The Math/Stats Colloquium
Department of Mathematics and Statistics
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Stable Irreducibility via the Symmetric Quandle Cocycle Invariant

Wed Feb 22, 2023, MH320

Abstract: Are there stably irreducible surface-knots in S^4 of every (including non-orientable) genus? Livingston gave examples of stably irreducible, orientable knotted surfaces of arbitrary genus in S^4. In the non-orientable case, the Kinoshita conjecture posits that all projective planes in S^4 are reducible. Although, Yoshikawa gave infinitely many irreducible Klein bottles in S^4 where after taking connected sums give irreducible, non-orientable surfaces of arbitrary even genus. His method cannot detect if the surfaces are stably irreducible, but I will use the symmetric quandle cocycle invariant to show that there exist stably irreducible surface-knots of arbitrary even genus.

Background: One semester undergraduate abstract algebra.

About the speaker: Nicholas Cazet is a fourth year Ph.D. student at UC Davis and formerly a grad student at SJSU, where he was a student of Dr. Marion Campisi. His advisor is Prof. Jennifer Schultens, and he is currently interested in low-dimensional topology.

Snacks served in MH331B at 2:40pm
Talk starts at 3:00pm

For more information, see our full schedule at:

`http://www.timhsu.net/colloq/`