

## PREFACE

The *6th International ISAAC Congress* took place on the beautiful campus of Middle East Technical University (METU), Ankara, Turkey, during the period 13–18 August 2007. The Congress was carried out by the Ankara Branch of the Turkish Mathematical Society with the generous support of METU and particularly of the Department of Mathematics.

There were 303 registered participants from 49 countries of whom more than 250 were from abroad. These numbers made the Congress the largest mathematical scientific meeting ever held in Turkey. The governmental support obtained enabled the organizers to introduce 25 well-known mathematicians from Central Asia to the western world.

The ISAAC Board acted as the Scientific Committee of the Congress. The Local Organizing Committee consisted of Öner Çakar (Ankara University), A. Okay Çelebi (then METU, now Yeditepe University), H. Turgay Kaptanoğlu (Bilkent University) and Ağacık Zafer (METU). They had a long and exhausting preparation period. The illness and hospitalization of Prof. Çelebi for an extended time scared but did not slow them. Luckily, he was back to his normal health and activity well before the Congress.

The program of the Congress was a combination of plenary talks and special sessions. The 7 plenary speakers, who are international experts in their fields of interest, were selected by the ISAAC Board. The plenary speakers and the titles of their presentations were the following:

- G. A. Barsegian (Armenia) : Some Interrelated Results in Different Branches of Geometry and Analysis
- A. Bourgeat (France) : Spatial and Random Scaling Up of the Source Terms in a Diffusion Convection Model
- P. L. Butzer (Germany) : Prediction in Terms of Samples from the Past: Error Estimates by a Modulus Covering Discontinuous Signals
- W. D. Evans (UK) : Recent Results on Hardy and Rellich Inequalities
- B. Gramsch (Germany) : Spectral Invariance for Pseudodifferential Operators and Fredholm Theory

- J. Sjöstrand (France) : Some Results on Nonselfadjoint Operators: A Survey
- C. Y. Yildirim (Turkey) : The Distribution of Primes: Conjectures vs. Hitherto Provable

In addition, there were 281 contributed talks in 15 special sessions. The final form of the Special Sessions and their organizers were as follows:

Analytic Function Spaces and Their Operators

R. Aulaskari (Finland), H. T. Kaptanoğlu (Turkey)

Clifford and Quaternion Analysis

I. M. Sabadini (Italy), M. Shapiro (Mexico), F. Sommen (Belgium)

Complex Analysis and Potential Theory

T. A. Aliyev (Turkey), M. Lanza de Cristoforis (Italy),  
P. M. Tamrazov (Ukraine)

Complex Analytic Methods for Applied Sciences

S. V. Rogosin (Belarus), V. V. Mityushev (Poland)

Complex and Functional Analytic Methods in Partial Differential Equations

H. G. W. Begehr (Germany), D.-Q. Dai (China), J. Y. Du (China)

Dispersive Equations

V. Georgiev (Italy), M. Reissig (Germany)

Inverse and Ill-Posed Problems

A. Hasanov (Turkey), M. Yamamoto (Japan),  
S. I. Kabanikhin (Russia)

Modern Aspects of the Theory of Integral Transforms and Their Applications

A. Kilbas (Belarus), S. Saitoh (Japan), J. J. Trujillo (Spain)

Oscillation of Functional-Differential and Difference Equations

L. Berezhansky (Israel), A. Zafer (Turkey)

Pseudodifferential Operators

L. Rodino (Italy), M. W. Wong (Canada)

Reproducing Kernels and Related Topics

D. Alpay (Israel), A. Berline (France), S. Saitoh (Japan),  
D.-X. Zhou (China)

Spaces of Differentiable Functions of Several Real Variables and Applications

V. I. Burenkov (UK), S. G. Samko (Portugal)

Numerical Functional Analysis

P. E. Sobolevski (Brazil), A. Ashyralyev (Turkey)

## Integrable Systems

M. Gürses (Turkey), Ismagil T. Habibullin (Turkey)

General Session (topics not suitable for any of the sessions listed above)

A. O. Çelebi (Turkey)

The contributions to the Proceedings of the Congress are organized so as to follow the special sessions. Thanks are due to the organizers for accepting to be the editors of their sessions and for their extraordinary efforts to keep the scientific quality of the Proceedings at a high level. The texts of the plenary talks were edited by the editorial board of this volume. The organizers of two sessions, of Inverse and Ill-Posed Problems and of Pseudodifferential Operators, decided to publish their contributed papers elsewhere. Thus this volume contains 75 articles from 13 sessions along with the texts of 4 plenary talks, all refereed. A few of the manuscripts were not in the style of the publisher or even  $\text{\TeX}$ . Dr. Uğur Yüksel converted them into expected forms. But the main job of preparing the Proceedings for publication was done by Prof. H. Turgay Kaptanoğlu who acted as editorial assistant. He did major work in compiling the individual papers into book form and correcting them in every respect, from mathematics to language to  $\text{\TeX}$ . His efficient and meticulous work is evident in this volume. He was also the editor of the book of abstracts and the schedule of the Congress.

Two important events occurred during the Congress. The first was the presentation of the ISAAC award for researchers under the age of 40 to Dr. Michael Ruzhansky during the opening ceremony. The second was the meeting of the ISAAC Board. The Board reelected Prof. M. W. Wong as the president of ISAAC, and decided that the next Congress would take place in the United Kingdom at the host institution of the ISAAC awardee. So the 7th International ISAAC Congress will be held at Imperial College London, July 13–18, 2009.

The high scientific quality of the Congress can be seen from the contributions in this Proceedings volume. The presentations covered a wide range topics varying from analytic number theory to computational aspects of applied analysis. There were plenary talks directed to a more general audience as well as to specialists. The sessions of the Congress were well-attended despite the lack of air conditioning and the heat wave. The closing ceremony extraordinarily attracted a majority of the participants.

The support of the institutions listed below made the Congress possible. More than 25% of the participants were supported one way or another.

Republic of Turkey Prime Ministry Promotion Fund  
Turkish International Cooperation and Development Agency (TİKA)  
Scientific and Technological Research Council of Turkey (TÜBİTAK)  
European Mathematical Society  
Middle East Technical University  
Ankara University  
Bilkent University  
Gama Trade and Tourism  
Yüksel Construction  
Kavaklıdere Anatolian Wines  
Ertem Printing House  
Birkhäuser

Also, volunteer work of colleagues and friends are gratefully acknowledged. The last, but not the least, the students in orange T-shirts should be thanked for their ever presence to help and joviality.

Congress services were successfully and efficiently handled by Asterya Congress and Event Management. They and the local organizers prepared an excellent social program and excursions with wining and dining, and music and dancing, sometimes in surprise times and locations. These all made the whole event a memorable one.

The Editors  
15 October 2008