Analysis Seminar Thursday October 13 and 20, 2016

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Title: *Hermitian elements in Banach algebras; snapshots over 50 years.*

Abstract: An element h of a complex unital Banach algebra A is hermitian if $||e^{ith}|| = 1$ for all real t; this is a generalization of the notion of a self-adjoint element in a C^*-algebra. Hermitian elements have some surprising properties – and pathologies. We survey many results in the commutative setting, with their links to function theory and harmonic analysis. Our knowledge in the non-commutative setting is rather limited but we report some progress on a longstanding problem, ending with some links to free Lie algebras.