

*Department of Mathematics,
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Zoom for Thought

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Making Something Out of Nothing: Secondary Operations in Algebra and Homotopy

Abstract:

Have you ever thought to yourself “Homological Algebra is great, but I wish there were more technicalities and operations to keep track of”? Do you ever worry that the chain complex feels left out after you take cohomology? Does it keep you up at night that elements whose products are 0 get less of a say in the cohomology ring’s structure? Has your topologist friend ever ignored nullhomotopic maps, making them feel excluded and unheard?

In this talk, Max will be explaining two closely related constructions, in homological algebra and in homotopy, that arise only when other operations give a trivial output. These so called “secondary operations” play a large role in computational algebraic topology, and can be an indispensable tool for proving results both highly abstract (see Tyler Lawson’s “BP is not E_∞ ”) and very concrete (see Massey’s “Higher Order Linking Numbers”).

Tuesday, October 12, 2021

2:00 PM

**Please see email with subject “Graduate
Student Seminar Information.”**
