



PROGRAM GUIDE

EUC 2018

16th IEEE International Conference on Embedded and Ubiquitous Computing

29-31 October 2018

*Faculty of Automatic Control and Computers, University Politehnica of
Bucharest, Romania*



Table of Contents

<i>EUC-2018 Organizing Committee</i>	3
<i>Welcome Message from EUC-2018 General Co-Chairs</i>	4
<i>EUC-2018 Conference Program</i>	6
<i>Time Table</i>	12

EUC-2018 Organizing Committee

Honorary Chairs

Laurence T. Yang, St. Francis Xavier University, Canada

Kuan-Ching Li, Providence University, Taiwan

General Chairs

Ciprian Dobre, University Politehnica of Bucharest; National Institute for Research and Development in Informatics, Romania

Francisco José Melero, Technical Research Centre of Furniture and Wood of the Region of Murcia CETEM, Spain

Francesco Palmieri, University of Salerno, Italy

Program Chairs

Nuno Garcia, University of Beira Interior, Portugal

Michael Burnard, University of Primorska Andrej Marusic Institute, Slovenia

Radu-Ioan Ciobanu, University Politehnica of Bucharest, Romania

Mario Donato Marino, Leeds Beckett University, United Kingdom

Local Organising Committee

Mihaela Tomescu, National Institute for Research and Development in Informatics, Romania

Catalin Negru, University Politehnica of Bucharest, Romania

George Iordache, University Politehnica of Bucharest, Romania

Liviu Hirtan, University Politehnica of Bucharest, Romania

Welcome Message from EUC-2018 General Co-Chairs

We would like to welcome you to the 16th IEEE International Conference on Embedded and Ubiquitous Computing (EUC 2018), which will be held at University Politehnica of Bucharest, Romania, between 29 and 31 October, 2018, the year that marks 100 years since the formation of the modern Romanian state.

It is our honour to chair this prestigious conference, as one of the important conferences in the field. Extensive international participation, coupled with rigorous peer reviews, has made this an exceptional technical conference. We hope that you will enjoy each and every component of this event and benefit from interactions with other attendees.

Since its inception, EUC has attempted to bring together people interested in embedded and ubiquitous computing, an exciting paradigm that today more than ever promises to provide computing and communication services to the end users all the time and everywhere. Its systems are now invading in every aspect of our daily life and promise to revolutionize our life much more profoundly than elevators, electric motors or even personal computer evolution ever did. The emergence of this technology is a natural outcome of research and technological advances in a variety of areas including embedded systems, pervasive computing and communications, wireless networks, mobile computing, distributed computing and agent technologies.

This year we emphasize in particular the relation between Embedded and ubiquitous computing, and Ambient Assisted Living. As such, we welcome the participation of the SHELD-ON and AAPELE COST Actions. In addition, the edition is organised together with the H2020 Data4Water and AAL vINCI projects. The increase in medical expenses due to societal issues like demographic ageing, puts strong pressure on the sustainability of health and social care systems, on labour participation, and on quality of life for older people or for persons with disabilities. Smart Habitats for Older Adults and Enhanced Living Environments (ELE) promote the provision of infrastructures and services for the independent or more autonomous living, via the seamless integration of info-communication technologies within homes and residences, thus increasing their quality of life and autonomy maintaining one's home the preferable living environment for as long as possible, therefore not causing disruption in the web of social and family interactions.

For EUC-2018, we have continued these efforts as novel embedded and ubiquitous concepts emerge and new applications flourish. We received 56 papers, and out of them 26 were accepted (with less than 50% acceptance ratio), which will be presented during three days of the conference.

The organization of an international conference requires the support and help of many people. A lot of people have helped and worked hard for a successful EUC-2018 technical program and conference proceedings. First, we would like to thank all the authors for submitting their papers. We are indebted to the Program Committee members and reviewers who carried out the most difficult work of carefully evaluating the submitted papers.

We would like to give our special thanks to Prof. Laurence T. Yang and Prof. Kuan-Ching Li the Honorary Chairs for their guidance on organizing the conference. We would like to thank Program Co-Chairs for their excellent work. We would like to express our great appreciation to our keynote speakers for accepting our invitation as keynote speakers of EUC-2018.

We would like to thank the Local Organization Team at University Politehnica of Bucharest, Romania, for making good local arrangements for the conference.

We hope that you have an enjoyable and productive time during this conference, and have a great time in Bucharest, Romania.

EUC-2018 General Co-Chairs

Ciprian Dobre, *University Politehnica of Bucharest, Romania*

Francisco José Melero, *Technical Research Centre of Furniture and Wood of the Region of Murcia CETEM, Spain*

Francesco Palmieri, *University of Salerno, Italy*

EUC-2018 Conference Program

Monday, 29 October 2018

08:00 Registration

09:00-09:30 Opening Ceremony

09:30-10:30 Single Session: EUC-2018 & CSE-2018 Keynote I

Prof. Adina-Magda Florea, University Politehnica of Bucharest, Romania

Title: Social Robots in Support of Elderly People

10:30-11:00 Coffee Break

11:00-12:30 Parallel Sessions

EUC-S1: Embedded and ubiquitous computing

Chair: Nirvana Popescu, University Politehnica of Bucharest

1.	Dynamic Allocation of Serverless Functions in IoT Environments <i>Duarte Pinto, João Pedro Dias, Hugo Sereno Ferreira</i>
2.	Wordpress honeypot module <i>Ionut Cernica, Nirvana Popescu</i>
3.	Android Malware Detection and Crypto-mining Recognition Methodology with Machine Learning <i>Sorin Soviany, Andrei Scheianu, George Suci, Alexandru Vulpe, Octavian Fratu, Cristiana Istrate</i>
4.	Search based Model in the Loop Testing for Cyber Physical Systems <i>Ana Turlea</i>

12:30 - 14:00 Lunch Break

14:00-15:00 Single Session: EUC-2018 & CSE-2018 Keynote II

Dr. Horacio González-Vélez, cHiPSet IC1406 COST ACTION Vice-Chair &
Cloud Competency Centre National College of Ireland, Ireland

Title: Beyond Fast and Furious: Smart approaches to data-intensive parallel programming

15:00-15:30 Coffee Break**15:30-17:30 Parallel Sessions****EUC-S2: Foundations of embedded and ubiquitous systems****Chair: Ionut Anghel, Technical University of Cluj-Napoca, Romania**

1.	Prediction of Manufacturing Processes Errors: Gradient Boosted Trees Versus Deep Neural Networks <i>Ionut Anghel, Tudor Cioara, Dorin Moldovan, Ioan Salomie, Madalina Maria Tomus</i>
2.	TempMath - Mathematical modeling and simulation of resistive-based temperature measurement Data Acquisition Systems <i>Dumitru-Cristian Tranca, Ioana Laura Popescu, Silvia Cristina Stegaru, Razvan Victor Rughinis</i>
3.	Enhanced Test for Reconfigurable Hardware Systems based on Sequential Logic <i>Asma Ben Ahmed, Olfa Mosbahi, Mohamed Khalgui</i>
4.	Self-adaptive Genetic Algorithm for Modeling Energy Consumption in a Passive House <i>Silvia Cristina Stegaru, Mihail Bogdan Carutasiu, Emil-Ioan Slusanschi, Cristian Dumitru Tranca, Nicolae Tapus</i>
5.	3D Modeling Using Parrot Bebop 2 FPV <i>George Suci, Mihaela Dragu, Hussain Ijaz, Ana-Maria Iliescu, Oana Orza</i>

Tuesday, 30 October 2018

08:00 Registration

09:00-10:30 Single Session: EUC-2018 & CSE-2018 Keynote III

Dr. Rafael Maestre Ferriz, Head of Electronics Department, Technical Research Centre of Furniture and Wood of the Region of Murcia CETEM, Spain

Title: Technology in our not-so-distant ageing future

Mr. Francisco Melero, SHELD-ON CA16226 COST ACTION Chair & Technical Research Centre of Furniture and Wood of the Region of Murcia CETEM, Spain

Title: Indoor living space improvement: Smart Habitat for the Elderly

10:30-11:00 Coffee Break

11:00-12:30 Parallel Sessions

EUC-S3: Ambient Assisted Living Systems

Chair: Rafael Maestre Ferriz, CETEM, Spain

1.	AmICare: Ambient Intelligent and Assistive System for Caregivers support <i>Andrés Lorenzo Bleda-Tomas, <u>Rafael Maestre-Ferriz</u>, Miguel Angel Beteta-Medina, Jose Arturo Vidal-Poveda</i>
2.	Containerized backend for e-health application <i><u>Cosmin Gabriel Toader</u>, Nirvana Popescu</i>
3.	Intellevator: A Context-Aware Elevator System for Assisting Passengers <i><u>Hangli Ge</u>, Takeo Hamada, Takahiro Sumitomo, Noboru Koshizuka</i>
4.	A Holistic Approach for Creating a Digital Ecosystem Enabling Personalized Assistive Care for Elderly <i><u>Lidia Bajenaru</u>, Marilena Ianculescu, Ciprian Dobre</i>

12:30 - 14:00 Lunch Break

14:00-15:00 Single Session: EUC-2018 & CSE-2018 Keynote IV

Prof. Ciprian Dobre, University Politehnica of Bucharest

Title: Integrated and validated evidence-based Internet of Things (IoT)

15:00-15:30 Coffee Break**15:30-17:30 Parallel Sessions****EUC-S4: e-Health technologies**

Chair: Lidia Bajenaru, National Institute for Research and Development in Informatics, Romania

1.	Automated Determination of Gait Parameters Using Depth Based Person Tracking <i>Michael Atanasov, Martin Kampel</i>
2.	An IoT-aware architectural model for smart habitats <i>Angel Ruiz-Zafra, Kawtar Benghazi, Constandinos Mavromoustakis, Manuel Noguera</i>
3.	Conceptual approaches in quality of life assessment for the elderly <i>Ion Alexandru Marinescu, Lidia Bajenaru, Ciprian Dobre</i>
4.	Social Media Avatar - My dear assistant <i>Andrei Stoicu, Dragos-George Ionica</i>
5.	Solutions for Healthcare Monitoring Systems Architectures <i>Mohammed Tali Almalchy, Vlad Ciobanu, Sarmad Monadel Algayar</i>

19:00-21:00 Banquet Party**Restaurant Hanu' Berarilor, Casa Soare**

Adresa: Str. Poenaru Bordea nr. 2

Luni-Joi și Duminică: 08:00 - 24:00; Vineri-Sâmbătă 08:00-02:00

Tel.: [+40729.400.800](tel:+40729.400.800)

Email.: hanuberarilor.soare@citygrill.ro

<https://hanuberarilor.ro/ro/contact>

Wednesday, 31 October 2018

08:00 Registration

09:00-10:30 Single Session: EUC-2018 & CSE-2018 Keynote V

Prof. Ioan Dumitrache, University Politehnica of Bucharest, Romania

Title: From Control Systems to Cyber Systems

10:30-11:00 Coffee Break

11:00-12:30 Parallel Sessions

EUC-S5: IoT technologies

Chair: Ciprian Dobre, University Politehnica of Bucharest, Romania

1.	Slotted ALOHA Overlay on LoRaWAN – a Distributed Synchronization Approach <i>Tommaso Polonelli, Davide Brunelli, Luca Benini</i>
2.	Android Fingerprint Sensor: Pitfalls and Challenges <i>Luminița Apostol, Ciprian Dobre</i>
3.	Remote Sensing Computing model for Forest Monitoring in Cloud <i>Adriana Tufă, Ionuț Boicu, Ion Dorinel Filip, Catalin Negru, Florin Pop</i>
4.	Fading and Wi-Fi Communication Analysis using Ekahau Heatmapper <i>George Suciu, Alexandru Vulpe, Marius Vochin, Andreea Mitrea, Muneeb Anwarand Hussain Ijaz</i>

12:30 - 14:00 Lunch Break

14:00-16:00 Parallel Sessions

EUC-S6: Embedded systems

Chair: Vassilios V. Dimakopoulo, University of Ioannina, Greece

1.	DAG Scheduling Algorithm for a Cluster-Based Many-Core Architecture <i>Yuto Kitagawa, Tasuku Ishigooka, Takuya Azumi</i>
2.	Energy-Aware Task Allocation for Large Task Sets on Heterogeneous Multiprocessor Systems

	<i>Yang Qin, Gang Zeng, Ryo Kurachi, Yutaka Matsubara, Hiroaki Takada</i>
3.	Runtime Component Information on Embedded Component Systems <i>Seito Shirata, Hiroshi Oyama, Tkuya Azumi</i>
4.	Adaptive OpenMP Runtime System for Embedded Multicores <i>Spiros N. Agathos, Vassilios V. Dimakopoulos</i>

16:00-16:30 Closing Ceremony

Time Table

EUC-2018 and CSE-2018 Session Schedule

October 29th - 31st, 2018

Central Library of the University Politehnica of Bucharest, 2nd Floor,
University Politehnica of Bucharest, Romania

Monday (Oct. 29, 2018)		Room 1 (2.1)	Room 2 (2.2)
Slot	Time	Registration	
Opening	09:00 - 09:30	Opening Ceremony	
Session 1	09:30 - 10:30	EUC-2018 and CSE-2018 Keynote I	
Coffee Break	10:30 - 11:00	Coffee Break	
Session 2	11:00 - 12:30	CSE-S1	EUC-S1
Lunch	12:30 - 14:00	Lunch Break	
Session 3	14:00 - 15:00	EUC-2018 and CSE-2018 Keynote II	
Coffee Break	15:00 - 15:30	Coffee Break	
Session 4	15:30 - 17:30	CSE-S2	EUC-S2

Tuesday (Oct. 30, 2018)		Room 1 (2.1)	Room 2 (2.2)
Slot	Time	Registration	
Session 1	09:00 - 10:30	EUC-2018 and CSE-2018 Keynote III	
Coffee Break	10:30 - 11:00	Coffee Break	
Session 2	11:00 - 12:30	EUC-S3	CSE-S3
Lunch	12:30 - 14:00	Lunch Break	
Session 3	14:00 - 15:00	EUC-2018 and CSE-2018 Keynote IV	
Coffee Break	15:00 - 15:30	Coffee Break	
Session 4	15:30 - 17:30	EUC-S4	CSE-S4
Social Event	19:00 - 21:00	Banquet Party	

Wednesday (Oct. 31, 2018)		Room 1 (2.1)	Room 2 (2.2)
Slot	Time	Registration	
Session 1	09:00 - 10:30	EUC-2018 and CSE-2018 Keynote V	
Coffee Break	10:30 - 11:00	Coffee Break	
Session 2	11:00 - 12:30	CSE-S5	EUC-S5
Lunch	12:30 - 14:00	Lunch Break	
Session 3	14:00 - 16:00	CSE-S6	EUC-S6
Closing event	16:00 - 16:30	Closing Ceremony	