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# **SIMULATION IN WIDER EUROPE**

## **19<sup>th</sup> European Conference on Modelling and Simulation ECMS 2005**

June 1<sup>st</sup> - 4<sup>th</sup>, 2005  
Riga, Latvia

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Yuri Merkuryev, Richard Zobel, and Eugène Kerckhoffs

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# PREFACE

Holding the 19<sup>th</sup> European Conference on Modelling and Simulation, ECMS'2005 in Riga, Latvia follows the excellent policy of broadening European simulation conferences to include Central and Eastern Europe. Previous excursions to the wider Europe have included Budapest in Hungary, Warsaw in Poland, Prague in Czech Republic, in addition to Istanbul in Turkey. This attracts authors from around the world and particularly from the host country and its near neighbours, giving them an opportunity to attend a lower cost conference in terms of travel. This also widens all attendees' list of fellow simulationists in addition to learning about another country for those who have not visited before.

The emphasis of this years conference includes modelling and simulation topics such as high-performance computing and simulation, intelligent systems, complex systems, vision and visualization, technology, processes and operations research, applications in science and engineering, agent-based systems, and education. New topics for this year's conference are: computer games, logistics and transport, and simulation services. We also welcome again the significant associated conference on analytical and stochastic modelling techniques and applications, ASMTA.

The keynote speaker is Prof. Bernd Schmidt, University of Passau, Germany, with the intriguing title: Human Factors in Complex Systems - The Modelling of Human Behaviour. The plenary speaker is Prof. Jerzy W. Rozenblit, University of Arizona, USA, who will address the topics of cognitive computing: principles, architectures, and applications. There is also a tutorial lecture on modelling, simulation and visualisation for logistics process design from Dr. Gaby Neumann, Otto-von-Guericke-University of Technology, and Jochen Bernhard, Fraunhofer Institute for Material Flow and Logistics, Germany. In addition, we are looking forward to an invited speech on experiences in development and application of simulation in Russia, prepared by Dr. Stanislav A. Vlasov, Russian Academy of Sciences, and Dr. Vladimir V. Deviatkov, Elina-Computer, Ltd., Russia.

We would like to warmly thank all of our glittering array of internationally recognised track chairs and program chairs for all of the work that they have put in over the past year to make this conference a real success, and also to thank our keynote, plenary and tutorial speakers for volunteering their time and effort to give us the benefit of their extensive knowledge and experience.

We would like to thank the hosting organization, Riga Technical University, as well as our co-sponsoring organizations, for their great support.

Finally, we would like to forward our sincere gratitude to Martina-M. Seidel (ECMS Office) and the Local Organization Committee in Riga (chaired by Prof. Galina Merkuryeva) for their enormous efforts on preparing and running the conference.

Last but not least we would like to thank the Chairman of the European Council for Modelling and Simulation, Prof. Andrzej Bargiela for his tireless efforts in steering our organization towards ensuring the maximum benefits for our community of simulationists in Europe.

Yuri Merkuryev, Richard Zobel, Eugène Kerckhoffs

April, 2005



# **The 2005 High Performance Computing & Simulation (HPC&S) Conference**

June 1<sup>st</sup> – 4<sup>th</sup>, 2005

Riga, Latvia

In conjunction with  
The 19th EUROPEAN CONFERENCE ON MODELLING AND  
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## HPC&S 2005 FOREWORD

Welcome to the 2005 High Performance Computing and Simulation (HPC&S 2005) Conference held in Riga, Latvia, June 1-4, 2005, in conjunction with ECMS 2005. This conference provides a dynamic forum to address, explore, and exchange information, knowledge, and experiences in the state-of-the-art high performance computing systems, their modelling and simulation, design and use, and impact. The goal of HPC&S is to bring together researchers, scientists, engineers, practitioners, educators, and students from many nations and backgrounds to share and exchange their insights, breakthroughs, and research results about aspects of these systems and their technologies; to discuss challenges encountered in government, industry, and academe; and to seek new and innovative solutions. Additionally, it is hoped that the conference will provide opportunities for many open technical interchanges in individual and group settings during the conference on key technology issues and, after the conference, the potential for future collaborations among the participants.

Current research in the universities and industry is providing a new generation of HPC systems to create decision quality information in compressed time cycles. Through modelling and simulation, knowledge sharing and discovery, and just-in-time information processing, individuals and groups will be able to make better decisions, not just faster ones. The technologies and research presented in HPC&S 2005 will be the foundation upon which these next generation systems will be built.

On behalf of the Organizing and Program Committees, I would like to thank the many people who helped make this conference successfully happen. I thank all authors who submitted their work to HPC&S 2005 and who are presenting in Riga. Our excellent collections of papers and presentations were possible through the diligent work of the International Technical Program Committee. The ITPC members and reviewers did an exceptional job and we are grateful for their help in reviewing and evaluating the paper submissions. The conference this year accepted 22 out of a total of 31 papers submitted, with an acceptance rate of 71%. Each paper was assigned to 4-5 reviewers and the majority of authors received at least 3-4 reviews back. Due to the members' timely response, we were able to meet various deadlines we had planned for the track. This volume contains 15 of the 22 papers accepted. The remaining ones were not submitted on time for publications.

We wish to thank the ECMS officers and the ECMS 2005 organizers for their hard work, support, and advice which made the conference a success. And last but not least, we thank Mrs. Martina-M. Seidel, the HPC&S 2005 Conference Office Manager for her continual support throughout the year to make this conference possible in every way.

We thank all of our attendees for making ECMS 2005 an extraordinary and enjoyable event. We hope you find this year's conference stimulating and worthwhile and look forward to seeing you in Bonn-Rhein-Sieg University of Applied Sciences, 28<sup>th</sup> - 31<sup>st</sup> May 2006, for ECMS 2006.

Waleed W. Smari  
HPC&S 2005 Program Chair  
Dayton, Ohio, USA  
April, 2005



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