



## CALL FOR PAPERS

### Applications of Embedded Systems

**The Theme:** The advances in microcontroller systems underwent a tremendous evolution in recent years. Unlike general-purpose microprocessors, microcontrollers characterized by high integration, low power consumption, self-sufficient, and low-cost, are used in ever more sophisticated embedded systems demonstrating vast advantages over the traditional, Proportional-Integral-Derivative (PID) controllers. Modern microcontrollers today offer a wide range in flexibility and portability, from hard, firm, to flexible multi-core soft fabrics, and various nonlinear control technologies, ranging from expandable fuzzy microcontroller core for computational savings, via neural network for dynamic learning and adaptive control, to ant colonies microcontrollers for optimization. Implementations on the other hand range from entertainment to mission critical applications (electronic pet toys, home appliances, and robotics, to automotive, avionics, and military applications). The main objective of this Special Section is to bring the latest advances and ideas of worldwide research community into a common platform. Topics of interest of this Special Section include, but are not limited to:

- Embedded systems and sensor networks and networked systems
- Fault-tolerant, reliable, survivable mission critical embedded systems
- Reconfigurable, reusable microcontroller soft core based designs
- Performance improving using co-processors in combination with microcontroller soft cores
- Software-intensive System-on-Chip (SoC) and System-on-Programmable-Chip (SoPC) applications
- Microcontroller applications in renewable energy, MPPT, wind generator, photovoltaic systems
- Nonlinear, intelligent control applications in microcontrollers
- Computational intelligence, fuzzy/neural/particle swarm microcontroller implementations
- Robotics, kinematics and workspace boundary calculation of parallel robots
- Industrial electronics, manufacturing, and mechatronics
- Human-system interaction devices ranging from electronic pets to biometric sensing, exoskeletons, and fingerscan devices
- Automotive and avionics systems, autonomous vehicles, fly/drive-by-wire

#### Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transaction on Industrial Electronics <http://tie.ieee-ies.org/tie/>  
Please submit your manuscript in electronic form through Manuscript Central web site: <http://mc.manuscriptcentral.com/tie-ieee>. On the submitting page #1 in popup menu of manuscript type, select: SS on Embedded Systems.

#### Timetable

<b>Deadline for manuscript submissions</b>	<b>June 30, 2008</b>
<b>Information about manuscript acceptance</b>	<b>October 2008</b>
<b>Estimated publication date</b>	<b>May 2009</b>

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