The Oliver Club

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Multiple Avatars of the Operad GER

Gerstenhaber algebras and their relatives pop up in questions of algebraic topology, deformation theory, the theory of motives, and quantum field theory. I will begin by explaining what an operad is, then introduce the operad GER, which governs Gerstenhaber algebras, and describe several other operads that are equivalent to GER. All these operads look very dissimilar, but each of them is related to a very interesting subject: Kontsevich's graph complex, Deligne's conjecture on the Hochschild complex, compactification of configuration spaces and braid groups. Using the language of fairy tales, the operad GER can be compared to the Wonderful Wizard of Oz, from Frank Baum's famous book, while the above operads are his avatars, which appear in front of Dorothy and her friends.

The talk should be accessible to graduate students.

Thursday, October 6, 2011
at 4:00 PM in 532 Malott Hall

Refreshments will be served at 3:30 PM in the Mathematics Department lounge (532 Malott Hall).