

Preface

Research on hyperbolic problems and regularity questions developed so rapidly over the last years that a conference became necessary where recent progress could be discussed.

The conference covered a great variety of topics originating from nonlinear PDE, functional and applied analysis, physics, differential geometry, complex structures etc., that present a rich profile of studies in hyperbolic equations and related problems.

One objective was to bring together leading specialists from Europe, Asia and the United States and to discuss new challenges in this quickly developing field. Another goal of the conference was to exhibit the remarkable vitality and breadth of current activities in PDEs as well as the high scientific level of ongoing work in the area.

This volume collects polished versions of the lectures given at the conference. Readers will find inspiring contributions to the calculus of variations, differential geometry, the development of singularities, regularity theory, hydrodynamics, asymptotic behavior, among others, and will profit of new tools and ideas, new results, interesting points of view, and important problems waiting for their solution.

The conference was co-organized by the Department of Mathematics of the University of Ferrara and the Italian Ministry of University and Research. It took place from March 31 to April 3, 2004. We hope that this volume reflects the variety of topics discussed.

We are grateful to the members of the local Organizing Committee,

Marco Cappiello, University of Ferrara

Alessia Ascanelli, University of Ferrara

for their valuable help. We are happy to thank all the participants of this meeting for making it a success. Many thanks are due to Birkhäuser for constant encouragement and assistance.

Ferrara, April 2006

L. Zanghirati

M. Padula