Abstract: Hyperbolic systems are the most important class of dynamical systems. The drive to understand them was the rocket engine that launched the field of dynamical systems in the 1960's from an area of differential equations to the vast booming field that it is today. Roughly speaking, a system is called hyperbolic if it exhibits both expansion and contraction, both exponential. The presence of such conflicting behavior at every (dynamically interesting) point of the underlying space can create extremely complicated long-term behavior of orbits, sometimes called chaotic. I will present the main examples of such systems and describe some of their surprising properties.

This will be an expository talk assuming little prior knowledge of dynamical systems.

Snacks in MH 331B at 2:30 pm

Talk starts at 3 pm