

Introduction

The present volume is devoted to the Workshop “New Trends in Nonlinear Parabolic Equations”, held at the Department of Mathematics and Computer Science of the University of Parma, on November 12–16 2012, with the support of the ERC grant “Vectorial Problems” 207573. The Workshop was mainly aimed at presenting recent developments in various topics related to nonlinear parabolic equations.

Due to the success of the Workshop, the high number of participants and the quality of the contributions, the organizing committee decided to ask the main speakers to write expanded notes or new results on the subject they presented, and these are collected in the present volume.

We wish to acknowledge Adriano Tomassini and the Editorial Board for accepting to publish the Proceedings of the Workshop. Special thanks are due to Maria Tiziana Mauro who assisted us in preparing the layout of this volume.

We wish to thank again both the speakers for their interesting presentations and all the participants for their meaningful and important contribution to the meeting.

Agnese Di Castro
Giuseppe Mingione
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Speakers

WOLFGANG ARENDT (Institut für Angewandte Analysis, Universität Ulm)
Wiener regularity and semigroups on spaces of continuous functions

PAOLO BARONI (Scuola Normale Superiore, Pisa)
Calderón-Zygmund results for nonlinear parabolic problems

MATTEO BONFORTE (Departamento de Matemáticas, Universidad Autónoma de Madrid)
Quantitative local and global a priori estimates for fractional nonlinear diffusion equations

FRANCESCA CRISPO (Dipartimento di Matematica e Fisica, Seconda Università degli Studi di Napoli)
Regularity of solutions to the evolutionary p -Laplacean system

BRUNO FRANCHI (Dipartimento di Matematica, Alma Mater Studiorum - Università di Bologna)
A diffusion-coagulation equation for the concentration of β -amyloid in Alzheimer's disease

UGO GIANAZZA (Dipartimento di Matematica "F. Casorati", Università degli Studi di Pavia)
Boundary estimates for certain degenerate and singular parabolic equations

GABRIELE GRILLO (Dipartimento di Matematica "Francesco Brioschi", Politecnico di Milano)
On some classes of weighted porous media equations

MORITZ KASSMANN (Fakultät für Mathematik, Universität Bielefeld)
Local regularity for parabolic nonlocal problems

HERBERT KOCH (Mathematisches Institut, Universität Bonn)
Asymptotics for fast diffusion

TUOMO KUUSI (Department of Mathematics and Systems Analysis, Aalto University School of Science)

Parabolic potential estimates

PETER LINDQVIST (Department of Mathematical Sciences, Norwegian University of Science and Technology, Trondheim)

Some properties of viscosity supersolutions to the evolutionary p -Laplace equation

KAJ NYSTRÖM (Matematiska institutionen, Uppsala Universitet)

Boundary behavior for non-negative solutions to non-linear and degenerate parabolic pdes

TOM TER ELST (Department of Mathematics, The University of Auckland)

The Dirichlet-to-Neumann operator on rough domains

JUAN LUIS VÁZQUEZ (Departamento de Matemáticas, Universidad Autónoma de Madrid)

Fractional nonlinear parabolic equations: some results and trends

VINCENZO VESPRI (Dipartimento di Matematica e Informatica “Ulisse Dini”, Università degli Studi di Firenze)

Long time behaviour for nonnegative solutions of a class of degenerate/singular parabolic equations

Participants

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