“Complex Dynamics in Higher Dimensions”

In dynamics one studies the motion of some system. For example, one might study a flow on a manifold or the behavior of points under a self map which is to be applied repeatedly. The dynamics of holomorphic self maps of $\mathbb{C}$ are surrounded by a beautiful mathematical theory which has received a lot of attention in the past 20 years or so.

There has been a growing interest in the dynamics of self maps of higher dimensional complex manifolds. After reviewing motivating material from the one dimensional theory, I will introduce Hénon maps, which are automorphisms of $\mathbb{C}^2$. Some Hénon maps are “close” to being self maps of $\mathbb{C}$. Together, Mikhail Lyubich and myself have worked out the nature of various dynamical features of these Hénon maps. We have also considered the problem of abstract deformation of Hénon maps and have shown that a natural approach to this turns out to behave badly.

Monday, February 9, 2004
3:30 PM in 226 JB

Please come join us for refreshments before the lecture at 2:45 p.m. in room 353 Jabara Hall.