

PREFACE

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The present issue of *Communications to SIMAI Congress* (CSC) contains a selection of 45 papers presented at SIMAI 2008, the 9th Congress of SIMAI, the Italian Society for Applied and Industrial Mathematics.

The conference was organized in cooperation with SIAM (Society for Industrial and Applied Mathematics) and was held in Rome, from September 15 to 19, 2008. SIMAI 2008 was hosted by the School of Engineering at the University of Rome La Sapienza, in the magnificent venue of the old monastery of San Pietro in Vincoli.

The aim of the conference is to provide a scientific forum for presenting and discussing the issues and the advances in applied mathematics and applications of mathematics to industry, technology, environment, cultural heritage, biology and society. By bringing together researchers and practitioners in applied analysis, mathematical modeling and scientific computing, the SIMAI Congresses represent a key occasion to promote and stimulate interdisciplinary research in applied mathematics and to foster interactions with industry.

More than 350 scientists, of which 20% coming from industry, public and private research centers contributed to the scientific program of the 2008 conference, consisting of general lectures, minisymposia, special sessions, and contributed papers that covered most of the many diverse areas and applications of applied mathematics.

All participants who presented a lecture at the Conference were invited to submit a paper for publication in the conference proceedings. Since 2006 the SIMAI Congress proceedings have been published either in CSC, one of the official open-access, peer-reviewed electronic journals of SIMAI or in a printed volume entitled *Applied and Industrial Mathematics in Italy*, which is published by World Scientific (Singapore) in the Series on Advances in Mathematics for Applied Sciences. While this latter mostly contain research papers discussing mature work, review and expository papers, CSC is devoted to timely report on going research work, new interdisciplinary

subjects, innovative applications and new developments, by providing immediate open access to its content.

Out of 101 submissions, 45 papers were accepted for publication in the present issue of CSC. The reviewing cycle has been particularly accurate and involved an Editorial Team composed of the CSC Editorial Board and the Scientific Council of SIMAI as well as of some selected additional reviewers. The submitted papers were assigned to reviewers based on a match of paper topic, member expertise and preferences. Based on the reviews and recommendations the Editorial Team preselected a number of papers to be accepted directly or to be brought into a global discussion involving all members.

Only after a consensus was reached the final selections were made, primarily considering originality and value of the contribution. We take this opportunity to warmly thank all the members of the Editorial Team as well as all the referees that have been involved in the selection procedure for their hard and diligent work.

As a result of the refereeing process, we believe that the present CSC issue provides an updated overview of some of the most recent research activities currently being pursued in the many and diverse areas of applied and industrial mathematics. We hope that by stimulating interest in the applications of mathematical ideas to real world problems the selected contributions will generate new understanding for identifying relevant research tasks with potential for applications, and, hopefully, will also foster an active dialogue with those, whether in industry, academia or in the public sector who currently use, or in the future will use, the research results in this broad interdisciplinary field.

Every stage of the refereed publishing process, from submissions through to online publication and indexing was assisted by OJS (Open Journal System), a journal management and publishing system that has been developed by the Public Knowledge Project (<http://pkp.sfu.ca>).

The technical support for OJS has been provided by Nunzio Femminò, and Dario Orselli (CAB, Messina University) that we would like to thank very much for their dedication and efforts.

Finally, we are also especially grateful to Santa Agreste, Andrea Chirico, and Angela Ricciardello for their helpful assistance in all the phases of the production process, from copy editing, which involved reformatting of some of the contributions, to the various different tasks that allowed the timely publication of the present issue of CSC.

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