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Nitrides and Carbides MEMS/NEMS

Guest Editors:

Dr. Marc Faucher

CNRS-IEMN, 59650 Villeneuve-
d'Ascq, France

Prof. Dr. Mina Rais-Zadeh

1. NASA Jet Propulsion
Laboratory, Pasadena, CA 91109,
USA

2. Department of Electrical
Engineering and Computer
Science, University of Michigan,
Ann Arbor, MI 48109, USA

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Message from the Guest Editors

Dear Colleagues,

Gaining maturity for carbide/nitride micronanosystems in order to replace or extend silicon in harsh environments is currently stimulating long-term research. In this issue, many aspects related to the specificities of these new materials and sensor design using these emerging materials will be covered:

- Development of GaN, SiC, and innovative carbonitride materials for MEMS applications;
- Epitaxial techniques (MOCVD, MBE), atomic layer deposition, LPCVD and PECVD;
- Novel integration and fabrication strategies leading to carbide and nitride MEMS;
- Technological research on resonators and time-frequency devices (SAWs, BAWs, RF acoustic resonators);
- Piezo-resistive and piezo-transistor devices integrated on MEMS;
- Electromechanical transduction in nitride or carbide epitaxial structures;
- Nano-piezotronics for sensing or energy harvesting in group III nitride nanowires;
- Optical transductions for probes or MOEMS based on nitrides;
- Harsh conditions nitride/carbide MEMS demonstrations: high temperature, high radiation, and/or harsh chemical environments.



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Editor-in-Chief

Prof. Dr. Ai-Qun Liu

1. Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
2. School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore 639798, Singapore

Message from the Editor-in-Chief

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Micromachines Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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