

CAS 2025 PROGRAM

48th Edition
October 7-11, 2025,
Sinaia, ROMANIA



INTERNATIONAL SEMICONDUCTOR CONFERENCE

organized by
National Institute for Research and
Development in Microtechnologies -
IMT Bucharest



co-sponsored by
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CAS 2025

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FOREWORD

On behalf of the International Semiconductor Conference (CAS) Organizing Committee, we are delighted to welcome you to CAS 2025!

About the Conference

The **International Semiconductor Conference (CAS)**, organised annually by the National Institute for Research and Development in Microtechnologies - IMT Bucharest, celebrates its 48th edition in 2025. This prestigious event has become a key forum for showcasing cutting-edge research in electronics and micro- and nanotechnologies.

A Brief History of CAS

Starting as the Annual Semiconductor Conference, CAS gained international status in 1991 and was renamed the International Semiconductor Conference in 1996. A significant milestone occurred in 1995 when the conference became an **official IEEE Electron Devices Society (EDS)**.

The CAS Conference has been for years devoted to physics, design, technology and applications of semiconductor devices and materials, including integrated circuits. Since 1997, the Conference profile has been gradually extended to micro- and nano-technologies, including micro- and nanoelectronics, micro- and nanosystems, also nanostructures and nanostructured materials.

This year, the conference has added a new topic to its agenda: *Devices and smart systems for biomedical and health applications*, which has already generated significant interest among authors.

CAS 2025 Technical Program

The conference program promises to be stimulating, with over 130 presentations, structured in 4 plenary sessions, 14 oral presentations sessions and 5 poster sessions, with a total of 6 student papers sessions.

CAS 2025 Social Program includes:

- CAS 2025 Welcome Dinner - October 7, 19:30 h
- Concert offered by Romanian Symphony Wind Orchestra at the Cultural Center in Busteni - October 9, 14:30 h
- CAS 2025 Banquet including the Best Paper Awards ceremony - October 11, 20:00 h

We extend our gratitude for your participation, contributions, and engagement. We hope you have an enriching and memorable experience in Sinaia and we eagerly await your return for the next edition of CAS.

15th of September 2025
Miron Adrian DINESCU
Conference Chairman

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GENERAL INFORMATION

Venue and Dates

The conference will take place from **Tuesday, October 7, 2025 to Saturday, October 11, 2025**, at **Hotel Sinaia, Sinaia, Romania**.

Sinaia is a beautiful mountain resort located in the Carpathian Mountains, at 125 Km (by car or by train) from Bucharest, the capital of Romania. The weather in Sinaia is mild and sunny in October, the average temperature being about 10°C.

Technical Program

The official language of the CAS Conference is English.

For the oral presentations, the authors should use PowerPoint or pdf format. The presentations time should be **20 minutes for contributed papers**, respectively **30 minutes for invited papers**, with 5 minutes for discussions included.

The 5 poster sessions are scheduled on **Oct. 8 and Oct. 10**. The posters format should be A0 size. The poster panel will be marked with the corresponding code from the conference programme: Ex. P1.1 (P1=session code, 1=poster 1).

Workshop and Satellite events at CAS 2025:

- ↳ **R4I - Research4Industry Roundtable** organised by the National Platform for Semiconductor Technologies - PNTS, Oct. 7, 2025, 14:00 – 17:00
- ↳ **NerveRepack Workshop “Pushing the boundaries of neuroprosthetics and bioelectronic medicine”**, Oct. 10, 2025, 09:00 - 11:00
- ↳ **Net4Air Workshop “Smart sensor technologies for next-level air quality monitoring”**, Oct. 10, 2025, 11:30 - 13:00
- ↳ **Net4Air Workshop “Awareness into Action: Ideas for an Inclusive Scientific Culture”**, Oct. 10, 2025, 14:00 – 17:40
- ↳ **Workshop “From Awareness to Implementation: Research Security for Future Partnerships”** co-organized by IMT Bucharest and UEFISCDI, Romania, Oct. 11, 2025, 14:00 – 16:30

Conference Secretariat

The Secretariat will be opened starting from Tuesday, October 7, from 15:00 to 18:00, and daily from 08:30 to 13:00 and from 14:00 to 18:00, during the conference.

Social Events

Welcome dinner

The Welcome dinner will be held on Tuesday, October 7, 19:30, in Hotel Sinaia Restaurant.

A trip to the Cultural Center Busteni for a Concert offered by Romanian Symphony Wind Orchestra, is scheduled on Thursday, October 9, starting 14:30 h.

CAS 2025 Banquet

The Conference Banquet, including the Best Papers and Best Student Paper Awards ceremony, will be held on Saturday, October 11, 20:00 h, in Hotel Sinaia Restaurant.

For the registered participants, the costs of all social events are included in the conference fee.

Tourism Opportunities

The small town of Sinaia, with its famous Peles Castle, formerly the Summer Royal Residence, is a well-known mountain resort in Romania. Sinaia, the so-called "Pearl of Carpathians" (Bucegi chain, with 2500 meters highest altitude) is situated in the Prahova valley and it is the favourite place outside Bucharest for international conferences and high-level meetings.

By foot, by car, by bus or by cable transportation, you can reach very interesting places, like **Peles Royal Castle**, from the XIX century, which is the most visited museum in Romania, and to other places of cultural and historical interest: **Pelisor Castle, Sinaia Casino, George Enescu Memorial House, Sinaia Monastery.**

- **Peles Castle Museum**, within a walking distance (15-20 minutes) from Sinaia Hotel. Opening hours: Wednesday: 10:00-17:00; Thursday-Sunday: 09:15-17:00; Monday-Tuesday: closed.
- **Sinaia Casino**, situated in the Central Park of Sinaia. Opening hours: 10:00 – 17:00
- **George Enescu Memorial House, Sinaia**: Opening hours: 09.00 – 16.00, Wednesday – Sunday

A few kilometres North from Sinaia, **the Cantacuzino Castle, situated in the town of Busteni**, is surrounded by waterfalls, caves and fountains and is in top castles in Romania in terms of architecture. Opening hours: 09:00 – 21:00, Monday – Sunday.

The Bran Castle, in Bran, from the XIV century, recently related to the famous “Dracula”, may be visited in a few hours trip. Opening hours: Monday: 12:00 – 16:00, Tuesday – Sunday: 09:00 – 16:00.

Mountain trips near Sinaia

The rocky landscape of the Prahova valley is a paradise for mountain climbers.

You may reach the height of 2000 meters by cable car or by car and enjoy a walk, without any special equipment.

A few chalets in the Bucegi Mountains may be reached by car (Cota 1,400 - elevation 1,400 m, Cuibul Dorului - 2,100 m, Poiana Stanii - 1,300 m etc.).

In other cases, it is a better idea to go **by cabin**: you may take the cabin from Hotel Silva in Busteni (10 Km North of Sinaia, by bus, or minibus) and you will reach immediately Babele (“the Old Ladies” rocks) - 2,206 m, from there you may take (for about two hours) the footpath to Peak “Omu” - 2,505 m, the highest peak and chalet in the region.

An easiest trip from the Babele chalet is to go South, following the footpath to Piatra Arsa - 1,950 m, and then to the cabin station Cota 2,000. The same point may be reached by using another cabin (in two steps), from the centre of Sinaia (behind the New Montana Hotel) - Sinaia - Cota 1,400 and Cota 1,400 - Cota 2,000.

Other nearby mountain attractions could be found on the Prahova Valley, in towns like Poiana Tapului, Busteni, Azuga, Predeal, Brasov and Poiana Brasov.

CAS 2025 International Semiconductor Conference

PROGRAM

TUESDAY, OCTOBER 7

14:00-17:00	R4I - Research4Industry Roundtable organised by the National Platform for Semiconductor Technologies - PNTS
15:00-18:00	CAS 2025 Conference Registration
19:30	Welcome dinner (Hotel Sinaia Restaurant)

WEDNESDAY, OCTOBER 8

08:00-09:00	Registration	
	Room 1	
09:00-09:10	Welcome to CAS 2025 M. A. Dinescu, IMT Bucharest, Romania – CAS 2025 General Chairman	
09:10-11:10	Plenary Session 1 (Invited papers) Chair: M. A. Dinescu, Romania Gh. Brezeanu, Romania Bernhard Wunderle , TU Chemnitz, Faculty of Electrical Engineering and Information Technology, Germany Mircea Dragoman , National Institute for R&D in Microtechnologies, IMT Bucharest, Romania Sorin Cotofana , Delft University of Technology, Netherlands Anna Tasolamprou , National and Kapodistrian University of Athens, Greece	
11:10-11:20	Letian Li , Thermo Fisher Scientific, Netherlands	
11:20-11:30	Nikita Kuzmichev , Anritsu, Slovakia	
11:30-11:50	<i>Coffee break</i>	
	Room 1	Room 2
11:50-13:10	Nanoscience & Nanoengineering - Nanomaterials 1 <i>Oral presentations</i> Chair: M. Ciurea, Romania C. Obreja, Romania	Integrated Circuits – Student Papers 1 <i>Oral presentations</i> Chair: G. Pristavu, Romania V. Anghel, Romania

WEDNESDAY, OCTOBER 8

13:10-13:30	PHOTO “REMEMBER CAS 2025”		
13:30-14:30	Lunch		
	Room 1	Room 2	
14:30-16:30	Nanoscience & Nanoengineering – Applications <i>Oral presentations</i> Chair: M. Dragoman, Romania A.-M. Lepadatu, Romania	Nanoscience & Nanoengineering – Student Papers <i>Oral presentations</i> Chair: M. Brezeanu, Romania M. Lazar, France	
16:30-16:40	Coffee break		
16:40-18:00	Nanoscience & Nanoengineering - Physical Phenomena <i>Oral presentations</i> Chair: T. Sandu, Romania K. Szacilowski, Poland	Modelling <i>Oral presentations</i> Chair: L. Dobrescu, Romania D. Neculoiu, Romania	
18:00-18:20	Coffee break		
	Room 1	Room 2	Room 3
18:20-19:30	Poster Session 1. Nanoscience & Nanoengineering - Student Papers Chair: A. Tulbure, Romania O. Buiu, Romania	Poster Session 2. Integrated Circuits- Student papers Chair: A. Antonescu, Romania F. Vlădoianu, Romania	Poster Session 3. Bridging Electronics, AI, & Biomedical Applications Chair: M. Popescu, Romania S. Vulpe, Romania

THURSDAY, OCTOBER 9

	Room 1	
09:00-11:00	Plenary Session 2 (Invited papers) Chair: D. Cristea, Romania R. Müller, Romania Emanuel M. Popovici , School of Engineering, University College Cork, Ireland Rodica Vladoiu , Faculty of Applied Sciences and Engineering, Ovidius University of Constanta, Romania Daniele Nazzari , Technische Universität Wien, Institute of Solid State Electronics, Austria Cornel Stanescu , IEEE, Romania	
11:00-11:10	Zsolt Demeter , H TEST Romania	
11:10-11:20	James Kerfoot , Park Systems, UK	
11:20-11:40	<i>Coffee break</i>	
	Room 1	Room 2
11:40-12:40	Microsensors and Microsystems <i>Oral presentations</i> Chair: V. Avramescu, Romania R. Müller, Romania	Semiconductor devices for opto and medical applications – Student Papers <i>Oral presentations</i> Chair: R. Pascu, Romania R. Sporea, UK
12:40-13:10	Workshop ‘IMT Results in Romanian Core Program Advanced research in micro-nano-electronics, photonics, sensors and microsystems devices for societal applications – μ NanoEl’ <i>(in Romanian language)</i>	
13:10-14:00	<i>Lunch</i>	
14:30-18:00	Concert offered by Romanian Symphony Wind Orchestra at the Cultural Center in Busteni	

FRIDAY, OCTOBER 10

	Room 1&2		Room 3
09:00-11:00	Plenary Session 3 (Invited papers) Chair: O. Buiu, Romania A. Müller, Romania Loukas Michalas , Democritus Univ. of Thrace; Institute of Electronic Structure and Laser, Foundation for Research and Technology – Hellas; University of Crete, Greece Lucian Prejbeanu , CEA; SPINTEC (Univ. Grenoble Alpes/CNRS/CEA); PEPR SPIN, France Myung-Gil Kim , School of Advanced Materials Science & Engineering, Sungkyunkwan University, Korea Ahmad A. Ahmad (Omari) , Jordan University of Science and Technology, Jordan		NerveRepack Workshop ‘Pushing the Boundaries of Neuroprosthetics and Bioelectronic Medicine’
11:00-11:10	Pawel Olowek, Rigaku Europe SE, Germany		
11:10-11:30	Coffee break		
11:30-12:30	Plenary Session 4 (Invited Papers) Chair: O. Buiu, Romania A. Müller, Romania Nicoleta Lupu , National Institute of R&D for Technical Physics, Iasi, Romania Ana-Maria Lepadatu , National Institute of Materials Physics, Romania		Net4Air Workshop ‘Smart Sensor Technologies for Next-level Air Quality Monitoring’
12:30-12:40	Liana Socaciu-Siebert, SPECS Surface Nano Analysis GmbH, Germany		
13:00-14:00	Lunch		
	Room 1	Room 2	
14:00-15:40	Nanoscience & Nanoengineering Nanomaterials 2 <i>Oral presentations</i> Chair: S. Iftimie, Romania P. Varasteanu, Romania	Integrated Circuits <i>Oral presentations</i> Chair: M. Neag, Romania C. Dan, Romania	Net4Air Workshop ‘Awareness into Action: Ideas for an Inclusive Scientific Culture’

15:40-16:00	<i>Coffee break</i>		
16:00-18:00	Microwave & Millimeter Wave Circuits & Systems <i>Oral presentations</i> Chair: A. Bunea, Romania A. Nicoloiu, Romania	Devices and Smart Systems for Biomedical and Health Applications <i>Oral presentations</i> Chair: L. Bilteanu, Romania C. Pachi, Romania	Net4Air Workshop ‘Awareness into Action: Ideas for an Inclusive Scientific Culture’
18:00-18:20	<i>Coffee break</i>		
	Room 1	Room 2	Room 3
18:20-19:40	Semiconductor Devices <i>Oral presentations</i> Chair: D. Dobrescu, Romania O. Buiu, Romania	Poster Session 4 Nanoscience & Nanoengineering Chair: A. Mocanu, Romania C. Simion, Romania	Poster Session 5 Microphotonics & Microsystems Chair: R. Tomescu, Romania R. Voicu, Romania

SATURDAY, OCTOBER 11

	Room 1
09:00-11:00	Integrated Circuits – Student Papers 2 <i>Oral presentations</i> Chair: F. Draghici, Romania T. Vişan, Romania
14:00-16:30	Workshop “From Awareness to Implementation: Research Security for Future Partnerships” , co-organized by IMT Bucharest and UEFISCDI (Executive Unit for Financing Higher Education, Research, Development and Innovation), Romania
20:00	CAS 2025 Banquet including Best Paper Awards ceremony (Hotel Sinaia Restaurant)

Tuesday, October 7
CAS Secretariat

14:00 - 17:00 R4I - Research4Industry Roundtable
organised by the National Platform for
Semiconductor Technologies

15:00 - 18:00 CAS 2025 Conference Registration

19:30 Welcome dinner

Wednesday, October 8, 09:00
Room 1

Welcome to CAS 2025, M. A. Dinescu, IMT
Bucharest, Romania, CAS 2025 General Chairman

PLENARY SESSION 1 (Invited Papers)
Session: PS1. *Oral presentations*

Chair: **M. A. Dinescu**, IMT Bucharest, Romania
Gh. Brezeanu, National Univ. of Science and
Technology POLITEHNICA Bucharest, Romania

PS1.1 Multi-Scale Thermo-Mechanics for Electronics
09:10 Packaging, B. Wunderle, TU Chemnitz, Germany

PS1.2 100 years of quantum mechanics: the quantum
09:40 electronics revolution, M. Dragoman, IMT
Bucharest, Romania

PS1.3 Can Boolean Algebra Pave the Highway Towards
10:10 Effective Spin Wave Logic Circuit
Implementation?, S. Cotofana, Delft Univ. of
Technology, Netherlands

PS1.4 Metamaterial-Enabled Electromagnetic Wave
10:40 Engineering, A. Tasolamprou, National and
Kapodistrian Univ. of Athens, Greece

11:10 Partenering with Semiconductor Innovation at
Every Step, L. Li, Thermo Fisher Scientific,
Netherlands

11:20 Future Challenges in Testing Silicon Photonics for
Co-Packaged Optics, N. Kuzmichev, Anritsu,
Slovakia

11:30-11:50 – Coffee break

Wednesday, October 8, 11:50

Room 1

NANOSCIENCE & NANOENGINEERING.

NANOMATERIALS 1

Session: N&N1. Oral presentations

Chair: **M. L. Ciurea**, National Institute of Materials
Physics, Romania
C. Obreja, IMT Bucharest, Romania

- N&N- N1.1 11:50** **Tailoring CuI/ZnO heterojunctions by growth control p-type CuI thin films**, S. A. Irimiciuc*, S. Chertopalov*, M. Vondracek*, L. Fekete*, J. Lancok*, M. Buryi**, R. Yatskiv***, *Institute of Physics of the CAS, **Charles Univ., ***Institute of Photonics and Electronics CAS, Czechia
- N&N- N1.2 12:10** **Local characteristics of structural and electronic properties of junctions of the NiPS₃ 2D van der Waals material**, L. Trupina, A. C. Galca, I. A. Ivan, B. Borca, National Institute of Materials Physics, Romania
- N&N- N1.3 12:30** **In-depth microstructural investigation of VO₂/SiO₂/Si synthesized by PLD**, C. Romanitan*, J. M. Caicedo**, O. Brincoveanu*, J. Padilla-Pantoja**, B. Ballesteros**, N. Djourellov***, J. Santiso**, *IMT Bucharest, Romania, **Catalan Institute of Nanoscience and Nanotechnology, ICN2, CSIC and The Barcelona Institute of Science and Technology, Spain, ***“Horia Hulubei” National R&D Institute for Physics and Nuclear Engineering, Romania
- N&N- N1.4 12:50** **From marine biowaste to paracetamol electrochemical sensing**, M. Pomana^{1,2}, A. T.S.C. Brandão³, O. Brincoveanu², C. Romanitan², V. José⁴, V. Jesús⁴, C. M. Pereira³, L. A. Dinu², S. State^{1,2}, ¹Faculty of Medical Engineering, National Univ. of Science and Technology POLITEHNICA Bucharest, ²IMT Bucharest, Romania, ³CIQUP/IMS, Faculty of Sciences, Univ. of Porto, Portugal, ⁴Instituto de Investigaciones Marinas (IIM-CSIC), Vigo, Spain

13:10-13:30 – PHOTO “REMEMBER CAS 2025”

13:30-14:30 – Lunch

Wednesday, October 8, 11:50
Room 2

INTEGRATED CIRCUITS –
STUDENT PAPERS 1
Session: IC-S.1 *Oral presentations*

Chair: **G. Pristavu**, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania
V. Anghel, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania

IC-S.1.1 FinFET Parameter Extraction for Hand
11:50 Calculation in IC Design, E.-D.-A. Vulpe, C. Dan,
National Univ. of Science and Technology
POLITEHNICA Bucharest, Bucharest, Romania

IC-S.1.2 Automotive NMOS Series Regulator with
12:10 Frequency Compensation Based on Active
Capacitance Multiplier that Improves Transient
Response, P. Coste*, P. Mireşan**, C. Răducan***, M. Neag*, M. Ţopa*,**
*Technical Univ. of Cluj-Napoca, Romania, **Silicon Systems
Transylvania Ltd, Romania

IC-S.1.3 Melting Harmonics in a $\Sigma \Delta$ Audio DAC with
12:30 Matrix Shuffling, A. Calinescu*, T. Antonovici, M. Enachescu*,**
*National Univ. of Science and Technology POLITEHNICA Bucharest, Romania,
**Delft Univ. of Technology, Netherlands

IC-S.1.4 Design Methodology for a Low-power Relaxation
12:50 Oscillator, E.-A. Marian*, M.-D. Farcaş, M. G. Neag*, R.-C. Oneţ*,**
*Technical Univ. of Cluj-Napoca, **Infineon Technologies Romania

13:10-13:30 – PHOTO “REMEMBER CAS 2025”

13:30-14:30 – Lunch

Wednesday, October 8, 14:30

Room 1

**NANOSCIENCE & NANOENGINEERING
– APPLICATIONS**

Session: N&N-A *Oral presentations*

Chair: **M. Dragoman**, IMT Bucharest, Romania

A.-M. Lepadatu, National Institute of Materials
Physics, Romania

- N&N- A.1 14:30** **Spray-Deposited Carbon-Zinc Oxide Composite Films for Electromagnetic Shielding and Conductive Applications**, C. I. Pachiu*, I. V. Tudose****, M.-R. Marinescu*, O. Brîncoveanu*, C. Romanițan*, P. Varasteanu*, D. Manica*, M. Aldrigo*, C. Parvulescu*, M. P. Șucnea***, E. Koudoumas***, *IMT Bucharest, Romania, **Hellenic Mediterranean Univ., Greece, ***Univ. of Crete, Greece
- N&N- A.2 14:50** **Resistive Humidity Sensor Based on a Carbonaceous Ternary Nanocomposite as Sensing Layer**, B.-C. Serban¹, N. Dumbravescu¹, O. Buiu¹, M. Bumbac^{2,3}, C. Pachiu¹, M. Brezeanu⁴, C. Cobianu^{5,6}, O. Brîncoveanu¹, C.-M. Nicolescu³, ¹IMT Bucharest, ²Faculty of Sciences and Arts, Valahia Univ. of Targoviste, ³Institute of Multidisciplinary Research for Science Technology, Valahia Univ. of Targoviste, ⁴National Univ. of Science and Technology Politehnica Bucharest, ⁵Academy of Romanian Scientists, ⁶eBio-hub Center of Excellence in Bioengineering, National Univ. of Science and Technology POLITEHNICA Bucharest
- N&N- A.3 15:10** **Combining Inkjet Printing and Nanoimprint Lithography for Nanopatterning with Uniform Residual Layer Thickness**, P. Schuster, L. Vsetecka, J. Rimböck, EV Group, Austria
- N&N- A.4 15:30** **Sol-gel synthesis of cobalt oxide nanoparticles for energy storage applications**, M. Stoian, A. Baracu, C. Romanitan, O. Brîncoveanu, A. Radoi, IMT Bucharest, Romania

- N&N- A.5 15:50 Laser-Induced Forward Transfer of Graphene Ink for Flexible Electronics, C. Pachiu*, E. Chiriac*, B. Adiaconiță*, P. Alloncle**, A. Al-Kattan**, A. Casanova**, C. Constantinescu**, *IMT Bucharest, Romania, **Aix-Marseille Univ., CNRS, France**
- N&N- A.6 16:10 Temperature behavior of the electrical conductivity of CNO-PVP nanocomposite films beyond the percolation threshold, B. Serban¹, N. Dumbravescu¹, O. Buiu¹, C. Dumbravescu², M. Bumbac³, C. Cobianu^{4,5}, M. Brezeanu⁶, R. Marinescu¹, C. Pachiu¹, O. Brincoveanu¹, ¹IMT-Bucharest, ²MIGSO-PCUBED Bucharest, ³Valahia Univ. of Târgoviște, ⁴Academy of Romanian Scientists, ⁵eBio-hub Center of Excellence in Bioengineering, National Univ. POLITEHNICA Bucharest, Romania, ⁶National Univ. POLITEHNICA Bucharest, Romania**

16:30-16:40 – Coffee break

Wednesday, October 8, 14:30

Room 2

**NANOSCIENCE & NANOENGINEERING
– STUDENT PAPERS**

Session: N&N-S. Oral presentations

Chair: **M. Brezeanu**, National Univ. of Science and
Technology POLITEHNICA Bucharest, Romania
M. Lazar, Univ. of Technology of Troyes & CNRS,
France

- N&N-S.1** **Preliminary study on the direct detection of acetic acid using a palladium doped graphene nanocomposite-based electrochemical sensor,**
14:30 **A. Aytacoglu^{1,3}, L. A. Dinu¹, F. Pogacean², S. Pruneanu², O. Brincoveanu¹, C. Romanitan¹, C. Pachi¹, S. Kurbanoglu³, ¹IMT Bucharest, ²National Institute for R&D of Isotopic and Molecular Technologies, Romania, ³Ankara Univ., Turkey**
- N&N-S.2** **Development of Biocompatible Alginic Eutectogels Functionalized with Metallic Nanoparticles for Wound Care Applications,**
14:50 **A. Ginga^{***}, I. Petcu^{***}, T. Tomescu^{***}, O. Brincoveanu^{*}, A. Mocanu^{*}, A. Serafim^{**}, G. Vlasceanu^{**}, R. C. Popescu^{*****}, A. Banciu^{**}, S. State (Rosoiu)^{***}, ^{*}IMT Bucharest, ^{**}National Univ. of Science and Technology POLITEHNICA Bucharest, ^{***}“Horia Hulubei” National Institute for Physics and Nuclear Engineering, Magurele, Romania**
- N&N-S.3** **Electrochemical synthesis of MNPs and Ag-MNPs in deep eutectic solvents for their applications in biomedical field,**
15:10 **I.-C. Petcu^{1,2}, A. T. S. C. Brandão³, I. Mihalache², L. M. Veca², O. Brincoveanu², C. Romanitan², C. Pereira³, L. Anicai⁴, C. Busuioc¹, S. P. State^{2,5}, ¹Faculty of Chemical Engineering and Biotechnologies, National Univ. for Science and Technology POLITEHNICA Bucharest, ²IMT Bucharest, Romania, ³CIQUP - Chemistry Research Center, Faculty of Sciences, Univ. of Porto, Portugal, ⁴Center of Surface Science and Nanotechnology, National Univ. for Science and Technology POLITEHNICA Bucharest, ⁵Faculty of Medical Engineering, National Univ. for Science and Technology POLITEHNICA Bucharest, Romania**

- N&N-S.4 15:30** **BLDC Engine Behavioral Model Approached With Machine Learning, I.-R. Stancu^{1,2}, C. Neamtu², A. Pricop², R.-E. Craciunescu², ¹IMT Bucharest, ²National Univ. of Science and Technology POLITEHNICA Bucharest, Romania**
- N&N-S.5 15:50** **Silicon Nanowires Coated with ZnO Tetrapods for Breath Monitoring Application, V. T. Prohnitchi¹, M. T.a Sultan¹, Y. K. Mishra², A. Manolescu¹, H. G. Svavarsson¹, ¹Reykjavik Univ., Iceland, ²Mads Clausen Institute, Univ. of Southern Denmark, Denmark.**
- N&N-S.6 16:10** **Analog Symmetry Understanding in LLMs: A Case Study on Complementary Comparator Circuits, A. Daescu, A. Guzu, G. Nicolae, C. Dan, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania**

16:30-16:40 – Coffee break

Wednesday, October 8, 16:40
Room 1

**NANOSCIENCE & NANOENGINEERING –
PHYSICAL PHENOMENA**

Session: N&N-PP. *Oral presentations*

Chair: **T. Sandu**, IMT Bucharest, Romania

K. Szacilowski, AGH Univ. of Technology, Poland

- N&N- PP.1 16:40** **PVA/PVP–Nanocarbon Nanocomposites for Resistive RH Sensors: Properties, Switching Behavior, and Mechanism Insights**, **B. Serban¹, N. Dumbravescu¹, O. Buiu¹, C. Dumbravescu², M. Bumbac^{3,4}, C. Nicolescu⁴, C. Cobianu^{5,6}, M. Brezeanu⁷**, ¹IMT Bucharest, ²MIGSO-PCUBED Bucharest, ³Faculty of Sciences and Arts, Valahia Univ. of Târgoviște, Romania, ⁴Institute of Multidisciplinary Research for Science Technology, Valahia Univ. of Târgoviște, ⁵Academy of Romanian Scientists, ⁶eBio-hub Center of Excellence in Bioengineering, National Univ. POLITEHNICA Bucharest, ⁷Faculty of Electronics, Telecommunications, and IT, National Univ. POLITEHNICA Bucharest, Romania
- N&N- PP.2 17:00** **Probing Gas Interaction Mechanisms in Nanomaterial Sensors Via *Operando* Photoemission Spectroscopy**, **M. Timpel^{*}, C. Tomasi Cebotari¹, C. Gatsios¹, A. Mascia², A. Pedrielli³, S. Vasquez⁴, M. Amati⁵, Z. Milosz⁵, L. Gregoratti⁵, L. Petti⁴, L. Pasquali⁶, P. Cosseddu², M. V. Nardi¹**, ¹IMEM-CNR, Institute of Materials for Electronics and Magnetism, Trento unit c/o Fondazione Bruno Kessler, ²Univ. of Cagliari, ³Sensors and Devices Center, Bruno Kessler Foundation, ⁴Free Univ. of Bozen-Bolzano, ⁵Elettra Synchrotron Trieste S.C.p.A, ⁶Univ. of Modena and Reggio Emilia, Italy
- N&N- PP.3 17:20** **Phonon Spectra in Bragg Peaks**, **M. Mihaila, C. Romanitan**, IMT Bucharest, Romania
- N&N- PP.4 17:40** **Reflection where isn't supposed to be: Electromagnetic Induced Reflection (EIR) in Silver-all silicon Distributed Bragg Reflector**, **P. Varasteanu**, IMT Bucharest, Romania

18:00 – 18:20 – Coffee break

Wednesday, October 8, 16:40
Room 2

MODELLING

Session: M. *Oral presentations*

Chair: **L. Dobrescu**, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania
D. Neculoiu, IMT Bucharest, Romania

- M.1** **Morpho-structural relationship with the charge**
16:40 **transfer processes of the LaFeO₃ surface-**
 formaldehyde gas interaction, C.E. Simion,
 I.D. Vlaicu, A.C. Iacoban, C.G. Mihalcea,
 O.G. Florea, A. Stanoiu, National Institute of Materials
 Physics, Romania
- M.2** **Bending Effect Simulation of Thin GaN/Si**
17:00 **Membrane-Based SAW Structures, G. Boldeiu¹,**
 D. Vasilache¹, A. Stavrinidis², E. Aslanidis²,
 A. Nicoloiu¹, I. Zdru¹, C. Nastase¹, M. Nedelcu¹,
 A. Dinescu¹, G. Konstantinidis², A. Müller¹, ¹IMT
 Bucharest, Romania, ²Microelectronics Research Group
 of the Foundation for Research and Technology-Hellas,
 Greece
- M.3** **Electro-Thermal Performance Evaluation of a**
17:20 **Pulse-Based Soil Resistivity Measurement Device,**
 B. Adrian, T. Andrei, C. Teodora, M. Purcar,
 Technical Univ. of Cluj-Napoca, Romania, European
 Univ. of Technology - EUT+, European Union

18:00-18:20 – Coffee break

Wednesday, October 8, 18:20
Room 1

**NANOSCIENCE & NANOENGINEERING -
STUDENT PAPERS**

Poster Session: P1

Chair: **O. Buiu**, IMT Bucharest, Romania

A. Tulbure, Univ. "1 decembrie 1918" Alba Iulia,
Romania

- P1.1 Investigation of Surface Properties of Spray-Deposited V_2O_5 Thin Films**, A.-G.-M. Popescu^{1,2}, I. V. Tudose^{1,3,4}, C. Romanitan¹, O. Brincoveanu¹, R. Gavrilă¹, M. Manica^{1,5}, C. Pachi¹, P. Schiopu², M. Vladescu², M. P. Suche^{1,3*}, ¹IMT Bucharest, ²National Univ. of Science and Technology POLITEHNICA Bucharest, ³Hellenic Mediterranean Univ., ⁴Univ. of Crete, Greece, ⁵Univ. of Bucharest, Romania
- P1.2 Photodegradation enhancement of methyl orange using titanium dioxide – zinc oxide nanopowders**, E. Goncarencu*, M. Scarisoreanu*, V. S. Teodorescu**, C. I. Fort***, *Natl Inst Lasers Plasma & Radiat Phys, **Natl Inst Mat Phys, ***Babes Bolyai Univ, Romania
- P1.3 The Development of 3D Resin-printed Microfluidic Devices for Curcumin Encapsulation in Aspasomes**, A.-I. Radu*,**, C. Mărculescu**, E.-C. Creangă***, B. Adiaconiță**, E. Chiriac**, T. Burinaru**, M. Avram**, *Faculty of Medical Engineering, National Univ. of Science and Technology POLITEHNICA Bucharest, **IMT-Bucharest, ***Faculty of Chemical Engineering and Biotechnology, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania

- P1.4 Investigation of Curcumin-Encapsulated Aspasomes via Traditional and Microfluidic Techniques, E.-C. Creangă*, E. Chiriac**, A.-I. Radu***, C. Mărculescu**, R. Stan*,** *Faculty of Chemical Engineering and Biotechnology, National Univ. of Science and Technology POLITEHNICA Bucharest, **IMT Bucharest, ***Faculty of Medical Engineering, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania
- P1.5 Heavy metal sensing based on electrochemically grown gold nanostructure and genetically modified flagellar filaments, M. K. Stiff¹, A. Bonyar², Z. Labadi¹, H. Jankovics³, F. Vonderviszt³, P. Petrik¹,** ¹Inst. of Tech. Phys. & Mat. Sci., HUN-REN Centre for Energy Research, ²Budapest Univ. of Tech. and Econ., Hungary, ³Inst. of Biomolecular and Chem. Eng., Univ. of Pannonia
- P1.6 Compact analytical model for power MOSFETs, T.C. Haraga*, G. Pristavu*, M. Crăciun**, F. Drăghici*, G. Brezeanu*,** *National Univ. of Science and Technology POLITEHNICA Bucharest, **Infineon Technologies Romania
- P1.7 Enhancing EMC Performance of an Automotive LED Driver with EMI Filtering and Spread Spectrum Modulation, F. Lazăr*, A. Alexandru**, P. I. Marius*, T. Adrian**,** *Technical Univ. of Cluj-Napoca, ***"1st of December 1918" University of Alba Iulia, Romania

Wednesday, October 8, 18:20
Room 2

**INTEGRATED CIRCUITS –
STUDENT PAPERS**

Poster Session: P2

Chair: **A. Antonescu**, National Univ. of Science and
Technology POLITEHNICA Bucharest, Romania
F. Vlădoianu, IMT Bucharest, Romania

- P2.1 Luma-EMG: An Affordable Wireless EMG System for Biomechanics and Clinical Research**, **A.-P. Zorila, A. Guzu, G. Nicolae**, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania
- P2.2 Software Architecture for Federated Retrieval-Augmented Clinical QA System Using IoT for Continuous Monitoring**, **F. Negoită, A. I. Dumachi**, IMT Bucharest, Romania
- P2.3 Slew Rate Enhancement Circuit for Improved Transient Response in Folded Cascode Operational Amplifiers**, **C. Stancu, A. Voicu, O. G. Profirescu, L. Dobrescu, D. Dobrescu**, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania
- P2.4 Comparative study of human and LLM-based surrogate modeling using tool-integrated ReAct agents**, **M. Grezer*, A.-A. Bunea****, V. Călinu***, C. Bănică***, M. Țopa*, A. Buzo****, G. Pelz******, *Technical Univ. of Cluj-Napoca, **National Univ. of Science and Technology POLITEHNICA Bucharest, ***Infineon Technologies AG, Bucharest, Romania, ****Infineon Technologies AG, Neubiberg, Germany
- P2.5 Effects of Transistor Matching on Charge Pump Performance**, **P.-A. Ștefănescu, D. Dobrescu, L. Dobrescu**, National Univ. of Science and Technology POLITEHNICA of Bucharest, Romania

- P2.6 An automatic approach on sizing current limitation circuitry for linear regulators used in PMICs, S.-A. Parfenov^{***}, E. Gheorghită^{***}, I. Câmpanu^{*}, C. Vișan^{***}, ^{*}Infineon Technologies AG, ^{**}Technical Univ. of Cluj-Napoca, ^{***}National Univ. of Science and Technology POLITEHNICA of Bucharest, Romania**
- P2.7 A Low-Power Programmable-Gain Low-Noise Amplifier for CMUT Based Ultrasound Imaging, A. Obuhov^{1,2}, D.-I.-D. Stoica^{2,3}, R.-G. Bozomitu¹, ¹Technical Univ. “Gheorghe Asachi” of Iasi, ²National Univ. of Science and Technology POLITEHNICA Bucharest, ³Infineon Technologies, Romania**

Wednesday, October 8, 18:20
Room 3

**BRIDGING ELECTRONICS, AI, AND
BIOMEDICAL APPLICATIONS**

Poster Session: P3

Chair: **M. Popescu**, IMT Bucharest, Romania
S. Vulpe, IMT Bucharest, Romania

- P3.1 Exploring DNA Base Interactions with Vertical Graphene for Biomedical Biosensor Applications, B. Adiaconiță, E. Chiriac, T. Burinaru, O. Brincoveanu, C. Pachiu, C. Mărculescu, M. Avram, IMT Bucharest, Romania**
- P3.2 Cuprous oxide based- nanoparticles and their antibacterial capacity, A. Boldeiu*, C. Ungureanu**, M. Stoian*, I. Mihalache*, O. Brincoveanu*, V. Tucureanu*, M. Popescu*, *IMT Bucharest, **National Univ. of Science and Technology POLITEHNICA Bucharest, Romania**
- P3.3 DNA Hybridization Detection using Nanocrystalline Graphite based FET, E. Chiriac, B. Adiaconita, T. Burinaru, C. Marculescu, C. Pachiu, M. Avram, IMT Bucharest, Romania**
- P3.4 Electrospun Carbon allotrope nanofiber coatings that can be used for advanced antibacterial bandages, M.-R. Marinescu^{1*}, I. V. Tudose^{1,2,3}, C. I. Pachiu¹, O. Brîncoveanu¹, C. Romanitan¹, M. P. Sucheai^{1,2*}, E. Koudoumas^{1,2}, ¹IMT Bucharest, Romania, ²Hellenic Mediterranean Univ., ³Univ. of Crete, Greece**
- P3.5 Development of smart wound dressings based on bacterial cellulose modified with hydroalcoholic propolis extracts, A. Mocanu*, G. Isopencu**, E. Rusen**, G. Toader***, A. Diacon***, S. State***, O. Brincoveanu*, L. A. Dinu*, C. Romanitan*, *IMT Bucharest, **National Univ. of Science and Technology POLITEHNICA Bucharest, ***Military Technical Academy “Ferdinand I”, Romania**

- P3.6 Hand-held Electrochemical Potentiostat for Herbicide Detection, P. Epure*, M. Mitrea*, L. A. Dinu**, *EPI-SISTEM SRL, **IMT-Bucharest, Romania**
- P3.7 On the Adapter Removal Method Based Waveguide-to-Coaxial Adapter S-parameters for Indirect Measurements of Waveguide Devices, S. Simion, MTA-Bucharest, Romania**
- P3.8 A Machine Learning Working Methodology for Prediction and Failure Categorization of Power Supplies, B. Pasztor, A.-D. Buburuzan, M. Purcar, Technical Univ. of Cluj-Napoca, Romania, European Univ. of Technology - EUt+, European Union**
- P3.9 Prediction of Thermal Impedance Curves in Discrete Electronics Using Gated Recurrent Neural Networks, A.-D. Buburuzan*, M. I. Purcar*, G. Pelz**, B. Andi**, *Technical Univ. of Cluj-Napoca Romania, European Univ. of Technology - Eut+, European Union, **Infineon Technologies AG, Germany**
- P3.10 Adapting Magnetostrictive – Piezoelectric Structures with Improved Magnetoelectric Properties at Low Magnetic Fields, I.-I. Șerbănescu***, M. Țibu*, G. Ababei*, L. Stoleriu**, N. Lupu*, *National Institute of Research and Development for Technical Physics, **Faculty of Physics, “Alexandru Ioan Cuza” Univ., Romania**
- P3.11 A study for a Z-shaped silicon microgripper electro-thermally actuated, R. C. Voicu*, R. Muller*, O. Brincoveanu*, M. Pustan**, C. Birleanu**, *IMT Bucharest, **Technical Univ. of Cluj-Napoca, Romania**

Thursday, October 9, 09:00

Room 1

PLENARY SESSION 2 (Invited Papers)
Session: PS2. *Oral presentations*

Chair: **D. Cristea**, IMT Bucharest, Romania

R. Müller, IMT Bucharest, Romania

- PS2.1** **Exploring the Power of Edge Ai for Societal**
09:00 **Good, Engineering Inspired by Life,**
E. M. Popovici, School of Engineering, Univ. College
Cork, Ireland
- PS2.2** **Magnesium based innovative cathodes for active**
09:30 **matrices displays produced by hybrid Laser-**
Plasma interaction, **R. Vladoiu^{1,3}, V. Dinca¹,**
A. Mandes¹, V. Ciupina^{1,3}, A. Pescaru², R. Grigore²,
E. Matei², S. Polosan^{2,3}, ¹Ovidius Univ.y of Constanta,
²National Institute of Materials Physics, ³Academy of
Romanian Scientists, Romania
- PS2.3** **Non-volatile Reconfigurable Transistor via**
10:00 **Ferroelectric Modulation: fabrication strategy**
and TCAD simulations, **D. Nazzari*, C. Rossi**,**
V. Wahler*, L. Wind*, M. Sistani*, D. Esseni, W. M. Weber*,**
***Institute of Solid State Electronics,**
Technische Univ. Wien, Austria, **DPIA, Univ. of
Udine, Italy
- PS2.4** **Full Circle - from Op Amps to LDOs and Back,**
10:30 **C. Stanescu**, IEEE, Romania
- 11:00** **Advanced semiconductor test solutions from**
Keysight Technologies and Form Factor for
research & development, **Z. Demeter,** H TEST
Romania
- 11:10** **Understanding semiconductors and devices on**
the Nanoscale using Atomic Force Microscopy,
A. Cerreta, A. Klasen, presenter: J. Kerfoot, Park
Systems Europe GmbH, Germany

11:20-11:40 – Coffee break

Thursday, October 9, 11:40
Room 1

MICROSENSORS & MICROSYSTEMS

Session: M&M. *Oral presentations*

Chair: **R. Müller**, IMT Bucharest, Romania

V. Avramescu, IMT Bucharest, Romania

M&M.1 Good practices towards nanofabrication

11:40 cleanroom sustainability, **V. Kontomitrou*****,
S. Lympelopoulou***, **G. Stavriniadis*****,
A. Stavriniadis***, **A. Kostopoulos*****,
G. Konstantinidis***, **L. Michalas******, *Institute
of Electronic Structure and Laser, Foundation for
Research and Technology Hellas, Heraklion, Crete,
Univ. of Crete, *Democritus Univ. of Thrace,
Greece

M&M.2 SAW humidity sensors manufactured on ScAlN/Si

12:00 using HfO₂ sensing layer, **M. Nedelcu*†**,
D. Vasilache*, **F. Nastase***, **A. Nicoloiu***,
C. Nastase*, **I. Zdru***, **G. Boldeiu***, **A. Dinescu***,
A. Müller*, *IMT Bucharest, †National Univ. of
Science and Technology POLITEHNICA Bucharest,
Romania

M&M.3 Inhibition of “velcro”-like PtSi formation in tip

12:20 arrays for electric-current based nanolithography
system, **G. Moagăr-Poladian***, **A.-C. Obreja**,
C.-C. Pârvulescu, **G. Crăciun**, **V. Moagăr-Poladian**,
S. Vulpe, **N. Vasile**, **C. Romanițan**, **F. Năstase**,
G. O. Simionescu, IMT Bucharest, Romania

12:40 Workshop ‘IMT Results in Romanian Core
Program Advanced research in micro-nano-
electronics, photonics, sensors and microsystems
devices for societal applications – μ NanoEI’

13:10-14:00 – Lunch

14:30-18:00 – Trip to the Cultural Center in Busteni -

Concert offered by Romanian Symphony Wind Orchestra

Thursday, October 9, 11:40
Room 2

**SEMICONDUCTOR DEVICES FOR OPTO
AND MEDICAL APPLICATIONS**
- STUDENT PAPERS
Session: SD-S. *Oral presentations*

Chair: **R. Pascu**, IMT Bucharest, Romania
R. Sporea, Univ. of Surrey, UK

**SD-S.1 Influence of axial ligands on memristive
11:40 properties of thin layer Cu(II)-aspirinate
complexes, D. Caus¹, G. Abdi¹, A. Slawek¹, B. Baś¹,
K. Szaciłowski^{1,2}, ¹AGH Univ. of Krakow, Poland,
²Univ. of the West of England, UK**

**SD-S.2 Scalable Epitaxial Design for High Wall-Plug
12:00 Efficiency in III-Nitride, Green μ LED Operating at
Low Current Density, C. P. Singh, K. Ghosh, Indian
Institute of Technology Jammu, India**

**SD-S.3 Preprocessing for Precision: Adaptive Noise
12:20 Reduction in Medical Imaging for Machine
Learning Applications, A. I. Dumachi, F. Negoita,
L. Bîlteanu, IMT Bucharest, Romania**

13:00-14:00 – Lunch

**14:30-18:00 – Trip to the Cultural Center in Busteni -
Concert offered by Romanian Symphony Wind Orchestra**

Friday, October 10, 09:00
Room 1&2

PLENARY SESSION 3 (Invited Papers)
Session: PS3. *Oral presentations*

Chair: **O. Buiu**, IMT Bucharest, Romania
A. Müller, IMT Bucharest, Romania

- PS3.1** **RF MEMS capacitive switches for high power**
09:00 **applications, L. Michalas^{1,2,3,*}, G. Stavrinidis^{2,3},**
 A. Ngabonziza⁴, P. Farinelli⁵, A. Ziaei⁴,
 G. Konstantinidis^{2,3}, ¹Democritus Univ. of Thrace,
 Greece, ²Institute of Electronic Structure and Laser,
 Foundation for Research and Technology - Hellas,
 Greece, ³Univ. of Crete, Greece, ⁴Thales Research and
 Technology France, ⁵RF Microtech, Italy
- PS3.2** **Spintronic Innovations for Frugal and Agile**
09:30 **Digital Technology, L. Prejbeanu, CEA; SPINTEC**
 (Univ. Grenoble Alpes/CNRS/CEA); PEPR SPIN,
 France
- PS3.3** **Stability and Electrical Performance**
10:00 **Improvement of Transparent p-Type CuI for**
 Large Area Electronics, M.-G. Kim, Sungkyunkwan
 Univ. (SKKU), Korea
- PS3.4** **Electrochemical Performance of Er-Doped**
10:30 **Titania Film for Energy Storage Applications,**
 A. A. Ahmad, Q. M. Al-Bataineh, A. Migdadi,
 Jordan Univ. of Science and Technology, Jordan
- 11:00** **Accelerating Materials Discovery with**
 SmartLab: A Platform for CAS Applications,
 P. Olowek, Rigaku Europe SE, Germany

11:10–11:30 – Coffee break

Friday, October 10, 11:30
Room 1&2

PLENARY SESSION 4 (Invited Papers)
Session: PS4. *Oral presentations*

Chair: **O. Buiu**, IMT Bucharest, Romania
A. Müller, IMT Bucharest, Romania

- PS4.1 Functional Magnetic Micro- and Nanowires:
11:30 From Microstructure Tailoring to Advanced
Sensing Applications, N. Lupu**, National Institute of
R&D for Technical Physics, Iasi, Romania
- PS4.2 Enhancing Short-wave Infrared Photosensing of
12:00 Germanium-based Nanocrystals, A.-M. Lepadatu**,
National Institute of Materials Physics, Romania
- 12:30 EnviroMETROS – The future of surface hybrid
metrology, L. Socaciu-Siebert**, SPECS Surface Nano
Analysis GmbH, Germany

13:00-14:00 – Lunch

Friday, October 10, 14:00
Room 1

NANOSCIENCE & NANOENGINEERING.
NANOMATERIALS 2
Session: N&N2. Oral presentations

Chair: **S. Iftimie**, Univ. of Bucharest, Romania
P. Varasteanu, IMT Bucharest, Romania

N&N2.1 Impact of Graphene on the Morpho-Structural,

14:00 Optical and Dielectric Properties of ZnO Semiconductors, P. Pascariu^{1,2}, C. Romanitan², O. Brincoveanu², M. Asandulesa¹, M. Suche^{2,3}, E. Koudoumas^{2,3}, ¹"Petru Poni" Institute of Macromolecular Chemistry, ²IMT-Bucharest, Romania, ³Center of Materials Technology and Photonics and Research and Innovation Center, Hellenic Mediterranean Univ., Greece

N&N2.2 Optimization of polypyrrole (PPy)

14:20 electrodeposition for the development of a molecularly imprinted polymer based electrochemical sensor, L. A. Dinu¹, O. Brincoveanu¹, Sabrina State^{1,2}, C. Parvulescu¹, C. Pachiu¹, A. Mocanu^{1,2}, E.-I. Geana^{1,3}, *IMT Bucharest, ²National Univ. of Science and Technology POLITEHNICA Bucharest, ³National Institute for Research and Development for Cryogenics and Isotopic Technologies, Romania

N&N2.3 Dual-Function TiO₂@C-Based Systems for

14:40 Sustainable Degradation of Leather Wastewater: A Synergistic Photocatalytic and Electrochemical Strategy, A. T. S. C. Brandão¹, S. Rosoiu-State^{2,3,4}, R. Costa¹, L.-B. Enache², G. V. Mihai², J. A. Vázquez⁵, L. Anicai^{2,6}, M. Enachescu^{2,7}, C. M. Pereira¹, ¹Faculdade de Ciências da Univ. do Porto, Portugal, ²Center for Surface Science and Nanotechnology, National Univ. of Science and Technology POLITEHNICA Bucharest, ³Faculty of Medical Engineering, National Univ. of Science and Technology POLITEHNICA Bucharest, ⁴IMT Bucharest, Romania, ⁵Instituto de Investigaciones Marinas (IIM-CSIC), Spain; ⁶OLV Development SRL, ⁷Academy of Romanian Scientists, Romania

- N&N2.4 Electrospun nanofibers for use in antibacterial applications, I. V. Tudose^{1,2,3}, P. Pascariu^{1,2,4}, O. Brîncoveanu², C. Romanițan², D. M. Manoli⁵, M. P. Suchea^{1,2*}, E. Koudoumas^{1,2}, ¹Hellenic Mediterranean Univ. (HMU), Greece, ²IMT Bucharest, Romania, ³Univ. of Crete, Greece, ⁴”Petru Poni” Institute of Macromolecular Chemistry, ⁵Technical Univ. of Civil Engineering, Romania**
- 15:00 N&N2.5 Nickel cobalt double layered hydroxide ternary nanocomposites for supercapacitor applications, A.-C. Obreja¹, M. Stoian¹, V. Țucureanu¹, O. Brîncoveanu¹, F. Comanescu¹, I. Bratoșin¹, A. Enache², M. Udrea², B. Chiricuță², ¹IMT Bucharest, ²Apel Laser SRL, Romania**

15:40-16:00 – Coffee Break

Friday, October 10, 14:00
Room 2

INTEGRATED CIRCUITS

Session: IC. *Oral presentations*

Chair: **M. Neag**, Technical Univ. of Cluj-Napoca, Romania
C. Dan, National Univ. of Science and Technology
POLITEHNICA Bucharest, Romania

IC.1 DAC Automated Measurement Experiments: An
14:00 Academia Hybrid Characterization Platform,
A.M. Antonescu, S. Stamate, F.-S. Dumitru,
M. Enachescu, National Univ. of Science and
Technology POLITEHNICA Bucharest, Romania

IC.2 I2C Controlled Multi-Channel Switch
14:20 Architecture, I.-B. Brezeanu¹, S. Isari²,
F. Draghici¹, G. Brezeanu¹, ¹National Univ. of
Science and Technology POLITEHNICA Bucharest,
²onsemi Romania

IC.3 High Troughput, High Security Reconfigurable
14:40 Architecture for a Swarm of Drones, C. Rusea¹,
Monica Dascălu^{2,3}, ¹National Univ. of Science and
Technology POLITEHNICA Bucharest, ²Research
Institute for Artificial Intelligence "Mihai Drăgănescu",
Romania

IC.4 Novel Capacitance Multiplier Technique in
15:00 Integrated Circuits, I.-A. Ilie^{1,2}, C. Ș. Zegheru¹,
F. Dumitru^{1,2}, G. Brezeanu², ¹Infineon Technologies,
²Electronics, Telecommunications and Information
Technology, National Univ. of Science and Technology
POLITEHNICA Bucharest, Romania

IC.5 AES-256 Circuit and Multi-Target Encryption
15:20 Library, C. Bira, R. Hobincu, National Univ. of
Science and Technology POLITEHNICA Bucharest,
Romania

15:40–16:00 – Coffee break

Friday, October 10, 16:00

Room 1

**MICROWAVE & MILLIMETER WAVE
CIRCUITS & SYSTEMS**

Session: MW. Oral presentations

Chair: **A. Bunea**, IMT Bucharest, Romania

A. Nicoloiu, IMT Bucharest, Romania

- MW.1** **Optimization-based Algorithm with a Robust De-embedding Technique for Microwave Characterization of Isotropic Materials,**
16:00 **G. Ciuprina***, **M. Aldrigo****, **S. Iordănescu****,
F. Ciuprina*, **C. Pârvulescu****, **A. Mocanu****,
B. Bumbeneci*, *National Univ. of Science and Technology POLITEHNICA Bucharest, **IMT Bucharest, Romania
- MW.2** **Software-Defined Radio System for Drone Detection:**
16:20 **Preliminary Testing,** **M. Șorecău¹**, **E. Șorecău²**,
A.-C. Bunea³, **D. Neculoiu³**, **F. Popescu⁴**, **I. A. Radu⁴**,
P. Bechet⁵, ¹Technical Univ. of Cluj-Napoca, ²“Nicolae Bălcescu” Land Forces Academy, ³IMT Bucharest,
⁴National Defence Univ., ⁵Robotech EMC Company, Romania
- MW.3** **Low and cryogenic temperature analysis of**
16:40 **SAW- Spin Wave Coupling on layered ScAlN/Si structures,** **I. Zdru***, **C. Nastase***, **A. Florescu***,
G. Boldeiu*, **D. Narducci****, **M. Nedelcu***,
D. Vasilache*, **A. Nicoloiu***, **C. Adelman****,
A. Dinescu*, **M. Weiler*****, **F. Ciubotaru****,
P. Pirro***, **A. Muller***, *IMT Bucharest, Romania,
IMEC, Belgium, *Fachbereich Physik and Landesforschungszentrum OPTIMAS, Rheinland-Pfalzische Technische Univ., Germany
- MW.4** **Metamaterial-based wideband dual stop-band filters**
17:00 **for V-band radars,** **L. Zappelli***,
H. J. Christopher**, **M. Aldrigo****, **C. Pârvulescu****,
O.-G. Simionescu**, **S. Xavier*****, **A. Ziaei*****,
*Univ. Politecnica delle Marche, Italy, **IMT Bucharest, Romania, ***Thales Research and Technology, France

**MW.5 Matrix Formula for One-Step Calculation of the
17:20 Resulting S-parameters of a Multiport, after
Embedding or De-embedding the Coaxial
Connectors, S. Simion, MTA-Bucharest, Romania**

18:00-18:20 – Coffee break

Friday, October 10, 16:00

Room 2

**DEVICES & SMART SYSTEMS FOR
BIOMEDICAL & HEALTH
APPLICATIONS**

Session: D&SS. *Oral presentations*

Chair: **L. Bilteanu**, IMT Bucharest, Romania

C. Pachiu, IMT Bucharest, Romania

D&SS.1 Flexible self-powered sensor for the detection of

16:00 **human respiration based on metal-air battery cell,**
M. Sarajlić*, **M. V Bošković***, **K. Cvetanović***,
S. D Ilić*, **S. Lepak-Kuc****, **P. D. Poljak***, *Institute
of Chemistry, Technology and Metallurgy, Serbia,
**Warsaw Univ. of Technology, Poland

D&SS.2 Spectral criteria for automated segmentation of

16:20 **cells from cavity serous fluids,** **M. A. Ilisanu¹,**
M. Mihailescu², V. L. Calin³, N. Tarba¹, E. Scarlat⁴,
A. Ghioca⁵, A. M. Pleava⁶, A. Ungureanu⁷,
I. G. Vladu⁷, D. M. Cristea⁷, V. Fechete⁷, E. Tianu⁵,
V. Popescu⁵, M. G. Moisescu³, ¹Fac. of Autom. Contr.
and Comp, National Univ. of Science and Technology
POLITEHNICA Bucharest, ²Applied Sciences in
Engineering Research Center, National Univ. of Science
and Technology POLITEHNICA Bucharest, ³Univ.
Med. Pharm. Carol Davila, ⁴Physics Department,
National Univ. of Science and Technology
POLITEHNICA Bucharest, ⁵Imunomedica Provita SRL,
⁶CAMPUS Research Centre, National Univ. of Science
and Technology POLITEHNICA Bucharest, ⁷Applied
Sciences Faculty, National Univ. of Science and
Technology POLITEHNICA Bucharest, Romania

D&SS.3 Rapid pathogen detection by solid-phase

16:40 **isothermal amplification,** **M.-A. Popescu*,**
L. Gogianu*, Pericle Vărășteanu*, C. Niculae,**
E. Radu, M. Simion*,** *IMT Bucharest, **Bucharest
Emergency Univ. Hospital - SUUB, Romania

- D&SS.4 Detection of hepatitis from clinical laboratory records with machine learning, I. Horvath^{1,2,3}, Z. Gego¹, C.-I. Popescu⁴, S. N. Fejer^{1,2,3}, ¹Pro-Vitam Ltd., Romania, ²Univ. of Pécs, Institute of Chemistry, Hungary, ³Egnosis Ltd., Romania, ⁴Institute of Biochemistry of the Romanian Academy, Romania**
17:00
- D&SS.5 Development of collagen - based artificial microenvironment PET membranes, a promising material for biomedical applications, E. Danila*, M. Raduly*, M. Axinie*, D. Stan*, V. Țucureanu**, O. Brincoveanu**, R. Gavrila**, S. Mocanu*, *DDS Diagnostic SRL, **IMT Bucharest, Romania**
17:20
- D&SS.6 On the Monitoring of Cellular Growth and Evolution by Machine Learning Based Dielectric Spectroscopy, T. Sandu, M. Gologanu, R. Popa, IMT Bucharest, Romania**
17:40

18:00-18:20 – Coffee break

Friday, October 10, 18:20

Room 1

SEMICONDUCTOR DEVICES

Session: SD. *Oral presentations*

Chair: **D. Dobrescu**, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania
O. Buiu, IMT Bucharest, Romania

- SD.1** **High Transconductance Polysilicon Contact-**
18:20 **Controlled Transistors Enabled by Offset Source**
 Contact Doping, E. Bestelink^{*}, P. Sihapitak^{},**
 M. D. Ilasin^{}, J. P. Bermundo^{**}, Y. Uraoka^{**},**
 F. Maita^{*}, L. Maiolo^{***}, R. A. Sporea^{*},**
 ^{*}Advanced Technology Institute, Univ. of Surrey, UK,
 ^{**}Nara Institute of Science and Technology, Japan,
 ^{***}Istituto per la Microelettronica eMicrosistemi,
 Consiglio Nazionale delle Ricerche, Italy
- SD.2** **High-k dielectric-stack pairing in SiC MOS**
18:40 **devices, R. Pascu¹, G. Pristavu², C. Romanitan¹,**
 F. Draghici², G. Brezeanu², ¹IMT Bucharest, ²National
 Univ. of Science and Technology POLITEHNICA
 Bucharest, Romania
- SD.3** **Memristive Properties and Synaptic Plasticity of**
19:00 **Iodobismuthates: Handwritten Character**
 Recognition and Detection of Vocalizations of
 ***Trichosurus vulpecula* in a Physical Reservoir**
 Computer, E. Cechosz¹, G. Abdi¹, M. Gry^{1,2},
 A. Karacali³, A. S. Kamarol Zaman³, A. Slawek¹,
 H. Tanaka³, K. Szacilowski^{1,4,5}, ¹Academic Centre for
 Materials and Nanotechnology, AGH Univ. of Krakow,
 Poland, ²Jagiellonian Univ., Poland, ³Research Center
 for Neuromorphic AI Hardware, Kyushu Institute of
 Technology, Japan, ⁴Univ. of the West of England, UK,
 ⁵Institut de sciences exactes et appliquées (ISEA), Univ.
 de la Nouvelle-Calédonie, France
- SD.4** **Electronic structure of reduced FeOOH deposited on**
19:20 **SrTiO₃ substrates, A. D. Dobrin^{*,**},**
 A.I. Borhan^{*}, D. Ghercă^{****},****, M. A. Huşanu^{*},**
 ^{*}National Institute of Materials Physics, ^{**}Univ. of
 Bucharest, ^{***}Alexandru Ioan Cuza Univ. of Iaşi,
 ^{****}National Institute of Research and Development for
 Technical Physics, Iaşi

Friday, October 10, 18:20
Room 1

NANOSCIENCE & NANOENGINEERING

Poster Session: P4

Chair: **A. Mocanu**, IMT Bucharest, Romania
C. Simion, National Institute of Materials Physics,
Romania

- P4.1 Copper-cuprite composite layers for photoelectroreduction of CO₂, K. Mech*, A. Podborska*, M. Marzec*, K. Szaciłowski*, C. Ponce de Leon**, *AGH Univ. of Krakow, Academic Centre for Materials and Nanotechnology, Poland, **Univ. of Southampton, UK**
- P4.2 Morphostructural investigations on compositionally graded CZTS thin film for photovoltaic applications, B. S. Vasile^{1,2,3}, I. Boerasu^{1,3}, A. V. Surdu⁴, R. D. Trusca³, O. C. Oprea^{2,3}, ¹Advanced Research Center for Innovative Materials, Products and Processes, National Univ. of Science and Technology POLITEHNICA Bucharest, ²Romanian Academy of Scientists, ³National Research Center for Micro and Nanomaterials, National Univ. of Science and Technology POLITEHNICA Bucharest, ⁴Transilvania Univ. of Brasov, Romania**
- P4.3 Tailored Carbon–TiO₂ Composites from Marine Waste Biomass Precursors: Structure Characterization, A. T. S. C. Brandão¹, S. Rosoiu-State^{2,3,4}, R. Costa¹, L.-B. Enache², G. V. Mihai², J. A. Vázquez⁵, L. Anicai^{2,6}, M. Enachescu^{2,7}, C. M. Pereira¹, ¹Centro de Investigação em Química da Univ. do Porto/Instituto de Ciências Moleculares (CIQUP/IMS), Portugal, ²Center for Surface Science and Nanotechnology, National Univ. of Science and Technology POLITEHNICA Bucharest, Romania, ³Faculty of Medical Engineering, National Univ. of Science and Technology POLITEHNICA Bucharest, ⁴IMT Bucharest, ⁵Instituto de Investigaciones Marinas (IIM-CSIC), Spain; J. A. V., ⁶OLV Development SRL, ⁷Academy of Romanian Scientists, Romania**

- P4.4 Morphological and structural characterization of Rare-Earth doped ZnO for EMI shielding applications, O. Brincoveanu¹, C. Romanitan¹, L. Barbu³, S. Tripon³, M. P. Sucnea^{1,2}, ¹IMT Bucharest, Romania, ²Hellenic Mediterranean Univ. Greece, ³National Institute for R&D of Isotopic and Molecular Technologies, Romania**
- P4.5 Ge-NPs embedded in Si₃N₄ for high-performance self-powered photodetectors, I. Stavarache*, P. Prepelita**, C. Palade*, O. Cojocaru*, M. L. Ciurea****, *National Institute of Materials Physics, **National Institute for Laser, Plasma and Radiation Physics, ***Academy of Romanian Scientists, Romania**
- P4.6 Morpho-structural and electrical properties of TNO layers deposited by the magnetron sputtering co-deposition method, N. Vasile, C. Romanitan, S. Vulpe, I. Mihalache, G. Craciun, F. Nastase, L. Octavian, M. A. Avram, M. Dragoman, IMT Bucharest, Romania**
- P4.7 SiC porosification technique based on electrochemical etching process, M. Stoian*, I.-N. Bratosin*, C. Romanitan*, G. Craciun*, E. Vuillermet**, E. Usureau**, N. Bercu**, M. Lazar**, R. Pascu*, *IMT Bucharest, Romania, **L2n UMR CNRS 7076, Univ. of Technology of Troyes & Univ. of Reims Champagne-Ardenne, France**
- P4.8 Deep Eutectic Solvent-Assisted Synthesis of Silver Nanostructures/Carbon Composites for Enhanced Electrochemical Detection of BPA, S. State (Rosoiu)***, D. Negreanu*,**, S. Rosu**, O. Brincoveanu*, L. A. Dinu*, *IMT Bucharest, **National Univ. of Science and Technology POLITEHNICA Bucharest, Romania**
- P4.9 La/GNPs:ZnO Nanocomposite Microclusters Synthesized by Electrospinning–Calcination: Structural and Optical Characterization, D. Manica¹, P. Varasteanu¹, S. Bucur¹, O. Brincoveanu¹, C. Romanitan¹, C. Pachiu¹, M. P. Sucnea^{*1,2}, E. Koudoumas^{*1,2}, ¹IMT Bucharest, Romania, ²Hellenic Mediterranean Univ., Greece**

- P4.10 Nanostructured Lanthanum Doped ZnO for Application in EMI Shielding, O. T. Nedelcu, M. Suchea, O. Brincoveanu, D. Manica, T. Sandu, IMT Bucharest, Romania**
- P4.11 Natural States of Magnetic Mn-based Alloy Powders, Phase Transitions and Time-Dependent Properties, I.-I. Șerbănescu^{***}, T. Roman^{*}, M. Grigoraș^{*}, N. Lupu^{*}, ^{*}National Institute of Research and Development for Technical Physics, ^{***}“Alexandru Ioan Cuza” Univ. of Iasi, România**
- P4.12 Trivalent metal-doped ZnO thin films: structural origins of high-energy absorption maxima and bandgap variations, M. Manica^{1,2}, M. P. Suchea^{1,3}, I. V. Tudose^{1,3}, C. Romanitan¹, D. Manica¹, O. Brincoveanu¹, R. Gavrilă¹, S. Antohe^{2,4}, O. N. Ionescu^{1,5}, E. Koudoumas^{1,3}, ¹IMT Bucharest, ²Univ. of Bucharest, Romania, ³Hellenic Mediterranean Univ., Greece, ⁴Academy of Romanian Scientists, ⁵Petroleum-Gas Univ. of Ploiesti, Romania**
- P4.13 Development of a Smart Resistive Humidity Sensor with IoT Connectivity, N. Dumbrăvescu¹, N. Musat², O. Ionescu^{1,2}, ¹IMT Bucharest, ²Univ. from Ploiesti, Romania**
- P4.14 Electrical switching characteristics of VxOy thin films, R. Plugaru, C. Romanitan, F. Comănescu, G. Craciun, S. Vulpe, IMT Bucharest, Romania**
- P4.15 Effect of oxygen vacancies on the electronic properties of La_{0.7}Sr_{0.3}MnO₃/BaTiO₃/BaSnO₃ (001) interfaces, N. Plugaru¹, N. Filipoiu², R. Plugaru¹, ¹IMT Bucharest, ²Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH), Romania**
- P4.16 Multifunctional MXene–polymer nanocomposites for EMI shielding, soft actuation, and biomedical applications, G. Toader¹, A. Diacon^{1,*}, A. Mocanu², L. A. Dinu², P. Varasteanu², O. Brincoveanu², C. Romanitan², M. Alexandru³, F. L. Zorila³, C. Damian⁴, E. Rusen⁴, R. A. Mitran⁵, ¹Military Technical Academy “Ferdinand I”, ²IMT Bucharest, ³Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, ⁴National Univ. of Science and Technology POLITEHNICA Bucharest, ⁵“Ilie Murgulescu” Institute of Physical Chemistry, Romanian Academy, Romania**

P4.17 Low-swelling hydrogels incorporating Mo-MXenes for EMI shielding applications, A. Moldovan¹, A. Diacon^{1,*}, M. Aldrigo², S. Iordănescu², A. Mocanu², O. Brincoveanu², C. Romanitan², T. Rotariu¹, E. Rusen⁴, A. M. Gavrilă⁵, B. Trica⁵, ¹Military Technical Academy “Ferdinand I”, ²IMT Bucharest, ³Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, ⁴National Univ. of Science and Technology POLITEHNICA Bucharest, ⁵National Research and Development Institute for Chemistry and Petrochemistry ICECHIM, Romania

Friday, October 10, 18:20
Room 2

MICROPHOTONICS & MICROSYSTEMS

Poster Session: P5

Chair: **R. Tomescu**, IMT Bucharest, Romania
R. Voicu, IMT Bucharest, Romania

- P5.1 Double-color electroluminescent devices,** C. C. Ciobotaru, C. I. Ciobotaru, A. Nitescu, S. Polosan*, National Institute of Materials Physics, Romania
- P5.2 Micro-optic Concentrator Based on PDMS micro-lenses Array for Photovoltaic Device Applications,** E. Manea, M. Purica, C. Tibeică, C. Pârvulescu, IMT Bucharest, Romania
- P5.3 Design of a broadband anti-reflective configuration for terahertz region,** M. Kusko, R. Tudor, C. Kusko, IMT Bucharest, Romania
- P5.4 Plumeria Latex as a new natural Binder in CNO-based resistive RH sensing nanocomposite Material: Electrical Characterization and Enhancements,** N. Dumbravescu*, C. Dumbravescu**, B. Serban*, O. Buiu*, *IMT Bucharest, **MIGSO-PCUBED, Romania
- P5.5 Polyaniline-Coated Fiber Optic Plasmonic Sensor for Toxic Nitrophenols Detection,** I. Antohe, G. Popescu-Pelin, G. Socol, National Institute for Laser, Plasma and Radiation Physics, Romania
- P5.6 SAW sensors based on nanocrystalline graphite for environmental applications,** A. Baracu, O. Simionescu, V. Buiculescu, M. Stoian, C. Obreja, G. Craciun, F. Comanescu, IMT Bucharest, Romania
- P5.7 Carbon nanotube based antenna for biosensor applications,** A. Cismaru*, M. Dragoman*, C. Obreja*, B. Trica**, C. Parvulescu*, D. Mladenovic*, M. Simion*, M. Carp*, O. Brincoveanu*, *IMT Bucharest, **National Institute for Research & Development in Chemistry and Petrochemistry, Romania

P5.8 Implanted MOSFETs: from usual to hidden aspects, and limitations, C. Ravariu^{1*}, G. Rotaru¹, A. Srinivasulu², A. Bhargav³, S. Musala⁴, ^{*1}National Univ. of Science and Technology POLITEHNICA Bucharest, Romania, ²Mohan Babu Univ., India, ³KIIT Univ., India, ⁴Vignan's Foundation for Science Technology & Research, India

Friday, October 10, 09:00
Room 3

NerveRepack Workshop
‘Pushing the Boundaries of Neuroprosthetics
and Bioelectronic Medicine’

- 09:00** **The Romanian CHIPS Competence Centre: Driving Innovation Under the CHIPS JU, C. Moldovan, IMT Bucharest, Romania**
- 09:10** **New Implantable electrodes for bidirectional connection with exoprostheses and exoskeletons, C. Moldovan*, O. Ionescu, M. Ion, S. Dinulescu, D. Dragomir, E. Franti, B. Firtat, A. Grigoriou, C. Mihailescu, M. Savin, G. Siekmeyer, *IMT Bucharest, Romania**
- 09:20** **Wireless Bidirectional Real-Time Communication System for Active Implantable Medical Devices, S. Concadoro, A. Dentis, L. Cantore, D. Demarchi, P. Motto Ros*, *Politecnico di Torino, Italy**
- 09:40** **Wireless Power Transfer System for Active Implantable Medical Devices, A. Dentis, L. Cantore, S. Concadoro, D. Demarchi, P. Motto Ros*, *Politecnico di Torino, Italy**
- 10:00** **System for bidirectional connection of exoskeletons to the spinal nerves of patients with paralyzed legs, E. Franti*, C. Niculae, D. Teleanu, *IMT Bucharest, Romania**
- 10:15** **Advancing Inclusive Mobility: An Integrated System for Prosthetic Solutions for Individuals with Mobility Impairments, D. Besnea, D. A. Prisecaru*, *National Univ. of Science and Technology POLITEHNICA Bucharest, Romania**
- 10:30** **Design and Prototyping of a Neural-Interfaced Mechatronic Hand Prosthesis, L. Székely*, S. Olasz, D. Pop, *OSTEOPHARM SRL**
- 10:45** **IN3-BIO: Biocompatibility Pipeline for the NerveRepack Project, N. Rossopoulou, M. Mina, S.-M. Giatro, A. Skiada, O.-E. Boulioglou, L. Galouni, C. Fragkou, T. Katsila*, *National Hellenic Research Foundation, Greece**

11:00–11:30 – Coffee break

Friday, October 10, 11:30
Room 3

Net4Air Workshop
‘Smart Sensor Technologies for
Next-level Air Quality Monitoring’

- 11:30 Opening statement, C. Moldovan, IMT Bucharest, Romania**
- 11:35 Electrodeposited PANI/Azulene Films on IDEs for Formaldehyde Detection: A Preliminary Study, A. Grigoriu*, M. Savin, C. Brasoveanu, V. Anastasoae, C. M. Mihailescu, *IMT Bucharest, Romania**
- 11:55 PANI- based resistive chemosensors: a morphological study, A. Famengo*, F. Visentin, N. El Habra, A. Grigoriu, C. M. Mihailescu, M. Savin, C. Moldovan, S. Dinulescu, G. S. Muscalu, B. Firtat, M. Losurdo, *Institute of Condensed Matter Chemistry and Tehnologies for Energy, Italy**
- 12:15 Modular reconfigurable electronics for a better database in air quality monitoring, S. Dinulescu*, A. Grigoriu, S. Mihaela, C. Mihăilescu, C. Braşoveanu, G. Muscalu, M. Ion, A. Anghelescu, D. Dragomir, B. Firtat, C. Moldovan, *IMT Bucharest, Romania**
- 12:30 Piezoelectric MEMS energy harvester systems for portable array sensors, G. Muscalu*, S. Dinulescu, B. Firtat, A. Anghelescu, C. Brasoveanu, A. Grigoriu, C. Moldovan, *IMT Bucharest, Romania**
- 12:45 Magnetic behavior and antisite defects in Sm₂CoMnO₆ double perovskite: insights from first-principles calculations, C. Caddeo*, G. Lleopart Motis, A. Satta, T. Sarkar, F. Congiu, G. Muscas, *Istituto Officina dei Materiali, Italy**
- 13:00 PANI-based resistive chemosensors for sensitive and selective gas detection, I. Antohe*, A.M. Popa, A. Stochioiu, L.I. Toderascu, O. Gherasim, V.A. Antohe, E. Manaila, G. Craciun, C. Luculescu, G. Socol, *National Institute for Laser, Plasma & Radiation Physics**

13:15-14:00 – Lunch

Friday, October 10, 14:00
Room 3

Net4Air Workshop
‘Awareness into Action: Ideas for an
InclusiveScientific Culture’

- 14:00 Institutional welcome and Introduction to the workshop, C. Moldovan¹, M. Losurdo², M. Favaro²,
¹IMT Bucharest, Romania, ²CNR-ICMATE, Italy**
- 14:10 Gender equality: policies and tools, I. Di Tullio,
Gender Equality Officer CNR, Italy**
- 14:30 Bridging the Gaps: Uncovering and Addressing
Inequality in Science, M. Timpel¹, C. Caddeo²,
¹CNR-IMEM, ²CNR-IOM, Italy**
- 15:10 Gender Dimension in European Projects, L. Neri,
CNR-NANO, Italy**

15:30–16:00 – Coffee break

- 16:00 The Many Axes of Discrimination. Recognizing
them to counteract them - Participatory activities
coordinated by previous speakers**
- 17:10 Final Reflections and Closing Remarks**

Saturday, October 11, 09:00
Room 1

INTEGRATED CIRCUITS –
STUDENT PAPERS 2
Session: IC-S.2 *Oral presentations*

Chair: **F. Draghici**, National Univ. of Science and
Technology POLITEHNICA Bucharest, Romania
T. Visan, Infineon Technologies, Romania

- IC-S.2.1 Laboratory Platform for Proximity Sensor**
09:00 Automatic Characterization, **A. C. Daescu**,
C. C. Dumitru, **E. Pantelimon**, **A. M. Antonescu**,
F. C. Georgescu, **I. D. Enachescu**, **C. Dan**,
M. Enachescu, National University of Science and
Technology POLITEHNICA Bucharest, Romania
- IC-S.2.2 A Digital Demodulation-Based Architecture for**
09:20 Offset-Free Chopped Sensor Signal Paths Using
Oscillator-Based ADCs, **A. Ciobanasu^{1,2}**,
D.-I.-D. Stoica¹, **I.-I. Cristea¹**, **A. Cracan²**,
R.-G. Bozomitu², ¹Infineon Technologies, ²"Gheorghe
Asachi" Technical Univ. of Iasi, Romania
- IC-S.2.3 openMSP430-based Dual-Core Lockstep ASIC**
09:40 Design for ASIL D Applications, **S. Catrinoiu**,
M. Enachescu, National Univ. of Science and
Technology POLITEHNICA Bucharest, Romania
- IC-S.2.4 TSPC frequency divider design and optimisation**
10:00 methodology using a CMOS inverter reference,
D.-I. Domnici*, **I. Kovács*****, **M. Neag***, *Technical
Univ. of Cluj-Napoca, **Silicon Systems Transylvania
Ltd., Romania
- IC-S.2.5 From Analog Pedals to FPGA: An HLS Approach to**
10:20 Guitar Audio Effects Implementation, **N.-H. Pham**,
C.-E. Vasile, National Univ. of Science and Technology
POLITEHNICA Bucharest, Romania

Saturday, October 11, 14:00
Room 1

Workshop
‘From Awareness to Implementation:
Research Security for
Future Partnerships’

Event co-organized by IMT Bucharest and UEFISCDI
(Executive Unit for Financing Higher Education,
Research, Development and Innovation), Romania

20:00 – CAS 2025 Banquet including
Best Paper Awards ceremony
(Hotel Sinaia Restaurant)

CONFERENCE OFFICE ADDRESS

CAS OFFICE

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