

**Title:** Relating of Maass forms and holomorphic forms

**Speaker:** Jay Jorgenson

**Abstract:** In the setting of general finite volume hyperbolic Riemann surfaces, my recent work with Jurg Kramer begins with a key identity which expresses holomorphic one-forms with non-holomorphic weight zero Maass forms. In this talk I will discuss applications of this identity in two different directions: The study of analytic quantities associated to the Arakelov theory of curves; and the study of L-functions attached to the forms under consideration.