

Preface

This volume comprises the proceedings of the Second International Conference on High Performance Computing in Science and Engineering, HPCSE 2015, which was held at the Hotel Soláň in the heart of the Beskydy Mountains, Czech Republic, from 25th – 28th May, 2015. The biennial conference was organized by IT4Innovations National Supercomputing Center at the VSB-Technical University of Ostrava and its goal was to bring together specialists in applied mathematics, numerical methods, and parallel computing to share experience and initiate new research collaborations. We are pleased that our invitation was accepted by distinguished experts from leading international research institutions.

The conference has become an international forum for exchanging ideas among researchers involved in scientific and parallel computing, including theory and applications as well as applied and computational mathematics. The focus of HPCSE 2015 was on models, algorithms, and software tools that facilitate efficient and convenient utilization of modern parallel and distributed computing architectures, as well as on large-scale applications.

The Scientific Committee of HPCSE 2015 comprised Radim Blaheta, Zdeněk Dostál, Tomáš Kozubek, Miroslav Tůma, Jakub Šístek, Zdeněk Strakoš, and Vít Vondrák.

The plenary talks were presented by:

- Owe Axelsson from the Institute of Geonics of the CAS (Czech Republic)
- Cevdet Aykanat from Bilkent University, Ankara (Turkey)
- Marc Baboulin from Inria, Paris (France)
- Santiago Badia from CIMNE, Barcelona (Spain)
- Jed Brown from the Argonne National Laboratory, Illinois (USA)
- Fehmi Cirak from the University of Cambridge (UK)
- Jacek Gondzio from the University of Edinburgh (UK)
- Akhtar A. Khan from Rochester Institute of Technology, Rochester (USA)
- Johannes Kraus from the University of Essen (Germany)
- Jaroslav Kruis from the Czech Technical University in Prague (Czech Republic)
- Julien Langou from the University of Colorado, Denver (USA)
- Jan Mandel from the University of Colorado, Denver (USA)
- Dan Negrut from the University of Wisconsin-Madison, Madison (USA)
- Ulrich Rüde from the University of Erlangen (Germany)
- Valeria Simoncini from the University of Bologna (Italy)
- Wim Vanroose from the University of Antwerp (Belgium)
- Barbara Wohlmuth from the Technical University of Munich (Germany)
- Roman Wyrzykowski from Czestochowa University of Technology (Poland)
- Walter Zulehner from Johannes Kepler University, Linz (Austria)

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HPCSE 2015 was a fruitful event that presented interesting lectures, featuring new ideas as well as the beauty of applied mathematics, numerical linear algebra, optimization methods, and high performance computing; the conference facilitated the formation of new or the strengthening of the existing collaborations and friendships.

This meeting attracted more than 100 participants from 11 countries. All participants were invited to submit an original paper to this book of proceedings. We thank for all the contributors and the reviewers of the papers for their work. We hope that readers will find this volume useful, and we would like to cordially invite them to participate at the next conference, HPCSE 2017, which is planned to be held in the same place from 22nd – 25th May, 2017.

The proceedings have been edited by Tomáš Kozubek, Radim Blaheta, Jakub Šístek, Miroslav Rozložník, and Martin Čermák.

May 2016

Tomáš Kozubek

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