ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Prof. Jan Hesthaven
Mathematics Institute of Computational Science and Engineering - MATHICSE

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SEMINAR OF NUMERICAL ANALYSIS

➢ **WEDNESDAY 19 OCTOBER 2016 - ROOM MA A1 12 - 16h15**

Dr. Timo Läahivara (University of Eastern Finland, Kuopio, Finland) will present a seminar entitled:

"Bayesian full-wave inversion techniques for solving wave dominated problems"

Abstract:

Research focuses on developing computational techniques to model mechanical and electromagnetic wave propagation. In this work, a high-order discontinuous Galerkin method is used to solve the forward problem. The inverse problem is formulated in the Bayesian framework so that all uncertainties are explicitly modeled as probability distributions, and the solution is given as summary statistics over the posterior distribution of parameters relative to data. The Bayesian approximation error method is used to reduce the overall computational demand of the inverse problem. In the numerical examples, results in the two-dimensional cases with simulated data are presented.

Lausanne, 20 September 2016/JH/cr

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