Mathematics Department Colloquium

Organizer: Maciej Zworski

Thursdays, 4:10–5:00pm, 60 Evans

March 31   **Robin Graham**, University of Washington
Dirichlet-to-Neumann map for Poincaré-Einstein metrics

There is a close relation between the geometry of $n + 1$ dimensional hyperbolic space and the the conformal geometry of the n-sphere. This example provides the model for a correspondence between complete Einstein metrics of negative Ricci curvature (Poincaré-Einstein metrics) and conformal structures on the boundary at infinity. This geometric correspondence underlies the AdS/CFT correspondence of recent interest in string theory. Aspects of the geometric correspondence will be described together with some new results concerning an analogue of the Dirichlet-to-Neumann map in this setting, which has the interpretation as the stress-energy tensor of the boundary conformal field theory in the physical setting.