

**2019 IEEE/SICE**

**International Symposium on System Integration ( SII2019 )**

**Sorbonne Université, Paris, France**

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**Special Session on**

**“Micro/nanorobotic systems: fabrication, control and automation”**

**organized by**

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**Abstract:**

Recent progress in micro/nanotechnologies and microsystem actuation/sensing components have greatly extended the capabilities of micro/nanorobotic systems. Those miniaturized and smart systems are emerging and could be applied to various fields from micromanufacturing to biomedical applications. However the nonlinear physics in small scales imposes great challenges in micro/nanofabrication technologies, dynamics, automatic controls and system integration. This special session will gather together the expertise and up-to-date knowledge to overcome such challenges by presenting case studies in this topic.

**Brief description:**

In the recent decades, the domain of micro/nanorobotic systems has emerged and its interest has increased rapidly. It is currently well positioned as one of the important domains in robotics society. This emerging field is combining multidisciplinary knowledge from fundamental physics, micro/nanotechnologies and control/automations thus attracting scientists from various domains working towards micro-manufacturing or biomedical applications. These complex systems have evidently great challenges in the system integration community.

The aim of this special session is to discuss current activities related to micro/nanosystems fabrication, characterization, modelling and control as well as all kinds of small scale mechatronics systems and their applications.

**Topics of interest include, but are not limited to:**

Microrobotics, Microelectromechanical system, Micromechanics, Micromanipulation, Control, Automation, Micromanufacturing, Biomedical systems

**Submissions Procedure:** All the instructions for paper submission are included in the conference website <http://www.sii2019.org> . A good quality paper may be considered for publication in IEEE Transactions on Industrial Informatics subjects to further rounds of review