



Call for papers

Papers are invited in the area of Micro/Nanoelectronics, Semiconductor Materials, Devices, Circuits and Systems focused on the emerging areas such as: Advanced Logic Technology; Emerging Devices & Compute Technology; Memory Technology; Microwave, Millimeter Wave & Analog Technology; Modeling and Simulation; Optoelectronics, Displays, and Imaging Systems; Power Devices and Systems; Reliability of Systems and Devices; Sensors, MEMS, and Bioelectronics; Analog, Digital, Mixed-Signal IC Design; Embedded and FPGA based Systems design, etc. in the following conference tracks:

Micro/Nanoelectronics Devices: Device Physics, Quantum Electronics, Quantum Transport, Compact Device Modelling, LED, MOSFET, MESFET, FinFET, TFET, Beyond CMOS, III-V HEMT, Ga₂O₃ HEMT, SET, UWB Semiconductor Materials and Devices, 2D Materials: Graphene, Spintronics, Carbon Nanotubes.

Nanotechnology: Nanowires, Nanostructures, Flexible Electronics, High Efficiency Solar Cells, Novel Photovoltaic Concepts, Energy Storage, Advanced Energy Materials, Advanced Electronic Devices, Advanced Interconnects, Optoelectronics and Photonics etc.

Micro/Nanoelectronics Circuits: Analog VLSI Circuits, Digital VLSI Circuits, Mixed-mode VLSI Circuits, System on Chip (SoC), Bio-electronics Circuits, Circuit Optimization Techniques, Reconfigurable Circuits, HDL based FPGA Design, Testing and Verification, Packaging, Circuit Reliability, DSP based VLSI etc.

Micro/Nano Systems: MEMS/NEMS, Sensors, Actuators, Nanogenerator, Energy Harvester, Micromachining, Microfluidics, Lab-on-Chip, Health Care Systems, Embedded System Design, Biomedical Systems, IoT/IoE and Smart Systems, Robotics and Mechatronics, MEMS Packaging, System Reliability, Semiconductor Memories etc.

Important dates

Full Paper Submission in Springer LNEE Proceedings: Oct. 15, 2024
Format available online at:

<https://www.springer.com/us/authors-editors/conference-proceedings>

Notification of Acceptance: Dec. 31, 2024

Revised Paper Submission: Jan. 15, 2025

Highlights

- Keynote Talks (12+) From International/ National Experts and peer networking.
- Oral Presentations and Posters (50+).
- Industry Sessions and Industry Exhibition.
- Accepted & presented papers to be published in Springer LNEE.

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5th International Conference on

Micro/Nanoelectronics Devices, Circuits, & System (MNDCS-2025)

29-31 JAN

Hybrid mode

About the Conference

The 5th edition of Micro/Nanoelectronics Devices, Circuits, and Systems MNDCS-2025 is scheduled during **29-31 Jan, 2025** in Hybrid Mode at *National Institute of Technology (NIT) Silchar, Department of Electronics and Communication (ECE), Silchar, Assam, India* in association with **IEEE EDS NIT Silchar Student Branch Chapter** and **IEEE Nanotechnology Council Chapter**. The objective of MNDCS 2025 is to promote advanced research and developments in the areas of Micro/Nanoelectronics, Semiconductor Materials and Devices, VLSI Circuits and Systems. The conference aims to foster the theme through keynotes, invited talks, and oral/poster presentations of research articles in the most relevant areas allied to the theme of the conference. It'll also create an international platform to share research ideas, scientific thoughts and research problems among academicians, researchers, technologists and scientists.

Submission Guidelines

- Papers submission link:
<https://cmt3.research.microsoft.com/MNDCS2025>
- The peer-reviewed and selected papers of the conference would be published in Scopus indexed Springer conference proceedings in "Lecture Notes in Electrical Engineering (LNEE)" series:
<https://www.springer.com/series/7818>.
- Top quality papers will be published in MDPI Sensors Journal (SCI) and Microsystem Technologies Journal (SCI)





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Invitation to review submission for Micro/Nanoelectronics Devices, Circuits, & Systems

Microsoft CMT <email@msr-cmt.org>

Tue, Jan 7, 2025 at 6:40 PM

Reply-To: "Dr. Kavicharan Mummaneni" <kavicharan@ece.nits.ac.in>

To: Suvojit Maity <suvojitmaity14@gmail.com>

Cc: kavicharan.phd@gmail.com

Greetings from NIT Silchar.

We congratulate you on the acceptance of your paper ID: 54 of title: Improving NH₃ Gas Sensing Performance through Pt-doped ZnO Nanotube: An Atomistic Modeling Study for oral presentation at MNDCS-2025 and possible inclusion in the conference proceedings.

The instruction related to camera-ready paper and copyright form will be circulated to you after successful registration of your paper.

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Improving NH₃ Gas Sensing Performance through Pt-doped ZnO Nanotube: An Atomistic Modeling Study

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Abstract. This study examines the enhanced sensing capabilities of zinc oxide (ZnO) nanotube (NT)-based sensor devices doped with platinum (Pt) in comparison to pristine ZnO NT, regarding the identification of hazardous ammonia gas (NH₃). Using the Gaussian 09W and Gauss View 6.0 packages, the study applied a first principle based computational approach to analyze each of the two systems separately. NH₃ was considered as the adsorbed gas for both pristine and Pt-doped ZnO NT, resulting in the formation of two systems: NH₃- adsorbed pristine ZnO NT (Type-1 system) and NH₃- adsorbed Pt-doped ZnO NT (Type-2 system). The interaction between them was thoroughly examined by computing several electronic properties, including density of states (DOS), molecular electrostatic potential (MEP), highest occupied molecular orbital (HOMO) and lowest unoccupied molecular orbital (LUMO). The computed DOS confirmed the semi-metallic nature of the system. Notably, the study discovered that doping ZnO with platinum significantly improved the material's reactivity and caused a significant adsorption energy (-2.25385 eV). Results verified that the enhanced sensitivity for NH₃ molecule identification was caused by the Pt atoms' catalytic activity.

Keywords: NH₃ adsorption, DOS, ZnO Nanotube, Pt-doped, Mulliken charge

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