The 12th International Conference on Ambient Systems, Networks and Technologies (ANT 2021)

Preface

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We warmly welcome you to Warsaw, Poland and to the 11th International Conference on Ambient Systems, Networks and Technologies (ANT 2021). With the help and support of the technical committees, we have put together an exciting technical program for this year's ANT conference. We hope you will enjoy the program and have fruitful interactions and discussions with all researchers and practitioners gathering here from around the world.

Ambient systems, networks and technologies are of critical importance to the modern-day life, including businesses, government, education, science and economy. ANT 2021 provides a forum for researchers and practitioners from multi-disciplines in order to address recent research issues and to present and discuss the ideas, theories, technologies, systems, tools, applications, work in progress and experiences on all theoretical and practical issues related to the ambient systems paradigm, infrastructures, models, and technologies.

ANT 2021 received 212 papers from the authors representing many continents and countries. The papers were submitted to different tracks wherein each track has a separate technical program committee. The expert reviewers for each track reviewed each paper and obtained two to six reviews per paper. Based on these reviews, we accepted 68 papers making an acceptance rate of 32%.

We express our sincere thanks to the general chairs Prof. Atta Badii, and Prof. Albert Zomaya, and program chairs Prof. Hossam Hassanein and Prof. Ansar Yasar for their valuable support. We are also indebted to the steering committee chair and ANT founder Prof. Elhadi Shakshuki for his unlimited help and support. We also wish to convey our sincere thanks to all workshops' organizers and our keynote speakers.

We are very grateful to the workshops chair, program vice chairs, international journals chair, publicity chairs and members of the technical program committee. They showed great support and provided us with extensive reviews and constructive criticism of the research papers. Many thanks also go to all the authors who have submitted their research work to the conference. Without their contributions we would have not been able to put together such a strong and interesting technical program.

We look forward to hearing productive and interesting discussions during the ANT 2021 conference. We wish you a pleasant stay and an enjoyable time in Warsaw, Poland!
## ANT 2021 Workshops

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- Luk Knapen, IMOB-Hasselt University, Belgium                                               |
| The 10th International Workshop on Agent-based Mobility, Traffic and Transportation Models, Methodologies and Applications |                                                                                                      |
| **AMDE**                      | - Yassine Rhazali, ESTM, UMI, Morocco                                                               |
| The 2nd International Workshop on the Advancements Model Driven Engineering                   |                                                                                                      |
| **ANTIFRAGILE**               | - Vincenzo De Florio - Global Brain Institute                                                      |
| The 8th International Workshop on Computational Antifragility and Antifragile Engineering     |                                                                                                      |
| **BDBI**                      | - Yousef FARHAOUI , FST-UMI, Errachidia, Morocco                                                   |
| The 3rd International workshop on Big Data and Business Intelligence                          |                                                                                                      |
| **FAMS**                      | - Elhadi Shakshuki, Acadia University, Canada                                                       |
| The 11th International Symposium on Frontiers in Ambient and Mobile Systems                   |                                                                                                      |
| **IoT-T&A**                   | - Nishant Doshi, Pandit Deendayal Petroleum University, Gandhinagar, India  
- Chintan Patel, Pandit Deendayal Petroleum University, Gandhinagar, India                   |
| The 4th International Workshop on Recent Advances on Internet of Things: Technology and Application Approaches |                                                                                                      |
| **IUPT**                      | - Suparna De, University of Winchester, UK                                                         |
| The 11th International Symposium on Internet of Ubiquitous and Pervasive Things               |                                                                                                      |
| **IWSMAI**                    | - Abdallah Abarda, FSJES Settat, Morocco                                                           |
| The 2nd International Workshop on Statistical Methods and Artificial Intelligence             | - Mohamed Dakkon, FSJES, UAE, Tetouan, Morocco                                                     |
| **WSDM**                      | - Mohammed Erritali, Beni Mellal, University Sultane Moulay Slimane, Morocco  
- Badr Hssina, University HASSAN 2, Morocco                                                    |
| The 3rd International Workshop on Web Search and Data Mining                                  |                                                                                                      |
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