Special Issue

Advanced Self-X Sensory Systems: Concepts, Challenges, and Applications

Message from the Guest Editor

The versatility, adaptability, robustness, and resilience of living beings have long inspired engineers. While technical solutions have lagged, mimicking neural networks and creating self-X systems, such as self-monitoring and self-healing, offer promising approaches. These capabilities are essential for Industry 4.0 and fields like IoT, CP(P)S, wearable electronics, and healthcare. Advances in micro/nano integration and new sensory technologies enable the complexity needed for self-X functionality and optimization in application systems, extending design automation from design to runtime. This addresses both static and dynamic performance issues, known as extrinsic and intrinsic evolution in Evolvable Hardware Systems. Topics for this Special Issue include multi-level self-X systems, redundancy and reconfiguration, robust signal processing, multi-sensor approaches, design automation, yield optimization, and reduced measurement uncertainty. We seek review articles, original research, short communications, and history surveys on multi-level self-X systems. Authors can contact the to confirm their work falls within the scope of this Special Issue.

Guest Editor

Prof. Dr. Andreas König
Institute of Integrated Sensor Systems, TU Kaiserslautern, 67663 Kaiserslautern, Germany

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Sensors
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sensors@mdpi.com

mdpi.com/journal/sensors

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Dipartimento di Ingegneria Elettrica e dell'Informazione (Department of Electrical and Information Engineering), Politecnico di Bari, Via Edoardo Orabona n. 4, 70125 Bari, Italy

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