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Special Issue on Microscale Medical Devices

(Previously titled Biomimetic Medical Devices: Microfluidics, MEMS, and NEMS)

The medical device industry increasingly relies on complex microfluidic, microelectromechanical (MEMS), and nanoelectromechanical (NEMS) devices as part of modern clinical treatments and diagnostic testing. The benefits of using micro devices are faster results and lower costs. Fundamental and translational research in microscale medical devices has exploded and is rapidly moving towards commercialization in the device, pharmaceutical, biotechnology and life science industries.

Applications for microscale devices include drug discovery, cell growth, disease studies, diagnostics, biologic sensing, mixing, filtration, and many others. For example, organ-on-a chip devices have recently been developed that mimic the biologic and physiologic properties of living systems and can be used for early evaluation of new drugs or devices, as well as to study disease state. Likewise, lab-on-a-chip systems that use micro-samples of blood are revolutionizing the diagnostic testing industry.

This Special Issue of the *ASME Journal of Medical Devices* will highlight original research on the use of microscale devices for medical applications. Papers being submitted for the Special Issue should describe new results from novel microfluidic, MEMS, NEMS or other microscale devices. Reports on experimental or computational research are welcome.

Topic Areas:

Microfluidics, MEMS, NEMS, Biomimetic, Lab-on-a-Chip, Organ-on-a-Chip, Biomimetics, Medical Device, Nanotechnology, Disease Diagnosis, Drug Screening, Biosensing.

Publication Target Dates:

Paper Submission Deadline: **March 1, 2018**
Initial Review Completed: **April 15, 2018**
Special Issue Publication Date: **September 2018**

Submission Instructions:

Papers should be submitted electronically to the Journal at <http://journaltool.asme.org>. If you already have an account, log in as author and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps. In either case, at the **Paper Submittal page**, select the **Journal of Medical Devices** and then select the Special Issue **Biomimetic Devices**.

Early submissions are strongly encouraged. Papers submitted by March 1, 2018 will be reviewed in time for inclusion in the Special Issue. Papers received after that date may still be considered for the Special Issue, if time and space permit. Papers that are not ready for production in time for inclusion in the Special Issue may be considered for a regular issue of the journal.

Special Issue Editor:

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