

Preface

These proceedings contain the papers that were presented at the 5th International Conference on the Theory and Practice of Natural Computing (TPNC 2016), held in Sendai, Japan, during December 12–13, 2016.

The scope of TPNC is rather broad, including:

- Theoretical contributions to: amorphous computing, ant colonies, artificial chemistry, artificial immune systems, artificial life, bacterial foraging, cellular automata, chaos computing, collision-based computing, complex adaptive systems, computing with DNA, computing with words and perceptions, developmental systems, evolutionary computing, fractal geometry, fuzzy logic, gene assembly in ciliates, granular computing, intelligent systems, in vivo computing, membrane computing, nanocomputing, neural computing, optical computing, physarum machines, quantum computing, quantum information, reaction-diffusion systems, rough sets, self-organizing systems, swarm intelligence, synthetic biology.
- Applications of natural computing to: algorithmics, bioinformatics, control, cryptography, design, economics, graphics, hardware, human–computer interaction, knowledge discovery, learning, logistics, medicine, natural language processing, optimization, pattern recognition, planning and scheduling, programming, robotics, telecommunications, web intelligence.

TPNC 2016 received 33 submissions. Papers were reviewed by three Programme Committee members. There were also a few external reviewers consulted. After a thorough and vivid discussion phase, the committee decided to accept 16 papers (which represents an acceptance rate of about 48 %). The conference program included three invited talks and some poster presentations of work in progress.

The excellent facilities provided by the EasyChair conference management system allowed us to deal with the submissions successfully and handle the preparation of these proceedings in time.

We would like to thank all invited speakers and authors for their contributions, the Program Committee and the external reviewers for their cooperation, and Springer for its very professional publishing work.

September 2016

Carlos Martín-Vide
Takaaki Mizuki
Miguel A. Vega-Rodríguez

Theory and Practice of Natural Computing
5th International Conference, TPNC 2016, Sendai,
Japan, December 12-13, 2016, Proceedings
Martín-Vide, C.; Mizuki, T.; Vega-Rodríguez, M.A. (Eds.)
2016, XIV, 221 p. 88 illus., Softcover
ISBN: 978-3-319-49000-7