

September 21, 2012  
9:30 a.m. - 5:30 p.m.  
Bissinger Room  
4th floor, Howe Center  
Stevens Institute of Technology  
Hoboken, NJ

September 22, 2012  
9:00 a.m. - 5:45 p.m.  
Room C002  
Hunter North Building  
Hunter College (CUNY)  
New York, NY

Url: <http://www.stevens.edu/algebraic/GTH/>

## Group Theory on the Hudson

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**Susan Hermiller**

*(University of Nebraska-Lincoln, NE)*

**“Conjugacy growth series and languages in groups”**

### Abstract:

Although the conjugacy growth function for finitely generated groups has been widely studied, its associated series (generating function) has been shown by Rivin not to be rational for free groups with respect to a free basis. In this talk I will introduce the notion of geodesic conjugacy growth functions and series, and discuss the effects of various group constructions on rationality of both the geodesic conjugacy and (spherical) conjugacy growth series, as well as on regularity of the geodesic and spherical conjugacy languages whose growth is measured by these functions. In particular, we show that regularity of the geodesic conjugacy language is preserved by the graph product construction, and rationality of the geodesic conjugacy growth series is preserved by both direct and free products.

This is joint work with Laura Ciobanu.

