Topology Seminar

Pascal Lambrechts

of University of Louvain will be speaking on

Rational homology of spaces of smooth embeddings

on March 3 at 4:30 in
MIT Room 2-131

.For a given compact smooth manifold M we consider the space $\mathrm{Emb}(M, R^k)$ of smooth embeddings of M into some large Euclidean space R^k, or rather some geometric variant of it, which is a homotopy invariant of M.

I will explain how Goodwillie's cutting method enables us to understand the homotopy type of this space of emeddings. I will then prove that the rational homology of that space is actually an invariant of the rational homotopy type of M. The proof is based on Kontsevich's theorem on the formality of the little cube operad and Arone's description of the layers of Weiss' orthogonal tower for the space of embeddings. This is a joint work with Greg Arone and Ismar Volic.