

Mathematical Physics Seminar,

**Colleen Delaney, Math, IU Bloomington,
in person in UNIV 319 and on Zoom**

Thursday, Oct. 28th 10:30 - 11:30am

Title: Knots and modular isotopes

Abstract: The algebraic theory of quasiparticles called anyons in certain 2-dimensional topological phases of matter is given by a unitary modular tensor category (UMTC). Until recently all known examples of UMTCs were determined by two invariants called the modular data: the framed link invariants that a UMTC assigns to a once-twisted unknot and the Hopf link. These invariants can be thought of as topological Feynman diagrams that capture the self and mutual statistics of the anyons in question. However, there now exists examples of different UMTCs with the same modular data, called modular isotopes, which require stronger link invariants to detect and new theory to interpret.

Familiarity with tensor categories will not be a prerequisite for this talk, which will be intended for a broad audience interested in mathematical physics.

Meeting ID: **953 1862 5523**

Passcode: **184222**

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