
**7th INTERNATIONAL CONFERENCE ON THE THEORY AND PRACTICE OF
NATURAL COMPUTING**

TPNC 2018

Dublin, Ireland

December 12-14, 2018

Co-organized by:

Natural Computing Research & Applications Group
School of Business
University College Dublin

Institute for Research Development, Training and Advice
Brussels / London

<http://tpnc2018.irdta.eu/>

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 2018 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 2018 will take place in Dublin, a major historical and contemporary centre for education, arts, administration, economy and industry. The venue will be:

Michael Smurfit Graduate Business School
University College Dublin
Carysfort Avenue
Blackrock
Co. Dublin
<http://www.smurfitschool.ie/>

SCOPE:

Topics include, but are not limited to:

- Theoretical contributions to:

artificial chemistry
artificial immune systems
artificial life
cellular automata
cognitive computing
cognitive engineering
cognitive robotics
collective behaviour
complex systems
computational intelligence
computational social science
computing with words
developmental systems
DNA computing
DNA nanotechnology
evolutionary algorithms
evolutionary computing
evolutionary game theory
fractal geometry
fuzzy control
fuzzy logic
fuzzy sets
fuzzy systems
genetic algorithms
genetic programming
granular computing
heuristics
intelligent agents
intelligent systems
machine intelligence
metaheuristics
molecular programming
multiobjective optimization
neural computing
neural networks
quantum communication
quantum computing
rough sets
self-assembly
self-organization
social computing
social simulation
soft computing
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 2018 will consist of:

- invited talks
- peer-reviewed contributions
- posters

INVITED SPEAKERS:

tba

PROGRAMME COMMITTEE: (to be completed)

Mauro Birattari (Université Libre de Bruxelles, BE)
Shyi-Ming Chen (National Taiwan University of Science and Technology, TW)
Jean-Louis Deneubourg (Université Libre de Bruxelles, BE)
Marco Dorigo (Université Libre de Bruxelles, BE)
Carlos M. Fonseca (University of Coimbra, PT)
Amir H. Gandomi (Stevens Institute of Technology, US)
Michel Gendreau (Polytechnique Montréal, CA)
Licheng Jiao (Xidian University, CN)
Janusz Kacprzyk (Polish Academy of Sciences, PL)
Hamid Reza Karimi (Polytechnic University of Milan, IT)

Ljupco Kocarev (Macedonian Academy of Sciences and Arts, MK)
Rudolf Kruse (University of Magdeburg, DE)
José Ignacio Latorre (University of Barcelona, ES)
Gui Lu Long (Tsinghua University, CN)
Carlos Martín-Vide (Rovira i Virgili University, ES, chair)
Luis Martínez (University of Jaén, ES)
Michael O'Neill (University College Dublin, IE)
Patrick Siarry (Paris-Est Créteil Val de Marne University, FR)
Andrzej Skowron (University of Warsaw, PL)
Attila Szolnoki (Hungarian Academy of Sciences, HU)
David Wolpert (Santa Fe Institute, US)

ORGANIZING COMMITTEE:

David Fagan (Dublin, co-chair)
Sara Morales (Brussels)
Michael O'Neill (Dublin, co-chair)
Manuel Jesús Parra Royón (Granada)
David Silva (London, co-chair)
Miguel A. Vega-Rodríguez (Cáceres)
Irene Ward (Dublin)

SUBMISSIONS:

Authors are invited to submit non-anonymized papers in English presenting original and unpublished research. Papers should not exceed 12 single-spaced pages (all included) 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=tpnc2018>

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 a major journal 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://tpnc2018.irdta.eu/Registration.php>

DEADLINES (all at 23:59 CET):

Paper submission: July 29, 2018

Notification of paper acceptance or rejection: September 5, 2018

Final version of the paper for the LNCS proceedings: September 12, 2018

Early registration: September 12, 2018

Late registration: November 28, 2018

Submission to the journal special issue: March 14, 2019

QUESTIONS AND FURTHER INFORMATION:

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ACKNOWLEDGMENTS:

UCD – University College Dublin

IRDTA – Institute for Research Development, Training and Advice,
Brussels/London