



A CMA-workshop on

Nonlinear PDEs: Theory, Numerics, and Applications

Oslo, April 26-27, 2004

CMA is pleased to announce this informal workshop which will focus on theoretical and computational aspects as well as applications related to various types of nonlinear partial differential equations. The workshop will take place in the CMA seminar room (B1036) in the Niels Henrik Abel building (mathematics building) on the 10th floor. For more information on how to get to the venue, please visit www.cma.uio.no

All persons who are interested are welcome to attend this workshop.

Program:

Monday:

0900-0945 **François Bouchut** (Paris): Recent advances in linear transport equations with discontinuous coefficients.

1000-1045 **Sigmund Selberg** (Trondheim): Derivation of the Vlasov Poisson system from Dirac-Maxwell.

1045-1115 **Coffee

1115-1200 **Nils Henrik Risebro** (Oslo): Numerical schemes for an asymptotic equation describing the director field of a nematic liquid crystal.

1200-1330 **Lunch

1330-1415 **Achim Schroll** (Lund): The art of reconstruction: Trading accuracy against variation.

1430-1515 **Siddhartha Mishra** (Bangalore): Restoration and Segmentation of Images by using the Topological Gradient.

1515-1545 **Coffee

1545-1630 **Snorre Christiansen** (Oslo): A Compensated Compactness property of some Finite Element spaces.

1900-.... Workshop dinner.

Tuesday:

0900-0945 **Corrado Mascia** (Rome): Hyperbolic systems with relaxation: asymptotic stability of traveling waves.

1000-1045 **Xue-Cheng Tai** (Bergen): Some variants of the level set methods and applications to image segmentation and some other medical imaging problems.

1045-1115 **Coffee

1115-1200 **Ragnar Winther** (Oslo): From the De Rham sequence to mixed finite elements for elasticity. 1200-1330 **Lunch

1330-1415 **Raimund Bürger** (Stuttgart): Applications of strongly degenerate parabolic equations with discontinuous coefficients.

1430-1515 **Peter Lindquist** (Trondheim): Removability of a level set for solutions of quasilinear equations.

1515-1545 **Coffee

1545-1630 **Espen R. Jakobsen** (Bergen): Error bounds for monotone approximation schemes for Hamilton-Jacobi Bellman equations.

Organizing committee:

Giuseppe Maria Coclite (UiO/CMA)

Helge Holden (NTNU/CMA)

Kenneth Hvistendahl Karlsen (UiO/CMA)