**YMC2004 TALK ABSTRACT**

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Title: Explorations of the Henon Map for Small Values of a and c

Description:
The study of Hénon transformations is of particular importance because they are one of the simplest examples of maps with complicated dynamics. They are also of particular interest in applied mathematics (such as in establishing Pareto equilibria in economics) because any polynomial automorphism on the plane can conjugated to the composition of generalized Hénon transformations (1). This project, conducted under Dr. Roberto Hasfura at the Trinity University 2003 REU, characterizes the dynamics of the Hénon map
$f(x,y)=(y,y^2+ax+c)$ from $R^2 \to R^2$
for $0<a<1$, $c=0$, and seek to explore the parameter space of maps topologically conjugate to f by varying c. This study makes use of machinery developed previously in $C^n$ as well as classical results developed by Palis and Smale in the 1960s.

(1)Shmuel Firedland and John Milnor. ?Dynamical Properties of Plane Polynomial Automorphisms.? Ergodic Theory and Dynamical Systems (1989), 9, p. 67-99.