CISTER ADVANCES ITS SMART CITY INITIATIVES

Smart cities have become an important narrative for using technologies to improve quality of life, especially in urban scenarios. CISTER has already started furthering its contributions in this area and recently participated in a number of networking events, namely the Smart City Expo in Barcelona and UBICITEC an European Center with the objective of establishing a world-class center of excellence on smart cities and ubiquitous technologies.

These visits focused on networking with

like-minded institutions and individuals working in the field, and understanding the issues being tackled around the world in the form of experiences and case studies.

In an important development, Eduardo Tovar has been elected for the Steering Committee of UBICITEC for the year 2015 together with Prof, Jose Marron (U. Dessen, Germany) and Antonio Moreno (ETRA I+D, Spain)

CISTER is collaborating with the Câmara Municipal de Porto, a leading player to make Porto one of the European smart cities on various joint project proposals addressing several issues in this area. CISTER will also organize a workshop related to smart city during EWSN 2015 that will bring together leading experts and participants from various allied domains.

CISTER Quicknews

JANUARY 2015

A NEW VISITING SCHOLAR FOR CISTER

Damien Masson
ESIEE Paris

Damien Masson, an associate professor in the Systems Engineering department (ISYS) of ESIEE Paris - a founding member of Université Paris-Est - is joining CISTER/INESC-TEC as a visiting scholar until June 2015.

Damien defended a PhD thesis on Real-Time systems in December 2008 entitled: "Non periodic events integration in real-time systems: application to the event management in the Real-Time Specification for Java".

He is interested in all research topics related to real-time scheduling.

During his stay at CISTER he will be working on Embedded multi-core systems for mixed criticality applications in dynamic and changeable real-time environments.

Damien is also a member of the Gaspard-Monge computer science research laboratory (LIGM) in the LRT team.

The program for the 2015 edition of the European conference on wireless sensor networks EWSN 2015, which will be held by CISTER at ISEP, has been finalized and is now finished.

EWSN 2015 preliminary program is already available, and covers a wide range of very compelling topics grouped into five technical sessions: Services and Applications, Mobility and Delay-tolerance, Routing and Data Dissemination, and two sessions on Human-centric Sensing.

The program also includes a short paper presentation session for validated early ideas that can be described as a concise contribution, two keynote talks, an industry session, and a poster and research demonstration session.

EWSN 2015 received a total of 85 paper submissions. In the full papers category, it received a total of 65 papers, of which 14 were selected for publication and presentation as a full paper, yielding an acceptance rate of 21.5%. A total 318 reviews were written for this year's edition of EWSN. Following the written reviews, the papers have been selected after a very active weeklong online discussion.

This high-quality program is very encouraging towards meeting the expectation of a very captivating and productive edition of EWSN, to be hosted by CISTER in February 2015.

ECSEL PROJECT PROPOSAL ENTERS NEGOTIATION PHASE

ECSEL Joint Undertaking
Electronic Components and Systems for European Leadership

The European research project proposal MANTIS submitted to the last ECSEL JU call was approved and passed to the negotiation phase.

The overall concept of MANTIS (Cyber Physical System based Proactive Collaborative Maintenance) is to provide a proactive maintenance service platform architecture based on Cyber Physical Systems that allows to estimate future performance, to predict and prevent imminent failures and to schedule proactive maintenance. The research addressed in MANTIS will contribute to companies' assets availability, competitiveness, growth and sustainability. Use cases will be the testing ground for the innovative functionalities of the proactive maintenance service platform architecture and for its future exploitation in the industrial world. Results of MANTIS can be utilized directly in several industry areas and different fields of maintenance.

CISTER/INESC-TEC will be part of a Portuguese consortium integrating INESC-TEC, UNINOVA and ADIRA. In this project CISTER/INESC-TEC will lead the work package related to dissemination and will work on an industrial pilot using ADIRA machines and also on the development of sensors for maintenance, their communication protocols and the middlewares which will make that information available to higher layers.

The ARTEMIS Joint Undertaking (which is now part of ECSEL) has always been one of the flagship and most attractive funding frameworks that has fostered scientific research in Europe, in particular the research in cyber-physical systems. Throughout the years researchers in CISTER/INESC-TEC have been active members of numerous project consortium with a successful track record of accepted projects at every call. CISTER perpetuated this tradition with the MANTIS project.

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INVITED SEMINAR IN ONE OF THE LEADING RESEARCH LABS IN EUROPE

Retis Real-Time Systems Laboratory

CISTER Researcher Konstantinos Bletsas had the honor to present 3 seminars at one of the leading labs in the area, the ReTis Lab, in Pisa (04-06/11/2014), by invitation from Prof. Buttazzo, two on semi-partitioned multiprocessor scheduling and one on WCET analysis for GPUs. These seminars counted towards the course requirements of PhD research students.

The first two seminars were on semi-partitioned multiprocessor scheduling (respectively, the families of slot-based and timed-migration-based algorithms). The last seminar covered approaches for the WCET analysis for GPUs (including the work done by CISTER PHD student Kos Berezovskyi).

Besides the great hospitality, as part of this visit, Konstantinos had interesting discussions and interactions with the lab members for the purpose of identifying topics for potential collaboration. Seminal ideas that can foster follow up joint research were discussed and concrete proposals might sparkle out of those.

TOWARDS THE SECOND MILESTONE OF P-SOCRATES

On December 5th, the partners of the European project P-SOCRATES gathered for a one-day technical meeting in Rome, Italy. The participants made significant progress in clarifying the specifics of the system model and software stack that will be presented to the reviewers at the 2nd milestone of the project, in the first quarter of 2015. The partners also evaluated their individual exploitation plan and discussed the deliverable on exploitation.

The P-SOCRATES project is researching and developing new techniques for exploiting the massively parallel computation capabilities of next-generation many-core embedded platforms in a predictable way. The project partners include the research institutions Barcelona Supercomputing Centre (Spain), University of Modena (Italy) and Swiss Federal Institute of Technology Zurich (Switzerland).

The industrial partners include ATOS (Spain), Evidence (Italy) and Active Technologies (Italy). The project partners are supported by an industrial advisory board, which includes well-known multinational companies including Airbus, IBM, and Honeywell. Besides overall coordination and technical management, CISTER/INESC-TEC is also deeply involved in the parallelism to real-time activity, leading in particular the Timing and Schedulability analysis work package.