

THE MATHEMATICS DEPARTMENT PRESENTS

# A MATHEMATICS COLLOQUIUM

THURSDAY, June 5, 2008

BOND HALL 227

4:00 pm

**Title: How to construct multidimensional wavelets with good time-frequency localization**

**Speaker: Marcin Bownik**, University of Oregon

**Abstract:** In this talk I will discuss the problem of constructing orthogonal wavelets in higher dimensions. In general this is a difficult problem if we require some special properties on wavelets, such as regularity or fast decay. I will present some positive results on the existence of regular wavelets. I will also describe certain inherent limitations on the existence of wavelets with good time-frequency localization.

Refreshments will precede the talk at 3:30pm in Bond Hall 300  
courtesy of Árpád Bényi.