

# Description

Special issue of Journal Computer-Aided Design  
on

## **Fundamentals of Next Generation CAD/E Systems**

### **Guest-editor:**

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### **Handling co-editor in chief**

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Since the 1960's, computers have played more and more roles in engineering practices. The evolution of Computer-Aided Design/Engineering systems has been driven by both the needs for quality and efficiency of engineering/business processes and the advancement of the computing technologies related to engineering/business practices. The technologies that have greatly impacted on CAD/E systems include finite element analysis, optimization algorithms, geometric modeling, data base technologies, artificial intelligence, and the Internet. In recent years, along with the advent of more computing devices and the in-depth investigation into the design/product development processes, it can be expected that new CAD/E systems are needed to further enhance the quality and efficiency of the product development process by taking advantages of those emerging technologies.

Herewith we describe a Special Issue on **Fundamentals of Next Generation CAD/E Systems for a special issue**. The objective of this special issue is to investigate the fundamental theories and techniques that may provide the framework and drive the next generation CAD/E systems. Emphasis will be on widely-based algorithmic and computational paradigms/models as well as on human, society and business extended approaches that will address the industrial needs of the next generation CAD/E systems. Researchers and experts from academia, government, and industry are invited to share their knowledge and experience in new scientific advances, breakthrough algorithms, and novel industrial applications by submitting survey and research papers for this Special Issue.

### **Relevant topics:**

We invite authors to submit fully reported and sufficiently validated papers in the following topics:

- Requirements modeling and analysis of the next generation CAD/E systems;
- Computational support of design inspiration and creativity;
- Ubiquitous and pervasive computing in design;
- Context exploration and management in design systems;
- Natural language processing in engineering design;
- Knowledge mining in design from resources such as the web and patents;
- Capturing and managing design rationale;
- Content adaptation mechanisms for future CAD/E systems;

- Semantics representation and processing in engineering design;
- Issues in virtual collaborative product design/development.
- Agent-oriented technologies and solutions for next generation environments

**Deadlines are as follow:**

Submission of full papers:	1 April 2010
First decision notification:	1 July 2010
Submission revised papers:	1 September 2010
Second decision notification:	1 November 2010
Submission of final papers:	15 December 2010
Editorial for special issue	15 January 2011
Estimated publication date:	1 June 2011

**Submission instructions:**

All prospective authors are invited to obtain early feedback on possible submissions by e-mailing an abstract to the Guest Editors. All papers will be rigorously refereed by five peer reviewers of the Journal. Submission of a manuscript to this special issue of JCAD implies that no similar paper is already accepted or will be submitted to any other conference or journal. Authors should consult the "Instructions for Authors", which are available online and printed at the back of most issues of Computer-Aided Design, for information about preparation of their manuscripts. Papers of an appropriate standard not included in the special issue may be considered for publication in a regular issue of Computer-Aided Design. Manuscripts should be submitted through the Elsevier publication management system for the CAD Journal: <http://ees.elsevier.com/cad/> . Please prepare your paper following the Guide for Authors available from the Author Gateway, <http://authors.elsevier.com/journal/cad>. Please submit your paper via <http://ees.elsevier.com/cad>, choosing **NG-CAD/E** as the Article Type.