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Special Issue on Automation Science and Engineering for Smart and Interconnected Healthcare Delivery Systems

There has been growing interest in managing healthcare delivery systems worldwide coupled with a recent influx of funding into the area. Automation is important for healthcare systems engineering. In recent years, the significant changes in healthcare delivery systems and the rapidly development in information technology, data analytics, wearable devices, etc., have generated numerous opportunities for innovation in automation for healthcare delivery systems. In addition, many new challenges have emerged in order to apply and implement these innovations. Such opportunities and challenges have significantly expanded the scopes of traditional automation science and engineering. The goal of this special issue on recent advances in automation science and engineering for healthcare delivery systems is to bring together researchers, clinicians, and healthcare practitioners into a forum, to show the state-of-the-art research and applications in the general area of automation science and engineering for healthcare delivery systems, by presenting efficient scientific and engineering solutions, addressing the needs and challenges for integration with new technologies, and providing visions for future research and development. The central theme of the proposed special issue is on *emerging opportunities and future directions in automation science and engineering for healthcare delivery systems*, where information technology based modeling, analysis, control and optimization are the focus areas, and broad aspects and issues will be well discussed. Topics to be covered include, but are not limited to the following:

- Automated monitoring and alarming system
- Automated diagnosis, response, and intervention system
- Electronic triage, visit, referral, and consult system
- Information control and coordination system for healthcare delivery
- Patient-centered smart care transition and intervention system
- System modeling and control of interconnected care delivery
- Human-machine interactions in healthcare delivery
- Real-time scheduling and capacity management system
- Modeling of patient engagement and safety in healthcare delivery
- Home-based care activity management system
- Big data and artificial intelligence for smart healthcare delivery
- Healthcare delivery logistics and supply chain management
- System application of robotics, sensors, IoT and wearable devices

Important Dates

- October 1, 2017: paper submission deadline.
- February 1, 2018: completion of the first round review.
- July 1, 2018: completion of the second round review.
- August 1, 2018: final submission due.
- October 1, 2018: tentative publication date.

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Paper Submission

All papers are to be submitted through the IEEE's **Manuscript Central** for Transactions on Automation Science and Engineering <http://mc.manuscriptcentral.com/t-ase>. Please select "Special Issue" under Manuscript Category of your submission. All manuscripts must be prepared according to the IEEE Transactions on Automation Science and Engineering publication guidelines <http://www.ieee-ras.org/publications/t-ase>. Please address inquiries to jingshan.li@wisc.edu.