



# SCMS Colloquium

## **TELLING GROUPS APART BY MEASURES OF COMPLEXITY**

**Speaker: Kai-Uwe Bux**

**Bielefeld University**

**Reception: 16:30 – 17:00, 4<sup>th</sup> Floor SCMS**

**Time: Thur, Mar. 14th, 17:00-18:00**

**Venue: Gu lecture Hall, SCMS**

**Abstract:** It is hopeless to classify infinite groups up to isomorphism. There are several invariants one can use to chart the vast area inhabited by such groups. I shall discuss several numerical group invariants coming from topology, homology, and geometry:

- \* finiteness properties
- \* (co)homological and geometric dimensions
- \* isoperimetric inequalities

I shall illustrate these concepts by means of examples; and the main source of examples for groups in this talk will be arithmetic groups, e.g., the group of invertible integer  $n$ -by- $n$  matrices.

