

IWoCPS - 1
FIRST INTERNATIONAL WORKSHOP ON
CYBER PHYSICAL SYSTEMS

Romanian Academy
Bucharest, Romania
May 28-29, 2012

PROGRAMME

FIRST INTERNATIONAL WORKSHOP ON CYBER PHYSICAL SYSTEMS

We have a great pleasure to invite you to participate in the First International Workshop on Cyber Physical Systems (IWoCPS-2012). IWoCPS-2012 covers the latest advances in Cyber Physical Systems. The ultimate aim is to stimulate research that will lead to the creation of responsive environments for networking and, at longer-term, the development of Cyber Physical Systems. We envision that the cyber-physical systems of tomorrow will far exceed those of today in terms of adaptability, autonomy, efficiency, functionality, reliability, safety, and usability.

Research advances in cyber-physical systems promise to transform our world with systems that respond more quickly (e.g., autonomous collision avoidance), are more precise, work in dangerous or inaccessible environments (e.g., autonomous systems for search and rescue, firefighting, and exploration), provide large-scale, distributed coordination (e.g., automated traffic control), are highly efficient (e.g., zero-net energy buildings), augment human capabilities, and enhance societal wellbeing (e.g., assistive technologies and ubiquitous healthcare monitoring and delivery).

ORGANIZERS

Romanian Academy – Information Science and Technology Section
Romanian Society of Control Engineering and Technical Informatics (SRAIT)
Romanian Society for Artificial Intelligence
National Authority for Scientific Research
Ministry of Communication
IEEE Romanian Section

INTERNATIONAL PROGRAMME COMMITTEE

Ioan Dumitrache – General Chair, Romania

Acad. Florin Filip, Romanian Academy (RO)	Corneliu Burileanu (RO)
Dan Tufiş (RO)	Mihail Voicu (RO)
Horia Teodorescu (RO)	Pedro Albertos (ES)
Radu Mărculescu (USA)	Georgi Dimirovski (MK)
Radu Enache (RO)	Mihaela Ulieru (CA)
Nicolae Țăpuș (RO)	George Calcev (USA)
Valentin Cristea (RO)	Doina Banciu (RO)

LOCAL ORGANIZING COMMITTEE

Iancu Ștefan	Alexandru Dumitrașcu
Victor Croitoru	Florin Pop
Simona Caramihai	Monica Pătrașcu
	Bogdan Hanchevici

CONFERENCE WEB-SITE

<http://iwocps.hpc.pub.ro>

IWoCPS - 1 TIME TABLE

Monday, May 28, 2012

- 9.00 – 9.30 Registration
- 9.30 – 10.00 Opening Ceremony
- 10.00 – 10.50 Invited Paper, Plenary Session – Radu Mărculescu (USA)
- 10.50 – 11.15 Coffee break
- 11.15 – 13.15 Workshop session
- 13.15 – 14.30 Lunch
- 14.30 – 15.20 Invited Paper, Plenary Session – Florin Filip (RO)
- 15.20 – 17.20 Workshop session
- 19.30 Cocktail

Tuesday, May 29, 2012

- 9.30 – 10.20 Invited Paper, Plenary Session – Ioan Dumitrache (RO)
- 10.20 – 12.20 Workshop session
- 12.20 – 12.30 Coffee breaks
- 12.30 – 14.30 Round Table
- 14.30 – 15.00 Closing Ceremony

Invited Papers



Cyberphysical Systems: Workload Modeling and Design Optimization
Prof. Radu Mărculescu
Carnegie Mellon University, United States



Large-scale Systems Control and Decision-making
Acad. Florin Filip
Romanian Academy, Romania



Cyber Physical Systems - New Challenges for Science and Technology
Prof. Ioan Dumitrache
University Politehnica of Bucharest, Romania

Monday, May 28, 2012

Session Analysis and Design of Cyber Physical Systems (ADCPS)

Session Chair: Prof.PhD eng. Mihail Voicu – Romania

Monday, May 28, 2012, 11:15 – 13:00

ADCPS.1 Robust Controller Including a Modified Smith Predictor for AQM Supporting TCP Flows

Mihail Voicu – Romania

ADCPS.2 Design of Complex Software Systems

Octavian Arsene, Ioan Dumitrache – Romania

ADCPS.3 Cyber-Physical Systems - Concept, Challenges and Research Areas

Teodora Sanislav, Liviu Cristian Miclea – Romania

ADCPS.4 Systemic Approach of Information Management in Digital Libraries

Doina Banciu – Romania

ADCPS.5 Kalman-Type Filtering for Networked Control in the Presence of Fading Channels

Adrian-Mihail Stoica – Romania

Session Applications in Advance Communication (AAC)

Session Chair: Prof.PhD eng. Radu Mărculescu – United States

Monday, May 28, 2012, 15:20 – 17:20

AAC.1 Networking in Cyber Physical Systems - A Concept Study

Patrik Halfar - Czech Republic

AAC.2 A Bioinformatics Cyber-Physical System: Nucleotide Genomic Signals

Paul Dan Cristea – Romania

AAC.3 Approximation of Confidence Sets for Output Error Systems Using Interval Analysis

Sándor Kolumbán, István Vajk – Hungary

Johan Schoukens – Belgium

AAC.4 Trends in the Development and Use of Medical Cyber-Physical Systems

Radu Dobrescu – Romania

Tuesday, May 29, 2012

Session Applications in Intelligent Information Systems (AIIS)

Session Chair: Acad.PhD Florin Filip – Romania

Tuesday, May 29, 2012, 10:20 – 12:20

AIIS.1 Cyber Measurements for a Hydropower System

Răzvan Măgureanu, Sergiu Ambrosi – Romania

AIIS.2 Application of WinCC SCADA Software to Building Automation Systems

Ioan-Valentin Sita – Romania

AIIS.3 iDemocracy

Gheorghe Ștefan – Romania

AIIS.4 Multi-agent System for Technical Diagnosis in Oil Industry

Liviu Ioniță – Romania

AIIS.5 Wireless Sensors and Actuators Networks: Localization for Medical and Robotics Applications

Constantin Ilaș – Romania

General Information

Location

IWoCPS-1 will be held at the Romanian Academy, 125 Calea Victoriei, 1st district, Bucharest, Romania. The Opening Ceremony and papers' presentations will be organized in the auditorium of the Romanian Academy.

Access to Workshop site

The Workshop site can be accessed by the following means of transportation:

- By underground - The workshop site is at 10 minutes walk from
Piața Romană or Piața Victoriei underground stations
- By bus - No. 133

Contact

Correspondence in connection to the IWoCPS-1 Workshop should be addressed as it follows:

IWoCPS - SRAIT
University Politehnica of Bucharest
Faculty of Automatic Control and Computers
313 Spl. Independenței, Sector 6
77206 Bucharest
ROMANIA
PHONE +(40) 21 402 91 67
FAX +(40) 21 402 95 87

Working language

The working language of IWoCPS-1 is English and will be used for presentations and discussions.

Name badge

An admission badge bearing the participant's name will be issued to all registered participants, thus authorizing access to all workshop sessions.

Get acquainted cocktail party

A get acquainted Cocktail party will be held on Monday, May 28th 2012 from 19:30 hours at *Casa Oamenilor de Știință* Restaurant (address: 9 Lahovari Square). The cost of attendance is covered by the registration fee.

Refreshments

Refreshments will be available at the Workshop site daily.

Registration and information desk

The IWoCPS-1 Registration Desk will be open at the Workshop site, Romanian Academy, 125 Calea Victoriei, starting from May 28th 2012, 9:00 hrs.

Registration fee

Registration fee is 200 Euro and includes participation, coffee breaks and cocktail.