

Monday, 20th March	
8h30 - 9h30	Reception and registration
9h30 - 10h00	Opening Ceremony
10h00 - 10h45	Keynote Speech, Prof. Susana Sargento <i>IoT and Cloud on the Road to Autonomy Vehicles</i>
10h45 - 11h15	Coffee Break
Session #1: Smart Cities, Traffic and Vehicles	
Session Chair: Prof. Marko Beko	
11h15 - 12h30	<u>Chiara Lanza</u> , Eduard Angelats, Marco Miozzo and Paolo Dini, " <i>Urban Traffic Forecasting using Federated and Continual Learning</i> "
	<u>Sara Ranjbaran</u> , Amir Reza Jafari and Noel Crespi, " <i>Socially Aware Multi-Resource Trading for IoT Applications in Smart Cities using Auction theory</i> "
	<u>Diego M. Jimenez-Bravo</u> , <u>Javier Bajo</u> , Esther Dopazo, Juan F. De Paz and Valderi Leithardt, " <i>Dimensionality-reducing classifiers for Spanish winter maintenance of roadways</i> "
	<u>Hrvoje Mihaldinec</u> , <u>Luka Klaić</u> and Hrvoje Džapo, " <i>Estimation of the Cycling Cadence Using Low-Cost Inertial Sensors Mounted on a Bicycle</i> "
	<u>Dominic Karnehm</u> , Sebastian Pohlmann, Andreas Wiedenmann, Manuel Kuder and Antje Neve, " <i>Introduction of a Cloud Computing Architecture for the Condition Monitoring of a Reconfigurable Battery System for Electric Vehicles</i> "
12h30 - 13h30	Lunch
Session #2: IoT Middleware and Services	
Session Chair: Prof. Dário Pedro	
13h30 - 15h00	<u>Zhang Weijia</u> and <u>Dushantha Nalin K. Jayakody</u> , " <i>Adaptive Exponential Min Sum Decoding Algorithm</i> "
	<u>Noor Ahmed</u> , " <i>TinyZMQ++: A Privacy Preserving Content-based Publish/Subscribe IoT Middleware</i> "
	<u>Irfan Simsek</u> , " <i>Zero-Knowledge and Identity-Based Authentication, Authorization, Access Control, and Key Exchange for Publish/Subscribe in Internet of Things</i> "
	<u>Tomoyuki Koyama</u> and Takayuki Kushida, " <i>Log message with JSON item count for root cause analysis in microservices</i> "
	<u>Mohammad Beyrouji</u> , Ahmed Lounis, Benjamin Lussier, Abdelmadjid Bouadallah and Abed Ellatif Samhat, " <i>Vulnerability and Threat Assessment Framework for Internet of Things Systems</i> "
	<u>David Sarabia-Jacome</u> , Eduard Grasa and Marisa Catalán, " <i>RINAsense: A prototype for implementing RINA networks in IoT environments</i> "
15h00 - 15h30	Invited Speech, Prof. Dário Pedro <i>UAV-based Scenario Builder and Physical Testing platform for Autonomous Vehicles</i>
15h30 - 16h00	Coffee Break

Session #3 - IoT Based Unmanned Aerial Vehicles Session Chair: Prof. Dushantha Nalin K. Jayakody	
16h00 - 17h00	<u>Srdjan Sobot</u> , Milan Lukic, Dusan Bortnik, Vladimir Nikic, Brena Lima, Marko Beko and Dejan Vukobratovic, " Two-Tier UAV-based Low Power Wide Area Networks: A Testbed and Experimentation Study "
	<u>Ricardo Santos</u> , Joao P. Matos-Carvalho, Slavisa Tomic, Marko Beko and Sergio D. Correia, " A Hybrid LSTM-based Neural Network for Satellite-less UAV Navigation "
	<u>Pasan M Premathilaka Payagalage</u> , Chathuranga M. Wijerathna Basnayaka, Dushantha Nalin K. Jayakody and Ambrish Kumar, " Network Virtualization and Slicing in UAV-enabled Future Networks "
	<u>Sharon Choy</u> and Bernard Wong, " Obtaining Accurate Bandwidth Estimations for the Internet of Things "
17h00 - 18h00	Workshop Rural Environmental Monitoring via ultra wide-Area networks And distriButed federated Learning (REMARKABLE EU Project)
17h30 - 19h00	Welcome Reception



Tuesday, 21th March	
8h30 - 9h30 Reception and registration	
Session #4: IoT for Health Sector Session Chair: Prof. Daniel H. de la Iglesia	
9h30 - 10h30	<u>Joao P. Matos-Carvalho</u> , Sergio D. Correia and Slavisa Tomic, " Sensitivity Analysis of LSTM Networks for Fall Detection Wearable Sensors "
	<u>Ikram Asghar</u> , Rahmat Ullah, Mark G Griffiths, Gareth Evans and Justus Vermaak , " Skystrm: An Activity Monitoring System to Support Elderly Independence Through Smart Care Homes "
	<u>Paulo Alexandre Neves</u> , João Simões, Ricardo Costa, Norberto Jorge Gonçalves, Filipe Pires, Eftim Zdravevski, Pedro Varanda, Nuno M. Garcia and Ivan Miguel Pires, " Feasibility analysis of an electrogastrography sensor for digestion detection "
	<u>Satoki Sugiyama</u> , Goragod Pongthanosorn , Aya Shirai and Genci Capi , " EEG Channels Optimization for Wireless BMI-based Robot Interaction for Internet of Robotic Things "
10h30 - 11h00 Coffee Break	
11h00 - 11h45	Keynote Speech, Prof. Joel Rodrigues Enabling Smart Environments through Internet of Things
11h45 - 12h15	Invited Speech, Prof. Mostafa Ezziyyani Smart system for Forecasting the Crops adaptation to the risks of climate change for a sustainable development of the agricultural sector
12h15 - 13h30 Lunch	
Session #5: IoT Application Scenarios Session Chair: Prof. Carla Oliveira	
13h30 - 15h00	<u>Rahmat Ullah</u> , <u>Ikram Asghar</u> , <u>Mark G Griffiths</u> , <u>Craig Stacey</u> , <u>William Stiles</u> and <u>Colin Whitelaw</u> , " Internet of Things based Sensor System for Vertical Farming and Controlled Environment Agriculture "
	<u>Rogério Pereira dos Santos</u> , <u>Marko Beko</u> and <u>Valderi R. Q. Leithardt</u> , " Package Proposal for Data Pre-Processing for Machine Learning Applied to Precision Irrigation "
	<u>Olli Väänänen</u> and <u>Timo Hämäläinen</u> , " Linearity-based Sensor Data Online Compression Methods for Environmental Applications "
	<u>Fernando Lobato Alejano</u> , <u>Daniel H. de la Iglesia</u> , <u>Mariano Raboso Mateos</u> , <u>Alfonso J. Lopez Rivero</u> and <u>Valderi Reis Quietinho Leithardt</u> , " Enhancing the interoperability of heterogeneous hardware in the Industry: a Multi-Agent System Proposal "
	<u>Mike Petersen</u> , <u>Christoph Hardegen</u> and <u>Ulrich Buehler</u> , " Generative Pattern Dissemination for Collaborative Intrusion Detection "
<u>Daniel H. de la Iglesia</u> , <u>Fernando Lobato Alejano</u> , <u>Alejandro H. de la Iglesia</u> , <u>Hector Sanchez San Blas</u> , <u>Luis Augusto Silva</u> and <u>Alfonso J. Lopez Rivero</u> , " Design of a low-cost IoT device for the estimation of the state-of-health (SOH) of reused lithium batteries "	

11h00 - 11h30

Invited Speech, Prof. Carla Oliveira

Green Solutions for SmartCities: Brief Experience and Challenges for the Future

15h30 - 16h00

Coffee Break

Session #6 - Communications for the IoT Era Session Chair: Prof. Mostafa Ezziyyani	
16h00 - 17h00	<u>Kasun Wickramarathna</u> and Dushantha Nalin.K. Jayakody, " Performance of Soft Information Relay Models "
	<u>Samikkannu Rajkumar</u> , Priyashantha Tennakoon and Dushantha Nalin K. Jayakody, " NOMA-PLNC Based Visible Light Communications "
	<u>Hideki Tode</u> , <u>Kaita Takemoto</u> and <u>Yosuke Tanigawa</u> , " CSMA/CA-based Random Access Control Suitable for Delay-Constrained Packet Transfer in Smart Factory Environments "
	<u>Mohammad Furqan Ali</u> , Dushantha Nalin K. Jayakody, Marko Beko and Sérgio Correia, " Performance Evaluation of Vertical VLC Link in Mixed Water Mediums "
17h00 - 18h00	Workshop Rural Environmental Monitoring via ultra wide-ARea networkS And distriButed federated Learning (REMARKABLE EU Project)

19h00 - 21h30	Gala Dinner 19h00 - Departure by BUS to Pelicano Restaurant, at Rainha Beach, Costa da Caparica
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Wednesday, 22th March	
8h30 - 9h30 Reception and registration	
Session #7: Communication Networks and IoT Session Chair: Prof. Slavisa Tomic	
9h30 - 10h30	<u>Juliana El Rayess</u> , Kinda Khawam, Samer Lahoud, Melhem El Helou and Steven Martin, " Study of LoRaWAN Networks Reliability "
	<u>Ali Loubany</u> , Samer Lahoud, Abed Ellatif Samhat and Melhem El Helou, " Throughput Improvement for LoRaWAN Networks Considering IoT Applications Priority "
	<u>Luc Hogie</u> , " A Decentralized Web Service Infrastructure for the Interoperability of Applications in Multihop Dynamic Networks "
	<u>Mau-Luen Tham</u> , Chee Hong Lean, Wei-Sean Lim, Rong-Chuan Leong, Yasunori Owada and Myint Myint Sein, " Performance Study of Disaster-Resilient Mesh Networking using NerveNet Wi-Fi and LoRa "
10h30 - 11h00 Coffee Break	
15h00 - 15h30	Invited Speech, Prof. Marius Balas The Intelligent Rooftop Greenhouse as IoT subject
Session #8 - IoT Cloud Computing Session Chair: Prof. Sérgio Correia	
11h30 - 12h30	<u>Jeremy Reed</u> , Ali Saman Tosun and Turgay Korkmaz, " Bulwark Security in an Edge Cloud Model "
	<u>Mohammad Hafiz Hersyah</u> , Md Delwar Hossain, Yuzo Taenaka and Youki Kadobayashi, " A Risk Assessment Study: Encircling Docker Container Assets on IaaS Cloud Computing Topology "
	<u>Saleh Al Shamaa</u> , Wei Shi and Georges Ankenmann, " Probability-Based Crossover Genetic Algorithm for Task Scheduling in Cloud Computing "
	<u>Toni Dimitrovski</u> , Tim Bergman and Piotr Zuraniewski, " IaC cloud testbed for secure ML-based management of IoT services "
Best Paper Award	
12h30 - 13h30 Lunch	
13h30 - 15h30	Tutorial Towards the Internet of Lighting Things Prof. Anna Maria Vegni, Prof. Himlal A. Suraweera, Prof. Mauro Biagi Tutorial Chair: Prof. Dushantha Nalin K. Jayakody
15h30 - 16h00 Coffee Break	
16h00 - 17h00	Tutorial From Smart Cities to Smart Living: Towards IoT Everywhere Prof. Mohamed-Slim Alouini, Prof. Mustafa Kishk Tutorial Chair: Prof. João Pedro Matos-Carvalho
17h00 - 18h00	Workshop Rural Environmental Monitoring via ultra wide-ARea networks And distriButed federated Learning (REMARKABLE EU Project)
18h00 - 18h15 Closing Ceremony	