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## SEMINARIO DE ANÁLISIS NUMÉRICO Y MODELACIÓN MATEMÁTICA.

GIMNAP-Departamento de Matemática, UBB  
Centro de Investigación en Ingeniería Matemática (CI<sup>2</sup>MA), UDEC

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*Título de la Charla:*

***Nonlinear conservation laws with spatial noise***

Fecha y Hora:

Martes 29 de Noviembre de 2016, 15:30 Horas.

Lugar:

Auditorio Alamiro Robledo, FCFM, Universidad de Concepción.

### **Resumen**

Various real world applications require the consideration of the influence of uncertain parameters on the solution to some nonlinear hyperbolic problem. In particular, different aspects of nonlinear hyperbolic problems with time dependent stochastic source terms, which were initially considered by Holden and Risebro, were extensively discussed in the literature during the last decade. Multiple technical applications, e.g. modeling of sedimentation or porous media flow, require also to deal with a flux function perturbed by stochastic noise. In this presentation we discuss the construction of the log-normal distributed spacial noise term, and consider a nonlinear hyperbolic scalar conservation law perturbed by such random-field-coefficient. After a short introduction into solution concepts to such spacial perturbed hyperbolic PDE, we present a numerical scheme and discuss the influence of the spacial distributed noise on basis of several numerical examples.