GCOE Lectures at the University of Tokyo

GCOE

DATE   November 8 (Mon), 2010, 16:30–18:00

PLACE   Room 128, Graduate School of Mathematical Sciences

SPEAKER   **Michael Eastwood** (Australian National University)

TITLE   Invariant differential operators on the sphere

ABSTRACT   The circle is acted upon by the rotation group $SO(2)$ and there are plenty of differential operators invariant under this action. But the circle is also acted upon by $SL(2, \mathbb{R})$ and this larger symmetry group cuts down the list of invariant differential operators to something smaller but more interesting! I shall explain what happens and how this phenomenon generalises to spheres. These constructions are part of a general theory but have numerous unexpected applications, for example in suggesting a new stable finite-element scheme in linearised elasticity (due to Arnold, Falk, and Winther).

ORGANIZER   Toshiyuki Kobayashi