

Würzburg



Würzburg, with its numerous theaters, open-air concerts and wine festivals, is a tourist's delight. Located on the banks of river Main, vineyards,

castles, medieval cities and baroque palaces characterize this region. Must-do's in Würzburg include a walk in the gardens adjacent to the Residence Palace, a baroque UNESCO World Cultural Heritage Site built by the famous architect Balthasar Neumann, a stroll across the 'Alte Mainbrücke' and a walk up to the Marienberg fortress enjoying a panoramic view of the entire city.

Location and Approach

The international airports in Frankfurt and Nürnberg are within close range (about 90min by train). With direct access to three major German highways, the A3, A7 and A81, Würzburg is easily reached by road as well.



Conference Location

The IFAC symposium will be held at the Informatics building, Turing-Hörsaal, located at Hubland campus of University of Würzburg and can be quickly be reached by public transport from the city center.



Conference Highlights

Industrial Round Table

In addition a panel of distinguished industrial researchers will discuss the topic

"The Future of Computers in Automatic Control"

Participants will include:

- Prof. Dr. Achatz, SIEMENS Corporate Vice President / head of research
- Prof. Dr. Gerhäuser, Director Fraunhofer IIS, home of the mp3-standard
- Dr. Spohr, Director Wittenstein Motion Control

Invited Sessions

A broad spectrum of invited sessions of prominent researchers will address up-to-date research areas of computers in control, such as:

- Teleoperated Robot Vehicles
- Sensor-Actuator Networks
- IT-Security in Embedded Systems
- Pico-Satellites: Challenges in System Design and Control
- Telehealth
- Agricultural Robots
- Grasping Passive Objects
- Sensor Networks

Plenary Lectures

Plenary lectures by outstanding researchers will address:

- "The Role of Communication in Industrial Control" by Stefan Svensson (ABB)
- "Challenges for Control Systems in Electric Cars"
- "Stuxnet: Lessons Learned for Security in Embedded Systems"

Publications

Selected papers will be invited for special issues of the IFAC-related journals "Control Engineering Practice" and "Space Technology".

Julius-Maximilians-University Würzburg (JMUW)

The university first founded in 1402, enrolls today more than 24 000 students in 10 faculties and hosts well known and reputed research institutions. 14 Nobel Prize winners have worked here, including Wilhelm Röntgen, the discoverer of X-Rays.



1st IFAC Conference on Embedded Systems, Computational Intelligence and Telematics in Control



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International Federation of Automatic Control



VDE

VDI/VDE-Gesellschaft
Mess- und Automatisierungstechnik

1st IFAC Conference on Embedded Systems, Computational Intelligence and Telematics in Control
April 3-5, 2012
Würzburg, Germany

Sponsors

IFAC TC 3.1, TC 3.2 & TC 3.3 –
Computers, Cognition and Communication

Co-Sponsors

IFAC TC 4.1. Components & Technologies for Control,
IFAC TC 4.2. Mechatronic Systems, IFAC TC 4.3. Robotics,
IFAC TC 4.5. Human Machine Systems, IFAC TC 7.3. Aero-
space, IFAC TC 7.5. Intelligent Autonomous Vehicles
Dept. of Robotics & Telematics, University of Würzburg,
Zentrum für Telematik Gerbrunn
VDI/VDE-GMA, German NMO in IFAC

Committees

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Matjaž Colnarič

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Industrial Chair

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Aarne Halme	Radu-Emil Precup	Lichen Zhang

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Scope

The conference focuses on theories, applications and developments in control related research fields, covering three major topics: computers for control, computational intelligence in control and control via communication networks.

Computers for control considers a broad range of computer-based control systems, spanning from system architectures, inter-computer communications, man-machine interfaces for real-time distributed computer control systems to programmable logic controllers, Fieldbus and standards-based platforms and environments, etc.

Computational intelligence in control focuses on all aspects of knowledge-based, fuzzy, neuro-fuzzy and neural (both artificial and biologically plausible) systems and evolutionary algorithms relevant to control, both theoretical and application driven.

Control via communication networks encourages topics of computerized and telecommunication-based automation systems, providing services to remote equipment. This addresses systems integrating methods of remote control, cooperative communication for remote applications, and remote sensor data acquisition.

Topics

Topics include but not restricted to the list below:

- Computer/system architectures for control
- Fieldbus and standards-based platforms & environments
- Logical design, physical design and implementation
- Programmable logic controllers (PLC's)
- Inter-computer communications, Local-area networks
- Cooperative communication for remote applications
- Man-machine interfaces for distributed control systems
- Modeling, identification, stability analysis & adaptation
- Forecasting, learning and evolutionary algorithms
- Brain-computer interfacing, bioinformatics
- Evaluation and definition of performances objectives
- Predictable time and behavior under failure conditions
- Reliability and maintainability

- Remote control methods, in particular networked control, supervisory control and distributed control
- Remote sensor data acquisition
- Telematics applications, remote industrial automation
- Tele-medicine, Automotive control
- Space exploration, planetary rovers
- Specific application areas, e.g. traffic control
- Embedded systems applications, industrial projects, case studies

Schedule & Submission

- Submission of draft papers: **October 15, 2011**
- Notification of acceptance: December 15, 2011
- Submission of full paper: February 15, 2012
- Paper submission on: <http://ifac.papercept.net/>

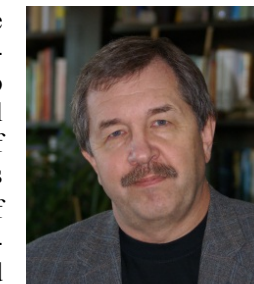
Registration & Language

- Early Registration Deadline: 15.01.2012
- Regular participant fee: €690
- The working language of the conference is English.

Welcome Address (excerpts)

“In the IFAC's Coordinating Committee on Computers, Cognition and Communication in control, the need emerged to organize a conference focusing on all aspects of embedded systems that are of particular interest to control systems implementation... The idea of CESCIT is to organize a joint conference with carefully selected, but broad and non-limiting topics that pertain to computer control...CESCIT is aiming at becoming a triennial event, organized in each year following the IFAC's World Congress...”

--Prof. Matjaž Colnarič



“It is our pleasure and honour to invite you to the IFAC CESCIT conference in Würzburg. This location offers a perfect mix of rich historical heritage and high-tech innovations... I am looking forward to meeting you in Würzburg in April to share with you the technical highlights of the conference, as well as the cultural treasures of this region.”

-- Prof. Klaus Schilling.