

Workshop on Numerical Aspects of Nonlinear PDEs of Hyperbolic Type

Nonlinear partial differential equations (PDEs) of hyperbolic type are of fundamental importance in science and engineering, including fluid dynamics, acoustics, elastodynamics, geophysics, astrophysics, and many other disciplines. Closed form solutions are not available and numerical methods (finite difference, finite volume, finite element, etc.) have to be applied. The field of analysis and justification of numerical methods (stability, compactness and convergence, a priori or a posteriori error estimates, etc.), which often requires the use of sophisticated mathematics, has seen many advances in recent years. Besides providing a rigorous foundation, at least in the context of simplified model PDEs, the involved mathematical analysis tends to suggest design principles for constructing stable and powerful computational techniques for complex problems arising in realistic applications, for which rigorous analysis is out of reach. The purpose of the workshop is to bring together experts and junior researchers to discuss new trends and activities in numerical analysis, algorithms and applications of hyperbolic and related PDEs.

Speakers

- Frédéric Coquel (Paris)
- Bruno Després (Paris)
- Volker Elling (Michigan)
- James Glimm (Stony Brook)
- Espen Jakobsen (Trondheim)
- Dietmar Kröner (Freiburg)
- Peter A. Markowich (Cambridge)
- Roberto Natalini (Rome)
- Andreas Prohl (Tübingen)
- Anders Szepessy (Stockholm)
- Eitan Tadmor (Maryland)
- Anna-Karin Tornberg (Stockholm)
- Manuel Torrilhon (Zürich)
- Gerald Warnecke (Magdeburg)
- Petra Wittbold (Berlin)



The workshop is part of the basic research program Nonlinear Partial Differential Equations at the Centre for Advanced Study at the Norwegian Academy of Science and Letters for the academic year 2008-09.

When: May 26 & 27, 2009.

Venue: Hotel Gabelshus
Gabels gate 16, 0272 Oslo, Norway

URL: www.cas.uio.no/events

Organizing committee

- Helge Holden (holden@math.ntnu.no)
- Kenneth H. Karlsen (kennethk@math.uio.no)



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