# Special Issue

# Application of FPGA-Based Sensor Systems

## Message from the Guest Editor

The development of intelligent sensor technology with the capacity for integrated processing intelligence is crucial for a variety of reasons. It enables immediate digitization of sensor-detected information, avoiding losses or alterations during transmission, and facilitates rapid data analysis and real-time response. This proximity between the sensor and intelligence optimizes systems, reducing latency and communication overhead. The use of programmable parallel processing units such as field-programmable gate arrays (FPGAs) provides the capability of executing operations in parallel, allowing for increased speed and channel capacity. Furthermore, the reprogrammability offered by FPGA solutions makes these sensors more flexible and quicker to design than fully integrated solutions. Moreover, through processing time-mode techniques, it is sometimes possible to completely eliminate the fragile, sensitive, and often poorly integrable read-out electronics that separates the sensor from the FPGA, resulting in a more compact and cost-effective system.

## Guest Editor

Dr. Nicola Lusardi

Department of Electronics, Information and Bioengineering, Politecnico di Milano, Milano, Italy

## Deadline for manuscript submissions

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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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