Topology talks

Thursday, 26 September, 9 am and 3 pm, Room 224
Friday, 27 September, 9 am, Room 224

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Homotopy theory of positive scalar curvature

Abstract
The space of positive scalar curvature metrics on a simply connected, high-dimensional spin manifold M is introduced as an object of homotopy theory. We show that its homotopy type, once nonempty, does not depend at all on the manifold, only on the dimension. Moreover, there is a secondary index map to real K-theory, and our second main result is that this map is as nontrivial as one could expect, for all dimensions ≥ 6.

(joint work with Boris Botvinnik and Oscar Randal-Williams)