Einladung

Würzburger Mathematisches Kolloquium

Julius-Maximilians-Universität Würzburg • Institut für Mathematik

Anne Wald

Georg-August Universität Göttingen

Applied Inverse Problems in Physics

Dienstag, 25. Juni 2024 • 14:15 Uhr

Seminarraum SE41 • Humboldt-Bau (Emil-Fischer-Straße 41, 97074 Würzburg)

Der Vortrag wird auch als Zoom-Meeting übertragen: go.uniwue.de/ifmcolloquium-zoom

Abstract. Inverse problems arise in many applications, where one aims at drawing conclusions on a typically space- and/or time-dependent function from its impact on a measurable quantity. The respective data is usually subject to measurement noise, which can be strongly amplified if the reconstruction technique is not stable with respect to noise. In many experiments in the natural sciences, noisy data is not the only obstacle one has to overcome to obtain meaningful reconstructions. Often, the underlying physical model is either highly complex or not entirely known.
In this talk, the above issues are discussed using two examples from experimental physics: a parameter identification problem arising in biophysics, and tomographic X-ray imaging on the nano scale.