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CIMSA 2011



2011 IEEE International Conference on Computational Intelligence for Measurement Systems and Applications

Ottawa, Ontario, Canada, 19-21 September 2011

*Sponsored by the IEEE Computational Intelligence Society and the
IEEE Instrumentation and Measurement Society*

*Organized by the IEEE CIS ISATC – Task Force on Intelligent Measurement Systems,
the IEEE IMS TC-22 on Intelligent Measurement Systems, and the IEEE IMS TC-30 on
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CIMSA 2011 is held in conjunction with the 2011 IEEE International Conference on Virtual Environments, Human-Computer Interfaces, and Measurement Systems (Ottawa, Ontario, Canada, 19-21 September 2011).

The wide and increasing needs of adaptable and flexible solutions for many industrial, environmental, and engineering applications point out the importance of using design methodologies and implementation technologies with high ability of adaptation and evolution. Soft computing is one of the most relevant answers to such needs: neural networks, fuzzy logic, and genetic/evolutionary algorithms are fundamental keys to tackle these difficult problems. On the other hand, accuracy and uncertainty issues as well as suited data acquisition systems must be carefully considered in these applications since the quality of the solution greatly relies on them. Up to now, analysis and experiments have been performed by scientists and practitioners mainly to understand the underlying technologies and methodologies, but without any specific focus on the mandatory need of a quantitative assessment and a metrological analysis. Measurement science and technologies are vital to ensure the correct and effective use of soft computing technologies in real environments. CIMSA 2011 will continue the exciting experience of the previous editions by filling this gap in knowledge and practice, by focusing on the quantitative aspect of measurement issues for industrial, environmental, and engineering applications.

Papers are solicited on all aspects of computational intelligence technologies for measurement systems and the related applications, from the points of view of both theory and practice. This includes but is not limited to: intelligent measurement systems; accuracy and precision of neural and fuzzy components; intelligent sensor fusion; intelligent monitoring and control systems; neural and fuzzy technologies for identification, prediction, and control of complex dynamic systems; evolutionary monitoring and control; neural and fuzzy signal/image processing for industrial and environmental applications; image understanding and recognition; soft-computing technologies for robotics and vision; soft computing technologies for medical and bioengineering applications; hybrid systems; fuzzy and neural components for embedded systems; hardware implementation of neural and fuzzy systems for measurements; neural, fuzzy and genetic/evolutionary algorithms for system optimization and calibration; neural and fuzzy diagnosis of components and systems; reliability of fuzzy and neural components; fault tolerance and testing in fuzzy and neural components; neural and fuzzy techniques for quality measurement.

SUBMIT EXTENDED ABSTRACTS OR DRAFT PAPERS BY 15 APRIL 2011

Details for the submission and all information concerning the symposium can be found at the symposium web site at <http://cimsa.ieee-ims.org/>. Acceptance/rejection will be emailed by 27 May 2011. The final manuscript is due by 1 July 2011. Submission implies willingness to register at the conference, pay the registration fee and present the paper. Papers will be included in the proceedings only if at least one author will register and pay the registration fee by 1 July 2011 (member and non-member fees only are acceptable to this purpose) - no exceptions. If an author covers more than one paper with her/his registration to guarantee inclusion in the proceedings, she/he must pay a 50 US\$ surcharge for each paper in excess of one.