



MECHATRONICS

Call for Papers

Focused Section on

Nano/Micro- Motion System: Design, Sensing and Control (NMMS)

Nano/micro- motion systems (NMMS) play a key role in a broad spectrum of areas ranging from nanosciences and nanotechnologies, to advanced manufacturing, and to optical engineering and robotics. Through NMMS, precision observations, manipulations, synthesis, and operations at nano/micro- scale previously not feasible are enabled and achieved, and design, sensing, and control of NMMS are crucial to fulfill and enhance the function and performance of these systems. Continuously increasing demands and emerging applications in nano/micro- areas, however, present challenges arising from the design of dexterous NMMS, soft and/or compliant and 3D architectures of NMMS, high performance needs under stringent design constraints in resolution/bandwidth and dimension/weight, difficulties in direct sensing and signal/power transmission, and multi-degree-of-freedom precision positioning/motion with coupled dynamics and nonlinearity such as hysteresis and time-varying and nonlinear dynamics. These challenges have attracted increasing interests from researchers in recent years, leading to a wide variety of exciting results and endeavors. This Focused Section will assemble recent work contributing to the design, sensing, and control of nano/micro- motion systems. Contributions addressing the state-of-the-art methodologies, fabrication, and system integration, and the perspectives on the future of NMMS are also welcomed. Manuscripts should contain both novel theoretical and practical/experimental results. Topics of interests include but are not limited to:

- Design, sensing, fabrication, and modeling of NMMS;
- Advanced positioning and motion control of NMMS;
- Design, integration and control of micro-nano robotic and automation systems;
- Emerging Mechatronic/robotic applications of NMMS.

Manuscript preparation

Papers must contain original contributions and be prepared in accordance with the journal standards. Instructions for authors are available online at: <http://www.ieee-asme-mechatronics.org/>

Manuscript submission

Manuscripts should be submitted online at: <https://mc.manuscriptcentral.com/tmech-ieee>. The cover letter should report the following statement: “*This paper is submitted for possible publication in the Focused Section on Nano-/Micro Motion Systems: Design, Sensing and Control (NMMS)*”. All manuscripts will be subjected to the regular TMECH peer review process. Any questions relating to this focused section can be sent to one of the Guest Editors below via emails.

Important dates

Paper submission:	June 30, 2019
Completion of first review:	August 31, 2019
Submission of revised papers:	October 1, 2019
Completion of final review:	December 1, 2019
Submission of final manuscripts and copyright forms:	December 22, 2019
Scheduled Publication:	February, 2020

Guest Editors

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