Department of Mathematical Sciences welcomes

Ken McLaughlin
Colorado State University

Some interesting phenomena, limits, and a few open questions regarding integrable PDEs (linear and nonlinear)

ABSTRACT:

I will describe some surprising phenomena related to the KdV equation in the periodic setting (related to fractal dimension), and also the whole-line case (infinite accumulation of solitons and asymptotic behavior). For the case of periodic boundary conditions, I will motivate things with explicit calculations regarding linear PDEs, and explain how for the (integrable) nonlinear equation, some extensions have been obtained by PDE analysts without using integrability, which leads to a few open problems for folks working in integrable systems.

ABOUT THE SPEAKER:

Ken McLaughlin is a professor and the department chair at Colorado State University. He studied mathematics at New York University and went on to earn his Ph.D. from that school's Courant Institute in 1994. After graduation, he was a National Science Foundation Postdoctoral Fellow and has also been on the faculty at the University of North Carolina at Chapel Hill. He has held positions at the Université de Bourgogne in Dijon, France, the Mathematical Sciences Research Institute in Berkeley, California, the Pontificial Universidade Católica de Rio de Janeiro in Brazil, the Katholieke Unversiteit in Leuven, Belgium, the Ecole Normale Superieur in Paris, France, and the Université de Paris VII.

September 13, 2019

Hosted by:
Prof. Alexander Its &
Prof. Maxim Yattselev

Tea begins at 3:00
in LD 259

Research Topic
begins at 3:30
in LD 229

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