**UBICITEC 2014**
**4<sup>th</sup> International Workshop on Networks of Cooperating Objects for Smart Cities 2014**
**(UBICITEC 2014)**

**jointly held with**
**CPSWeek 2014, Berlin, Germany**
**April 14, 2014**

There are three important concepts that have gained relevance over the past years. First, the concept of classic embedded systems where the focus is on the control of physical processes (machinery, automobiles, planes, etc.). Second, the notion of pervasive computing (or ubiquitous computing) which foresees everyday objects as having some form of computation capacity and, in most cases, sensing and communication facilities. Third, wireless sensor networks where small computing devices are able to sense their environment and cooperate in order to achieve a common goal. We refer to the unified vision of these three systems as networks of Cooperating Objects (COs).

This new vision is more powerful and has a larger scope than each of the individual system concepts out of which it evolved. The vision of Cooperating Objects is, therefore, quite new and needs to be understood in more detail and probably extended with inputs from the relevant individual communities that compose it. Building on the success of the previous CONET/UBICITEC workshops, UBICITEC 2014 aims at providing a forum to discuss the similarities, complementariness and advances of the areas mentioned above in order to integrate them into single coherent systems.

Topics of interest included:
* Resource management of COs

- Quality-of-Service in networks of COs
- Hardware platforms for COs
- Mobile and distributed sensing
- Hybrid cooperation of static and mobile nodes
- Communication and control of mobile COs
- Distributed control and estimation over networks
- Decentralized algorithms for control over wireless sensor networks
- Decentralized, distributed, and cooperative optimization
- Applications of control of COs
- Real-time aspects of COs
- System software for COs
- Communication support for COs
- Real-world deployments of COs
- Applications of COs to body area networks
- COs in Complex Systems
- Security and Privacy in COs
- Enterprise Integration of COs
- Application of wireless sensor networks on Pervasive computing
- Closed-loop applications of pervasive computing
- IoT Technologies for Smart Cities

The scientific contributions included eight referred papers reported in these proceedings. Due to their breadth and depth with respect to the proposed topics, the selected scientific articles allowed the analysis of the state of the art of techniques and methodologies for Cyberphysical (Smart) Objects and the development of new wireless sensor networks / Internet of Things (IoT) application. Moreover, the main potential directions of future research were identified along with the technologies that will drive future innovation in the integrated COs, Cyberphysical systems and IoT domain.

The Organizing Scientific Committee would like to thank the invited speakers, the authors of the scientific contributions, the members of the UBICITEC steering and program committees, and all people involved in the organization of UBICITEC 2014 whose precious contribution made possible to perform such successful initiative.

*The Organizing Scientific Committee*
  Giancarlo Fortino, University of Calabria, Italy
  Stamatis Karnouskos, SAP Research, Germany
  Pedro José Marrón, University of Duisburg-Essen, Germany

**UBICITEC 2014 COMMITTEES**

*Workshop Chairs*

Giancarlo Fortino, University of Calabria
Pedro José Marrón, University of Duisburg-Essen
Stamatis Karnouskos, SAP Research

*Program Committee*

Mário Alves, CISTER Research Unit, Politécnico do Porto, Portugal
Ioannis Andreopoulos, University College London, UK
Gabriella Carrozza, SESM, Italy
Mariagrazia Dotoli, DEE - Politecnico di Bari, Italy
Stefano Galzarano, DIMES - University of Calabria (UNICAL), Italy
Raffaele Gravina, DIMES - University of Calabria, Italy
Antonio Guerrieri, DIMES - University of Calabria, Italy
Yu Hua, Huazhong University of Science and Technology, China
Raja Jurdak, CSIRO, Australia
Zhiyun Lin, Asus Intelligent Systems Lab, Department of Systems Science
    and Engineering, Zhejiang University, China
Antonio Liotta, Eindhoven University of Technology, The Netherlands
Ramiro Martinez, University of Seville, Spain
Jose L. Martinez Lastra, Tampere University of Technology, Finland
Luca Mottola, Politecnico di Milano (Italy) and SICS Swedish ICT
Lucia Pallottino, University of Pisa, Italy
Nuno Pereira, CISTER/INESC-TEC, ISEP, Polytechnic Institute of Porto,
    Portugal
Xinjian Shao, Wuhan University of Technology, China
Giandomenico Spezzano, CNR-ICAR and University of Calabria, Italy