Software and systems development takes place in a dynamic context of frequently changing technologies, limited resources, different cultures and multiple disciplines. Global development and emerging technologies are forcing software development organizations to cut costs by rationalizing processes and resources, outsourcing part or all of their activities, reusing existing software/services, and evolving existing systems to meet new needs, while still minimizing the risk of projects failing to deliver. To address these difficulties, new or modified processes are proposed for capturing, simulating, and managing software processes better with respect to highly volatile contexts. In addition, concepts for modeling such processes and their effects are needed.

ICSP 2010 invites papers describing completed research or advanced work in progress in all areas of software and systems development processes, including: distributed software processes, maturity models, novel techniques for systems, and scale down to support small to medium sized enterprises; process tools, and metrics; and the simulation and modeling of software and systems processes. As in previous years, ICSP 2010 will organize a special track for papers on software and systems process simulation. Contributions reflecting industrial experience are particularly welcome.

The increasing challenges faced by the software industry combine to increase demands on software processes. As a result, a number of practical questions arise, such as:

• What are appropriate modeling concepts for process variability, rework, iterations, events, dynamics, inter-organizational process interfaces, etc.?
• How to address the challenges of the economic crisis and the needs for justifying IT investments?
• How to address changing development and business contexts?
• What are the implications of adopting systems engineering processes and integrating them with software processes?
• What defines a process-based competitive advantage?
• What is the return on investment for CMMI, Six-Sigma, Spice, ISO, lean development, and other SPI paradigms and industry standards?
• How to predict the effects of process improvement initiatives?

Meanwhile, to address these practical questions, a corresponding set of research questions arise, such as:

• How can process representation and analysis capabilities better support expression and reasoning about unavoidably incomplete, inconsistent, ambiguous, or emergent process definitions?
• How can more precise micro-process capabilities be integrated better with more strategic macro-process capabilities?
• How can software processes and associated methods, tools, and metrics scale up better to complex software-intensive systems of systems, and scale down to support small to medium sized enterprises?
• How can various forms of simulation and modeling methods and tools be integrated better with each other and with other process representations and reasoning tools?
• How can useful process assets (including process models and process simulations) be safely composed and organized into useful asset libraries?
• How can processes be specified using evidence?

Topics of interest for the special track on research and applications related to software process simulation include but are not limited to:

• Process simulation of emergent issues and processes (such as global software development, software/systems integration, acquisition, integration of software and systems processes, open source development, software safety and security, etc.)
• Advances in software process simulation modeling representations and methods, yielding generalized and adaptable process simulation models featuring "plug and play" process model components, patterns or archetypes
• Applications of software process simulation applications in industry, including cost-benefit analyses of software process simulation applications in various contexts

Springer-Verlag agreed to publish the proceedings of ICSP 2010 in Lecture Notes in Computer Science (www.springeronline.com/lncs); see our website for more details.

Submitted papers should be in English, and between 10 to 12 pages in length including figures (Springer format). Files in PDF format should be submitted through the web-based submission system on the ICSP 2010 website. Authors should state whether their submission is intended for the special Process Simulation track. In addition, three or four keywords should be included to identify the research domain that the paper addresses.

Key Dates:
• Submission Deadline: January 21, 2010 (Extended)
• Acceptance Notification: March 19, 2010
• Camera-Ready version Deadline: April 23, 2010

For further information regarding paper submission and formats, please refer to the ICSP 2010 website at: www.icsp-conferences.org/icsp2010 or http://icsp10.upb.de/