

# ADVCOMP 2011

## Foreword

The Fifth International Conference on Advanced Engineering Computing and Applications in Sciences [ADVCOMP 2011], held between November 20 and 25, 2011 in Lisbon, Portugal, brought together researchers from the academia and practitioners from the industry in order to address fundamentals of advanced scientific computing and specific mechanisms and algorithms for particular sciences. The conference contributions presented novel research in all aspects of new scientific methods for computing and hybrid methods for computing optimization, as well as advanced algorithms and computational procedures, software and hardware solutions dealing with specific domains of science.

With the advent of high performance computing environments, virtualization, distributed and parallel computing, as well as the increasing memory, storage and computational power, processing particularly complex scientific applications and voluminous data is more affordable. With the current computing software, hardware and distributed platforms, effective use of advanced computing techniques is more achievable.

We take here the opportunity to warmly thank all the members of the ADVCOMP 2011 Technical Program Committee, as well as the numerous reviewers. The creation of such a broad and high quality conference program would not have been possible without their involvement. We also kindly thank all the authors who dedicated much of their time and efforts to contribute to ADVCOMP 2011. We truly believe that, thanks to all these efforts, the final conference program consisted of top quality contributions.

Also, this event could not have been a reality without the support of many individuals, organizations, and sponsors. We are grateful to the members of the ADVCOMP 2011 organizing committee for their help in handling the logistics and for their work to make this professional meeting a success.

We hope that ADVCOMP 2011 was a successful international forum for the exchange of ideas and results between academia and industry and for the promotion of progress in the area of engineering computing and applications in science.

We are convinced that the participants found the event useful and communications very open. We also hope the attendees enjoyed the historic charm of Lisbon, Portugal.

### **ADVCOMP 2011 Chairs:**

Jorge Ejarque Artigas  
Chih-Cheng Hung  
Sigeru Omatu  
Helmut Reiser  
Juha Röning  
Erich Schweighofer