

Creighton University Department of Mathematics Invites You To Attend

Department of Mathematics Colloquium

Friday, September 14, 2018 | 3:30 p.m. | HLSB 522



Lisa Piccirillo, Ph.D. student at the University of Texas at Austin, presents her research on low-dimensional topology, three- and four-manifolds, and knot concordance. Join us for coffee and cookies in HLSB 503 before Ms. Piccirillo's talk (3:00 p.m.).

"Knots in the three sphere (S^3) are considered classically equivalent if they cobound an annulus in S^3 and equivalent in concordance if they cobound an annulus in $S^3 \times I$. Positive mutation is a subtle modification of a knot; pairs of knots related by positive mutation are difficult to distinguish classically and even more so in concordance. The smallest and best studied mutant pair are the 11 crossing Conway and Kinoshita-Terasaka knots. They were distinguished classically by Riley in 1971; in this talk I will distinguish them in concordance. To do so I'll discuss a new concordance obstruction coming from the study of certain 4-manifolds and I will point out several other applications of this study."