

Call for contributions

SOFTWARE CYBERNETICS

(IWSC 2009) 6th INTERNATIONAL WORKSHOP ON SOFTWARE CYBERNETICS

Coalescing Software Engineering and Control Theory



In conjunction with **COMPSAC 2009**

33rd Annual IEEE International Computer Software and Applications Conference
Seattle, Washington, July 20 - July 24, 2009

(URL: <http://conferences.computer.org/compsac/2009/>)

Software cybernetics explores the interplay between software/software behavior, and control. The fundamental question of interest is when and how can software behavior, software processes, or software systems be adapted or evolved to meet old and new objectives in the presence of a changing environment, e.g., disturbances, faults, or expanded requirements? This emerging and interdisciplinary area addresses issues and questions on:

- Formalization and quantification of feedback and self-adaptive control mechanisms in software;
- Adaptation of control theory principles to software processes and systems
- Application of software engineering principles and theories to control systems
- Integration of the theories of software engineering and control engineering

Topics of interest include, but are not limited to, the following

- Models and use of feedback mechanisms in software processes, simulation, and systems
- Feedback control in software test process and fault-tolerant computing
- Robust feedback policies for software security
- Robust software evolution using adaptive feedback control
- Self-adaptive, self-managing, and learning software
- Adaptive testing; fault detection and localization for self-correction in software and software processes
- Control of software rejuvenation; adaptive rejuvenation
- Relationship between bisimulation and controllability
- Application of supervisory control principles to software synthesis and safety control
- Software architectures for control systems
- Proactive and autonomic computing
- Software-enabled control
- Quality of Service Adaptive Mechanisms
- Adaptive Systems Design
- Adaptive Software Architectures
- Component-Based Adaptive Systems

Submission of papers: Manuscript for submission should be written in English and have no more than 6 pages (including tables and figures). See COMPSAC website <http://conferences.computer.org/compsac/2009/> for instructions of the format of the papers. Electronic version of the papers in PDF or postscript files should be submitted to the workshop, using COMPSAC submission page before the submission deadline on March 1, 2009.

Important dates

- Submission: 1 March 2009
- Notification of acceptance: 7 April 2009
- Camera-ready copy: 30 April 2009

Selected papers will be invited to submit an extended version to be published in The Journal of Discrete Event Dynamic Systems (DEDS).

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For updated information, refer to www.utdallas.edu/~cangussu/IWSC.html or contact the program co-chairs (ron@kpa.co.il or rkumar@iastate.edu).