The Math Colloquium
Department of Mathematics
San José State University

Kate Poirier
UC Berkeley

Intersecting loops on surfaces and string topology
April 25, 2012, MH320

Abstract: The Goldman Bracket is an algebraic operation defined by intersecting loops on a surface. The algebraic structure determined by the Goldman Bracket reveals a good deal about the underlying surface. String topology operations generalize the Goldman Bracket for a manifold of arbitrary dimension and determine a rich algebraic structure. This structure encodes interesting topological and geometric information about the underlying manifold.

In this talk we define the Goldman Bracket and survey the work of Chas and Gadgil on it. We also introduce a generalization to manifolds of dimension three and higher.

Background: Much of this talk will be accessible to students with any mathematical background, though a basic knowledge of linear algebra is recommended.

About the speaker: Kate Poirier is a Visiting Assistant Professor at UC Berkeley. She received her Ph.D. in 2010 from the City University of New York. Her research focuses on the topology of manifolds and the moduli space of Riemann surfaces.

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Snacks in MH331B at 2:30 pm
Talk starts at 3 pm

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For more information, see our full schedule at:

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http://www.math.sjsu.edu/∼hsu/colloq/

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