

**SPECIAL ISSUE ON 2019 INTERNATIONAL CONFERENCE
ON SMART SCIENCE-ICSS2019: PART 1**

PREFACE



Smart technologies in the research field of innovation in advanced system design, sensing control, modeling, and optimization have made great progress in recent years, and intelligent automation system has now become a popular term in the fields of electrical and mechanical engineering and the development of industry 4.0. Many researchers in smart system design, metrology, and optimization have made great efforts to develop innovative methodologies for engineering and physics, and among others, research results have had a great influence in the greater fields of system simulation and control.

On the other hand, with the miniaturization of electronic devices and advances in nanomaterial research and production, the application of functional nanomaterials is at the forefront of scientific and industrial attention. Driven by such motivation, various innovative and intelligent methodologies for system modeling, materials for sensor technology, and associated phenomena are proposed in the area of engineering. This special issue includes the theoretical and experimental results of innovative and intelligent sensing control analysis and experiments on functional materials in engineering studies, and their various applications.

This special issue presents 21 papers selected from the proceedings of 2019 International Conference on Smart Science (ICSS2019) in Japan. The topics include advanced materials and manufacturing technology, advanced modeling and control technology in mechatronic and energy systems, dimension measurement and metrology technology, and advanced design and smart manufacturing technology for precision engineering, sensing and automation systems. All the papers submitted to this conference were first subjected to peer review by two independent reviewers prior to the conference. This special issue presents the current innovative and intelligent sensing analysis and experiments. Lastly, I sincerely thank Ms. Misako Sakano, Editorial Department of MYU K.K., for her kind support in the publication of this issue. I would also like to thank ICSS Program Chairman, Professor Chien-Hung Liu, for his advice.

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