# Analysis Seminar

**Title:**   Global integrability of super-temperatures and intrinsic ultracontractivity

**Speaker:**  Hiroaki Aikawa, (Chubu University, Nagoya, Japan)

**Date:**   Tue 11th February 2020 at 3:00PM

**Location:**  Seminar Room SCN 1.25

**Abstract:**  This talk is devoted to the global integrability of nonnegative super-temperatures in a space-time cylinder with bounded base $D$. We show that the intrinsic ultracontractivity of the heat semigroup on $D$ plays an important role, as the Cranston-McConnell inequality does for the global integrability of nonnegative superharmonic functions. It turns out that the parabolic integrability depends on the lower estimate of the elliptic Green function for the Dirichlet Laplacian on $D$.