

## Midwest Topology Seminar

### *The ring cooperations for 2-primary tmf*

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**Abstract:** This talk represents joint work with Kyle Ormsby, Nat Stapleton, and Vesna Stojanoska. I will describe 3 different perspective on  $tmf_*tmf$  (localized at 2). (1) the  $E_2$ -term of the Adams spectral sequence for  $tmf \wedge tmf$  decomposes as a direct sum of ext groups associated to bo-Brown-Gilter modules, (2) modulo torsion,  $tmf_*tmf$  embeds into the ring of 2-variable modular forms, and (3) modulo  $v_2$ -torsion,  $tmf_*tmf$  embeds into a product of  $TMF_0(N)_*$ , for various values of  $N$ , and how they are related.

Saturday, February 28 at 4:00 PM in Lecture Center F, Room 4