Welcome Message

Dear colleagues and students,

On behalf of the Organizing Committee, we would like to cordially invite you to the 13th International Conference on BioInformatics and BioEngineering (IEEE BIBE 2013).

The aim of IEEE BIBE 2013 is to cover a broad spectrum of up-to-date topics of Bioinformatics and Bioengineering by giving the opportunity to scientists from diverse fields and disciplines to participate in the presentation, discussion and evaluation of the latest advances, research challenges, and opportunities that these two important and complementary disciplines bring to modern science.

The event is organized and sponsored by the Institute of Electrical and Electronic Engineers (IEEE) and by the Artificial Intelligence Foundation (BAIF). The IEEE Greece Section, the IEEE EMBS Greece Chapter, the National Technical University of Athens (NTUA), the University of Ioannina (UOI), the University of Patras (UOP), the Technical University of Crete (TUC), the Wright State University (WSU), the Institute of Communication and Computer Systems (ICCS), the Unit of Medical Technology &

Intelligent Information Systems and the Foundation for Research and Technology-Hellas - Institute of Molecular Biology and Biotechnology are co-organizing the event.

IEEE BIBE 2013 marks the continuation of the previous 12 successful conferences held in Washington DC,USA, in 2000, in Bethesda, USA, in 2001, in Bethesda, USA, 2003, in Taichung, Taiwan, in 2004, in Minneapolis, USA, in 2005, in Washington DC,USA, in 2006, in Boston, USA, in 2007, in Athens, Greece, in 2008, in Taichung, Taiwan, in 2009, in Philadelphia, USA, in 2010, in Taichung, Taiwan, in 2011 and in Larnaca, Cyprus, in 2012.

Around 200 papers authored by 658 scientists, engineers, and physicians will be presented under the *Bioiinformatics Track*, the *Bioengineering Track*, the 6th IEEE International Symposium on Monitoring and Surveillance Research: Healthcare and BioInformatics and the *Special Sessions on Risk Analysis and Prediction in Cardiovascular Applications, on Porting Bio and Health Informatics to the Cloud, on Computational BioEngineering, on The Digital Patient concept: Vision and Early Demonstrations and on Advanced Concepts in Endoscopic Imaging and Engineering*.

Extended versions of the best papers of the conference will be invited for publication in journal special issues of the IEEE Journal of Biomedical and Health Informatics, the International Journal on Artificial Intelligence Tools, and the International Journal on Monitoring & Surveillance Technologies Research.

We would like to thank all the track chairs and reviewers who put a lot of time and effort, under very tight deadlines during summer time, in order to help us review all the papers and put the program together.

The program features nine keynote presentations from distinguished colleagues. The first keynote will be given by *Prof. Robert W. Williams*, UT-Oak Ridge National Laboratory Chair in Computational Genomics, Center for Integrative and Translational Genomics, Department of Anatomy and Neurobiology, University of Tennessee Health Science Center, Memphis USA. The second keynote will be given by *Mr. Anastasius Gavras*, Steering board member of the FI-PPP, Member of the editorial board of the Eurescom. The third keynote will be given by *Prof. Constantinos S. Pattichis*, Department of Computer Science, University of Cyprus. The forth keynote will be given by *Prof. Bruce Wheeler*, Department of Biomedical Engineering, University of Florida, Gainesville, IEEE EMBS President. The fifth keynote will be given by *Prof. Anthony Guiseppi–Elie*, Sc.D., FAIMBE Professor, Clemson University. The sixth keynote will be given by *Prof. Metin Akay*, Founding Chair, John S Dunn Endowed Chair Professor, Department of Biomedical Engineering, Cullen College of Engineering, University of Houston, Houston, TX, USA. The seventh keynote will be given by *Prof. Yuan-Ting Zhang*, Director of Joint Research Center for Biomedical Engineering at EE, the Chinese University of Hong Kong, Hong Kong, China, Director of the Key Lab for Health Informatics of Chinese Academy of Sciences (HICAS) at SIAT, Shenzhen, China. The eighth keynote will be given by *Prof. Jose C. Principe*, Computational NeuroEngineering Laboratory, University of Florida, Gainesville. The last keynote will be given by *Prof. Luis Kun*, IEEE Fellow - Distinguished Visitor CS / SSIT William Perry, Center for Hemispheric Defense Studies at the National Defense University, USA.

This year's BIBE is held in the sunny island of Crete - Chania, an island with a huge recorded history and cultural heritage. We hope that you will find time to explore the island.

On behalf of the Organizing Committee, we would like to wish you all a very stimulating and exciting Conference.

Dimitrios I. Fotiadis
Konstantina S. Nikita
Conference Chairs