe tensor model is a generalized synchronization model which contains three synchronization models; the Kuramoto model (on the circle), the swarm sphere model (on the sphere), and the Lohe matrix model (on the unitary group).

Pacific Workshop on Probability and Statistical Physics
Dec 9–11. Online.

This workshop brings 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.

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

MEDIA

Meet PIMS PDF Jesse Huang

"One goal of my research is to understand the meaning of certain structures on one side of the mirror symmetry equivalence, which is the derived category of coherent sheaves, in terms of its mirror geometry; if this goal can be made sense of and accomplished under certain contexts, I would also like to see some interesting applications to classical questions in algebraic geometry." —Jesse Huang, University of Alberta

Meet PIMS PDF Hansol Park

"For two weeks, I calculated some estimates on the unit sphere and the special orthogonal group. From these results, we wrote papers [1] and [2] on the sphere and the special orthogonal group, respectively. Both papers were accepted in Analysis and Applications and Journal of Nonlinear Science, respectively, so we could finish the project on the intrinsic model successfully." —Hansol Park, Simon Fraser University

To view past lectures and other PIMS resources, please visit mathtube.org

PIMS COMMUNITY RECENT PUBLICATIONS

1. Z.S. Aygin and P.C. Toh, When is the derivative of an eta quotient another eta quotient?, J. Math. Anal. Appl. 480 (2019) 123366.
2. Shirou Wang. Intermittent synchronization in nite-state random networks under Markov perturbations (with A. Berger, H. Qian and Y. Yi), Comm. Math. Phys. 384 (2021), no. 3, 1945{1970.

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

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