Department of Mathematics and Statistics Colloquium

Mountain Passes, Smooth and Discrete

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Abstract: Anyone who has taken a hike knows the Mountain Pass Lemma: between any two low points in the terrain there must be a ridge with a saddle point on it. The mathematical abstraction of this involves Morse theory on manifolds, and in particular something called Min-Max Theory. In this talk I will discuss this idea and then talk about a generalization to simplicial complexes utilizing discrete Morse theory. It should be accessible to anyone who has completed multivariable calculus. By the way, this is joint work with my Ph.D. student, Lacey Johnson, JMU Class of 2014.

Monday, September 25 at 3:50 in Roop 103

Refreshments at 3:30