ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

INVITATION TO THE DOCTORAL SEMINAR

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"Attenuation model for photoacoustic tomography with pressure and shear waves"

N.1.04 | Monday, 27 November 2023 | 2:00 p.m.

Abstract

Photoacoustic tomography (PAT) is a relatively low-cost non-invasive biomedical imaging modality, which combines the advantages of optical imaging (e.g., high contrast) and ultrasound imaging.
In this talk, we will first provide a brief overview of PAT, covering its physical processes, a historical embedding, and the mathematical standard model. Next, we will enhance the model of photoacoustic imaging by involving pressure and shear waves. To the end, the ill-posedness of the inverse problem in the attenuating medium as well as the asymptotic behavior of its singular values will be surveyed.
Joint work with Peter Elbau and Otmar Scherzer.

Barbara Kaltenbacher and the Department of Mathematics look forward to seeing you at the talk!