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## **SEMINAR OF NUMERICAL ANALYSIS**

➤ **THURSDAY 16 JUNE 2011 - ROOM MA 331 - 16h15**

*Dr. Benjamin STAMM (University of California, Berkeley)* will present a seminar intituled:

### **"Reduced Order Computations of Complex Scattering Problems"**

Abstract:

This talk gives an overview of the Reduced Basis Method applied to parametrized complex scattering problems in form of integral equations.

We consider the scattering problem of an impinging plane wave onto a collection of scatterers. The Reduced Basis Method is combined with a Generalized Born Series approach to achieve a significant model reduction.

This combination allows, after some computationally intensive pre-computations, to efficiently compute the Radar Cross Section for many different parameter values in a many-query, optimization or uncertainty quantification context.

As parameters of the system, we consider the wave number, angle and polarization of the impinging plane wave, the location of the different scatterers as well as their shapes.

Lausanne, April 8, 2011/AQ/cr