



*Institute of Mathematical Research  
Department of Mathematics*

# COLLOQUIUM

## Locally harmonic Maass forms

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Date: February 4, 2013 (Monday)

Time: 10:30 – 11:30am

Venue: Room 210, Run Run Shaw Bldg., HKU

### Abstract

In this talk, we will define certain functions which satisfy weight  $2 - 2k$  modularity and are harmonic away from certain geodesics. These functions are connected to the kernel function of Kohnen and Zagier for the Shimura and Shintani lifts (between weights  $k+1/2$  and  $2k$ ) through natural differential operators. Using these locally harmonic Maass forms, we give a new proof of the rationality of the periods of the weight  $2k$  (hyperbolic Poincaré series) cusp forms appearing in Kohnen and Zagier's kernel function. This talk is based on joint work with Kathrin Bringmann and Winfried Kohnen.

*All are welcome*