



# Special Colloquium

UCR  
Mathematics  
Department

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## **"ENERGY CONSERVATION FOR FLUID EQUATIONS"**

Many physical phenomena can be modeled by partial differential equations (PDEs). Among the various principles these phenomena obey, energy conservation plays an important role. Mathematically, if the solution to the PDE is sufficiently smooth, then the energy equality would hold. However, in real life one often observes (very) complicated and rough dynamical behavior of certain physical quantities, which can be responsible for possible energy dissipation. It is of fundamental importance to understand how the energy transfers within such systems. In this talk, I will discuss from a mathematical viewpoint some sufficient conditions that guarantee the energy equality. I will mainly focus on a fluid equation example, namely the compressible Navier-Stokes equations.

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**Friday, February 2nd, 2018**

**Surge 284**

**Tea Time @ 4:00 p.m.**

**Talk Begins @ 4:10 p.m.**

**Ends @ 5:10 p.m.**

