Gates_Elizabeth

From: Hammontree_Michelle
Sent: Friday, February 13, 2009 10:22 AM
To: FACSTAFF
Cc: 'jim@uchicago.edu'
Subject: Mathematics Candidate Jim Fowler: Symmetries of Manifolds and Singularities
Attachments: image001.gif; image002.gif

Rhodes College

Department of Mathematics and Computer Science

Jim Fowler, Ph.D. Candidate

University of Chicago

Symmetries of Manifolds and Singularities

Given a manifold (say, the surface of a sphere centered at the origin) and a finite group acting on it (say, Z/2Z acting by reflection through the x-z plane), the quotient space (given by identifying a point on the sphere with its reflection) need not be a manifold; it may have singularities (in this case, along the intersection of the sphere with the x-z plane). These are orbifolds, and are being studied in Dr. Seaton's course this semester.

There are reasons to hope that the singularities could be resolvable, i.e., that there exists a similar manifold with an action of the same group but having a quotient space without singularities. Can you get rid of the singularities?

There are cases when you can, but in most cases (say, when the groups are built from matrices) the singularities are not resolvable. The talk will emphasize beautiful examples, and no prior knowledge of manifolds or of groups will be assumed.

Monday, February 16, 2009 at 5:00pm

in Ohlendorf 225

Refreshments at 4:30 in the Math Library