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IFIP – The International Federation for Information Processing

IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP's aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is also rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is about information processing may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

Dietmar Hömberg Fredi Tröltzsch (Eds.)

System Modeling and Optimization

25th IFIP TC 7 Conference, CSMO 2011
Berlin, Germany, September 12-16, 2011
Revised Selected Papers



Springer

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Preface

This volume contains selected papers presented at the 25th IFIP TC 7 Conference held in Berlin, September 12–16, 2011, as part of a biennial conference series. The preceding ones were held in Buenos Aires (2009), Cracow (2007), and Turin (2005). The IFIP TC 7 conference series stands for a fairly unique scientific orientation focusing on the links between research in abstract mathematical optimization and control theory and on building a bridge to numerical methods and applications in various fields. It also includes contributions to mathematical modeling of applied problems. This unique flavor attracts a community of scientists that can hardly be found together at other conferences on optimization and control.

The active interplay between the different fields of optimization, mathematical modeling, and control theory was a characteristic feature of the scientific program. It showed that modern key technologies influence the research in applied optimization and control theory and, in turn, these applications often give rise to new and challenging questions of basic mathematical research. It became obvious that modern optimization and control is a vivid area that has reached a new scientific level.

All in all, the conference provided an excellent survey on the latest trends in optimization and control theory and on the tremendous progress in widespread applications in this field, and we hope you will agree after reading that the selected papers reflect this.

We would like to thank our sponsors, the German Science Foundation (DFG) and the European Science Foundation (ESF), the National Institute for Research in Computer Science and Control in France (INRIA), the DFG Research Center MATHEON, the Weierstrass Institute for Applied Analysis and Stochastics (WIAS), and the European Patent Office for their financial support. We are grateful to Technische Universität Berlin and the Institute of Mathematics for their hospitality. Last but not least, we would like to acknowledge Anke Giese (WIAS) and Frank Holzwarth of Springer for their support during the preparation of this volume.

November 2012

Dietmar Hömberg
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