Pacific Institute *for the* Mathematical Sciences

PIMS MONTHLY CONNECTION | December 2019

Happy Holidays &
Best Wishes for 2020
From our Family to Yours

Pacific Institute *for the*
Mathematical Sciences

Hello from PIMS

Happy Holidays to everyone in the PIMS community! We wish you all the very best for this festive period and for the coming year.
Looking back on 2019, we held many high-quality events across our network and PIMS would like to thank those who helped organize and run them.
We look forward to collectively advancing the mathematical sciences in a busy and productive 2020.

IMPORTANT NOTICES:

1. **ULethbridge Number Theory and Combinatorics Seminar: Andrew Fiori. ULethbridge, Dec 2.** [Learn more](#).
2. **UCalgary Workshop on Using R: John Braun. University of Calgary, Dec 4.** [Learn more](#).
3. **PIMS - UW Math Colloquium: Jun-Cheng Wei. University of Washington, Dec 6.** [Learn more](#).

Take a look at the full list of all our great events on the PIMS activity [calendar](#).

Sincerely,
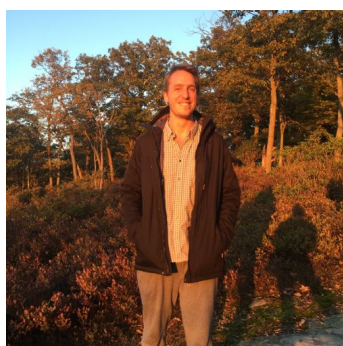**The PIMS Team**

FEATURE EVENTS

PIMS - UW Math Colloquium: Jun-Cheng Wei
December 6, University of Washington.

Title: "On $C^{2,\alpha}$ estimates for levels sets of Allen-Cahn equation"
I will discuss recent new developments in De Giorgi Conjecture for Allen-Cahn equation. In dimensions up to 10, we shall establish the $C^{2,\alpha}$ estimates of level sets for stable solutions of Allen-Cahn. By applying reverse gluing method we show that the obstruction to $C^{2,\alpha}$ estimates is the existence of Toda System in one dimension less. Applications to classifications of finite Morse index solutions and some open problems will be discussed.

ULethbrige Number Theory and Combinatorics Seminar: Andrew Fiori
December 2 at the University of Lethbridge
Title: Simplicity of ABV-packets for Arthur Type Parameters in GLn
In this talk we will discuss a combinatorial approach to studying the geometry of the moduli space of Langlands parameters for GLn.

A Workshop from John Braun on "Using R" - the University of Calgary
December 4, 12 pm, at the University of Calgary
R is becoming the leading software package for statistical analysis and presentation, and is widely used in academia and industry. The workshop will present an introduction to using R in the morning, and move onto more advanced topics such as developing packages and Shiny apps in R in the afternoon.

Click below for all events|December 2019

Scientific

Educational

Industrial

NEWS & ANNOUNCEMENTS

Yasser Khalighi gives a #bcdata talk on Data Challenges and Solutions for Autonomous Vehicles

The latest installment of the bcdata colloquium in downtown Vancouver saw Yasser Khalighi from Calibre Data Labs give a talk on the challenges and solutions in the world of autonomous vehicles.

January's talk will be on 'Tackling Big Climate Data in the Cloud' by Joe Hamman from the U.S. National Center for Atmospheric Research (NCAR). Stay tuned here **for more details.**

MEDIA

[PIMS, University of Manitoba Distinguished Lecture, Bard Ermentrout: If Space Turned out to be Time](#)

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

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PIMS COMMUNITY RECENT PUBLICATIONS

1. Dvyatov. R., Li. S., Lanini. M., Zainoulline. K., "Oriented Cohomology Sheaves on Double Moment Graphs" 2019, Documenta Math, 563{608

2. Lam. N., "General sharp weighted Caffarelli–Kohn–Nirenberg inequalities." Proceedings of the Royal Society of Edinburgh: Section A Mathematics, 149 (2019), no. 3, 691-718.

3. Bahri. Y., Ibrahim. S., Kikichi. H., "Remarks on solitary waves and Cauchy problem for a Half-wave-Schrödinger equations." arXiv preprint, (2018).

4. Chan. Y-B., Rechnitzer. A., "Upper bounds on the growth rates of hard squares and related models via corner transfer matrices." Accepted in Linear Algebra and its Applications.

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.

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