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**SEMINAR OF NUMERICAL ANALYSIS**

➤ **WEDNESDAY 04<sup>TH</sup> MARCH 2015 - ROOM CM1 221 - 16h15**

**Dr. Omar LAKKIS**, (Univeristy of Sussex, Brighton, UK) will present a seminar entitled:

**"Aposteriori error analysis of timestepping schemes for the wave equation"**

Abstract:

Aposteriori error estimates provide a rigorous foundation for the derivation of efficient adaptive algorithms for the approximation of solutions of partial differential equations. While the literature abounds with results for elliptic and (more recently) parabolic equations, the situation is much less developed for the hyperbolic equations such as the wave equation. In this talk, I will review some of the "standard" aposteriori results by Bangerth, Rannacher, Bernardi, and Süli, for the wave equation and present recent developments and improvements. Particular focus will be given to practically relevant methods such as Verlet, or Cosine, methods, a popular example of which is the Leap-frog method.

This is based on joint work with E.H. Georgoulis, C. Makridakis and J.M. Virtanen.

Lausanne, 12 February 2015/AA/vl