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Bio-Inspired Models of Network, Information, and Computing Systems

5th International ICST Conference
BIONETICS 2010
Boston, USA, December 1-3, 2010
Revised Selected Papers

Springer

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Preface

The 5th International ICST Conference on Bio-Inspired Models of Network, Information and Computing Systems (BIONETICS 2010) was held at Le Meridien Cambridge Hotel, USA during December 1–3, 2010. It was jointly organized by CREATE-NET in cooperation with the ACM Special Interest Group (SIG) on Simulation and Modeling, the ACM SIG on Genetic and Evolutionary Computation and the ACM SIG on Computers and Society.

BIONETICS 2010 was a three-day conference emphasizing diverse disciplines that seek the understanding of the fundamental principles and design strategies in biological systems and leverage those understandings to build bio-inspired systems. In order to cover diverse relevant research areas, BIONETICS 2010 featured a series of focused special tracks, including (1) Artificial Intelligence and Software Engineering Track, co-chaired by Shih-Hsi Liu and Marjan Mernik; (2) Artificial Life and Bio-inspired Robotics Track, co-chaired by Jian-Qin Liu and Haruhiko Nishimura; (3) Bioinformatics Track, co-chaired by Nurit Haspel and Amarda Shehu; (4) Bio-Inspired Machine Vision Track, co-chaired by Marc Pomplun and Tyler Garaas; (5) Game Theory and its Applications Track, co-chaired by Athanasios Vasilakos and Hung-Yu Wei; (6) Network-based Computation Track, co-chaired by Hideaki Suzuki and Hiroyuki Ohsaki; and (7) State-Topology Coevolution in Adaptive Networks Track, co-chaired by Hiroki Sayama and Thilo Gross. We appreciate all the track chairs for their tremendous efforts to organize excellent special tracks.

We received 66 regular paper submissions and accepted 26 of them. In addition, three invited papers, 28 work-in-progress papers, five demo papers and six short papers were accepted. We appreciate Program Committee members for their hard work in reviewing papers carefully and rigorously. With these 68 papers in total, we believe that BIONETICS 2010 delivered a high-quality, inspiring and informative technical program.

BIONETICS 2010 had five state-of-the-art keynote speeches by internationally-renowned researchers: Radhika Nagpal (Harvard University), Karl Lieberherr (Northeastern University), Thilo Gross (Max Planck Institute for the Physics of Complex Systems), Rezarta Islamaj Dogan (National Institutes of Health), Cheng Li (Harvard School of Public Health and Dana-Farber Cancer Institute). Keynotes were well received and discussed among the participants.

Three workshops were co-located with BIONETICS 2010: the 1st International Workshop on Bio-inspired Approaches to Advanced Computing and Communications (BioAdcom), organized by Ajith Abraham, K. Chandra Sekaran, Michael Alexander and Sabu Thampi; the 1st International Workshop on Bio-inspired Models and Technologies for Ambient Information Society (BioAmbIS), organized by Naoki Wakamiya and Kenji Leibnitz; and the 1st International Workshop on Evolutionary Computation and Machine Learning in Bioinformatics (BioLearn),

organized by Kenneth De Jong, Amarda Shehu and Uday Kamath. We thank all the workshop organizers as well as the Workshop Chair, Marc Pomplun, for their accomplishments to bring out successful workshops.

The conference had over 130 participants from various parts of the world such as Japan, India, China, Germany, Portugal, Austria and Netherlands as well as the US. The logistical organization of the conference is highly commendable, and a special acknowledgment is due to the Local Arrangement Chair, Tyler Garaas.

Special thanks go to the Steering Committee and Organizing Committee for their help that made our job much easier and enjoyable. We also wish to thank our sponsor, ICST, particularly Gergely Nagy, Ildiko Rezmuves and Gabriella Magyar for their professional assistance to run the conference smoothly.

We very much look forward to another successful conference in 2011 in Europe, and in the forthcoming years.

December 2010

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