Wir laden recht herzlich zu einem Vortrag im Rahmen des

Oberseminars Numerische Optimierung

ein:

Prof Dr Barbara Kaltenbacher

(Universität Klagenfurt)

Minimization based formulation and regularization of inverse problems, with an application to sound source localization

Donnerstag, 2. Juli 2020

Beginn: **16:00 Uhr**
Raum: **BigBlueButton Room: https://bbb.uni-konstanz.de/b/gab-nez-v4u**
Interessenten sind herzlich willkommen!

G. Ciaramella

Abstract:
    The conventional way of formulating inverse problems such as identification of a (possibly infinite dimensional) parameter, is via some forward operator, which is the concatenation of the observation operator with the parameter-to-state-map for the underlying model. Recently, all-at-once formulations have been considered as an alternative to this reduced formulation, avoiding the use of a parameter-to-state map, which would sometimes lead to too restrictive conditions. Here the model and the observation are considered simultaneously as one large system with the state and the parameter as unknowns. A still more general formulation of inverse problems, containing both the reduced and the all-at-once formulation, but also the well-known and highly versatile so-called variational approach (not to be mistaken with variational regularization) as special cases, is to formulate the inverse problem as a minimization problem (instead of an equation) for the state and parameter. Regularization can be incorporated via imposing constraints and/or adding regularization terms to the objective. In this talk, after providing a few regularization and convergence results, we will dwell on a minimization based reformulation of the problem of locating sound sources from microphone array measurements, where this approach can be nicely made use of.

(eingeladen von JunProf. Dr. Gabriele Ciaramella)