## **ALGEBRA SEMINAR**

## The bar construction for operads

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ABSTRACT: First, I will give a description of the free operad generated by a  $\Sigma$ -module. Second, we will talk about cooperads. Then I will describe the bar construction for operads and the cobar construction for cooperads. I will show that the cobar-bar construction gives us a free resolution for an operad satisfying minor technical conditions. Finally, we will talk about algebras over the cobar construction of a cooperad.

> Monday, November 22, 2010 1:10 – 2:30 pm Room 617, Wachman Hall Department of Mathematics