

Preface

Biomedical engineering and medical informatics represent challenging and rapidly growing areas. Applications of information technology in these areas are of paramount importance. Building on the success of the ITBAM 2010, ITBAM 2011, ITBAM 2012, and ITBAM 2013, the aim of the 5th ITBAM conference was to continue bringing together scientists, researchers, and practitioners from different disciplines, namely, from mathematics, computer science, bioinformatics, biomedical engineering, medicine, biology, and different fields of life sciences, so they can present and discuss their research results in bioinformatics and medical informatics. We hope that ITBAM will serve as a platform for fruitful discussions between all attendees, where participants could exchange their recent results, identify future directions and challenges, initiate possible collaborative research and develop common languages for solving problems in the realm of biomedical engineering, bioinformatics, and medical informatics. The importance of computer-aided diagnosis and therapy continues to draw attention worldwide and has laid the foundations for modern medicine with excellent potential for promising applications in a variety of fields, such as telemedicine, Web-based healthcare, analysis of genetic information, and personalized medicine.

Following a thorough peer-review process, we finally selected 9 long papers for oral presentation and 4 short papers for poster session for the 5th annual ITBAM conference (7 were rejected). The Organizing Committee would like to thank the reviewers for their excellent job. The articles can be found in the proceedings and are divided in the following sections: Clustering and Bioinformatics; Medical Image and Data Processing; Knowledge Discovery and Machine Learning in Medicine. The papers show how broad the spectrum of topics in applications of information technology to biomedical engineering and medical informatics is.

The editors would like to thank all the participants for their high-quality contributions and Springer for publishing the proceedings of this conference. Once again, our special thanks go to Gabriela Wagner for her hard work on various aspects of this event.

June 2014

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