CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, November 30
2:00 – 3:00 PM
Maria Sanford, Room 101

CYCLIC QUADRILATERALS AND RHOMBOIDS IN THE HYPERBOLIC PLANE

TIMOTHY CRAINE

CENTRAL CONNECTICUT STATE UNIVERSITY

ABSTRACT

Several theorems of Euclid which depend upon his fifth postulate have analogs in hyperbolic geometry as long as certain conditions are relaxed. We shall prove that in hyperbolic as well as Euclidean geometry the sums of the opposite pairs of angles of any given cyclic quadrilateral are the same. We shall also examine Euclid's definition of "rhomboid," presented in Book I of the Elements but then abandoned for the more general term "parallelogram," and why the original term has better applicability to its hyperbolic analog. This talk will assume no prior knowledge of hyperbolic geometry and should be understandable by anyone who has studied geometry in high school. In the presentation the web site http://cs.unm.edu/~joel/NonEuclid/NonEuclid.html, which provides a dynamic geometry environment based on the Poincare model for the hyperbolic plane, will be introduced.

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