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## FOREWORD

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### Special Section on Knowledge-Based Software Engineering

The special interest group named Knowledge-Based Software Engineering (SIG-KBSE) was established in 1992 in the Institute of Electronics, Information and Communication Engineers (IEICE).

It is possible to think the software development to be a series of activities to realize human knowledge as an algorithm on the computer. SIG-KBSE offers the opportunities for discussions and the presentations concerning not only a software development method using knowledge engineering but also an actual software development. The objective of this special section is to publish and overview recent progress in the interdisciplinary area of Artificial Intelligence and Software Engineering.

SIG-KBSE meeting is held every other month. Besides publishing papers including software engineering and knowledge engineering, SIG-KBSE also supports international conferences. The Joint Conference on Knowledge-Based Software Engineering (JCKBSE) is held biennially in a European country or Russia. The first JCKBSE was held in Pereiaslavl-Zaleskii, Russia in 1994. In that time, JCKBSE stood for Japan-CIS symposium on Knowledge-Based Software Engineering. Then, this symposium expanded to a joint conference on Japan, European countries and Russia. After the first JCKBSE, it was held in Sozopol, Bulgaria in 1996, Smolenice, Slovakia in 1998, Brno, Czech in 2000, Maribor, Slovenia in 2002, Protovino, Russia in 2004, Tallinn, Estonia in 2006, and Piraeus, Greece in 2008. JCKBSE2010 was held in Kaunas, Lithuania.

This section was planned to include papers based on the presentations at JCKBSE2010 and the papers submitted for the CFP. In preparation of this special section, an Editorial Committee was organized and a CFP was distributed via IEICE transactions. 26 papers were submitted in response to the CFP (19 from Japan, 5 from China, and 2 from Thailand). After extensive review processes, 13 papers were accepted. This shows the strictness of reviewing processes as well as high quality of accepted papers. The topic of this section covers knowledge-based requirements engineering, knowledge-based software development techniques, knowledge-based management techniques, and agent-based system.

Finally, I would like to express my sincere appreciation and gratitude to all the authors for their contributions. Special thanks are due to the following editorial committee members and additional referees for their very considerable efforts to review the submitted papers and their assistance of preparing for this Special Section.

#### Special Section Editorial Committee Members

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Takako Nakatani, Guest Editor-in-Chief

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**Takako Nakatani** (*Member*) received B. of Science from Tokyo University of Science, M. of Systems Management from the University of Tsukuba, and Ph.D. from the University of Tokyo in 1980, 1994, and 1998, respectively. After she worked for several software development companies, she became a board member of S-Lagoon in 1995. She has been an associate professor at the Graduate School of Business Sciences, University of Tsukuba since 2006. Her interest area is software engineering, requirements engineering, and object-oriented modeling techniques. Dr. Nakatani is a member of IEEE Computer Society, ACM, Information Processing Society (IPS) Japan, Japan Society for Software Science and Technology (JSSST), and the Society of Project Management. She is currently a chairman of SIG Knowledge-Based Software Engineering of IEICE.

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