IEEE Sensors Journal
Special Issue on Intelligent Sensors

The IEEE Sensors Journal announces a Special Issue on Intelligent Sensors to be published in 2007.

Recent advances in semiconductor fabrication technology, led by microelectronics and micro-systems design and fabrication, high performance embedded computing and advanced communications, have made possible the development and production of sensors belonging to a new generation – intelligent sensors. They are characterized as having significant data processing, storing and analyzing power. These intelligent sensors can be used as autonomous systems or deployed in large numbers to form powerful sensor networks. The sensor networks may depend on multiple embedded processors to simultaneously gather and process information from many sources. They are often flexible, self-organizing and fault-tolerant, thus making them well suited for mission critical applications.

There has been an increasing interest in the design, development and applications of the intelligent sensors and networks. The proposed Special issue on Intelligent Sensors is our contribution towards addressing the challenges faced by scientists and engineers on the following issues:

Accuracy – An Intelligent sensor will be able to compensate for systematic errors, drift and random errors generated by system parameters or the characteristics of the sensor,

Adaptability – An Intelligent sensor should be able to determine the processing parameters automatically,

Reliability – it should be able to detect corrupted data and self-test its operation,

Recalibration – The complete sensor system should be able to determine the type and level of recalibration required by a particular sensor,

Information Processing – An Intelligent sensor should incorporate advanced and efficient data processing techniques,

Data fusion and Integration – Coupling of sensing and computation at the chip level results in intelligent micro-sensors. Techniques are required to combine information from multiple sensors of different types to sift the most relevant information.

Subject Coverage

This special issue focuses on all aspects of design, development, implementation, operation and applications of intelligent sensors and sensor networks. We are inviting specialists in sensing from academia and industry to submit their latest research results as high quality journal paper manuscripts on topics related to intelligent sensors:

Sensor Characterization and Modeling

Smart Sensor Fusion	Sensors Integration and Communication
Sensors Information Processing	Intelligent Sensor Applications:
Bio-sensors and MEMS	Vision, Electromagnetic, Chemical, Mechanical, Gas, Physical,
Sensor Arrays and Networks	Biological, Acoustic, Noise, Vibration, Wireless

Notes for Potential Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Expanded, archival versions of papers delivered at technical conferences are welcomed. All papers are refereed through a web-based peer review process. A guide for authors, sample copies and other relevant information for submitting papers are available at http://www.ewh.ieee.org/tc/sensors/SJ/Sensors_journal.htm under the heading "Information for Authors."

All manuscripts must be submitted online via IEEE Manuscript Central:
http://sensors-ieee.manuscriptcentral.com/

Be sure to select the Manuscript Type as "Special Issue on Intelligent Sensors – 2007" instead of "Regular Paper" so that it is targeted for the special issue and sent to the appropriate Guest Editor.

Important Dates

Manuscript submission: **15th June 2006**
Reviewer reports: **15 October 2006**
Revised paper submission: **15th January 2007**
Final manuscript submission to publisher: **1st March 2007**

Guest Editors:

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IEEE Sensors Journal:

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