The Math/Stats Colloquium
Department of Mathematics and Statistics
San José State University

Kazuo Yamazaki

Univ. of Rochester

Stochastic PDEs forced by space-time white noise

March 13, 2019, MH320

Abstract: This talk will be expository about the direction of research on stochastic PDEs forced by space-time white noise. In short, while many equations from physics, e.g., the Kardar-Parisi-Zhang (KPZ) equation, were derived/studied by physicists under a forcing term of a space-time white noise, the roughness of this noise in spatial variable leads to the roughness of the solution in a spatial variable and consequently the equation becomes ill-defined in the classical sense. Very recently Hairer solved the KPZ equation completely using rough path theory. Other relevant topics to be discussed include regularity structures, paracontrolled distributions, Bony's paraproducts, Wick products, renormalizations and Feynman diagrams.

Background: One course in analysis.

About the speaker: Kazuo Yamazaki received a Ph.D. from Oklahoma State University in 2014. He is currently a Visiting Assistant Professor at the Department of Mathematics, University of Rochester. His research consists of applications of harmonic analysis and stochastic analysis tools to partial differential equations from fluid mechanics and biology.

Snacks in MH331B at 2:30 pm
Talk starts at 3:00 pm

For more information, see our full schedule at:

`http://www.timhsu.net/colloq/`