

Undergraduate Math Club

Winter 2008

2nd floor Nesbitt Common Room

Thursday, January 17, 4:10-5:00pm

(free pizza and pop, as always)

The Poincare conjecture and the classification of manifolds

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Abstract

In 1904, Poincare asked if among all (compact and connected) 3-dimensional "spaces", the 3-dimensional sphere is characterized by the property that every loop in it can be shrunk to a point. Over time, his question became known as the Poincare conjecture. After many attempts to solve it and many spectacular results in other dimensions, the Poincare conjecture was still unsolved in 2000 when it was considered by the Clay Mathematics Institute to be one of the 7 Millennium Problems. Shortly afterwards, Perelman solved it and his achievement was rewarded with the Fields Medal. In this talk, I will discuss the Poincare conjecture and some of its cousins.