

Call for Papers  
14th Annual IEEE International Conference and Workshop on the Engineering of  
Computer Based Systems (ECBS)  
sponsored by the IEEE technical committee on ECBS.



Conference and Workshops: March 26th – 29th, 2007  
At **Doubletree Hotel Tucson at Reid Park** in Tucson, Arizona, U.S.A

**“Raising Expectations of Computer Based Systems”**

CONFERENCE AND WORKSHOPS: ECBS 2007 will be the 14th formal IEEE sponsored meeting dedicated to formulating and advancing methods, techniques and tools for the engineering of computer-based systems.

**What is the Engineering of Computer Based Systems?** The emerging discipline of ECBS is devoted to the design, development, deployment, and analysis of complex systems whose behaviour is largely determined or controlled by computers. CBSs are characterized by functional, performance, and reliability requirements that mandate the tight integration of information processing and physical processes. ECBS encompasses many facets: system modelling, requirements specification, simulation, architectures, communications, safety, security, reliability, software, hardware, human computer interfacing, system integration, verification and validation and project management. ECBS is the integration of several engineering disciplines including software, hardware, and communications into a complete systems engineering discipline. The conference provides a bridge between industry and academia; the program will provide a balanced view of academic research and industrial developments.

**SCOPE:**

Contributions are sought in two major categories: advances in fundamental ECBS technologies and reports of solutions that further ECBS practice in application domains. The meeting's theme represents the increasing expectations of stakeholders upon computer-based systems in terms of performance, security, reliability, safety, usability. As builders and researchers of CBSs, are we achieving these expectations? What are we doing well, where do we need to improve?

One or more of the topics listed below should be reflected in the submitted papers - whereas the main focus should be the engineering of computer-based systems.

- o Adaptive Computing
- o Architectures
- o Autonomic Systems
- o Codesign
- o Component-Based System Design

- o Design Evolution
- o Distributed Systems Design
- o ECBS Infrastructure (Tools, Environments)
- o Education & Training
- o Embedded RealTime Software Systems
- o Lifecycle Processes and Process Evolution
- o Integration Engineering
- o Model-Based System Development
- o Modeling and Analysis of Complex Systems
- o Open Systems
- o Product-Families Models and Architectures
- o Reengineering & Reuse
- o Reliability, Safety, Dependability, Security
- o Requirements Elicitation and Analysis
- o Standards
- o System on a Chip
- o System Assessment, Testing and Metrics
- o Verification & Validation

Reports of practical solutions, trends and new system characteristics for ECBSs may include application domains such as: Aerospace Systems, Command and Control, Continuous and Discrete Manufacturing, Environmental Systems, Instrumentation and Control Applications, Internet Technology and Applications, Intelligent Highway-Vehicle Systems (IHVS), Medical Systems, Telecommunication.

#### WORKSHOPS:

ECBS 2007 will feature the following workshops:

1. Engineering of Autonomic Systems, see [www.ulster.ac.uk/ease](http://www.ulster.ac.uk/ease)
2. Model-Based Development of Computer-Based Systems
3. Embedded Systems Workshop: theory and practice

The workshops include short presentations and a forum for focused discussions.

Traditionally, at ECBS conferences, workshops are strongly connected to the conference sessions to enable continued in-depth discussions.

**POSTER SESSIONS:** Posters and abstracts presenting work in progress are invited for a poster session. Accepted abstracts will be published in the proceedings. Graduate students are especially welcome to participate.

**DOCTORAL SYMPOSIUM:** The Doctoral Symposium provides a forum for PhD candidates to present work in progress and get feedback from the research community.

**INDUSTRIAL TRACK:** The industrial track provides a forum for short papers on results of industrial research and development.

**SUBMISSION OF PAPERS:** Full papers and Doctoral Symposium papers must be 6 to max 10 pages in Computer Society Format, poster abstracts 1 to 2 pages and industrial track papers 2 to 4 pages.

For submission dates see important dates

Submission of papers due:	17 November, 2006
Submission of doctoral symposium papers due:	15 November, 2006
Submission of poster abstracts due:	15 November, 2006
Submission of industrial track papers due:	15 November, 2006
Notification:	11 December, 2006
Camera-ready version due (for accepted papers):	06 January, 2007
Early registration deadline:	26 February, 2007

Submission dates for workshop papers may differ, see separate Calls for Papers on the workshop websites.

General Chair. **Jerzy W. Rozenblit** ([ecbs07@ece.arizona.edu](mailto:ecbs07@ece.arizona.edu))

Program Co-Chairs: John Leaney, Tim O'Neill, Jianfeng Peng

#### STEERING COMMITTEE

Jerzy Rozenblit, Jianfeng Peng, John Leaney, Matthias Riebisch, Peter Tabeling ,  
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Europe Co-Chairs: Matthias Riebisch, Peter Tabeling

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