

# PREFACE

Dear Distinguished Delegates and Guests,

The Organizing Committee warmly welcomes our distinguished delegates and guests to the 3<sup>th</sup> edition of the IEEE/IACSIT International Conference on Biomechanics, Neurorehabilitation, Mechanical Engineering, Manufacturing systems, Robotics and Aerospace (ICMERA 2012), held on October 26-28, 2012 in Ramada- Majestic Hotel, Bucharest, ROMANIA ([www.icmera.com](http://www.icmera.com)).

The IEEE/IACSIT ICMERA2012 International Conference is organized by University POLITEHNICA of Bucharest in collaboration with University ELIAS Urgency Hospital, University of Medicine and Pharmacy “Carol Davila”, Institute of Solid Mechanics of Romanian Academy, Pro Optica SA Bucharest, Romanian Academy of Scientists, INCDMTM Bucharest, “Henri Coanda” Air Force Academy, Military Equipment and Technologies Research Agency, Land Forces Academy and University International Association for Science and Technology of Romania under the higher tutelage of the Romanian Academy of Technical Sciences- Section II- Mechanical Branch and sponsored by International Association of Computer Science and Information Technology (IACSIT) of Singapore.

The main objective of the conference is to bring together leading researchers, engineers and scientists in the fields of interest from Romania and from around the world in order to: provide a platform for researchers, engineers, academicians as well as industrial professionals to present their latest experiences and developments activities in the field of: Biomechanics, Biomechatronics, Neurorehabilitation, Mechanical Engineering, Manufacturing Systems, Robotics, Aerospace in Medical, Civil and Military fields; provide opportunities for attendees to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

The conference has solicited and gathered technical research submissions related to all aspects of major conference themes and tracks. All the submitted papers in the proceeding have been peer reviewed by the reviewers drawn from the scientific committee, external reviewers and editorial board depending on the subject matter of the paper.

The Proceedings contents the invited papers from around the world recognition specialists in these fields and following sessions: Invited papers, Biomechanics and Neurorehabilitation, Mechanical Engineering, Manufacturing Systems, Robotics and Aerospace.

We are grateful to all those who have contributed to the success of the 3<sup>th</sup> edition of IEEE/IACSIT ICMERA2012 International Conference. We hope that all participants and other interested readers benefit scientifically from the proceedings and also find it stimulating in the process. Finally, I believe in a complete success of the 3<sup>th</sup> edition of the conference.

IN GOD WE TRUST!  
GOOD LUCK!

With best regards,  
CHAIRMAN  
ICMERA2012 International Conference  
Prof.univ.Ph.D.Eng.Adrian Olaru  
University POLITEHNICA of Bucharest (UPB), Romania  
Senior member of Mechanical Engineering Society (MES), Singapore  
Senior member of Automation and Robotics Society (ARS), Singapore  
Senior member of Science and Engineer Institute (SCIEI), Hong Kong  
Senior member of International Association of  
Computer Science and Information Technology (IACSIT), Singapore  
Member of American Nano Society (ANS), USA  
Member of Romanian Robotics Society (RRS), Romania  
President of International University Association for  
Science and Technology (UASTRO), Romania



The banner for the ICMERA 2012 conference features a background image of the Romanian Ateneum. On the left, a vertical sidebar contains orange buttons for: Call for papers, Venue-Registration, Important Data, Progr. Schedule, Committee, Technical Committee, Topics and Pictures, and Invited Papers. The main text area includes the conference title in yellow, the location and dates in large yellow letters, and a blue link to download the paper template. Below this are logos for IACSIT, ISI Proceedings, Institute of Solid Mechanics, and TTP. A row of logos for partner organizations follows, including Politehnica, Pro Optica, and others. At the bottom, a red 'CALL FOR PAPERS' button is on the left, and a detailed text block on the right provides submission information, including the website [www.scientific.net/AMM](http://www.scientific.net/AMM) and the deadline of July 30, 2012.

**INTERNATIONAL CONFERENCE ON BIOMECHANICS, NEUROREHABILITATION  
MECHANICAL ENGINEERING, MANUFACTURING SYSTEMS, ROBOTICS AND  
AEROSPACE**

**ICMERA 2012**  
**Ramada-Majestic Hotel, October 26-28**

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**CALL FOR PAPERS**

International Conference on Biomechanics, Neurorehabilitation, Mechanical Engineering, Manufacturing Systems, Robotics and AeroSpace (ICMERA 2012) is the third International Conference edition organised by University Politehnica of Bucharest, Romania, under the higher tutelage of the Romanian Academy of Technical Sciences- Mechanical Branch in cooperation with: Academy of Scientists from Romania, University Medicine of Bucharest, Elias University Emergency Hospital of Bucharest, Henri Coanda Air Force Academy, Pro Optica Romanian Society, INCDMTM, Land Forces Academy and Military Equipment and Technologies Research Agency.

ICMERA 2012 conference proceeding will be published by Trans Tech Publication Ltd. from Switzerland in Applied Mechanics and Materials Journal and indexing by Ei Compindex and ISI Proceedings.  
The papers will be submitted directly on-line at the TTP International journal [www.scientific.net/AMM](http://www.scientific.net/AMM) using the ID and PASS what can ask at e-mail address: [olaru\\_robotics@yahoo.com](mailto:olaru_robotics@yahoo.com) or [icmera@engineer.com](mailto:icmera@engineer.com).  
The full paper must be submit before July 30, 2012. The final form of the papers after reviewer process will be submitted before 5 September together with the registration form and the conference fee. I hope to meet you in the