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## Events

Computational Mathematics Seminar Series

### Hybridizable Discontinuous Galerkin Methods for Elastodynamics

**Francisco Javier Sayas, University of Delaware**

Professor

Digital Media Center 1034
April 26, 2016 - 03:30 pm

**Abstract:**

In this talk I will present some preliminary results on the use of an Hybridizable Discontinuous Galerkin method for the simulation of elastic waves. I will show how the Qiu and Shi choice of spaces and stabilization parameters for an HDG scheme applied to quasi-static elasticity also apply for time harmonic elastic waves, providing a superconvergent method. I will next discuss a conservation of energy property that holds in the transient case when the elasticity equations are semidiscretized in space with the same HDG strategy. This work is a collaboration with Allan Hungria (University of Delaware) and Daniele Prada (Indiana University Purdue University at Indianapolis)

**Speaker's Bio:**
Francisco-Javier "Pancho" Sayas is a professor at the Department of Mathematical Sciences of the University of Delaware, an institution he joined in 2010. Prior to arriving at Delaware, he was visiting associate professor at the University of Minnesota for three years. He graduated from the University of Zaragoza in Spain in 1994, with the external advisement of Michel Crouzeix (Rennes, France) and then became associate professor of the same department in 1997.

His research covers a wide range of interests in numerical analysis and scientific computing, with a focus on boundary integral equations, finite element methods, discontinuous Galerkin methods, and the coupling of different numerical schemes. In recent years most of his activity has gravitated around wave propagation.

**This lecture has a reception @ 03:00 pm**