



Department of Mathematics and Statistics

Colloquium

Tuesday October 10

AMB 164 4:00 - 5:00 pm

Fundamental Problem of Topology: The Homeomorphism Problem

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Abstract

Given two topological spaces, can we determine if they are equivalent (homeomorphic), this is the Homeomorphism Problem. I will give an expository talk considering this problem when it is known the spaces of interest are manifolds. The majority of the presentation will be looking at this problem for three-dimensional manifolds; in particular, given two three manifolds M and N via a combinatorial description, I will outline an algorithm to determine if they are equivalent. This is a (theoretical) solution following work of the speaker and fundamental advances in the understanding of the geometry of three-manifolds by W. Thurston and G. Perelman.

Refreshments at 3:45

Professor Jaco will give a second talk:

New Pathways and Pedagogies in Mathematics,

12:45 - 2:00 pm, Tuesday, October 10, AMB 164.

Abstract

There is a growing national program led by the Dana Center (DC) at U. of Texas and Complete College America (CCA) encouraging change in options and pedagogy in college entry-level mathematics. I will discuss the two central ideas of Math Pathways and Co-requisite Instruction central to the DC and CCA programs. In particular, I will discuss what I have been involved in for the state of Oklahoma and what I believe has been a fundamental role played by inquiry learning and what I envision as becoming an even greater role for inquiry learning for widespread fundamental systemic change.