Topology Seminar

Jesse Wolfson

of University of Chicago will be speaking on

The Index Map and Reciprocity Laws for Contou-Carrere Symbols

on November 17 at 4:30 in
MIT Room 2-131

In the 1960s, Atiyah and Janich independently constructed the families index as a natural map from the space of Fredholm operators to the classifying space of topological K-theory. In joint work with Oliver Braunling and Michael Groechenig, we construct an analogous index map in algebraic K-theory. The index map allows us to relate the Contou-Carrere symbol, a local analytic invariant of families of schemes, to algebraic K-theory. Using this, we prove reciprocity laws for Contou-Carrere symbols in all dimensions. This extends previous results, of Anderson and Pablos Romo in dimension 1, and of Osipov and Zhu, in dimension 2.

The material for this talk is contained in arXiv:1410.1466 and arXiv:1410.3451, with technical foundations in arXiv:1402.4969.