



CALL FOR PAPERS IEEE Sensors Journal Special Issue on

Advanced Interface Circuits for Autonomous Smart Sensors

The potential offered by combining low cost and reliable sensors with IoT is enormous in realizing valuable sensing solutions which otherwise are difficult to complete and implement on a large scale. The areas which could benefit most from such sensor solutions are: manufacturing, shipping, automotive industries, healthcare, agriculture, the military, sports, condition monitoring, safety, etc. Over the last few years, substantial research efforts have focused on improving the sensor interface electronics in both the signal path and the power line. Still, there are significant challenges to address such as: reducing the power consumption of the read-out circuits, improving the efficiency of the power converters, increasing robustness in harsh environments, reducing susceptibility to external interferences and wireless communication, etc. In addition, the wide variety of sensors and sensing principles has resulted in an equally wide variety of sensor interface solutions, which in many cases are application-specific. For this reason, steady and rapid progress in this area is only possible if ideas and research achievements are shared within the scientific community in a timely manner. This Special Issue is expected to serve as a platform for facilitating that knowledge sharing process.

The editors invite contributors to submit review materials and original manuscripts with theoretical backing and experimental validation in the field of interface circuits for Autonomous Smart Sensors, showing advances in terms of: accuracy, self-calibration, low energy consumption, efficiency, cost, form factor, noise, interference insensitivity, operability under harsh conditions, among others. Circuits and/or techniques applicable to different types of sensors (resistive, capacitive, inductive, optical, etc.) monitoring different physical and chemical quantities (vibration, temperature, pressure, light, etc.) are welcome. Designs can be based on original microelectronic circuits or can use off-the-shelf components. The main topics are (but not limited to):

- Smart sensors
- Analog signal processing circuits for amplification, linearization, demodulation, etc.
- Data conversion, such as analog-to-period, analog-to-digital and time-to-digital converters
- Embedded systems
- Energy harvesters and maximum power point tracking circuits
- Power converters and power management techniques
- Applications: smart city, smart home, environmental monitoring, biomedical, industrial, wearable systems, etc.

Papers that are solicited and invited shall undergo the standard IEEE Sensors Journal peer review process. All manuscripts must be submitted online, via the IEEE Manuscript Central™ (see <http://mc.manuscriptcentral.com/sensors>). When submitting, please indicate in the “Manuscript Type” roll down menu, and also by e-mail to Ms. Lauren Young, l.young@ieee.org, that the paper is intended for the “Advanced Interface Circuits for Autonomous Smart Sensors” Special Issue. Authors are particularly encouraged to suggest names of potential reviewers for their manuscripts in the space provided for these recommendations in the Manuscript Central. For manuscript preparation and submission, please follow the guidelines in the Information for Authors on the IEEE Sensors Journal web page: <http://www.ieee-sensors.org/journals>.

Deadlines:

- Manuscript Submission: ~~September 30, 2019~~ **November 30, 2019**
- Notification of Acceptance: ~~November 30, 2019~~ **January 31, 2020**
- Final Manuscript published in IEEE Xplore: ~~December 31, 2019~~ **February 28, 2020**

Guest Editors:

Stoyan Nihtianov
Delft University of Technology
The Netherlands
S.Nihtianov@tudelft.nl

Zhichao Tan
Analog Devices Inc.
USA
zhichao@ieee.org

Ferran Reverter
Universitat Politècnica de Catalunya
Spain
ferran.reverter@upc.edu

Boby George
IIT Madras
India
boby@iitm.ac.in