## **Preface**

We are glad to announce that the 4th International Conference of Bionic Engineering (ICBE'13) had been successfully held in Nanjing, China during August 13-16, 2013. The conference attracted participates from 16 countries and gathered major researchers, both from academia and from industry, in the areas of biomimetics, biomechanics, biomedical science and bionic engineering. Its success is reflected in the papers received, the participants gathered, allowing a real multinational multicultural exchange of experiences, ideas, theories and technologies on all aspects in the area.

The present volumes proceeding accepted papers and represent an interesting output of this conference. The papers are arranged to different sessions in this proceeding. The papers in this publication have been reproduced essentially as received but edited similar layout. The views, opinions, and findings expressed in these papers are of the authors alone. This proceeding covers these topics: Bionic Structures, Biomechanics, Bionic Actuator, Biomaterials, Agriculture & Industry Application, Biomedical Engineering, Bio-inspired Functional Surface, Bio-inspired Sensor, Robotics and Artificial Intelligence, Bio-inspired methods.

This conference can only succeed as a team effort, so the editors are particularly grateful to all members of the advisory committee of academicians, the international academic committee and the reviewers for their excellent work in reviewing the papers as well as their invaluable input and advice. The great effort made by the members of the organizing committee and the financial support by Nanjing University of Aeronautics and Astronautics, Jilin University, National Natural Science Foundation of China, Ministry of Science and Technology of China, and Research Institute of Petroleum Exploration & Development are also much appreciated.

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Sep. 28, 2013

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