

GUEST EDITORIAL

The field of microelectronics and nanoelectronics devices, circuits and systems including MEMS and NEMS plays a tremendous role in virtually every facet of today's life. Practically there are no persons whose quality of lives is not being influenced by it. Consequently, there is an enormous increase of the number of novel solutions and applications and an explosive development of related sophisticated production and testing technologies, practical devices and equipment.

With the idea to spread knowledge in this key area of engineering and technological knowledge, the Department of Electronics and Communication Engineering, National Institute of Technology Silchar, Assam, India in association with IEEE Electron Devices (ED) NIT Silchar Student Branch Chapter and IEEE Kolkata Section Nanotechnology Council (NTC) Chapter organized the International Virtual Conference on Micro/Nanoelectronics Devices, Circuits and Systems (MNDCS-2021) from 29-31 Jan 2021. The objective was to promote advanced research and developments in the areas of Microelectronics, Nanoelectronics, Semiconductor Devices, VLSI Circuits and Systems through keynotes, invited talks, and oral presentations in the relevant areas.

Here, we present a Special section of the journal *Facta Universitatis Series: Electronics and Energetics* dedicated to the papers based on the selected outstanding presentations from the Virtual Conference MNDCS-2021. None of the papers was previously published anywhere, including any kind of conference proceedings, printed or electronic. The articles published here were specifically written for this Special Section based on the corresponding oral presentations given at the MNDCS-2021 and were all subjected to rigorous peer reviewing procedure, typically by three reviewers from various countries each.

Six papers altogether were selected for this Special Section, however the processing of one of them had to be postponed due to the authors' problems with Covid-19 and is currently under consideration for one of the future issues of *Facta Universitatis Series: Electronics and Energetics*. The remaining five chosen articles included in this issue are as follows

1. Rajan Singh, Trupti Ranjan Lenka and Hieu Pham Trung Nguyen, "Analytical Study of Effect of Energy Band Parameters and Lattice Temperature on Conduction Band Offset in AlN/Ga₂O₃ HEMT"
2. Girolamo Tagliapietra, Jacopo Iannacci, "A Comprehensive Overview Of Recent Developments In RF-MEMS Technology-Based High-Performance Passive Components For Applications In The 5G And Future Telecommunications Scenarios" (Invited presentation)
3. Ivana Jokić, Olga Jakšić, Miloš Frantlović, Zoran Jakšić, Koushik Guha, "MEMS Resonator Mass Loading Noise Model: The Case Of Bimodal Adsorbing Surface And Finite Adsorbate Amount"
4. Lakshmi Narayana Thalluri, K V V Kumar, Konari Raja Sekhar, N Bhushana Babu D, S S Kiran, Koushik Guha, "Damping Analysis To Improve The Performance Of Shunt Capacitive RF MEMS Switch"
5. Ravi Teja Velpula, Barsha Jain, Trupti Ranjan Lenka, Hieu Pham Trung Nguyen, "Controlled Electron Leakage In Electron Blocking Layer Free InGaN/GaN Nanowire Light-Emitting Diodes."

The Guest Editors hope that the selected papers will serve their purpose and inspire other authors with novel concepts in this rapidly developing and expanding field. Their greatest pleasure would be the appearance of new publications inspired by this Special Section. The guest editors would like to express their sincerest gratitude to all of the authors who ensured the existence of this Special through their quality contributions. The gratitude also extends to the organizers of the MNDCS-2021 who assembled such choice group of world-class researchers, as well as to FUEE Editor-in-Chief prof. Danijel Danković and the late member of the Serbian Academy of Sciences and Arts prof. Ninoslav Stojadinović, who ensured the very existence of this Special Section.

Guest Editors:

Dr. Zoran Jakšić

Full Research professor, Institute of Chemistry, Technogy and Metallurgy,
National Institute of the Republic of Serbia – University of Belgrade, Serbia
Associate Editor, Facta Universitatis Series: Electronics and Energetics

Dr. Trupti Ranjan Lenka

Assistant Professor – National Institute of Technology Silchar, Assam, India
Organizing Chair, MNDCS-2021