Uniform Stability of Groups and
Vanishing of an asymptotic variant of bounded cohomology

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Abstract: In an ongoing joint work with Glebsky, Lubotzky and Monod, we construct an analogue of bounded cohomology in an asymptotic setting in order to prove uniform stability of lattices in Lie groups (of rank at least two) with respect to unitary groups equipped with a metric induced by a submultiplicative norm.
The main idea is the notion of "defect diminishing", which allows us to reduce stability as a homomorphism lifting problem with abelian kernel, and relates to an asymptotic bounded cohomology H^2_a whose vanishing implies uniform stability. If time permits, I shall sketch a proof of the main result: namely, the vanishing of $H^2_a(G,V)$ for lattices in high rank Lie groups (along the lines of the proof in Burger-Monod that bounded cohomology vanishes for such groups), implying uniform stability for this class of groups.

Time: 16:00 (German time)