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IEEE TRANSACTIONS ON AUTOMATION SCIENCE AND ENGINEERING Special Issue on Drug Delivery Automation

Drug delivery has attracted many researchers in recent years from the medical and engineering communities. It is one of the fastest growing healthcare sectors. The goal of drug delivery is to control the delivery, speed, and release of a drug without harming other tissues. This requires consideration of drug side-effects as well as dynamics and stability of the drug, which may be affected by delivery devices and systems. Approaches for drug delivery have advanced from traditional approaches to many new methods using novel materials and new physical or chemical effects. Recently, the focus of drug delivery system research has been moving towards the micro-/nano-scale. Automation is essential for this new phase of drug delivery, and requires efficient integration of automation principles with medical practices. The central theme of this Special Issue is *recent progress in automation for drug delivery*. This special issue aims to publish original, significant and visionary automation papers describing scientific methods and technologies that improve efficiency, productivity, quality and reliability of drug delivery. Special attention will be paid to papers focusing on integrating automation science with biological and medical principles, and to solve practical drug delivery problems, such as MEMS and NEMS based systems for drug delivery, distributed systems for drug delivery, sensor-network-based systems for drug delivery. Submissions of scientific results from experts in academia and industry worldwide are strongly encouraged. Topics to be covered include, but are not limited to,

- MEMS and NEMS based systems for drug delivery.
- Sensor network based systems for drug delivery.
- Intelligent distributed systems for drug delivery.
- Advanced systems for controlled drug release.
- Dynamics and control of drug delivery processes.
- Mathematical modelling of drug delivery processes.
- Control methods for micro-/nano-scale drug delivery.

Important Dates

- January 1, 2007: paper submission deadline.
- May 1, 2007: completion of the first round review.
- September 1, 2007: completion of the second round review.
- December 1, 2007: final manuscripts due.
- April 2008: 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.engr.uconn.edu/~ieeetase/>. All papers will be reviewed following the standard IEEE T-ASE review process.

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