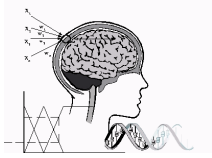
International

Innovation in Knowledge Based and Intelligent Engineering Systems



INVITED SESSION SUMMARY

Name of Chairs:
Rafael H. Bordini (FACIN-PUCRS, Brazil)
Massimo Cossentino (National Research Council of Italy, Italy)
Marie-Pierre Gleizes (University Paul Sabatier of Toulouse, France)
Luca Sabatucci (National Research Council of Italy, Italy) (Publicity chair)

Title of Session:
Smart Environments and Information Systems (SEIS 2017)

Details of Session:
The emergence of pervasive smart environment and information systems represents a fundamental change in the way information technology services are invented, developed, deployed, scaled, updated, paid for and maintained.
The digital world is made of real time data, processes, operations and operating environments where third-party services will be ubiquitous and mostly available over the Cloud and every resource could be provided "as a service".
Such abundance of services and data offers new opportunities but also raises new challenges for information systems. The incoming generation of information systems requires new ways to engineer systems able of perceiving their surrounding environment, achieving effectors of many sorts, and operating even in dynamic environments.
The applications covered by this kind of systems range from health and safety to power efficiency and comfort.

After the successful event of 2016, a new edition of the Smart Environments and Information System session will be held during the KES-IIMSS-17 conference in Vilamoura, Algarve, Portugal on 21-23 June 2017. This special session focuses on several aspects of engineering smart systems.

The list of topics includes (but it is not limited to):

Foundational Concepts:

- Self-adaptive, self-organizing systems and run-time model
- Systems of systems
- Control of complex dynamic systems
- Service composition, orchestration, and choreography
- Cloud technology and mobile computing
- Multi-agent systems and coordination
- Design theories, methods, notations, and tools

Application areas:

- Cloud application and mashup
- Smart spaces/environments
- Smart power grids
- Smart cyber-physical systems
- Smart Information systems
- Business process management
- Internet of things and pervasive systems

Validation:

- Formal verification

- Empirical and experimental validation
- "In vivo" testing grounds
- Case studies and industrial practice
- Model problem, exemplars and benchmarks

Website URL (if any):
http://ecos.pa.icar.cnr.it/events/kesSession17

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Massimo Cossentino (short) CV
Massimo Cossentino, got his master degree in Electronics Engineering and his PhD in Computer Science Engineering from the University of Palermo. From 2001 he is a research scientist of the Italian National Research Council at the Palermo Dept. of the ICAR (Institute for High Performance Computing and Networks) Institute where he is currently leading the Engineering COmplex and Smart systems (ECOS) lab.
During the academic year 2006-07 and in the second semester of year 2007-08 he has been an invited associate professor at the Laboratoire Systèmes et Transports (SET) of the Université de Technologie Belfort-Montbélliard (France).
He has been teaching software engineering courses at the University of Palermo from 2001.
In October 2008 he got his "Habilitation a Diriger des Recherce" from the Université Paul Sabatier of Tolouse (France).
His research interests are in the field of Software Engineering and more specifically: self-adaptive and self-organizing systems, software design methodologies and composition of design processes, multi-agent simulations.
He is the author of more than one hundred and seventy scientific papers published in international journals, conference and workshops proceedings, books.

Marie-Pierre Gleizes (short) CV
Marie-Pierre Gleizes is Full Professor at the University Paul Sabatier of Toulouse and researcher at IRIT (Institute of Computer Science in Toulouse – France, www.irit.fr). She is in charge of the SMAC (Systèmes Multi-Agent Coopératifs or Cooperative Multi-Agent Systems) team composed of 22 permanent members, 2 associated reserchers, 13 PhD and 1 post-doc and 2 non permanent engineers students.
She is one leader of the laboratory strategic axis about "ambient socio-technical systems" composed of 11 research teams and 66 permanent members.
At the university level, she manages the neOCampus scientific and interdisciplinary project which aims at designing a smart, innovative, sustainable campus at Toulouse III University.
The main topic of interest is the design of complex systems with emergent functionality. Her researches are concerning theories and methods based on a multi-agent approach in which the global function emerges from the evolving reorganization between the agents.
She works on adaptive multi-agent systems, self-organisation mechanisms, cooperation and in particular on methodologies to design this kind of systems and she applies these concepts to the ambient system design with a particular focus on context management. She has participated to works about the AMAS theory and the ADELFE methodology. She has applied the adaptive multi-agent systems approach in several national and European projects.

Rafael H. Bordini

Rafael Bordini is Associate Professor at FACIN-PUCRS since March 2012. Previous to this appointment, he was an associate professor at INF-UFRGS (from July 2009) and previous to that he was a Lecturer in the Department of Computer Science, Durham University, UK (July 2004 to January 2009). He readed for a PhD at UCL (finished in early 1999), then worked as a visiting lecturer at INF-UFRGS (until May 2002), and from June 2002 to May 2004 He was a post-doctoral researcher at the University of Liverpool.
His research interests include various aspects of autonomous systems: i) multi-agent programming languages ii) logics and formal methods in multi-agent systems, iii) formal verification of multi-agent systems through model checking, iv) state-space reduction techniques for model checking multi-agent systems, v) testing and debugging multi-agent programs and vi) applications of autonomous system.
He is an emeritus member of the IFAAMAS board of directors and emeritus member of the EURAMAS board of directors.

Luca Sabatucci
Luca Sabatucci is a research scientist in the ECOS Lab of the ICAR-CNR (Italian National Research Council), Palermo, Italy. Previously he worked at the SE unit in FBK, Trento. Principal interests are in the areas of Self-Adaptive Systems, Requirements Engineering, and Software Patterns. He is the author of about sixty papers and participated in the organization and program committees of several international conferences and workshops.