

Guest Editorial

Special Section for ICSMD 2021

NOWADAYS, sensing and measurement are going to play an integral role in artificial intelligence (AI). With the rapid development of intelligent manufacturing and frontier equipment, there is an urgent need for providing a dedicated and unusual forum for researchers, scientists, and engineers to present their latest research findings in the area of sensing technology, measurement methodology, and data analytics approaches in the fast-changing era of AI.

In view of this point, Southeast University, Nanjing, China, hosted the second International Conference on Sensing, Measurement and Data Analytics in the era of Artificial Intelligence (ICSMD 2021) in Nanjing Shanshui Gran Hotel, Nanjing, during October 21–23, 2021, which is also co-hosted by Xi'an Jiaotong University, South China University of Technology, and the China University of Mining and Technology. ICSMD 2021 is technically supported by the IEEE Instrumentation and Measurement Society (IMS), the IEEE IMS TC-7 Signals and Systems in Measurement, and the IEEE IMS TC-3 Condition Monitoring and Fault Diagnosis Instrument.

Due to the pandemic COVID-19, only domestic scholars were invited to submit their valuable articles, and eight Special Sessions were proposed and accepted to be included in the conference. More than 160 scholars attended the conference, and 133 articles were submitted, among which 59 oral presentations and 45 posters are accepted. Three keynote speeches and one invited talk were presented during the conference. Finally, 103 articles were included in IEEE Explore, including two Best Papers Awards, one Best Student Presentation Award, and one Best Poster Award.

This Special Section of IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT Includes articles that are technically extended from their original ICSMD 2021 conference proceedings version. Nineteen proceeding papers were extended and submitted, and after peer review, eight of them were accepted and published in this Special Section, which covers various areas of sensing, measurement, and data analytics, including machine remaining useful life prediction, bearing and interturn short circuit fault diagnosis, non-contact capacitive coupling ECG, and terahertz nondestructive testing and evaluation.

We thank all the authors who submitted their extended articles to this Special Section, and the reviewers who provided valuable comments to improve the technical quality of these articles. A special thank goes to the past Editor-in-Chief, Prof. Shervin Shirmohammadi, who supported this Special Section of ICSMD 2021. Our thanks always go to Reta Wehmeier, Laura Roach for her assistance during the whole process of the Special Section.

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Dr. Liu served as the TPC Chair of 2017 Prognostics and System Health Management Conference (PHM 2017 – Harbin) and TPC Co-Chair for a series of prognostics and health management (PHM)-related conferences. His research interests include automatic test and condition monitoring, unmanned systems, sensor fusion, data-driven diagnostics and prognostics, industrial big data, and lithium-ion battery management.



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