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**Speaker:** Dinshaw Balsara  
University of Notre Dame, Physics Department

Tuesday, September 28, 2010  
11:00 AM  
258 Hurley Hall

**Title:** ADER-WENO Schemes for High Accuracy Simulation of Hyperbolic Conservation Laws

**Abstract:**

Conservation laws occur in many areas of science and engineering. Their accurate solution is a high interest topic in those areas. Traditional second order methods, while well-developed, are quite limiting and the push is on for developing methods that go beyond second order accuracy. In this talk I describe space and time integration methods that accomplish this for a range of hyperbolic systems. I show that the new methods are robust, positivity preserving and cost-competitive with the older second order methods. This makes a strong case for their adoption in production codes that are designed to solve practical problems.