

INVITATION TO THE LECTURE

MAY 5, 2022

9:30

CONFERENCE ROOM

FUNCTIONAL PRECONDITIONING AND ITS APPLICATION TO POROELASTICITY

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The aim of this talk is to motivate and introduce functional preconditioning as a framework for analysis of PDEs in weak formulation.

The presentation will be partially based on the paper Preconditioning discretizations of systems of partial differential equations by Mardal and Winther where a strategy to precondition saddle point systems is proposed. It will also be shown that a Schur complement strategy to preconditioning can be naturally used on the functional level.

As a concrete example few functional preconditioner for Biot's model in three field formulation will be shown.