### **CCSU** DEPARTMENT OF MATHEMATICAL SCIENCES

# COLLOQUIUM

Friday, December 7 2:00 – 3:00 PM Maria Sanford, Room 101

## THE EULER CHARACTERISTIC AND PLATONIC SOLIDS

### WILLIAM ABIKOFF

#### UNIVERSITY OF CONNECTICUT

#### ABSTRACT

Geometry is the study of objects which have shape. Topology can be thought of as geometry without shape – it is often called "rubber band" geometry. In 1736, Euler solved the Seven Bridges of Koenigsberg problem and then proceeded to study what is now called the Euler characteristic for polyhedra. It can be used to give a quick enumeration of the Platonic solids. I'll try to explain and prove all of this.

If time permits, I'll show some other – some even recent – applications of the Euler characteristic.

Much of the presentation will use *beamer*; it is a LaTeX class that produces mathematics-friendly computer-driven presentations.

This talk is aimed at undergraduate and graduate students interested in mathematics. In particular, all recipients of the CSMP scholarship are urged to attend.

*For further information: gotchevi@ccsu.edu* 860-832-2839 http://www.math.ccsu.edu/gotchev/colloquium/