

## Preface

This volume contains a collection of papers devoted to modern aspects in the study of partial differential equations. A number of them stem from plenary and invited session lectures presented at the 7th International ISAAC Congress which was held at Imperial College London in the period 13–18 July 2009. ISAAC is the International Society for Analysis, its Applications, and Computation, and it is already a tradition that its biannual congresses include a wide selection of sessions devoted to the analysis of partial differential equations. Motivated by this tradition and as an instrument to further strengthen the PDE community within ISAAC an interest group '*Partial Differential Equations*' (IGPDE) was founded during the congress. The editors of this volume took this as one of the incentives to publish this collection of papers. It is aimed at a broad audience, beginners as well as specialists, and intended as a presentation of a wide range of topics addressed in contemporary research in the field.

Papers associated to the plenary lectures given by L. Boutet de Monvel, V. Kokilashvili and B.-W. Schulze appear in this volume. In addition we collected selected papers from PDE-related sessions and further contributions on closely related topics. Altogether, this volume touches upon several aspects of ordinary and partial differential equations, such as boundary value problems, maximum and extremum principles, wave, Schrödinger and parabolic equations, applications to elasticity and thermoelasticity, and further numerical aspects.

A second special collection of papers presented at the congress and devoted to the analysis of evolutionary partial differential equations has appeared as a special volume of *Rendiconti dell'Istituto di Matematica dell'Università di Trieste*, edited by D. Del Santo, F. Hiroswa and M. Reissig.

Last, but not least, it is our pleasure to thank F. Bucci, I. Lasiecka, V. Smyshlyayev and Y. Kurylev for all the editorial work they undertook for papers arising from their sessions. They are mentioned as communicators in this volume.

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