## Algebra Seminar

## Moonshine beyond the Monster

## Michael Mertens Max-Planck-Institut fr Mathematik

**Abstract:** Over the last 35 years, Moonshine has been an intriguing subject in mathematics, providing a still somewhat mysterious connection among Number Theory, especially the theory of modular forms, Representation Theory of finite groups, and Mathematical Physics. In the first part of my talk, I explain the general phenomenon of Moonshine at the historically first instance of so-called Monstrous Moonshine, as well as the more recent case of Umbral Moonshine. In the second part of the talk, I intend to talk in a bit more detail on recent joint work with M. J. Griffin proving a conjecture by J. Harvey and B. Rayhaun on Moonshine for Thompsons sporadic simple group and some joint work in progress with J. F. R. Duncan and K. Ono.

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MATHEMATICS AND COMPUTER SCIENCE EMORY UNIVERSITY