Preface

“Look deep into nature and you will understand everything better,” advised Albert Einstein. In recent years, the research communities in computer science, engineering, and other disciplines have taken this message to heart, and a relatively new field of “biologically inspired computing” has been born. Inspiration is being drawn from nature, from the behaviors of colonies of ants, of swarms of bees, and even the human body. This new paradigm in computing takes many simple autonomous objects or agents and lets them jointly perform a complex task, without having the need for centralized control. In this paradigm, these simple objects interact locally with their environment using simple rules. Applications include optimization algorithms, communications networks, scheduling and decision making, supply-chain management, and robotics, to name just a few. There are many disciplines involved in making such systems work: from artificial intelligence to energy-aware systems. Often these disciplines have their own field of focus, have their own conferences, or only deal with specialized sub-problems (e.g., swarm intelligence, biologically inspired computation, sensor networks). The Third IFIP Conference on Biologically Inspired Collaborative Computing aimed to bridge this separation of the scientific community and bring together researchers in the fields of organic computing, autonomic computing, self-organizing systems, pervasive computing, and related areas.

The contributions to the program of this conference were selected from submissions originating from North and South America, Asia, Europe, and Australia. We would like to thank the members of the Program Committee for the careful reviewing of all submissions, which formed the basis for selecting this attractive program. We are grateful to IFIP and in particular IFIP TC-10 for their support. We all enjoyed the inspiring series of talks and discussions at BICC 2010, part of a range of excellent conferences in the IFIP World Computer Conference 2010.

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