



Mathematisches
Forschungsinstitut
Oberwolfach

Member of



Oberwolfach Seminar

Wave Phenomena: Analysis and Numerics

Organizers: Marlis Hochbruck, Karlsruhe
Andreas Rieder, Karlsruhe
Roland Schnaubelt, Karlsruhe
Christian Wieners, Karlsruhe
Date (ID): 24 – 30 November 2019 (1948b)
Deadline: 15 September 2019

The research on wave-type problems is a fascinating and emerging field in mathematical research with many challenging applications in sciences and engineering. Profound investigations on waves require a strong interaction of several mathematical disciplines including functional analysis, partial differential equations, mathematical modeling, mathematical physics, numerical analysis, and scientific computing.

The goal of this seminar is to present a comprehensive introduction to the research on wave phenomena by a series of lectures, student projects and software experiments. Starting with basic models for acoustic, elastic, and electro-magnetic waves we will consider the existence of solutions for linear and some nonlinear material laws, efficient discretizations and solution methods in space and time, and the application to inverse parameter identification problems. Our aim in this course is to intertwine analysis and numerical mathematics for wave-type problems which will enable students for cooperative research projects in this field.

The seminar takes place at the Mathematisches Forschungsinstitut Oberwolfach. The Institute covers board and lodging. By the support of the Carl Friedrich von Siemens Foundation travel expenses can be reimbursed up to 150 EUR in average per person (against copies of travel receipts). The number of participants is restricted to 25.

Applications including

- full name and address, incl. e-mail address
- short CV and publication list
- present position, university
- name of supervisor of Ph.D. thesis
- short summary of previous work and interest
- title, ID and date of the intended seminar

should be sent preferably by e-mail (with attachments in pdf format) via seminars@mfo.de until 15 September 2019 to:

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