

*PDE, Complex Analysis
and Differential Geometry*



Speaker: Gerson Petronilho
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Wednesday, July 11, 2012
3:00 pm
258 Hurley Hall

Title: Well-posedness of KdV type equations in analytic Gevrey spaces

Abstract:

We shall discuss the periodic Cauchy problem for KdV type equations when the initial data belong to an analytic Gevrey space of order σ . Then, well-posedness is proved by using Foias-Temam-Bourgain type analytic Gevrey spaces. This implies that in the space variable the regularity of the solution remains the same with that of the initial data. It also implies that the size of the uniform radius of analyticity is preserved. Moreover, the solution is not necessarily G^σ in the time variable. However, it belongs to $G^{m\sigma}(\mathbb{R})$ near zero for every x on the circle.