

Undergraduate Mathematics Colloquium

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**“Stable and unstable dynamical
behaviors in Hamiltonian systems”**

Friday November 4

Talk at 4:00 in Herman Brown 227

Tea at 3:30 in Herman Brown 438

ABSTRACT: Hamiltonian systems arise naturally in Celestial Mechanics. It lies at the origin of and gives birth to many modern theories of dynamical systems. In this talk, I will present some simple models of Hamiltonian systems from Celestial Mechanics where the total energy serves as the Hamiltonian function. Then I will discuss how the energy level determines the motion of celestial objects such as comets and planets in our solar system. If time permits, I will present more advanced models where very complicated dynamical behaviors may appear.

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