Special Issue

Gas Sensors: Optimization and Applications

Message from the Guest Editor

Gas sensor technology has rapidly evolved to deliver innovative solutions for detecting and monitoring gases in all parts of human life, on the Earth, inside, in the atmosphere, and even in space. Gas sensors are critical for detecting and monitoring gases in a variety of environments, ensuring safety and protection everywhere. They have countless applications: in medicine, diagnostics, industry, mining, agriculture, food production and storage, detecting battery aging or plastic degradation, monitoring climate change and animal migration, etc. Optimizing these sensors involves enhancing their sensitivity, selectivity, response time, and durability, while also making them incredibly fast, accurate, user friendly, less power consuming, and compatible with web and mobile technologies. Advanced materials, surface functionalization, nanotechnology, advanced signal processing algorithms, machine learning, and artificial intelligence systems are being explored to further improve sensor performance.

Guest Editor

Dr. Tanya Blank

Electrical and Computer Engineering Department, Technion—Israel Institute of Technology, Haifa 3200003, Israel

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

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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