

## 2<sup>nd</sup> WCISC (held in IEEE WCCI/IJCNN 2018)

### 2<sup>nd</sup> Workshop on Computational Intelligence and Smart Cities

Due to the recent success of:

- special session on Smart Cities and Operations Research at the XLIX SBPO, Blumenau/SC, Brazil, 2017;
- special session on Computational Intelligence for Smart Cities at the 2017 IEEE Symposium Series on Computational Intelligence, Honolulu/Hawaii, USA, 2017;
- Special session dedicated to "La recherche opérationnelle pour les Smart cities", ROADEF, 2018; and
- 1<sup>st</sup> workshop on Smart Cities and Computational Intelligence at the XIII Congresso Brasileiro de Inteligência Computacional, Niterói/RJ, Brazil, 2017;

We are opening a new call for the The IEEE World Congress on Computational Intelligence (IEEE WCCI) and the International Joint Conference on Neural Networks (IJCNN), two of the largest technical events in field of Computational Intelligence, that will be held in the city of Rio de Janeiro - RJ from 08 – 13 July 2018 (website: [www.ieee-wcci.org](http://www.ieee-wcci.org)).

The workshop will be focused on the following theme: Computational Intelligence and Smart Cities: Innovative machine learning, metaheuristics, blockchain and decentralized solutions.

We invite you to submit complete articles from 6 to 8 pages (following the IEEE conference templates) using WCCI submission system: <http://ieee-cis.org/conferences/ijcnn2018/upload.php> (authors must choose WT1 in Main Research Topic). Instructions at <https://creating.city>

**Deadline: 1st February 2018 (postponed).**

The constant evolution of cities has been driven by human beings footsteps. Allied to the advancement of machines, cities are evolving into a new paradigm, being called Smart Cities. This evolution, closely related to devices equipped with high-performance computational capacities, is happening in urban and rural areas.

Besides promoting a decentralization of the current system, the new cities open doors for different autonomous agents to optimize their own interests. In this context, combinatorial optimization plays a fundamental role for more precise, efficient and balanced decision making. In addition interaction with citizens is not overlooked, new tools contribute to a more transparent society by promoting a participatory and developed economy.

On the other hand, such advances must take place in a sustainable manner, since new ideas and ways of harnessing existing resources are being studied. This universe of possibilities opens doors for researchers to devise distinct environments of complex and multicriteria decisions. This call invites researchers to submit papers related to the following topics (but not exclusively):

- Computational Intelligence (CI) applied for urban planning and engineering solutions;
- Smart and digital cities solutions with metaheuristics and/or decentralized systems;
- Cryptocities and cryptocurrencies;
- CI integrated with smart contracts and blockchain;
- CI applied for the insertion of renewable energy resources with microgrids;
- CI for Smart Cities (SC) and Smart Grids (SG);
- CI applied for SC logistics;
- SC and Internet of Things;
- CI for Smart/Green Homes;
- CI for decentralized environments;
- CI and citizens;
- Green Computing and Green Operations Research;
- High performance computing and SC;
- City of Things and CI testbed for SC;
- Reviews, trends and state-of-the-art ideas for SC and: combinatorial optimization problems, artificial and computational intelligence, citizens, IoT, SG, renewable resources, among others.



**Important dates and guidelines:**

**Deadline for paper submission: 1st February 2018**  
Acceptance notification: 15 March 2018



**New york city in the future.**  
Extracted from eVolo Magazine 2016 Skyscraper Competition, Mohammad, Zhao & Zhu (2016).  
<http://www.evolo.us/competition/the-hive-drone-skyscraper/>



Papers submission should be done in English, in the form of a Full Paper (6-8 pages) in WCCI system.

**More information:** <https://creating.city>

Accepted and presented papers will be published in IJCNN proceedings.



## Organizers:

**Vitor Nazário Coelho**, [Grupo da Causa Humana](#) and Instituto de Computação, Universidade Federal Fluminense, Brasil, [vncoelho@gmail.com](mailto:vncoelho@gmail.com)



Vitor Nazário Coelho is a scientist engaged in scientific a social causes. Technician in Electronic Instrumentation, Control a Automation Engineering, PhD degree in Electrical Engineering of Feder University of Minas Gerais. Currently, working as a Post-doc Research at Fluminense Federal University. Vitor has been investigating differe fields of high performance computing, such as: metaheuristic multi-agent systems, multi-objective optimization, trying to embed th into low-cost devices. During his 8 years of study in the field optimization, he had already sought for solving different compl combinatorial optimization problems, focusing on sustainab

development, microgrids, time series forecasting, vehicle routing problems, scheduling, amo others.

**Igor Machado Coelho**, Departamento de Informática e Ciência da Computação, Universidade Estado do Rio de Janeiro, Brasil, [igor.machado@ime.uerj.br](mailto:igor.machado@ime.uerj.br)



Igor Machado Coelho received the B.S. in Computing from Feder University of Ouro Preto, Brazil, the M.S. and PhD degree in Algorithms a Optimization in 2015 at the Computing Institute of Fluminense Feder University, Niterói, Brazil. He is currently Adjunct Professor in Comput Science Department at State University of Rio de Janeiro. He is one of t creators and maintainer of the OptFrame project, a framework f combinatorial optimization. His research interests include the resoluti of challenging combinatorial optimization problems in fields of Vehic Routing, OpenPit Mining Operational Planning, Smart Grid, and the developme of novel algorithms for emerging computing architectures.

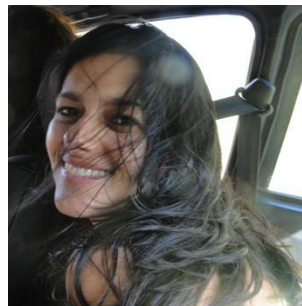
**Luiz Satoru Ochi**, Instituto de Computação, Universidade Federal Fluminense, Brasil, [satoru@ic.uff.br](mailto:satoru@ic.uff.br)



Luiz Satoru Ochi obtained his B.Sc. in Mathematics and his P in Computing and Systems Engineering at COPPE in Federal University Rio de Janeiro (UFRJ), Brazil. He is a full professor at Fluminen Federal University (UFF), Brazil. He was a visiting Professor University of Colorado at Boulder - USA. He was the General Coordinat CAPES-COFECUB Project (Brazil & France), in Graphs and Algorithm including UFF, UFRJ, University of Grenoble, from 1997-2000. He w Coordinator of the graduate course (Masters and PhD) in Computer Scien at UFF. His is a Researcher 1C level with grant from the National Council

for Scientific and Technological Development (Conselho Nacional Desenvolvimento Científico e Tecnológico - CNPq), Brazil. His research interests are MixedLine Integer Programming, Operations Research, Metaheuristics, Computational Intelligence, Vehic Routing Problem. He is the author of more than 290 research articles in chapter-books a specialized journals.

**Thays Aparecida de Oliveira**, Department of Engineering and Information & Communication Technologies, Universitat Pompeu Fabra, Spain, [thaysoliveira7@gmail.com](mailto:thaysoliveira7@gmail.com)



Thays Aparecida de Oliveira received the B.S. in Business fr Fedederal University of Ouro Preto, Brazil, the M.S. degree in Strateg Management, Marketing and Innovation in 2016 at the Federal Universi of Lavras, Brazil. Currently, working as a PhD Candidate at the Departme of Engineering and Information & Communication Technologies Universitat Pompeu Fabra, Barcelona, Spain. Her research interes include citizens; works with population integration in urban center

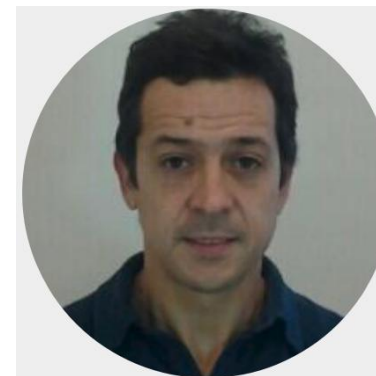
applying personal and web questionnaires; studies including consumer and citizens behavior. In the technological area, she is researching in the PhD relationships between citizens and digital cities, understanding citizens' necessities in the cities.

**Helena Ramalhinho Lourenço**, Department of Economics and Business, Universitat Pompeu Fabra, Spain, [helena.ramalhinho@upf.edu](mailto:helena.ramalhinho@upf.edu)



Helena Ramalhinho Lourenço is an Full Professor at the Economics and Business Department at the University Pompeu Fabra, Barcelona, Spain. She has a B.A. and Master degree in Statistics and Operations Research from the University of Lisbon, Portugal, and a Ph.D. in Operations Research from Cornell University, New York, USA. She has been involved in different research projects and consulting for firms in the area of Operations Research and Logistics. Helena has published several articles in prestigious international scientific journals and has presented her work at international congresses and conferences. Helena teaches at various undergraduate, master's and PhD's programs. She is currently the director of the Business Analytics Research Group and a researcher at the Center for Operational Research at the University of Lisbon. Her research interests include Operations Research, Scheduling, Combinatorial Optimization, Metaheuristics, Iterated Local Search, Heuristic Search Optimization, Vehicle Routing, Job-Shop Scheduling, Supply Chain Management, Logistics, Production and Operations Management.

**Miguel Oliver**, Department of Engineering and Information & Communication Technologies, Universitat Pompeu Fabra, Spain, [miquel.oliver@upf.edu](mailto:miquel.oliver@upf.edu)



Since 2001, Miquel Oliver is a Associate Professor at the Department of Engineering and Information & Communication Technologies and in charge Communication. He has been involved in the government of the UPF as Vice-Rector for Institutional Strategy and Quality (2008-13). He received his Ph.D. from Universitat Politècnica de Catalunya in 1999, a Degree in Business Administration (UOC, 2009) and GloColl Executive Education (Harvard, 2011-12). Before joining UPF, he was associate professor at the UPC, visiting scholar at Rutgers University (US). He is leading the multidisciplinary Networking and Strategies Research Group (NeTS). He has been visiting scientist at the MIT (2013-14) and in Columbia University (2011). His research is on wireless communications, with a multidisciplinary view including regulation, telecom policies and economic impact. Prof. Oliver has authored over 60 technical papers, as well as edited three books, holds three patents, supervised ten PhD thesis, advising an spinoff project. Four of his papers have received the best paper award. Has has two Jaume Vicens Vives awards from the Generalitat de Catalunya. Miquel Oliver is currently the director of the Telefonica's Chair devoted to MOOCs.

**Andréa Cynthia Santos**, Technological University of Troyes, France, [andrea.duhamel@utt.fr](mailto:andrea.duhamel@utt.fr)



Andréa Cynthia Santos is an associate Professor at the Technological University of Troyes, France. She leads innovative projects in disaster logistics and urban transportation networks. The project “Tactical optimization strategies to adapt urban transportation networks (TOAST)” was awarded a European prize “Le monde” Smart-cities on urban mobility category in 2017. Her research is dedicated to Operations Research/Management Science problems, especially combinatorial optimization problems in transportation and network design, with applications for smart cities, humanitarian logistics and urban transportation. In theoretical terms, her contributions are mainly on robust optimization to handle optimization problems with uncertain data. The methods developed in her scientific research are part of some decision-making systems. She has published twenty articles in reputed international reviews, and made more than sixty communications in national and international conferences.

