



Pacific Institute *for the*
Mathematical Sciences

Emergent Research: The PIMS Postdoctoral Fellow Seminar

December 16, 2020

9:30 AM Pacific / 10:30 AM Mountain / 11:30 AM Central
Zoom



PIMS is pleased to present an ongoing lecture series featuring our Postdoctoral Fellows! Every three weeks, you will have the opportunity to connect with emerging research in the mathematical sciences from a PIMS Postdoctoral Fellow. PIMS PDFs are amongst the top young researchers in Canada, and this is an excellent opportunity to learn about them, and their work.



Shirou Wang, PhD

PIMS Postdoctoral Fellow

A coupling approach in the computation of geometric ergodicity for stochastic dynamics

Abstract: This talk introduces a probabilistic approach to numerically compute geometric convergence rates in discrete or continuous stochastic systems. Choosing appropriate coupling mechanisms and combining them together, works well in many settings, especially in high-dimensions. Using this approach, it is observed that the rate of geometric ergodicity of a randomly perturbed system can, to some extent, reveal the degree of chaoticity of the unperturbed system. Potential applications of the coupling method and the visualization of higher dimensional non-convex functions, e.g., the loss functions of neural networks, will be discussed.

Bio: Shirou Wang is a PIMS-CANSSI postdoctoral fellow at the University of Alberta. She obtained her Ph.D from Peking University in 2016. Her research interest lies in dynamical systems, concerning areas such as ergodic theory, random and stochastic dynamics, data-driven computation, and applications to biological, mechanical, and physical systems.

REGISTRATION: <https://www.pims.math.ca/seminars/PIMSPDF>