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March 2005 Special Issue on Microtransducer Technologies

Microtransducer technologies have been evolved significantly with the progress of MEMS technologies and the recent advancement of nanotechnologies. New sensing structures and materials have been introduced including carbon nanotubes. Some ingenious actuation mechanisms have been experimented including large-scale flapping wings for MAVs (Micro Air Vehicles) and nanoscale molecular motors. The demand for advanced microtransducer technologies grows more rapidly as electronic systems require more to interact with the physical world by sensing and interacting with the surrounding environment.

This special issue intends to gather and promote the most recent advances in the field of various microtransducer technologies including design and analysis, fabrication process, modeling and simulations, system integration, testing and characterization, field applications and packaging. The proposed areas will include but are not limited to the following:

1. Microtransducer Design & Analysis

- Design, modeling and analysis
- Software or algorithm for sensor and actuator design and control
- Electronic circuit design for microtransducer interface, readout, and control circuits

2. Microtransducer Materials and Fabrication

- Nano material; Smart material New sensing or actuator materials
- New MEMS & microfabrication processes

3. Test & Characterization

- Material, Processes, devices and systems

4. Sensor and Actuator Applications

- Biosensors, micro-TAS, microfluidic system, BioMEMS, polymer MEMS
- Physical sensors and actuators; Nano actuators; Wireless and RF applications
- Micro power source, energy conversion, power MEMS, microfuel cells
- Information processing, data storage, optical MEMS

5. System Integration and Packaging

Authors wishing to have their contributions considered for publication in this Special Issue, which will be published in March 2005 issue, are invited to submit an electronic copy of their manuscripts to Editor-in-Chief, Kukjin Chun, at no later than December 31, 2004. Manuscripts should be submitted in free style double spaced MS Word or pdf file formats as an email attachment. See <http://www.jsts.org> for detail. Both regular papers as well as letters are welcome.