
**6th INTERNATIONAL CONFERENCE ON THE THEORY AND PRACTICE OF
NATURAL COMPUTING**

TPNC 2017

Prague, Czech Republic

December 18-20, 2017

Organized by:

Institute of Computer Science
Czech Academy of Sciences

Faculty of Mathematics and Physics
Charles University

Research Group on Mathematical Linguistics (GRLMC)
Rovira i Virgili University

<http://grammars.grlmc.com/TPNC2017/>

AIMS:

TPNC is a conference series intending to cover the wide spectrum of computational principles, models and techniques inspired by information processing in nature. TPNC 2017 will reserve significant room for young scholars at the beginning of their career and particular focus will be put on methodology. The conference aims at attracting contributions to nature-inspired models of computation, synthesizing nature by means of computation, nature-inspired materials, and information processing in nature.

VENUE:

TPNC 2017 will take place in Prague, whose historic centre is UNESCO World Heritage Site and which is home to famous attractions like the Prague Castle, the Charles Bridge, etc. The venue will be:

School of Computer Science
Charles University
Malá Strana Campus
Malostranské nám. 2/25
118 00 Praha 1

https://www.mff.cuni.cz/to.en/fakulta/budovy/kampus/mala_strana.htm

located in the heart of the historical Lesser Town.

SCOPE:

Topics include, but are not limited to:

- 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

A flexible "theory to/from practice" approach would be the perfect focus for the expected contributions.

STRUCTURE:

TPNC 2017 will consist of:

- invited talks
- peer-reviewed contributions
- posters

INVITED SPEAKERS:

Enrique Alba (University of Málaga), Natural Computing for Smart Cities

Carlos A. Coello Coello (CINVESTAV-IPN), Recent Results and Open Problems in Evolutionary Multiobjective Optimization

Thomas Stützle (Université Libre de Bruxelles), Automatic Generation of Swarm Intelligence Algorithms

PROGRAMME COMMITTEE:

Ajith Abraham (Machine Intelligence Research Labs, US)

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Andrew Kusiak (University of Iowa, US)
Vittorio Maniezzo (University of Bologna, IT)
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Yiyu Yao (University of Regina, CA)
Lotfi A. Zadeh (University of California, Berkeley, US)
Anton Zeilinger (University of Vienna, AT)

ORGANIZING COMMITTEE:

Carlos Martín-Vide (Tarragona, co-chair)
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Petra Novotna (Prague)
Manuel Jesús Parra Royón (Granada)
Martin Pilat (Prague)
David Silva (London)
Miguel A. Vega-Rodríguez (Cáceres)

SUBMISSIONS:

Authors are invited to submit non-anonymized papers in English presenting original and unpublished research. Papers should not exceed 12 single-spaced pages (including eventual appendices, references, proofs, graphics, etc.) and should be prepared according to the standard format for Springer Verlag's LNCS series (see <http://www.springer.com/computer/lncs?SGWID=0-164-6-793341-0>).

Submissions have to be uploaded to:

<https://easychair.org/conferences/?conf=tpnc2017>

PUBLICATIONS:

A volume of proceedings published by Springer in the LNCS series will be available by the time of the conference.

A special issue of BioSystems (Elsevier, 2015 JCR impact factor: 1.495) will be later published containing peer-reviewed substantially extended versions of some of the papers contributed to the conference. Submissions to it will be by invitation.

REGISTRATION:

The registration form can be found at:

<http://grammars.grlmc.com/TPNC2017/Registration.php>

DEADLINES (all at 23:59 CET):

Paper submission: August 10, 2017 – EXTENDED –

Notification of paper acceptance or rejection: September 6, 2017

Final version of the paper for the LNCS proceedings: September 16, 2017

Early registration: September 16, 2017

Late registration: December 4, 2017

Submission to the post-conference journal special issue: March 20, 2018

QUESTIONS AND FURTHER INFORMATION:

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POSTAL ADDRESS:

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