COLLOQUIUM
UNIVERSITY OF CENTRAL FLORIDA

Dr. Michael Greenblatt

will speak on

Effective methods for resolving singularities in the plane with applications to analysis

We describe an effective method for locally resolving the zero set of a real-analytic function f(x,y). The method is geometric and involves doing a finite sequence of transformations taking a point (x,y) to a point (x, y - g(x^(1 / N))) for appropriate real-analytic functions g, where N is an integer. After these transformations, a branch of the zero set of f(x,y) will be (locally) given by {(x,y): x > 0, y = 0}or {(x,y): x < 0, y = 0}. This method has applications to oscillatory integral operators, as well as to the determination of the largest e > 0 for which the integral of |f|^(-e)$ is finite near a given zero of f(x,y).

Dr. Greenblatt received the PhD in Mathematics from Princeton University in 1998. He was a C.L.E. Moore Instructor at Massachusetts Institute of Technology from 1998-2001 and also held a visiting appointment at Univ. of Wisconsin, Madison. Presently, he is employed at Metron, Inc. His research interests include geometric analysis with a special emphasis on finding new methods of resolving singularities and applying these methods to problems in analysis.

DATE: **Monday, April 11, 2005**
TIME: **10:30 – 11:30 AM**
PLACE: **Math and Physics Building, Room 233**