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Proceedings of the

9th WSEAS Int. Conf. on **MATHEMATICAL and COMPUTATIONAL METHODS in SCIENCE and ENGINEERING** (MACMESE'07)

Proceedings of the

6th WSEAS Int. Conf. on **DATA NETWORKS, COMMUNICATIONS, COMPUTERS** (DNCOCO '07)

Trinidad and Tobago Islands,

November 5-7, 2007

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AT ST. AUGUSTINE, TRINIDAD AND TOBAGO

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Preface

WSEAS accepted with pleasure the invitation of Prof. Bhatt to organize two conferences in the University of the West Indies, St. Augustine Institute of Mathematical Sciences, Department of Mathematics and Computer Science. So, the WSEAS Administration approved the following conferences:

The 9th WSEAS International Conference on Mathematical and Computational Methods in Science & Engineering (MACMESE'07, this conference was part of the MMACTEE international conference until 2006) as well as the 6th WSEAS International Conference on Data Networks, Communications, Computers (DNCOCO '07, the name of this conference was ISCOCO until 2005).

These conferences attracted the interest of the academic community though the country of Trinidad and Tobago is small and located quite far away from the countries where most of our members come from. As a result, while in some WSEAS conferences more than 400-500 people participate, these conferences only had around 100 attendees.

The WSEAS is a world, scientific-engineering, academic, non-profit organization that promotes the development and the unified consideration of new mathematical methods and computational techniques as well as their applications in science and engineering. Also, WSEAS supports, in general, the research and the diffusion of the scientific and engineering knowledge, especially in the areas of mathematics, computer science and electrical engineering as well as their interaction to other sciences (physics, chemistry, biology, medicine, engineering, earth sciences, space sciences etc...).. WSEAS acts also as an international centre for knowledge transfer. It has developed a large network of prestigious contacts and links with many organizations throughout the world. Core activities include the organization of over fifty international conferences annually and the publishing of numerous scientific books and CDs by WSEAS Press. The book you are currently holding contains the Proceedings of these conferences. A variety of topics constituted the focus of paper submissions. Prominent lectures provided key-note speeches for the conference. Moreover, special sessions were organized, and invited lectures were given by well-known researchers.

For these WSEAS conferences, the Chairmen of the International Scientific Committee were: Professor Dr. Bhoendradatt Tewarie, (Honorary Chairman) Principal of the University of the West Indies and Professor Dr. Balswaroop Bhatt (General Chairman) Director, Institute of Mathematical Sciences, The University of the West Indies.

The Plenary Speeches of these conferences were:

- *Recent Advances on Computational Methods for Active Vibration Control and Model Updating in Vibrating Structures : Linking Control to Industry*

by Prof. Biswa N. Datta, Northern Illinois University, USA.

- *New Results on Selective Modal Analysis of Dynamic Systems*

by Prof. Eyad H. Abed, University of Maryland, Maryland, USA.

- *Polynomial Optimization via Sums of Squares Relaxations*

by Prof. Mihai Putinar, University of California at Santa Barbara, CA, USA.

- *Aggregation procedures in intelligent systems*

by Prof. Imre J. Rudas, Institute of Intelligent Engineering Systems, John von Neumann Faculty of Informatics, Hungary.

- *Selection Problems and Multi-criteria Decision Making*

by Dr. Alexey L Sadovski, Texas A&M University-Corpus Christi, USA.

- *Classification with Incomplete Information*

by Prof. Amaury A. Caballero, Florida International University, USA.

We would like to thank the University of the West Indies, St. Augustine Institute of Mathematical Sciences, Department of Mathematics and Computer Science for the contribution to the organization of the conferences. The contents of this Book, are also published in the CD-ROM Proceedings of the two Conferences. Both will be sent to the WSEAS collaborating indices after the conference: www.worldses.org/indexes. In addition, the papers of this book are permanently available to all the scientific community via the WSEAS E-Library. Another additional feature of our conferences was that the WSEAS society provided the participants with a username and password without an expiry date for on-line access in the WSEAS Conference proceedings (1996 -…). Expanded and enhanced versions of papers published in these conference proceedings are also going to be considered for possible publication in one of the WSEAS journals that participate in the major International Scientific Indices (Elsevier, Scopus, EI, Compendex, INSPEC, CSA .... see: www.worldses.org/indexes) these papers must be of high-quality (break-through work) and a new round of a very strict review will follow. (No additional fee will be required for the publication of the extended version in a journal). We cordially thank all the people of WSEAS for their efforts to maintain the high scientific level of conferences, proceedings and journals.

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