Radim Blaheta

Iterative methods, preconditioning & numerical PDEs (IMET 2004). Preface

ITERATIVE METHODS, PRECONDITIONING
& NUMERICAL PDES (IMET 2004).

PREFACE

This special issue contains the compilation of papers that have resulted from lectures presented at the Iterative Methods, Preconditioning & Numerical PDEs (IMET 2004) conference, which was held in Prague on May 25–28, 2004. The conference was organized jointly by the Czech Technical University, Faculty of Civil Engineering, and the Institute of Geonics AS CR in collaboration with the Institute of Computer Science AS CR, Mathematical Institute AS CR and Faculty of Mathematics and Physics of Charles University. This special issue is hosted by the journal Applications of Mathematics thanks to its editors whose hard work on its smooth and timely publication is highly appreciated.

Topics of the IMET 2004 conference were inspired by the demands for mathematical modelling in science and engineering. Thus, as the title of the conference suggests, the individual topics were directed at discretization of PDEs and the solution of the arising systems of linear or nonlinear equations by iterative methods with a suitable preconditioning. Both the achievements in efficient numerical solution methods and the implementation of methods on high performance (parallel) computers were among the conference interests.

We are happy that the IMET 2004 conference brought together a large number of well-known specialists in the field as well as young researchers. The conference participants came from fifteen countries and presented about fifty interesting lectures. Special tribute has been paid to the occasion of the 70th birthday of Prof. Owe Axelsson, one of the leading scientists in the fields of numerical PDEs, iterative methods and preconditioning. His research papers and books, namely *Finite Element Solution of Boundary Value Problems* (jointly with V. A. Barker) and *Iterative Solution Methods*, have very strongly influenced the development of numerical analysis on a worldwide scale. The scientific community also appreciates and values his key role and involvement in the journal Numerical Linear Algebra with Applications, one of the most prestigious in the field. There are many more achievements that could be pointed out but Prof. Axelsson's active role in supporting and developing fruitful in-

ternational collaboration shall be especially appreciated. This collaboration includes long term contacts with Czech mathematicians.

As a token of appreciation and in recognition of all the achievements of this great scientist, the Academy of Sciences of the Czech Republic has awarded Prof. Owe Axelsson the Bolzano Medal. The medal was presented by Professor Helena Illnerová, the President of the Academy. Bolzano Medal is named after Bernard Bolzano (1781–1848), philosopher, mathematician and theologian, who made significant contributions to both mathematics and the theory of cognition. Bernard Bolzano was born and lived in Prague, where among other contributions he played an important role in the Royal Czech Learned Society, the first predecessor of the present-day Academy of Sciences of the Czech Republic.

<div style="text-align: right">

Radim Blaheta, guest editor
(Institute of Geonics AS CR, Ostrava)

</div>