

NUMBER THEORY  
COLLOQUIUM

*Relative trace formulae with applications to arithmetic,  
geometry, and spectral theory*

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**Abstract:** Relative trace formulae are arguably the most versatile and general tools available in the modern theory of automorphic forms. Starting with the oldest unsolved problem in mathematics and moving to Millennium prize problems we will explain concrete applications and motivation for relative trace formulae in low-dimensional cases. We will then explain our work on extending the relative trace formula to its natural level of generality with a view towards specific problems in arithmetic, geometry, and spectral theory.

Monday, January 26, 2015, 4:00 pm  
Mathematics and Science Center: W303

MATHEMATICS AND COMPUTER SCIENCE  
EMORY UNIVERSITY