

PDE, COMPLEX ANALYSIS AND DIFFERENTIAL GEOMETRY SEMINAR

Guest Speaker: Fangchi Yan

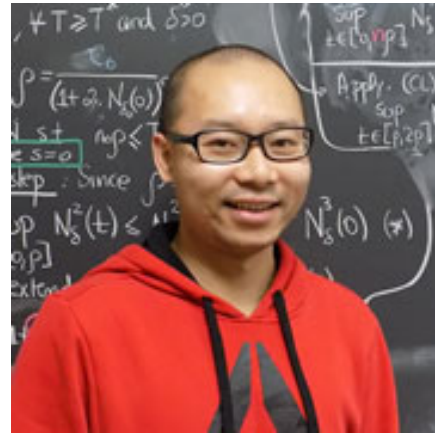
**Virginia Polytechnic Institute and State
University**

Date: Tuesday, May 23, 2023

Time: 11:00 AM

Location: 258 Hurley Hall

Zoom URL:



Lecture Title:

Initial-boundary value problems for KdV type systems

Abstract

We will discuss the well-posedness of the initial-boundary value problem of a coupled system of KdV equations on the half-line with data in spatial Sobolev spaces and boundary data in the temporal Sobolev spaces suggested by the time regularity of the corresponding linear system. First, we will derive linear estimates in Bourgain spaces utilizing the Fokas solution formula of the corresponding forced linear system. Then, using these and the needed bilinear estimates, we will show that the iteration map defined by the Fokas solution formula is a contraction in an appropriate solution space. This is joint work with Alex Himonas.