

PDE, COMPLEX ANALYSIS AND DIFFERENTIAL GEOMETRY SEMINAR

Guest Speaker: Fangchi Yan
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Date: Tuesday, October 27, 2020

Time: 11:00 AM

Location: Zoom

Zoom URL: notredame.zoom.us/j/92552050922



Lecture Title:

Well-posedness of Korteweg-deVries type equations

Abstract

In this talk we shall discuss the initial value problem of a higher dispersion Korteweg-deVries equation with data in Sobolev spaces. After some historical remarks about the significance of these equations in the theory of water waves and integrability, we shall recall some early results about its well-posedness in various solution spaces. Then, we shall introduce the Bourgain spaces and the bilinear estimates required for obtaining optimal well-posedness results using modern harmonic analysis techniques. Finally, we will conclude by stating a recent result on the initial-boundary value problem of these equations. The talk is based on work with Renata Figueira and Alex Himonas.