

CAS 2022 PROGRAM

45th Edition
October 12-14, 2022,
Poiana Brasov, ROMANIA



INTERNATIONAL SEMICONDUCTOR CONFERENCE

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



co-sponsored by
IEEE - Electron Devices Society



Ministry of Research, Innovation and Digitalization

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FOREWORD

About the Conference

The International Semiconductor Conference (CAS) organized by the National Institute for Research and Development in Microtechnologies - IMT Bucharest is now at its 45th edition. The conference is a yearly event organized since 1978 and it was initiated by the former ICCE institute which merged in 1996 with IMT. Starting with 1991, CAS became an International Conference and since 1995 the conference is also **an IEEE event**.

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 edition of CAS (October 12 - 14, 2022, Poiana Brasov) includes 4 plenary sessions with 13 invited lectures and oral and poster sessions comprising 76 regular papers.

Social Programme

The main social events of CAS 2022 (included for all registered participants):

- CAS 2022 “Get-together” Cocktail - Tuesday, Oct. 11, 20:30 h
- Trip to Brasov City - Thursday, October 13, 14:15 h
- CAS 2022 Banquet including Best Paper Awards ceremony - Friday, October 14, 20:30 h

On behalf of the Organizing Committee of the International Semiconductor Conference (CAS), we are delighted to welcome you to the 45th edition - CAS 2022 and we hope you enjoy your time at the conference and in Poiana Brasov!

15th of September 2022

Miron Adrian DINESCU
Conference Chairman

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GENERAL INFORMATION

VENUE AND DATES

The conference will take place from **Wednesday, October 12 to Friday, October 14, 2022, at Hotel Alpin, Poiana Brasov, Romania.**

Poiana Brasov is located in the Carpathian Mountains, in the heart of Transylvania (central Romania), in one of the most pristine and well-preserved mountain areas in Eastern Europe. Close to major tourist attractions, like Bran Castle (Dracula's Castle) (23km), the Rasnov Fortress (12km), and the medieval city of Brasov (14km).

TECHNICAL PROGRAM

English is the official language of the Conference.

In the oral sessions, the authors should use PowerPoint type presentations. The presentations should not exceed **20 minutes for contributed papers**, respectively **30 minutes for invited papers**, with 5 minutes for discussions included.

2 poster sessions are scheduled, on **October 12 and October 14**. The posters format should be A0 size. The poster panel will be marked with the corresponding code from the conference programme: Ex. AB.1 (AB=session code, 1=poster 1).

Conference SECRETARIAT

The CAS 2022 Secretariat will be opened on Tuesday, October 11, 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

CAS 2022 WELCOME COCKTAIL

CAS 2022 "Get-together" Cocktail will be held on Tuesday, October 11, 20:30 h, in Hotel Alpin Restaurant.

A trip to Brasov city is scheduled on Thursday, October 13, starting 14:15 h.

CAS 2022 BANQUET

The Conference Banquet, including the Best papers Awards ceremony, will be held on Friday, October 14, 20:30 h, in Hotel Alpin Restaurant.

For the registered participants and accompanying persons, the costs of all social events are included in the Conference Fee.

TOURISM and ENTERTAINMENT OPPORTUNITIES

Poiana Brasov has long been an international destination, the resort has been the host of many important competitions, it became the country's most popular ski resort, and it's been under constant development. But Poiana Brasov's magic can best be found in its surroundings. The pristine and mostly untouched environment will make you feel as if you're in a fairy-tale.

Poiana Brasov is located in the Carpathian Mountains, in the heart of Transylvania (central Romania), in one of the most well-preserved mountain areas in Eastern Europe. Situated at the base of Mount Postăvarul, Poiana Braşov has been the preferred holiday destination for both hiking and winter sports enthusiasts through the decades.

By foot, by car or by using cable transportation you can reach very interesting places, enjoy amazing landscapes and explore the local culture and food.

Major tourist attractions near Poiana Brasov:

- Postăvarul peak (1799 m) is one of the peaks with the most spectacular views in the Carpathian Mountains and could be reached by cable car or by foot
- Bran Castle (Dracula's Castle) (23km), Opening hours: Monday: 12PM - 6PM, Tue–Sun: 9AM - 6PM
- The medieval city of Brasov (14km)
- Valea Cetatii Cave (13 km), Rasnov; Opening hours: Monday-Sunday: 10AM – 8PM
- The Rasnov Fortress (12km) (in 2022 closed for restoration)

**CAS 2022 International Semiconductor Conference
PROGRAM**

11 Oct. Tuesday	15:00-18:00	Registration
	20:30	Welcome Cocktail CAS 2022 (Hotel Alpin Restaurant)

12 Oct. Wednesday	08:30-09:00	Registration
	09:00-09:10	Welcome to CAS 2022 Miron Adrian Dinescu , IMT Bucharest, Romania – CAS 2022 General Chairman

12 Oct. Wednesday		Room: CARPATI 2
	09:10-11:10	<p style="text-align: center;">Plenary Session 1 (<i>Invited Papers</i>)</p> <p>Chair: Gh. Brezeanu, Romania M. A. Dinescu, Romania</p> <p>F. Udrea, Univ. of Cambridge, UK A. Wild, AWKonsult, Germany I. Tiginyanu, Academy of Sciences and Technical Univ. of Moldova, Republic of Moldova X. Jorda, Institute of Microelectronics of Barcelona (IMB-CNM-CSIC), Spain</p>
	11:10-11:30	<i>Coffee break</i>

12 Oct. Wednesday		Room: CARPATI 2	Room: CARPATI 1
	11:30-13:10	NANOSCIENCE & NANOENGINEERING 1 <i>Oral presentations</i> Chair: M. L. Ciurea, Romania I. Tiginyanu, Republic of Moldova	MICROSYSTEMS & SEMICONDUCTOR DEVICES – Student papers <i>Oral presentations</i> Chair: M. Brezeanu, Romania F. Udrea, UK
	13:00-14:00	<i>Lunch</i>	
	14:00-15:40	INTEGRATED CIRCUITS <i>Oral presentations</i> Chair: F. Draghici, Romania S. Marinca, Romania	NANOSCIENCE & NANOENGINEERING 2 - Student papers <i>Oral presentations</i> Chair: R. Pascu, Romania A. Tulbure, Romania

12 Oct. Wednesday		Room: CARPATI 2	Room: CARPATI 1
	15:40 -16:00	<i>Coffee break</i>	
	16:00-18:00	POSTER SESSION NANOSCIENCE (including student) & SEMICONDUCTOR DEVICES Chair: S. Bellucci, Italy A. Radoi, Romania	

13 Oct. Thursday		Room: CARPATI 2
	09:00-11:00	<p style="text-align: center;">Plenary Session 2 (<i>Invited Papers</i>)</p> <p style="text-align: center;">Chair: M. Dragoman, Romania A. Wild, Germany</p> <p>M. L. Ciurea, National Institute of Materials Physics, Romania S. Bellucci, INFN Laboratory Nazionali di Frascati, Roma, Italy D. Randjelovic, ICTM - Institute of Microelectronic Technologies, Belgrade, Serbia K. Szaciłowski, Academic Centre for Materials and Nanotechnology, AGH Univ. of Science and Technology, Kraków, Poland</p>
	11:00-11:20	M. Samadi , Carl Zeiss Instruments SRL, Romania
	11:20-11:40	<i>Coffee break</i>

13 Oct. Thursday		Room: CARPATI 2	Room: CARPATI 1	Room: The Team
	11:40-13:20	NANOSCIENCE & NANOENGINEERING 3 <i>Oral presentations</i> Chair: P. French, The Netherlands M. Veca, Romania	MODELLING <i>Oral presentations</i> Chair: C. Kusko, Romania D. Neculoiu, Romania	FIT-4-NMP Networking and Brokerage Event
	13:00-14:00	<i>Lunch</i>		
	14:15	Trip to Brasov city		

14 Oct. Friday		Room: CARPATI 2
	09:00-10:30	<p style="text-align: center;">Plenary Session 3 (<i>Invited Papers</i>)</p> <p>Chair: M. L. Ciurea, Romania R. Müller, Romania</p> <p>S. Voinigescu, Univ. of Toronto, Canada A. M. Ionescu, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland E. Koudoumas, Hellenic Mediterranean Univ., Greece</p>
	10:30-10:50	<i>Coffee break</i>

14 Oct. Friday		Room: CARPATI 2	Room: CARPATI 1
	10:50-12:50	MICROPHOTONICS & MICROWAVES <i>Oral presentations</i> Chair: D. Cristea, Romania A. Müller, Romania	SEMICONDUCTOR DEVICES <i>Oral presentations</i> Chair: E. Ceuca, Romania M. Neag, Romania
	12:50-13:00	PHOTO “REMEMBER CAS 2022”	
	13:00-14:00	<i>Lunch</i>	
		Room: CARPATI 2	
	14:00-15:00	Plenary Session 4 (Invited Papers) Chair: A. M. Ionescu, Switzerland D. Neculoiu, Romania C. Adelman , imec, Belgium C. Tsamis , National Center for Scientific Research "Demokritos" Inst. of Nanoscience and Nanotechnology, Greece	

14 Oct. Friday		Room: CARPATI 2	Room: CARPATI 1
	15:00-16:40	MICROSENSORS & MICROSYSTEMS <i>Oral presentations</i> Chair: V. Avramescu, Romania G. Moagar-Poladian, Romania	INTEGRATED CIRCUITS - Student Papers <i>Oral presentations</i> Chair: V. Anghel, Romania C. Dan, Romania
	16:40-17:00	<i>Coffee break</i>	
	17:00-19:00	POSTER SESSION MICRO- & NANOPHOTONICS & OPTOELECTRONICS, MICROSENSORS & MICROSYSTEMS, MODELLING, SEMICONDUCTOR DEVICES Chair: O. Buiu, Romania A. Bunea, Romania	NANOSCIENCE & NANOENGINEERING 4 – Student papers <i>Oral presentations</i> Chair: M. Lazar, France Gh. Pristavu, Romania
	20:30	CAS 2022 Banquet including Best Paper Awards ceremony (Hotel Alpin Restaurant)	

Tuesday, October 11, 15:00 - 18:00
CAS Secretariat

- **Registration**
- **Distribution of the Conference Materials**

20:30 – WELCOME COCKTAIL

Wednesday, October 12, 09:00
Room: Carpati 2

09:00 WELCOME TO CAS 2022
Miron Adrian Dinescu, IMT Bucharest, Romania

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

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

- PS1.1** ADVANCED POWER DEVICES BASED ON
09:10 SILICON CARBIDE AND GALLIUM NITRIDE
MATERIALS, **F. Udrea**, Univ. of Cambridge, UK
- PS1.2** MICROELECTRONICS IN THE 21ST CENTURY:
09:40 TECHNOLOGY, ECONOMICS, POLICIES, **A. Wild**,
AWKonsult, Germany
- PS1.3** NATURE-INSPIRED APPLICATIONS OF SELF-
10:10 ASSEMBLED AERO-GaN ARCHITECTURES:
SELF-HEALING FLOATING MEMBRANES,
ROTATING AND OSCILLATING LIQUID
MARBLES DRIVEN BY SURFACE-TENSION
GRADIENTS, **I. Tiginyanu**, Academy of Sciences and
Technical Univ. of Moldova, Rep. of Moldova
- PS1.4** POWER SYSTEMS INTEGRATION: A KEY
10:40 ENABLING TECHNOLOGY FOR
ELECTRIFICATION, **X. Jorda**, Institute of
Microelectronics of Barcelona (IMB-CNM-CSIC),
Spain

11:10-11:30 – Coffee break

Wednesday, October 12, 11:30

Room: Carpati 1

**MICROSYSTEMS &
SEMICONDUCTOR DEVICES –
STUDENT papers**
Session: M&SD-S. Oral presentations

Chair: **M. Brezeanu**, PwC Romania
F. Udrea, Univ. of Cambridge, UK

- M&SD- S.1** 11:30 **RESONANCE FREQUENCY VS. MAGNETIC FIELD ANALYSIS FOR ScAlN/Si SAW RESONATORS WITH MAGNETOSTRICTIVE METALIZATION ON THE NANOLITHOGRAPHIC IDTs, G. Boldeiu^{1,2}, C. Nastase¹, A. Nicoloiu¹, A. Florescu¹, I. Zdru¹, D. Vasilache¹, A. Dinescu¹, A. Müller¹, ¹IMT Bucharest, ²Univ. POLITEHNICA of Bucharest, Romania**
- M&SD- S.2** 11:50 **OPTIMIZED JUNCTION TERMINATION EXTENSION AND RING SYSTEM FOR 11 kV 4H-SiC BJT, A. Ammar¹, M. Lazar², B. Vergne³, S. Scharnholz³, L. V. Phung¹, C. Sonnevill¹, C. Raynaud¹, H. Morel¹, D. Planson¹, M. Zielinski, ¹Univ. Lyon, INSA Lyon, Univ. Claude Bernard Lyon 1, Ecole Centrale de Lyon, CNRS, AMPERE, France, ²Light, Nanomaterials, Nanotechnologies, L2N, EMR CNRS7004, Univ. de Technologie de Troyes, France, ³French-German Research Institute of Saint Louis, France**
- M&SD- S.3** 12:10 **MONITORING DYNAMIC RESISTANCE OF AlGaN/GaN SCHOTTKY DIODES AFTER QUASI-STATIC AND HARD SWITCHING STRESSES, M. Alam¹, H. Morel¹, L.V. Phung¹, D. Planson¹, A. Yvon², ¹Univ. Lyon, INSA-Lyon, Laboratoire Ampere, France, ²STMicroelectronics, France**
- M&SD- S.4** 12:30 **SILVER SINTERING AS DIE-ATTACH MATERIAL FOR HIGH TEMPERATURE SENSORS, E. Solà¹, N. Fusté¹, O. Aviñó¹, M. Vellvehi¹, D. Sánchez¹, X. Perpiñà¹, G. Brezeanu², F. Draghici², X. Jordà¹, ¹IMB-CNM (CSIC), Spain, ²Univ. POLITEHNICA of Bucharest, Romania**

13:00-14:00 – Lunch

Wednesday, October 12, 11:30

Room: Carpati 2

**NANOSCIENCE &
NANOENGINEERING 1**
Session: N&N1. Oral presentations

Chair: **M.L. Ciurea**, National Institute of Materials Physics, Romania
I. Tiginyanu, Academy of Sciences and Technical Univ. of Moldova

Invited METROLOGY SOLUTIONS FOR ELECTRONICS
11:30 NANOSCALE NODES, **M. Enachescu**, Center for Surface Science and Nanotechnology, Univ. POLITEHNICA of Bucharest, Romania

N&N1.1 DYE TWISTING EFFECT ON V_{oc} IN DSSCs,
11:50 **M. Mihaila**, IMT Bucharest, Romania

N&N1.2 Cu-Cu₂O-rGO COMPOSITE MATERIALS FOR
12:10 PHOTOELECTROCHEMICAL CONVERSION OF CO₂ TO HYDROCARBONS, **K. Mech, A. Podborska, M. Marzec, K. Szaciłowski**, AGH Univ. of Science and Technology, Academic Centre for Materials and Nanotechnology, Poland

N&N1.3 EFFECT OF THERMAL TREATMENT ON THE
12:30 PHOTOCATALYTIC TiO₂ – g-C₃N₄ COMPOSITES, **S. Gheorghita, C. Bogatu, A. Duta**, Transilvania Univ. of Brasov, Romania

N&N1.4 MULTI-PHYSICS SIMULATIONS OF
12:50 PYROELECTRIC HARVESTERS BASED ON NANOSCALE FERROELECTRICS, **G. Boldeiu, M. Dragoman, M. Aldrigo, S. Iordanescu, A. Cismaru**, IMT Bucharest, Romania

13:10-14:00 – Lunch

Wednesday, October 12, 14:00

Room: Carpati 1

**NANOSCIENCE &
NANOENGINEERING 2 –
STUDENT papers**
Session: N&N2-S. Oral presentations

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

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

N&N2-S.1 HEAT TRANSFER CHARACTERISTICS OF CNT WITH CHIRALITY ENGINEERING FOR SOLAR CELL APPLICATION, **A. Shabir, M. Ullah**, Florida Polytechnic Univ., USA
14:00

N&N2-S.2 GERMANIUM COATED SILICON NANOWIRES AS HUMAN RESPIRATORY SENSING DEVICE, **E. Fakhri¹, M. T. Sultan², A. Manolescu¹, S. Ingvarsson², H. G. Svavarsson¹**, ¹Reykjavik Univ., Iceland, ²Science Institute, Univ. of Iceland, Iceland
14:20

N&N2-S.3 STRUCTURAL AND MAGNETIC CHARACTERIZATION OF EPITAXIAL $V_2O_3/Ni_{80}Fe_{20}$ HYBRID MAGNETIC STRUCTURES, **K. Ignatova, M. T. Sultan, A. O. Elvarsson, S. Ingvarsson, U. B. Arnalds**, Science Institute, Univ. of Iceland, Iceland
14:40

N&N2-S.4 SURFACE FUNCTIONALIZATION OF GRAPHITIZED POROUS SILICON WITH COBALT HEXACYANOFERRATE NANOCUBES FOR HYBRID ELECTRODE IN HIGH-PERFORMANCE SUPERCAPACITORS, **M. C. Stoian^{1,2}, I.-N. Bratosin^{1,3}, C. Romanitan¹, G. Craciun¹, N. Djourelou⁴, M. Kusko¹, A. Radoi¹**, ¹IMT Bucharest, Romania, ²Faculty of Chemistry, Univ. of Bucharest, Romania ³Faculty of Physics, Univ. of Bucharest, Romania, ⁴Extreme Light Infrastructure-Nuclear Physics (ELI-NP), "Horia Hulubei" National R&D Institute for Physics and Nuclear Engineering (IFIN-HH), Romania
15:00

15:40-16:00 – Coffee break

Wednesday, October 12, 14:00

Room: Carpati 2

INTEGRATED CIRCUITS
Session: IC. Oral presentations

Chair: **F. Draghici**, Univ. POLITEHNICA of Bucharest,
Romania

S. Marinca, Technical Univ. of Cluj-Napoca,
Romania

IC.1 ENHANCED CANDIDATE SELECTION
14:00 ALGORITHM FOR ANALOG CIRCUIT
VERIFICATION, **C. Manolache¹, A. Caranica¹,
H. Cucu¹, A. Buzo², C. Diaconu³, G. Pelz²**, ¹Univ.
POLITEHNICA of Bucharest, Romania, ²Infineon
Technologies Munich, Germany, ³Infineon
Technologies Bucharest, Romania

IC.2 A HOME ELECTRONIC LABORATORY FOR EACH
14:20 STUDENT – A POTENTIAL PARADIGM SHIFT IN
TEACHING ELECTRONICS, **R. Onet¹, M. Neag¹,
A. Fazakas¹, P. Miresan¹, G. Petrasuc¹, I. Sularea¹,
A. Battigelli¹, M. Murray², M. Hill²**, ¹Technical Univ.
of Cluj-Napoca, Romania, ²Munster Technological
Univ., Cork, Ireland

IC.3 ADAPTIVE DRIVING FOR OPTIMUM LDO
14:40 TRANSIENT PERFORMANCE, **I.-A. Ilie^{1,2},
C. Ș. Zegheru¹, Gh. Brezeanu²**, ¹Infineon
Technologies Romania, ²Univ. POLITEHNICA of
Bucharest, Romania

IC.4 TO FLOAT OR NOT TO FLOAT – NEGATIVE
15:00 SUPPLY DIAGNOSTICS FOR GATE DRIVERS,
**I. Hurez^{1,2}, K. Song³, A. Enache^{1,2}, V. Anghel²,
Gh. Brezeanu¹**, ¹Univ. POLITEHNICA of Bucharest,
Romania, ²onsemi Romania, ³onsemi Phoenix, USA

IC.5 A 1.2V CORE SWITCHED GEOMETRY SCHMITT
15:20 TRIGGER RELAXATION OSCILLATOR,
A. M. Antonescu, Univ. POLITEHNICA of Bucharest,
Romania

15:40-16:00 – Coffee break

Wednesday, October 12, 16:00 - 18:00
Room: Carpati 2

**NANOSCIENCE (including student) &
SEMICONDUCTOR DEVICES**
Session: P1. Poster Session

Chair: **S. Bellucci**, INFN Laboratory Nazionali di Frascati,
Roma, Italy
A. Radoi, IMT Bucharest, Romania

- P1.1** DETERMINATION OF THE AVERAGE PORE-SIZE AND POROSITY IN COLLAGEN BY IMAGE PROCESSING OF SEM MICROGRAPHS, **O. Brîncoveanu**^{1,2}, **I.C. Marinaș**², **P. Preda**¹, ¹IMT Bucharest, Romania, ²Research Institute of the Univ. of Bucharest – ICUB Bucharest, Romania
- P1.2** CHITOSAN-COATED GOLD NANOCOMPOSITES LOADING WITH CISPLATIN FOR POTENTIAL USE IN CANCER THERAPY, **P. Preda**¹, **B. Adiaconiță**¹, **G. Craciun**¹, **I. Mihalache**¹, **A. Boldeiu**¹, **O. Brîncoveanu**¹, **M.-E. Maxim**², **E. Chiriac**¹, **M. Avram**¹, ¹IMT Bucharest, Romania, ²Institute of Physical Chemistry “Ilie Murgulescu”, Romania
- P1.3** EXTENDED NEAR INFRARED PHOTO-RESPONSE INFLUENCED BY HOST MATRIX CHANGE IN Ge NANOPARTICLE-BASED FILMS, **I. Stavarache**¹, **C. Palade**¹, **A. Slav**¹, **P. Prepelita**², **V. S. Teodorescu**^{1,3}, **M. L. Ciurea**^{1,3}, ¹National Institute of Materials Physics, Romania, ²National Institute for Laser, Plasma and Radiation Physics, Romania, ³Academy of Romanian Scientists, Romania
- P1.4** SUBSTRATE INFLUENCE ON V₂O₅ GROWTH BY SPRAY PYROLYSIS METHOD, **L. Draghiciu**¹, **I. V. Tudose**^{2,3}, **C. Romanitan**¹, **R. Gavrila**¹, **O. A. Brincoveanu**¹, **F.C. Comanescu**¹, **C. Pachi**¹, **R. Muller**¹, **A. Dinescu**¹, **E. Koudoumas**², **M. P. Suche**^{1,2}, ¹IMT Bucharest, Romania, ²Hellenic Mediterranean Univ. Crete, Greece, ³Univ. of Crete, Greece

- P1.5** 3D PRINTED METAL OXIDE-POLYMER COMPOSITE MATERIALS WITH ANTIFOULING PROPERTIES FOR AQUACULTURE APPLICATIONS, **A. Bouranta¹, I. V. Tudose¹, L. Georgescu¹, N. R. Vrithias^{2,3}, G. Kenanakis², E. Sfakaki⁴, N. Mitrizakis⁴, G. Strakantounas⁴, N. Papandroulakis⁴, C. Romanitan⁵, C. Pachiu⁵, O. Brincoveanu-Tutunaru⁵, L. Barbu-Tudoran^{6,7}, M. P. Suche^{1,5}, E. Koudoumas¹**, ¹Hellenic Mediterranean Univ., Greece, ²Institute of Electronic Structure and Laser, Foundation for Research & Technology-Hellas, Greece, ³Univ. of Crete, Greece, ⁴Institute of Marine Biology, Biotechnology and Aquaculture, Hellenic Centre for Marine Research, Greece, ⁵IMT Bucharest, Romania, ⁶“Babes-Bolyai” Univ., Cluj-Napoca, Romania, ⁷National Institute for R&D of Isotopic and Molecular Technologies, Cluj-Napoca, Romania
- P1.6** TiO₂ BASED SEMICONDUCTOR NANOFIBERS WITH ENHANCED UV AND VISIBLE PHOTOCATALYTIC PROPERTIES, **P. Pascariu¹, L. Georgescu², E. Koudoumas³, M. P. Suche^{2,3}**, ¹“Petru Poni” Institute of Macromolecular Chemistry, Romania, ²Hellenic Mediterranean Univ., Crete, Greece, ³IMT Bucharest, Romania
- P1.7** A RAMAN SPECTROSCOPY FOCUSED STUDY OF THE METAL DOPANT EFFECT ON ZnO NANOSTRUCTURED THIN FILMS, **C. Pachiu¹, P. Pascariu², I. V. Tudose^{3,4}, M. P. Suche^{1,3}**, ¹IMT Bucharest, Romania, ²“Petru Poni” Institute of Macromolecular Chemistry, Romania, ³Hellenic Mediterranean Univ., Crete, Greece, ⁴Univ. of Crete, Greece
- P1.8** PDMS BASED MICROFLUIDICS FABRICATION USING 3D-PRINTED MOLDS, **V. Dediu¹, M. Carp¹, F. S. Iliescu¹, E. A. Laszlo¹, C. Pachiu¹, C. Iliescu^{1,2}**, ¹IMT Bucharest, Romania, ²Academy of Romanian Scientists, Romania
- P1.9** QUANTITATIVE IDENTIFICATION OF SIGNIFICANT K-POINTS ENABLING ACCURATE & COMPUTATIONALLY EFFICIENT UTB MOS DEVICE SIMULATION, **N. V. Mishra, A. S. Medury**, Indian Institute of Science Education and Research, Bhopal, India (*student paper*)

- P1.10** HIGHLY REFLECTIVE SURFACE COATING USING BaSO₄, **S. Caramizoiu**^{1,2}, **I. Mihalache**²,
¹Univ. of Bucharest, Faculty of Physics, Romania, ²IMT Bucharest, Romania (*student paper*)
- P1.11** A DATA ANALYSIS TOOLKIT FOR ELECTROCHEMICAL MEASUREMENTS OF SUPERCAPACITORS, **S. Micluța-Câmpeanu**¹,
I. Bratosin², ¹Univ. of Bucharest, Romania, ²IMT Bucharest, Romania (*student paper*)
- P1.12** AROMATICITY DEPENDENT MEMRISTOR SWITCHING, **E. Kowalewska**, **L. Alluhaibi**,
K. Szaciłowski, AGH Univ. of Science and Technology, Kraków, Academic Centre for Materials and Nanotechnology, Poland (*student paper*)
- P1.13** SUPERCAPACITOR ASSEMBLY TOWARDS POWER FLUCTUATIONS STABILIZATION, **I. Bratosin**^{1,2}, **O. Ionescu**¹, ¹IMT Bucharest, Romania, ²Univ. of Bucharest, Romania (*student paper*)

Thursday, October 13, 09:00

Room: Carpati 2

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

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

A. Wild, AWKonsult, Germany

PS2.1 FERROELECTRIC HfO₂/Ge-HfO₂/HfO₂ 3-LAYER
09:00 NONVOLATILE MEMORY BASED ON
ORTHORHOMBIC Ge DOPED HfO₂ ASSISTED BY
STRESS, **M. L. Ciurea**^{1,3}, **C. Palade**¹,
A.-M. Lepadatu¹, **A. Slav**¹, **O. Cojocar**¹,
V. A. Maraloiu¹, **A. Moldovan**², **M. Dinescu**²,
V. S. Teodorescu¹, **T. Stoica**¹, ¹National Institute of
Materials Physics, ²National Institute for Laser, Plasma
and Radiation Physics, ³Academy of Romanian
Scientists, Romania

PS2.2 SENSORS BASED ON NANOMATERIALS,
09:30 **S. Bellucci**, INFN Laboratory Nazionali di Frascati,
Roma, Italy

PS2.3 EVOLUTION OF CONSTRUCTION,
10:00 PERFORMANCE AND APPLICATION OF
MICROBIAL FUEL CELLS BASED ON RIVER
AND ACID MINE DRAINAGE SEDIMENTS,
D. V. Randjelović¹, **K. Joksimović**¹, **I. Kodranov**²,
A. Žeradanin¹, **B. Popović**¹, **P. Poljak**¹,
D. Manojlović^{2,3}, **V. P. Beškoski**², ¹Univ. of Belgrade-
Institute of Chemistry, Technology and Metallurgy,
National Institute of Republic of Serbia, ²Univ. of
Belgrade, Republic of Serbia, ³South Ural State Univ.,
Institute of Natural and Exact Sciences, Russia

PS2.4 HOW FERROELECTRICITY CAN IMPROVE THE
10:30 PERFORMANCE OF THIN LAYER
MEMRISTORS?, **K. Szaciłowski**, AGH Univ. of
Science and Technology, Academic Centre for
Materials and Nanotechnology, Poland

11:00 MICROSCOPY FROM X-RAY TO CROSSBEAM –
LASER FOR FAST LARGE MATERIAL REMOVAL
IN SENSOR AND PACKAGE DEVELOPMENT,
M. Samadi, Carl Zeiss Germany

11:20-11:40 – Coffee break

Thursday, October 13, 11:40

Room: Carpati 1

MODELLING

Session: M. *Oral presentations*

Chair: **C. Kusko**, IMT Bucharest, Romania

D. Neculoiu, IMT Bucharest, Romania

M.1 A MECHANICALLY AMPLIFIED ANGULAR RATE
11:40 MEMS SENSOR USING V-SHAPED SPRINGS,
**M. Gologanu¹, C. Tibeică¹, R.-C. Voicu¹,
D. Lăpădatu², ¹IMT Bucharest, Romania, ²Alfa Rom
CONSULTING SRL, Romania**

M.2 EFFICIENT MODELING OF PVT VARIATION FOR
12:00 MIXED-SIGNAL CIRCUIT SIZING, **O. Pascu¹,
C. Visan¹, M. Stanescu¹, H. Cucu¹, C. Diaconu²,
A. Buzo², G. Pelz², ¹Univ. POLITEHNICA of
Bucharest, ²Infineon Technologies**

M.3 GAS SENSING MECHANISM INVOLVED IN NH₃
12:20 DETECTION WITH NiO MATERIAL, **C.E. Simion,
O.G. Florea, I. Mercioniu, I.V. Dinu, A. Stanoiu,**
National Institute of Materials Physics, Romania

M.4 NON-LINEAR I-V CHARACTERISTICS OF
12:40 Co/BTO/LSMO FERROELECTRIC TUNNEL
JUNCTION, **T. Sandu, C. Tibeica, O. Nedelcu,
R. Plugaru, N. Plugaru,** IMT Bucharest, Romania

13:00-14:00 – Lunch

14:15 – Trip to Brasov city

Thursday, October 13, 11:40

Room: Carpati 2

**NANOSCIENCE &
NANOENGINEERING 3**
Session: N&N3. Oral presentations

Chair: **P. French**, TU Delft, The Netherlands
M. Veca, IMT Bucharest, Romania

N&N3.1 A NOVEL CONCEPT OF SELF-POWERED
11:40 PLASMONIC NANOSYSTEM FOR LIGHT
DETECTION, **C. Cobianu**^{1,2}, **M. Gheorghe**¹,
M. Modreanu³, ¹NANOM MEMS, Romania,
²Academy of Romanian Scientists, Romania, ³Tyndall
National Institute, Univ. College Cork, Ireland

N&N3.2 SHAPE-CONTROLLED METALLIC
12:00 NANOPARTICLES SYNTHESIS AND THEIR
PLASMONIC FEATURES, **A. Boldeiu**,
P. Varasteanu, **G. Craciun**, **O. Tutunaru**,
C. Pachiu, **I. Mihalache**, IMT Bucharest, Romania

N&N3.3 VANADIUM OXIDE BY RADIO FREQUENCY
12:20 MAGNETRON SPUTTERING AND SPRAY
PYROLYSIS TECHNIQUE: STRUCTURAL AND
OPTICAL PROPERTIES, **C. Romanitan**¹,
I. Mihalache¹, **S. Vulpe**¹, **M. Stoian**¹, **I. V. Tudose**^{2,3},
K. Mouratis⁴, **O. Tutunaru**¹, **N. Djourelov**⁵,
M. Suche^{1,2}, ¹IMT Bucharest, Romania, ²Hellenic
Mediterranean Univ., Crete, Greece, ³Univ. of Crete,
Greece, ⁴Univ. of Patras, Greece, ⁵Extreme Light
Infrastructure-Nuclear Physics (ELI-NP), “Horia
Hulubei” National R&D Institute for Physics and
Nuclear Engineering (IFIN-HH), Romania

N&N3.4 THE INFLUENCE OF THE UV AND UV-VIS
12:40 RADIATION ON THE HYDROPHILICITY OF THE
TiO₂ - (r)GO THIN FILMS USED AS
PHOTOCATALYTIC SELF-CLEANING COATINGS,
I. Tismanar¹, **A. Munteanu**², **S. Andronache**¹,
A. C. Obreja², **O. Buiu**², **A. Duta**¹, ¹Transilvania Univ.
of Brasov, Romania, ²IMT Bucharest, Romania

**N&N3.5 METAL - REDUCED GRAPHENE OXIDE
13:00 HETEROSTRUCTURES ON GLASS SUBSTRATE:
PREPARATION AND CHARACTERIZATION,
F. Comanescu, C. Obreja, M. Purica, IMT Bucharest,
Romania**

13:20-14:00 – Lunch

14:15 – Trip to Brasov city

Thursday, October 13, 11:40
Room: The Team

**FIT-4-NMP Networking and
Brokerage Event**

11:40 – 13:20

Chair: **C. Moldovan**, IMT Bucharest, Romania

The event will disseminate the next Horizon Europe calls (2022 – 2023) with main focus on Cluster 4 and Cluster 5 and will open the room for further EU cooperation projects, with support offered by FIT-4-NMP project.

The event is organized by FIT-4-NMP H2020 project “Strategic and targeted support to incentivise talented newcomers to NMP projects under Horizon Europe”.

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No. 958255.

13:20-14:00 – Lunch

Friday, October 14, 09:00

Room: Carpati 2

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

Chair: **M. L. Ciurea**, National Institute for Materials
Physics, Romania

R. Müller, IMT Bucharest, Romania

PS3.1 DESIGN AND MODELLING CHALLENGES FOR
09:00 VERY LARGE SCALE INTEGRATED QUANTUM
PROCESSORS IN FOUNDRY CMOS
TECHNOLOGIES, **S. Voinigescu, S. Bonen,**
S. P. Tripathi, L. Wu, A. Bharadwaj, T. Jager,
J. McIntosh, V. Dhande. Univ. of Toronto, Canada

PS3.2 DIGITAL TWINS AT THE EDGE, **A. M. Ionescu,**
09:30 Ecole Polytechnique Fédérale de Lausanne (EPFL),
Switzerland

PS3.3 INNOVATIVE COMPOSITE MATERIALS FOR
10:00 ELECTROMAGNETIC SHIELDING,
E. Koudoumas¹, O. N. Ionescu^{2,3}, V. Z. Barsukov⁴,
M. P. Suche^{1,3}, ¹Hellenic Mediterranean Univ., Crete,
Greece, ²Petroleum and Gas Univ. of Ploiesti,
Romania, ³IMT Bucharest, Romania, ⁴Kyiv National
Univ. of Technologies and Design, Ukraine

10:30–10:50 – Coffee break

Friday, October 14, 10:50

Room: Carpati 1

SEMICONDUCTOR DEVICES

Session: SD. Oral presentations

Chair: **E. Ceuca**, “1 DECEMBRIE 1918” Univ. of Alba Iulia, Romania

M. Neag, Technical University of Cluj-Napoca, Romania

- SD.1** MEMRISTIVE DEVICES MADE OF PYRIDINIUM
10:50 BASED BISMUTH IODIDES AS P-TYPE SEMICONDUCTORS, **G. Abdi**, **E. Kowalewska**, **T. Mazur**, **A. Slawek**, **K. Szacilowski**, AGH Univ. of Science and Technology, Academic Centre for Materials and Nanotechnology, Poland
- SD.2** SURFACE ENGINEERING FOR SiC ETCHING
11:10 WITH Ni ELECTROPLATING MASKS, **N. Beydoun**, **M. Lazar**, **X. Gassmann**, Light, Nanomaterials & Nanotechnologies, CNRS, Univ. of Technology of Troyes, France
- SD.3** INTELLIGENT TEMPERATURE SENSOR WITH SiC
11:30 SCHOTTKY DIODE, **V. Moise¹**, **F. Draghici¹**, **Gh. Pristavu¹**, **R. Pascu^{1,2}**, **D.-T. Oneata¹**, **Gh. Brezeanu¹**, ¹Univ. POLITEHNICA of Bucharest, Romania, ²IMT Bucharest, Romania
- SD.4** THE EFFECT OF FORMING GAS ANNEALING ON
11:50 Al/Ti/n-Si CONTACTS, **R. Pascu^{1,2,3}**, **Gh. Pristavu²**, **M. Stoian¹**, **C. Romanitan¹**, **M. Kusko¹**, **F. Draghici²**, **D.-T. Oneata²**, **Gh. Brezeanu²**, ¹IMT Bucharest, Romania, ²Univ. POLITEHNICA of Bucharest, Romania, ³Romanian Young Academy – Research Institute of the Univ. of Bucharest – Univ. of Bucharest, Romania
- SD.5** VALIDATION TECHNIQUE FOR THIN OXIDE
12:10 CDM PROTECTIONS, **M.-D. Dobre^{1,2}**, **P. Coll¹**, **Gh. Brezeanu²**, ¹Microchip Technology, ²Univ. POLITEHNICA of Bucharest, Romania

SD.6 ORGANIC-INORGANIC NANOPARTICLES AS A
12:30 MEMRISTIVE MATERIALS FOR NEUROMORPHIC
INMATERIA COMPUTING, **T. Mazur¹, L. Mazur¹,
M. Borkowski², G. Abdi¹, A. Podborska¹,
M. Szuwarzyński¹, K. Szaciłowski¹**, ¹AGH Univ. of
Science and Technology, Academic Centre for
Materials and Nanotechnology, Poland, ²Polish
Academy of Sciences, Jerzy Haber Institute of Catalysis
and Surface Chemistry, Poland

12:50-13:00 – PHOTO “REMEMBER CAS 2022”

13:00-14:00 – Lunch

Friday, October 14, 10:50

Room: Carpati 2

**MICROPHOTONICS &
MICROWAVES**

Session: M&MW. Oral presentations

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

A. Müller, IMT Bucharest, Romania

M& MW.1 STEP AND REPEAT IMPRINT LITHOGRAPHY FOR
10:50 WAFER SCALE MASTERING OF MICRO-AND
NANOSTRUCTURES, **C. Thanner, A. Bichler,**
F. Feichtlbauer, P. Schuster, EV Group, Austria

M& MW.2 COULD IT BE POSSIBLE TO EXCITE SURFACE
11:10 PLASMONS POLARITONS ON PLANAR
METALLIC FILMS WITHOUT COUPLING
DEVICES, **P. Varasteanu**, IMT Bucharest, Romania

M& MW.3 FLUORESCENCE IMPROVEMENT BASED ON
11:30 METASURFACES STRUCTURES OBTAINED
WITH NANOSPHERE LITHOGRAPHY,
V. Anăstăsoaie, C. Pârvulescu, R. Tomescu,
O. Brîncoveanu, M. Popescu, I. Mihalache,
R. Gavrilă, D. Cristea, IMT Bucharest, Romania

M& MW.4 SiC STRUCTURAL CHARACTERIZATION BY NON
11:50 DESTRUCTIVE NEAR-FIELD MICROSCOPY
TECHNIQUES, **K.-T. Wu^{1,2,3}, E. Vuillermet¹,**
E. Usureau¹, Y. El-Helou^{1,4}, M. Kazan^{1,4},
W.-Y. Woon^{2,3}, Mihai Lazar¹, A. Bruyant¹, ¹Light,
Nanomaterials & Nanotechnologies, CNRS, Univ. of
Technology of Troyes, France, ²National Central Univ.,
Taiwan, ³Molecular Science and Technology Program,
Taiwan International Graduate Program, Institute of
Atomic and Molecular Science, Academia Sinica,
Taiwan, ⁴American Univ. of Beirut, Lebanon

M& MW.5 A SIMPLE METHOD FOR DE-EMBEDDING THE
12:10 COAXIAL TO WAVEGUIDE TRANSITIONS,
S. Simion, MTA – Bucharest, Romania

M& MW.6 CHARACTERIZATION OF 3-PORT SAW
12:30 DIPLEXERS USING 2-PORT VNA
MEASUREMENTS, **A.C. Bunea¹, D. Neculoiu^{1,2},**
M.A. Dinescu¹, ¹IMT Bucharest, Romania, ²Univ.
POLITEHNICA of Bucharest, Romania

12:50-13:00 – PHOTO “REMEMBER CAS 2022”

13:00-14:00 – Lunch

Friday, October 14, 14:00

Room: Carpati 2

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

Chair: **A. M. Ionescu**, EPFL, Switzerland

D. Neculoiu, IMT Bucharest, Romania

PS4.1 COMPUTING WITH MAGNETISM: SPINTRONIC
14:00 LOGIC FROM A CIRCUIT AND SYSTEM POINT
OF VIEW, **C. Adelman**, **F. Meng**, **A. Guerenneur**,
D. Narducci, **F. Vanderveken**, **F. Ciubotaru**, imec,
Belgium

PS4.2 TRIBOELECTRIC ENERGY HARVESTING FOR
14:30 AUTONOMOUS SENSORS AND SYSTEMS,
C. Tsamis, National Center for Scientific Research
"Demokritos" Inst. of Nanoscience and
Nanotechnology, Greece

Friday, October 14, 15:00

Room: Carpati 1

**INTEGRATED CIRCUITS –
Student Papers
Session: IC-S. *Oral presentations***

Chair: **V. Anghel**, ON Semiconductor, Romania
C. Dan, Univ. POLITEHNICA of Bucharest,
Romania

IC-S.1 NOVEL THERMAL SHUTDOWN CIRCUIT FOR
15:00 AUTOMOTIVE POWER MANAGEMENT
APPLICATIONS, **E. Grigorița¹**, **T. F. Sălăjan²**,
R. Oneț¹, ¹Technical Univ. of Cluj-Napoca, ²Infineon
Technologies Romania

IC-S.2 ARCHITECTURE FOR A MODULAR
15:20 TEMPERATURE DETECTION SYSTEM USED FOR
DIABETIC FOOT INVESTIGATIONS,
M. Serbanescu¹, **F. Nastase²**, **F. Draghici¹**,
Gh. Pristavu¹, **E. Catrina³**, **R. Chiriac⁴**,
Gh. Brezeanu¹, ¹Univ. POLITEHNICA of Bucharest,
Romania, Faculty of Electronics, Telecommunications
& Information Technology, ²Tremend Software
Consulting, Romania, ³“Dr. I. Cantacuzino” Clinical
Hospital, Bucharest, Romania, ⁴Univ. POLITEHNICA
of Bucharest, Faculty of Mechanical Engineering and
Mechatronics, Romania

IC-S.3 A SECOND ORDER DISCRETE-TIME $\Sigma\Delta$ ANALOG
15:40 TO DIGITAL CONVERTER FOR AUDIO
APPLICATIONS, **M. Boncu^{1,2}**, **S. Pana^{1,2}**,
F. Draghici², **Gh. Brezeanu²**, ¹onsemi Romania, ²Univ.
POLITEHNICA of Bucharest, Romania

IC-S.4 AN ASYNCHRONOUS DIGITAL, HYSTERETIC
16:00 CONTROLLER FOR AN AUTOMOTIVE
APPLICATION DC-DC BUCK CONVERTER,
F. Dumitru^{1,2}, **B. Dimitriu¹**, **I. Campanu¹**,
Gh. Brezeanu², ¹Infineon Technologies Romania,
²Univ. POLITEHNICA of Bucharest, Romania

IC-S.5 COMPARISON OF THREE BANDGAP
16:20 TOPOLOGIES IMPLEMENTED IN STANDARD
CMOS TECHNOLOGY WITH PARASITIC PNP
BIPOLARS, **E. Gheorghită¹**, **R. Oneț¹**, **I. Câmpanu²**,
¹Technical Univ. of Cluj-Napoca, ²Infineon AG, Cluj-
Napoca, Romania

16:40–17:00 – Coffee break

Friday, October 14, 15:00

Room: Carpati 2

**MICROSENSORS &
MICROSYSTEMS**

Session: M&Ms. Oral presentations

Chair: **V. Avramescu**, IMT Bucharest, Romania

G. Moagar-Poladian, IMT Bucharest, Romania

M& Ms.1 15:00 **ADVANCES IN COCHLEAR IMPLANTS,**
P.J. French¹, N. Lawand², A. Miralles¹, ¹TU Delft,
The Netherlands, ²Dynamic Ear Company, The
Netherlands

M& Ms.2 15:20 **ELECTROCHEMICALLY SYNTHESIZED COPPER
NANOCUBES AS NANOZYME FOR DOPAMINE
DETECTION FROM PLASMA SAMPLES,**
L. A. Dinu¹, S. Kurbanoglu², C. Romanitan¹,
S. Pruneanu³, A. B. Serban⁴, M. C. Stoian¹,
C. Pachiu¹, G. Craciun¹, ¹IMT Bucharest, Romania,
²Ankara Univ., Turkey, ³National Institute for R&D of
Isotopic and Molecular Technologies, Cluj-Napoca,
Romania, ⁴Extreme Light Infrastructure-Nuclear Physics
(ELI-NP), “Horia Hulubei” National R&D Institute for
Physics and Nuclear Engineering (IFIN-HH) Romania

M& Ms.3 15:40 **DEVELOPMENT OF HIGH FREQUENCY SAW
DEVICES DEVOTED FOR PRESSURE SENSING,**
D. Vasilache¹, A. Nicoloiu¹, G. Boldeiu^{1,2}, I. Zdru¹,
T. Kostopoulos³, M. Nedelcu¹, A. Stavrinidis³,
C. Nastase¹, G. Stavrinidis³, G. Konstantinidis³,
A. Dinescu¹, A. Müller¹, ¹IMT Bucharest, Romania,
²Univ. POLITEHNICA of Bucharest, Romania, ³IESL –
FORTH, Crete, Greece

M& Ms.4 16:00 **THE NON-ENZYMATIC DETECTION OF THE
POLLUTANT BISPHENOL A USING S-GRAPHENE
AS NANOZYME MATERIAL,** **L. A. Dinu,**
A. M. Baracu, O. Brincoveanu, IMT Bucharest,
Romania

16:40–17:00 – Coffee break

Friday, October 14, 17:00

Room: Carpati 1

**NANOSCIENCE &
NANOENGINEERING 4 –
STUDENT papers
Session: N&N4-S. Oral presentations**

Chair: **M. Lazar**, Univ. de Technologie de Troyes, France
Gh. Pristavu, Univ. POLITEHNICA of Bucharest,
Romania

N&N4-S.1 SILICON NANOWIRES: ANTIMICROBIAL SURFACE OR MOLECULAR DELIVERY MEDIUM?, **L. Gogianu, M. Popescu, M. Simion**, IMT Bucharest, Romania

N&N4-S.2 A PRELIMINARY STUDY ON THE SYNTHESIS AND CHARACTERIZATION OF A CROWN ETHER BASED COVALENT ORGANIC FRAMEWORK, **A. Bujor^{1,2}, L. Dinu¹, C. Romanitan¹, M. Stoian^{1,2}, V. Ţucureanu¹, O. Brâncoveanu¹, G. Crăciun¹, P. Ioniță², M. Kusko¹**, ¹IMT Bucharest, Romania, ²Univ. of Bucharest, Romania

N&N4-S.3 EFFECT OF VN BUFFER LAYER ON THE MAGNETIC ANISOTROPY OF EPITAXIAL Ni₈₀Fe₂₀ THIN FILMS DEPOSITED ON MgO (001) SUBSTRATES, **M. T. Sultan, A. Tryggvason, U. B. Arnalds, S. Ingvarsson**, Science Institute, Univ. of Iceland, Reykjavik, Iceland

N&N4-S.4 CHARGE AND HEAT CURRENTS IN PRISMATIC TUBULAR NANOWIRES, **H. R. Heris¹, K. O. Klausen¹, A. Sitek², S. I. Erlingsson¹, A. Manolescu¹**, ¹Reykjavik Univ., Iceland, ²Wroclaw Univ. of Science and Technology, Poland

N&N4-S.5 STRUCTURAL AND MAGNETIC CHANGES IN CoAlZr THIN FILMS UPON POST ANNEALING, **A. Tryggvason, T. H. Frímannsdóttir, M. T. Sultan, K. A. Thórarinsdóttir, F. Magnus, S. Ingvarsson**, Science Institute, Univ. of Iceland, Reykjavik, Iceland

**20:30 – CAS 2022 Banquet including
Best Paper Awards ceremony
(Hotel Alpin Restaurant)**

Friday, October 14, 17:00

Room: Carpati 2

**MICRO- & NANOPHOTONICS &
OPTOELECTRONICS,
MICROSENSORS & MICROSYSTEMS,
MODELLING, SEMICONDUCTOR DEVICES**
Session: P2. Poster Session

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

O. Buiu, IMT Bucharest, Romania

- P2.1** OPTIMIZED TECHNOLOGY FOR THE MANUFACTURE OF HIGH SECURITY SMART MULTILAYER TAG FOR PRODUCT PROTECTION, **C. Parvulescu¹**, **M. Aldrigo¹**, **R. Tomescu¹**, **V. Anastasoae¹**, **B. Comanescu²**, **M. Pelteacu²**, **D. Cristea¹**, ¹IMT Bucharest, Romania, ²S.C. Optoelectronica 2001 S.A., Romania
- P2.2** NUMERICAL STUDIES REGARDING THE RADIATION COUPLING INTO SILICON NITRIDE WAVEGUIDES, **M. Kusko**, **G. Bulzan**, IMT Bucharest, Romania
- P2.3** ENCRYPTION ALGORITHM USING LINEAR HYBRID CELLULAR AUTOMATON, **G. C. Stănică**, **P. Anghelescu**, Univ. of Pitesti, Romania
- P2.4** ELECTROCHEMICAL BIOSENSING BASED ON GRAPHENE FOR DETECTION OF THE SARS-CoV-2 NUCLEOCAPSID PROTEIN, **B. Adiaconiță¹**, **P. Preda¹**, **T. Burinaru^{1,2}**, **C. Mărculescu¹**, **A. Avram¹**, **G. Crăciun¹**, **E. Chiriac^{1,3}**, **M. Avram¹**, ¹IMT Bucharest, Romania, ²Univ. of Agronomic Sciences and Veterinary Medicine of Bucharest, ³Univ. POLITEHNICA of Bucharest, Romania
- P2.5** EXPERIMENTS ON DIELECTROPHORETIC HANDLING AND HOLOGRAPHIC MICROSCOPY IMAGING OF MICROPARTICLES WITH TARGETED APPLICATIONS TO BIOLOGICAL CELL MANIPULATION AND VISUALISATION, **O.T. Nedelcu**, **C. Tibeica**, **C. Parvulescu**, **T. Sandu**, IMT Bucharest, Romania

- P2.6** SURFACE ACOUSTIC WAVE SENSORS FOR NO₂ DETECTION BASED ON SULFUR-DOPED GRAPHENE, **A. M. Baracu, V. Buiculescu, L. A. Dinu, C. Brasoveanu, R. Müller**, IMT Bucharest, Romania
- P2.7** FIELD EFFECT TRANSISTOR-BASED PRESSURE SENSOR WITH DIELECTRIC ELASTOMER, FOR ROBOTIC HAND, **G. Moagăr-Poladian, V. Moagăr-Poladian**, IMT Bucharest, Romania
- P2.8** A FACILE DIP-COATING PROCESS GRAPHENE-TiO₂ ON TITANIUM FOIL FOR HYBRID ELECTRODE FABRICATION, **C. Lazau¹, C. Bandas¹, M. Nicolaescu^{1,2}, C. Orha¹, A. Pop²**, ¹National Institute for R&D in Electrochemistry and Condensed Matter Timisoara, Romania, ²Univ. POLITEHNICA of Bucharest, Romania
- P2.9** USING NICKEL(II) DIBENZO TETRAAZA MACROCYCLIC COMPLEXES IN MEMRISTIVE AND SEMICONDUCTOR DEVICES, **L. Alluhaibi, K. Szacilowski, A. Slawek**, AGH Univ. of Science and Technology, Academic Centre for Materials and Nanotechnology, Poland
- P2.10** CONFINEMENT EFFECT AND CONDUCTION BAND OFFSET IN DG-SOI MOSFETs: A SIMULATION STUDY, **H. Kansal, N. V. Mishra, A. S. Medury**, Indian Institute of Science Education and Research, Bhopal, India
- P2.11** COMPARATIVE MORPHO-STRUCTURAL AND ELECTROCHEMICAL CHARACTERIZATION OF THE La AND F DOPED POROUS Ti/SnO₂ DIMENSIONALLY STABLE ANODES, **C. Orha¹, M. Nicolaescu¹, C. Bandas¹, C. Lazau¹, A. Baciuc², F. Manea²**, ¹National Institute for R&D in Electrochemistry and Condensed Matter, Timisoara, Romania, ²Univ. POLITEHNICA of Bucharest, Romania

**20:30 – CAS 2022 Banquet including
Best Paper Awards ceremony
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