

# Preface

Welcome to the 2015 Seventh World Congress on Nature and Biologically Inspired Computing (NaBIC'15)! The Congress is organized to discuss the state of the art as well as to address various issues with respect to building up of computers in man's image. The theme for NaBIC 2015 is "Nurturing Intelligent Computing Towards Advancement of Machine Intelligence." The congress will provide an excellent opportunity for scientists, academicians, and engineers to present and discuss the latest scientific results and methods. The conference includes a keynote address and contributed papers.

The papers were solicited in the following areas:

- Artificial Neural Networks
- Biodegradability Prediction
- Cellular Automata
- Evolutionary Algorithms
- Swarm Intelligence
- Emergent Systems
- Artificial Life
- Lindenmayer Systems
- Digital Organisms
- Artificial Immune Systems
- Membrane Computing
- Simulated Annealing
- Communication Networks and Protocols
- Computing with Words
- Common Sense Computing
- Cognitive Modeling and Architecture
- Connectionism
- Metaheuristics

Hybrid Approaches  
Quantum Computing  
Nano Computing  
Industrial Applications of Nature and Biologically Inspired Computing

The aim is to bring together worldwide leading researchers, developers, practitioners, and educators interested in advancing the state of the art in Nature and Biologically Inspired Computing for exchanging knowledge that encompasses a broad range of disciplines among various distinct communities. It is hoped that researchers will bring new prospects for collaboration across disciplines and gain ideas facilitating novel breakthrough.

The conference will provide an exceptional platform to researchers to meet and discuss the utmost solutions, scientific results, and methods in solving intriguing problems with people who are actively involved in these evergreen fields.

NaBIC 2015 received contributions from more than 26 countries. Each paper was sent to at least five reviewers from our International Program Committee for a standard peer-review evaluation, and based on the recommendations 39 papers were included in the proceedings. NaBIC 2015 is technically supported by the IEEE SMC Technical Committee on Soft Computing. Many people have collaborated and worked hard to make NaBIC 2015 a success. First and foremost, we would like to thank all the authors for submitting their papers to the conference, and for their presentations and discussions during the conference. Our thanks to the Program Committee members and reviewers who carried out the most difficult work of carefully evaluating the submitted papers. We also thank the Springer Series on Advances in Intelligent Systems and Computing Editorial Team: Prof. Dr. Janusz Kacprzyk, Dr. Thomas Ditzinger, and Mr. Holger Schaepe for the wonderful support to publish this volume so quickly.

We wish all NaBIC 2015 delegates an exciting meeting and a pleasant stay in Pietermaritzburg, South Africa! Enjoy the Congress!

Nelishia Pillay  
Andries P. Engelbrecht  
Ajith Abraham  
Mathys C. du Plessis  
Václav Snášel

Advances in Nature and Biologically Inspired Computing  
Proceedings of the 7th World Congress on Nature and  
Biologically Inspired Computing (NaBIC2015) in  
Pietermaritzburg, South Africa, held December 01-03,  
2015

Pillay, N.; Engelbrecht, A.P.; Abraham, A.; du Plessis,  
M.C.; Snášel, V.; Muda, A.K. (Eds.)

2016, X, 452 p. 153 illus., 102 illus. in color., Softcover  
ISBN: 978-3-319-27399-0