Department of Mathematics
University of Notre Dame

PDE, COMPLEX ANALYSIS AND DIFFERENTIAL GEOMETRY SEMINAR

Guest Speaker: Brian Reyes
University of Notre Dame

Date: Tuesday, September 27, 2022
Time: 11:00 AM
Location: 258 Hurley Hall
Zoom URL: notredame.zoom.us/j/95012028955

Lecture Title:
Analyticity of mDP and an almost conservation law

Abstract
We consider the Cauchy problem of a modified Degasperis-Procesi equation equation with initial data in analytic Sobolev spaces and compare how the solution behaves to the KdV linear equation. We compare how the DP preserves a conservation law to another almost conservation law which tells us how the radius of the spatial analyticity behaves and whether it persists only for $t\in [-T_0, T_0]$ for some $T_0>0$ or it persists for all t. This tells us whether the solution stays in the space of solutions always or if it changes spaces as time passes.