

CGD SEMINAR



DATE: Wednesday, 22 February 2017

TIME: 11 a.m.

LOCATION: NCAR, 1850 Table Mesa Drive
Mesa Lab, Main Seminar Room

TITLE: Some numerical challenges in
computational fluid dynamics for
atmospheric and ocean simulations

SPEAKER: Simone Marras, Stanford University

ABSTRACT:

The advent of inexpensive massively parallel computers in the past fifteen years has revolutionized the way numerical weather prediction and ocean modeling are handled today. In this talk, we will describe how this revolution happened, the reasons that drove it, and what challenges are still to be fully addressed and resolved.

We will concentrate on the application of high-order element-based Galerkin methods as they are proving their mettle for solving the Euler and Navier-Stokes equations to model atmospheric and ocean motion. However, because of their susceptibility to Gibbs oscillations in the solution to non-linear problems, special attention will be given to understanding how their stabilization is still an active topic of research and how we

are contributing towards its solution. For more information, contact Barbara Ballard: email bballard@ucar.edu, phone: 303.497.1358