Abstract: Differentiation of functions on the real line obeys the Leibniz rule. More generally, linear operators on rings that obey this rule are called derivations. Generalizing yet further from linear to multilinear operators naturally leads to the subject of Hochschild cohomology, a source of important algebraic invariants for rings. It arises in many settings, for example, in algebraic deformation theory, in representation theory, and in noncommutative geometry. In this talk, we will give a brief introduction to Hochschild cohomology and some of its applications, and we will survey some recent work on its structure as a graded Lie algebra.

Short Bio: Dr. Sarah Witherspoon is a professor of mathematics at Texas A&M University. She graduated from Arizona State University in 1988, where she earned the Charles Wexler Mathematics Prize as the best mathematics student at ASU that year. She went on to graduate study in mathematics at the University of Chicago, and completed her Ph.D. in 1994. Dr. Witherspoon taught at the University of Toronto from 1994 to 1998. After holding visiting assistant professorships at Mills College, the University of Wisconsin–Madison, Mount Holyoke College, the University of Massachusetts Amherst, and Amherst College, she joined the Texas A & M faculty in 2004. She was elected to the 2018 class of fellows of the American Mathematical Society "for contributions to representation theory and cohomology of Hopf algebras, quantum groups, and related objects, and for service to the profession and mentoring".

Refreshments before the talk and socializing following the talk
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