



## Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

**Dienstag, 9. Januar 2018**

17 Uhr s.t., Geom H4

Prof. Dr. Christoph Wockel  
(Habitationsvortrag)

### *From columnar addition to topological group cohomology*

#### Abstract:

Topological group cohomology is the concept of group cohomology for topological and Lie groups that takes topological and geometric phenomena beyond classifying spaces into account. A first contact that everyone has with concepts from topological group cohomology (without being taught so) is when learning columnar addition in elementary school. In the talk I will explain the latter and illustrate how one can from there reach a basic but very handy cocycle model for topological group cohomology.

The rest of the talk is then devoted to studying this model and the relationship to other models of topological group cohomology. I will also illustrate how one can effectively compute the topological group cohomology for semi-simple Lie groups in terms of Chern-Weil Theory, line out possible connections to bounded cohomology of lattices in Lie groups and illustrate some applications of topological group cohomology in infinite-dimensional Lie theory.

Vor dem Vortrag (ab 16.30 Uhr) stehen im Raum 327 Kaffee und Tee bereit.