Pacific Institute *for the* Mathematical Sciences

PIMS MONTHLY CONNECTION | May 2019

PIMS Workshop on Mathematical Sciences and Clean Energy Applications

If you're passionate about sustainability, the mathematical sciences, and clean energy engineering, this workshop is for you.

Come join the conversation and be a force for change.

May 21 - 24, 2019 @UBC

UBC

PIMS

Registration: www.pims.math.ca/cleanenergy

Photo Credit: General Electric

Hello from PIMS

'Winter Summer is Coming' and just like the conclusion to the Game of Thrones, the PIMS event season is right around the corner. There are a number of high-profile events coming up in May and plenty of registration deadlines for events in June. Avoid missing out by taking a look at the full list of what's happening this month and for the rest of the year.

IMPORTANT NOTICES:

1. **Etienne Ghys - Vancouver Tour: May 2-4.** Click here for details
2. **PIMS - U Saskatchewan Data Science Bootcamp - Application DEADLINE EXTENDED to May 4.** Click here for details
3. **PIMS - UVic Levin Fest: Simon Levin on June 15. Registration deadline: May 15.** Click here for details**.**
4. **PIMS - Workshop on Mathematical Sciences & Clean Energy Applications. May 21-24.** Click here for details**.**
5. **7th Canadian Discrete & Algorithmic Mathematics Conference (CanaDAM 2019). At SFU, May 28-31.** Click here for details.
6. **PIMS - U Saskatchewan Summer School on Algebraic Geometry in High-Energy Physics: Jun 24-28.** Register now.

April saw a concentration of some education-related events. This year's elementary school math competition, ELMACON, was held in April with nearly 400 students participating, and renowned math educator, James Tanton, gave a public lecture as well as a training workshop for teachers.

In what might be a first for PIMS, the University of Saskatchewan live streamed a distinguished lecture from Noriko Yui. This is something that we're looking at doing more of, so stay tuned!

Sincerely,
The PIMS Team

FEATURE EVENTS

PIMS Workshop on Clean Energy & Mathematical Applications

May 21 - 24, 2019 at The University of British Columbia

To avoid the worst consequences of climate change, the energy chain of the global economy must be drastically decarbonized. This exploratory workshop will build a greater dialogue between those in the mathematical sciences and the clean energy sector.

PIMS - Alberta Number Theory Days XI

May 10-12 at the Banff International Research Station (BIRS), Banff

The annual Alberta Number Theory Days provide a unique venue for these researchers, their students, and their visitors for face to face discussion of ideas and for facilitating collaborations.

Hugh C. Morris Lecture - Rodrigo Bañuelos

Thursday, May 23 at the University of Washington @2:30 pm

This talk describes the representation of some classical Calderón-Zygmund operators as conditional expectations of stochastic integrals.

PIMS - U Saskatchewan Summer School on Algebraic Geometry in High-Energy Physics

Thursday, May 24-28 at the University of Saskatchewan

This talk describes the representation of some classical Calderón-Zygmund operators as conditional expectations of stochastic integrals.

Theory Canada 14

May 30-Jun 1 at the UBC. Register by May 3

Theory Canada 14 is the fourteenth in a series of small annual conferences organized by the Division of Theoretical Physics (DTP) of the Canadian Association of Physicists (CAP) as a satellite of the CAP Congress.

Click below for all events| May 2019

Scientific

Educational

Industrial

21st Annual ELMACON Held

April 27, 2019, at the University of British Columbia
ELMACON, the 21st annual PIMS elementary school math contest was another resounding success. Nearly 400 participants competing at such a high standard. We're already looking forward to next year!
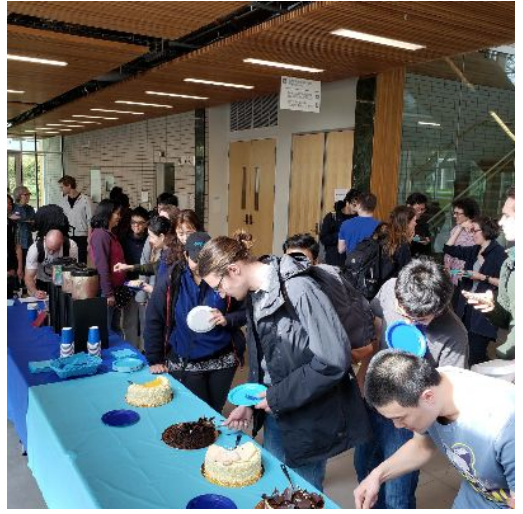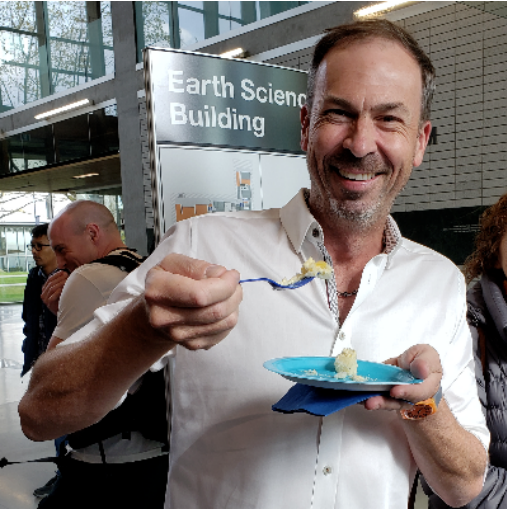

PIMS - U Saskatchewan Educational Outreach

This year the Department of Mathematics & Statistics at the University of Saskatchewan has participated in weekly outreach sessions in two Saskatoon schools with a high Indigenous student and teacher population. The sessions included activities tied to the curriculum that supported Cree language learning. They will also be doing an activity called Bubble Solids this May-June for elementary school field trips to campus.
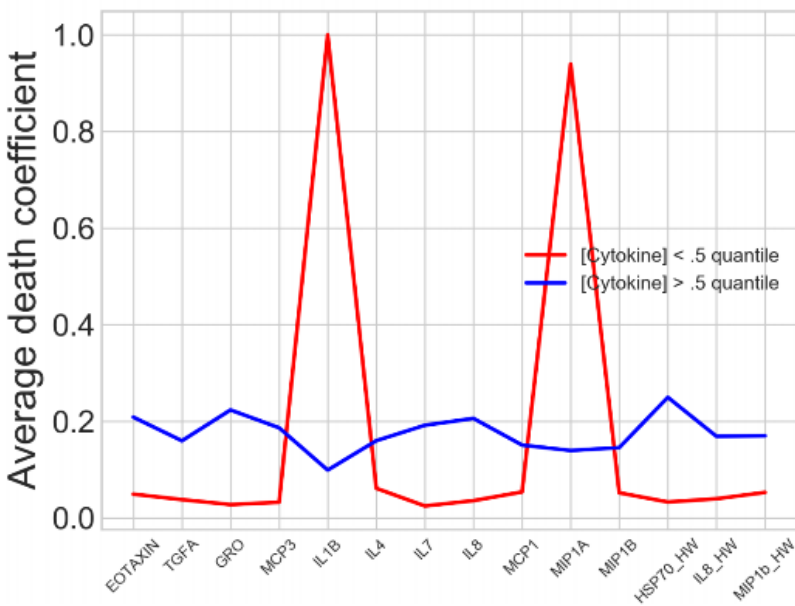

James Tanton's Public Lecture and Teacher workshops

James Tanton visited UBC and gave a 'Cake and Math' public lecture, which was a thoroughly enjoyable event. The following day he gave a teacher training workshop to 70 teachers from

MEDIA

Saving Lives With Data and Math
University students at the PIMS BC-Data workshop identify certain proteins that are highly related to sepsis fatality rates, prompting calls for further research.

Weaving a new Future for Indigenous Education
Math is perhaps not the first thing that comes to mind when thinking about traditional First Nations basket weaving, but it's becoming more apparent that many traditional Indigenous skills and practices are based on mathematical principles passed down through the generations.

Is there a limit to human longevity? Example 1

NEWS · 28 JUNE 2018

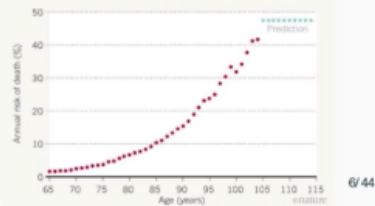There's no limit to longevity, says study that revives human lifespan debate

Nature News June 28 2018

Death rates in later life flatten out and suggest there may be no fixed limit on human longevity, countering some previous work.

Ellie Dolgin

LONGEVITY UNLIMITED
A person's chances of dying tend to increase throughout adulthood, but a model based on data from 3,836 people aged 105 or older predicts that this trend flattens out in the very elderly.

University of Manitoba 2019

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[**Statistical And Data Science**](#)
Nancy Reid: PIMS - University of Manitoba Distinguished Lecture

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

PIMS COMMUNITY RECENT PUBLICATIONS

1. Talpo M., Scherotze., and Sibilla N "[On a logarithmic version of the derived McKay correspondence](#)." 2018. Submitted to arXiv:1612.08961

2. Cunningham C., Fiori A., Moussaoui A., Mracek J., and Xu B., "[Arthur packets for *p*-adic groups by way of microlocal vanishing cycles of perverse sheaves, with examples.](#)" 2018. arXiv:1705.01885v4

3. Songhafouo Tsopm'en'e P. A., and Turchin V., "[Euler characteristics for spaces of string links and the modular envelope of L1](#)" Homology Homotopy Appl. 20. 2018. arxiv.org/abs/1609.00778

4. Breiner C., Fraser A., Huang L. H. Mese P., Sargent Y., and Zhang Y., "[Regularity of harmonic maps from polyhedra to CAT(1) spaces](#)." Calculus of Variation and Partial Differential Equations 57 (2018), no. 12, 1-35. arxiv.org/abs/1610.07829

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!