

CAS 2019 PROGRAM

42nd Edition
October 9-11, 2019, Sinaia, 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 and Innovation



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FOREWORD

About the Conference

The **International Semiconductor Conference (CAS)**, organized (since 1997) by the **National Institute for Research and Development in Microtechnologies - IMT Bucharest** is now at its 42nd edition. The conference is a yearly event 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 conference topics cover a wide range of interdisciplinary research areas, like physics, design, technology and applications of semiconductor devices and materials, including integrated circuits, micro- and nano-technologies (micro- and nanoelectronics, micro- and nanosystems, nanostructures and nanostructured materials).

This year, CAS (October 9 - 11, 2019, Sinaia) includes 3 plenary sessions with 12 invited lectures and other sessions comprising 95 regular papers.

Social Programme

The main social events of CAS 2019 (included for all registered participants):

- CAS 2019 “Get-together” Cocktail - Tuesday, October 8, 20:30 h
- Trip to Bran Castle - Thursday, October 10, 14:00 h
- CAS 2019 Banquet - Friday, October 11, 20:30 h

On behalf of the Organizing Committee of the 42nd International Semiconductor Conference (CAS), we are delighted to welcome you to CAS 2019 and we hope you enjoy your time at the conference and in Sinaia!

15th of September 2019

Miron Adrian DINESCU
Conference Chairman

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TECHNICAL PROGRAM CAS 2019

8 Oct. Tuesday	15:00-18:00	Registration
	20:30	Welcome Cocktail CAS 2019 (New Montana Hotel Restaurant)

9 Oct. Wednesday	08:30-09:00	Registration
	09:00-09:15	Welcome to CAS 2019 Miron Adrian Dinescu , IMT Bucharest, Romania – CAS 2019 General Chairman

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		Bran Hall	Peles Hall
9 Oct. Wednesday	09:15-11:15	<p>Plenary Session 1 – PS 1 <i>(Invited Papers)</i></p> <p><i>Chairs:</i> <i>Raluca Müller, Romania</i> <i>Mircea Dragoman, Romania</i></p> <p>A.M. Ionescu, Switzerland D. Masotti, Italy E. Iliopoulos, Greece M. Dusa, Belgium</p>	
	11:15-11:40	Coffee break	

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9 Oct. Wednesday		Bran Hall	Peles Hall
	11:40-13:00	Nanoscience and Nanoengineering 1 – N&N1 <i>Oral presentations</i> <i>Chair: Magdalena Ciurea, Romania</i> <i>Mihaela Kusko, Romania</i>	Nanomaterials and Sensors – Student papers N&S-S <i>Oral presentations</i> <i>Chair: Lidia Dobrescu, Romania</i> <i>Martino Aldrigo, Romania</i>
	13:00-13:15	PHOTO “REMEMBER CAS 2019” in front of New Montana Hotel	
	13:15-14:30	Lunch	

9 Oct. Wednesday	14:30-16:10	Microsensors and Microsystems 1 – M&M1 <i>Oral presentations</i> <i>Chair: Raluca Müller, Romania</i> <i>Claudius Dan, Romania</i>	Micro- and Nanophotonics – N&MN <i>Oral presentations</i> <i>Chair: Dana Cristea, Romania</i> <i>Daniela Dragoman, Romania</i>
	16:10-16:30	Coffee break	
	16:30-18:10	Digital Innovation – DI <i>Oral presentations</i> <i>Chair: Marius Neag, Romania</i> <i>Emilian Ceuca, Romania</i>	Modelling & Semiconductor Devices – Student papers - M&SD-S <i>Oral presentations</i> <i>Chair: Dragos Dobrescu, Romania</i> <i>Adrian Tulbure, Romania</i>

		Bran Hall	Peles Hall
10 Oct. Thursday	09:00-11:00	<p>Plenary Session 2 – PS 2 <i>Invited papers</i></p> <p><i>Chair:</i> <i>Adrian Ionescu, Switzerland</i> <i>Alexandru Müller, Romania</i></p> <p>C. Adelman, Belgium S. Voinigescu, Canada F. Troiani, Italy F. Ciubotaru, Belgium</p>	
	11:00-11:20	Coffee break	

10 Oct. Thursday		Bran Hall	Peles Hall
	11:20-13:20	Nanoscience and Nanoengineering 2 – N&N2 <i>Oral presentations</i> <i>Chair:</i> <i>Octavian Buiu, Romania</i> <i>Andrei Avram, Romania</i>	Integrated Circuits – Student Papers – IC-S <i>Oral presentations</i> <i>Chair:</i> <i>Florin Draghici, Romania</i> <i>Vlad Anghel, Romania</i>
	13:20-14:00	Lunch	
	14:00	Trip to BRAN Castle („Dracula’s Castle”)	

		Bran Hall	Peles Hall	Cantacuzino Hall
11 Oct. Friday	09:00-11:00	Plenary Session 3 – PS3 <i>Invited Papers</i> <i>Chairs:</i> <i>Gheorghe Brezeanu, Romania</i> <i>Dan Neculoiu, Romania</i> S. Cotofana, The Netherlands D. Zito, Denmark E. Napoli, Italy A. Takacs, France		
	10:00-13:00			Workshop „Sensors and Integrated Systems for Security and Health Applications” – I <i>Chairs: Mariuca Gartner, Romania</i> <i>Peter Petrik, Hungary</i>
	11:00-11:20	Coffee Break		

11 Oct. Friday	11:20:13:20	Integrated Circuits – IC <i>Oral presentations</i> <i>Chairs:</i> <i>Mircea Bodea, Romania</i> <i>Gheorghe Stefan, Romania</i>	Microwave and Millimeter Wave Circuits and Systems – MW <i>Oral presentations</i> <i>Chairs:</i> <i>Domenico Zito, Denmark</i> <i>Alexandru Takacs, France</i>	Workshop „Sensors and Integrated Systems for Security and Health Applications” – I <i>Chairs:</i> <i>Mariuca Gartner, Romania</i> <i>Peter Petrik, Hungary</i>
	13:20-14:00	Lunch		
	14:00-16:00		Modelling and Semiconductor Devices – M&SD <i>Oral presentations</i> <i>Chairs:</i> <i>Ettore Napoli, Italy</i> <i>Mihai Brezeanu, Romania</i>	Workshop „Sensors and Integrated Systems for Security and Health Applications” – II <i>Chairs:</i> <i>Carmen Moldovan, Romania</i> <i>Nicu Goga, Romania</i>
	16:00-16:30	Coffee break		

11 Oct. Friday	16:30-19:00	POSTERS SESSIONS – BRAN HALL		
		Nanoscience and Nanoengineering 3 – N&N3 <i>Poster Session</i> <i>Chairs:</i> <i>Titus Sandu, Romania</i> <i>Cristian Kusko, Romania</i>	Microsensors and Microsystems 2 – M&M2 <i>Poster Session</i> <i>Chairs:</i> <i>Oana Nedelcu, Romania</i> <i>Viorel Avramescu, Romania</i>	Semiconductor Devices and ICs – SD&IC <i>Poster Session</i> <i>Chairs:</i> <i>Gheorghe Pristavu, Romania</i> <i>Cornel Stanescu, Romania</i>
	20:30	CAS 2019 Banquet – <i>New Montana Hotel Restaurant</i>		

Tuesday, October 8, 15:00 - 18:00

CAS Secretariat

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

20:30 – WELCOME COCKTAIL

Wednesday, October 9, 9:00

Bran Hall

09:00 WELCOME TO CAS 2019
Miron Adrian Dinescu, IMT Bucharest, Romania

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

Chair:

R. Müller, IMT Bucharest, Romania

M. Dragoman, IMT Bucharest, Romania

PS1.1 EDGE AI SEMICONDUCTORS FOR A
09:15 HEALTHY YOU, **A.M. Ionescu**, Ecole
Polytechnique Federale de Lausanne (EPFL),
Switzerland.

PS1.2 SMART BEAMFORMING FOR ENERGY-
09:45 AWARE WIRELESS POWER TRANSMISSION,
D. Masotti*, **M. Shanawani***, **A. Costanzo****, *DEI-
Univ. of Bologna, Bologna, Italy, **DEI-Univ. of
Bologna, Cesena, Italy.

PS1.3 EPITAXY AND POLARIZATION ENGINEERING
10:15 FOR FUTURE III-NITRIDE HETEROSTRUCTURE
DEVICES, **E. Iliopoulos**, Univ. of Crete, Greece.

PS1.4 THE CHALLENGES OF MECHANISTIC
10:45 STOCHASTIC PATTERNING AND THE
PROMISE OF ATOMIC LAYER PROCESSING,
M. Dusa, IMEC, Belgium.

11:15-11:40 – COFFEE BREAK

Wednesday, October 9, 11:40

Bran Hall

NANOSCIENCE AND NANOENGINEERING 1

(Oral presentations)

Session: N&N1: Oral presentations

Chair:

M.L. Ciurea, National Institute of Materials
Physics, Romania

M. Kusko, IMT Bucharest, Romania

N&N1.1 EXPERIMENTAL CHARACTERISTICS OF
11:40 ORGANIC TRANSISTOR WITH SILVER GATE,
C. Ravariu, D.E. Mihaiescu, D. Istrati,
A. Morosan, “Politehnica” Univ. of Bucharest,
Romania.

N&N1.2 NEW APPROACHES TOWARDS
12:00 CHEMOSENSING, **D. Przyczyna, K. Pilarczyk, A.**
Blachecki,
V. Gorokh, K. Szacilowski, Academic Centre for
Materials and Nanotechnology AGH Univ. of
Science and Technology, Kraków, Poland.

N&N1.3 FACILE 3D NANOSTRUCTURED ZnO-
12:20 GRAPHENE HYBRIDS FOR GAS SENSING
APPLICATIONS, **C. Cobianu^{1,2}, N. Dumbravescu^{1,2},**
B. Serban^{1,2}, O. Buiu^{1,2}, F. Comanescu¹,
C. Romanitan¹, M. Danila¹, V. Avramescu¹ and
O. Ionescu^{1,2}, ¹IMT Bucharest, Romania.
²CENASIC – IMT Bucharest, Romania.

N&N1.4 TiO₂ – GRAPHENE OXIDE COMPOSITE AS
12:40 PHOTOCATALYTIC MATERIAL, **I. Tismanar,**
A.C. Obreja*, O. Buiu*, A. Duta, Transilvania
Univ. of Brasov, *IMT Bucharest, Romania.

13:00-13:15 – PHOTO “REMEMBER CAS 2019”

13:15-14:30 – LUNCH

Wednesday, October 9, 11:40
Peles Hall

**NANOMATERIALS AND SENSORS –
STUDENT PAPERS**

Session: N&S-S: Oral presentations

Chair:

L. Dobrescu, “Politehnica” Univ. of Bucharest,
Romania

M. Aldrigo, IMT Bucharest, Romania

- N&S- 11:40** TOP-DOWN METHOD FOR LAB-SCALE PRODUCTION OF NANOCRYSTALS OF ACTIVE PHARMACEUTICAL INGREDIENTS – FORMULATION APPROACH AND SELECTION OF OPTIMAL PROCESS PARAMETERS, **I. Nikolic¹, S. Savic¹, D. Randjelovic², D.J. Lunter³**, ¹Faculty of Pharmacy, Univ. of Belgrade, ²Inst. of Chemistry, Technology and Metallurgy, Univ. of Belgrade, Serbia, ³Inst. of Pharmaceutical Technology, Eberhard-Karls Univ., Tuebingen, Germany.
- N&S - 12:00** S.2 VOLTAMMETRIC DETERMINATION OF BISPHENOL A WITH A SILVER-REDUCED GRAPHENE OXIDE COMPOSITE PASTE MICROSENSOR, **L.A. Gugoasa¹, R.I.S-van Staden¹, J.F. van Staden¹, M. Coros², S. Pruneanu²**, ¹National Inst. of Research for Electrochemistry and Condensed Matter, Bucharest, ²National Inst. for R&D of Isotopic and Molecular Technologies, Cluj-Napoca, Romania.
- N&S - 12:20** S.3 ENHANCEMENT OF SPR SIGNAL USING GOLD NANORODS, **E. Constantin, M. Simion, M. Popescu, A. Boldeiu, I. Mihalache**, IMT Bucharest, Romania.

13:00-13:15 – PHOTO “REMEMBER CAS 2019”
in front of New Montana Hotel

13:15-14:30 – LUNCH

Wednesday, October 9, 14:30

Bran Hall

MICROSENSORS AND MICROSYSTEMS 1

Session: M&M1: Oral presentations

Chair:

R. Müller, IMT Bucharest, Romania

C. Dan, “Politehnica” Univ. of Bucharest,
Romania

- M&M1.1** TECHNOLOGY AND OPTIMIZATIONS FOR
14:30 THE NOI-NANO-TRIODE, **C. Ravariu¹**, **C. Parvulescu²**,
V.M. Placinta¹, ¹UPB-Univ. “Politehnica” of Bucharest,
Romania; ²IMT Bucharest, Romania.
- M&M1.2** THE EFFECT OF MAGNETOSTRICTIVE
14:50 METALLIZATIONS ON THE BEHAVIOUR OF
GaN/Si SAW RESONATORS IN MAGNETIC
FIELD, **A. Nicoloiu¹**, **F. Ciubotaru²**, **C. Nastase¹**,
M.A. Dinescu¹, **S. Iordanescu¹**, **D. Vasilache¹**,
H. Ahmad², **P. Pirro³**, **C. Adelman²**, **A. Müller¹**,
¹IMT Bucharest, Romania, ²IMEC Leuven, Belgium,
³TU Kaiserslautern, Germany.
- M&M1.3** USE OF 4H-SIC-BASED DIODES AS
15:10 TEMPERATURE SENSORS, **F.G. Della Corte**,
G. Pangallo, **S. Rao**, **R. Carotenuto**, **D. Iero**,
M. Merenda, **F. Pezzimenti**, DIIES, Mediterranea
Univ., Reggio Calabria, Italy.
- M&M1.4** PHONON-ASSISTED CHARGE TRANSFER AT
15:30 METAL-OXIDE-GAS INTERFACE, **M. Mihaila**, IMT
Bucharest, Romania.
- M&M1.5** SENSING GAS TYPE AND PRESSURE WITH
15:50 MULTIPURPOSE DEVICE BASED ON SEEBECK
EFFECT, **D.V. Randjelovic**, **B. Popovic**, **P. Poljak**,
O. Jaksic, Inst. of Chemistry, Technology and
Metallurgy, Univ. of Belgrade, Serbia.

16:10-16:30 – COFFEE BREAK

Wednesday, October 9, 14:30

Peles Hall

MICRO- AND NANOPHOTONICS

Session: N&MN: Oral presentations

Chair:

D. Cristea, IMT Bucharest, Romania

D. Dragoman, Univ. of Bucharest, Romania

N&MN.1 SEMICONDUCTOR-DIELECTRIC METASURFACES

14:30 FOR LOW-LOSS FIELD CONCENTRATORS IN THE OPTICAL RANGE, **M. Obradov, Z. Jaksic, D. Tanaskovic, O. Jaksic, D. Vasiljevic Radovic**, Inst. of Chemistry, Technology and Metallurgy, Univ. of Belgrade, Serbia.

N&MN.2 FABRICATION OF MULTILEVEL AXICON FOR

14:50 NONDIFFRACTIVE OAM BEAMS, **R. Tudor, M. Kusko, C. Kusko, C. Parvulescu, A. Avram, V. Avramescu**, IMT Bucharest, Romania.

N&MN.3 METAMATERIALS INFRARED ABSORBERS

15:10 FOR GAS SENSING, **R. Calinoiu, R. Tomescu, D. Cristea**, IMT Bucharest, Romania (*student*).

N&MN.4 NUMERICAL INVESTIGATION OF SPR

15:30 SENSORS COATED WITH TIN SELLENIDES MONOLAYERS, **P. Varasteanu**^{1,2}, ¹IMT Bucharest, Romania, ²Faculty of Physics, Univ. of Bucharest, Magurele, Romania. (*student*)

N&MN.5 CHROMIUM YELLOW-BASED OPTO-

15:50 ELECTRONIC DEVICE EXHIBITING LIGHT-SWITCHABLE MEMRISTIVE PROPERTIES, **D. Przychyna**^{1,2}, **P. Zawal**^{1,2}, **K. Pilarczyk**¹, **K. Szacilowski**¹, ¹Academic Centre for Materials and Nanotechnology, ²Faculty of Physics and Applied Computer Science, AGH Univ. of Science and Technology, Kraków, Poland.

16:10-16:30 – COFFEE BREAK

Wednesday, October 9, 16:30

Bran Hall

DIGITAL INNOVATION

Session: DI: Oral presentations

Chair:

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

E. Ceuca, “1 Decembrie 1918” Univ. of Alba
Iulia, Romania

DI.1 NANO-STRUCTURAL REQUIREMENTS FOR
16:30 ARTIFICIAL INTELLIGENCE & BLOCKCHAIN
APPLICATIONS, **R. Mihai***, **M. Malita****, **Gh.M.
Stefan***, *Politehnica” Univ. of Bucharest, Romania,
**Saint Anselm College, USA.

DI.2 SINGULAR VALUE DECOMPOSITION TO
16:50 DETERMINE THE DYNAMICS OF A CHAOTIC
REGIME OSCILLATOR, **O. Dacu**, **R. Hobincu**,
C. Macovei, “Politehnica” Univ. of Bucharest,
Romania.

DI.3 DISCRETE GRAVITATIONAL SEARCH
17:10 ALGORITHM (DGSA) APPLIED FOR THE
CLOSE-ENOUGH TRAVELLING SALESMAN
PROBLEM (TSP / CETSP), **M. Antonescu**, **C. Bira**,
“Politehnica” Univ. of Bucharest, Romania.

DI.4 AUTOMATED SEGMENTATION OF
17:30 PIGMENTED SKIN LESIONS IMAGES FOR
SMARTPHONE APPLICATIONS, **I. Pirnog**, **I. Marcu**,
C. Oprea, “Politehnica” Univ. of Bucharest,
Romania.

DI.5 DIGITAL FILTERS FOR SIGMA-DELTA
17:50 MODULATION IN WIRELESS COMMUNI-
CATIONS, **I. Pirnog**, **I. Marcu**, **A.M.C. Dragulinescu**,
C. Oprea, “Politehnica” Univ. of Bucharest,
Romania.

Wednesday, October 9, 16:30

Peles Hall

**MODELLING & SEMICONDUCTOR DEVICES –
STUDENT PAPERS**

Session: M&SD-S: Oral presentations

Chair:

D. Dobrescu, “Politehnica” Univ. of Bucharest,
Romania

A. Tulbure, “1 Decembrie 1918” Univ., Alba
Iulia, Romania

M&SD- S.1 VERILOG-A MODEL FOR A SWITCHED-
CAPACITOR DC-DC CONVERTER, **N. Braic***,
16:30 C. Raducan*, **M. Neag***, **V. Ionescu****, *Technical
Univ. of Cluj-Napoca, Basis of Electronics
Department, Romania, **Infineon Technologies,
Romania.

M&SD- S.2 IMPROVEMENT ON WELL DESIGN AND
OPERATION OF POTENTIAL WELL BARRIER
16:50 DIODES, M. Akura*, **G. Dunn*** and **M. Missous****,
*Univ. of Aberdeen, UK, **Univ. of Manchester,
UK.

M&SD - S.3 ARTIFICIAL NEURON AS INFORMATION PRE-
PROCESSING AGENT, **D. Przychyna**, **M. Lis**,
17:10 K. Pilarczyk, **K. Szaciłowski**, AGH Univ. of
Science and Technology, Kraków, Poland.

M&SD - S.4 DEPTH PROFILING OF GAN BY HIGH
RESOLUTION X-RAY DIFFRACTION,
17:30 C. Romanitan^{1,2}, ¹IMT Bucharest, ²Faculty of
Physics, Magurele, Romania.

M&SD - S.5 APPLICATION-AWARE LIFETIME MODEL
FOR POWER DEVICES BASED ON ELECTRO-
17:50 THERMAL SIMULATION, C.V. Pop^{1,2}, **A. Buzo²**,
C.V. Diaconu², **G. Pelz²**, **H. Cucu¹**, **C. Burileanu¹**,
¹“Politehnica” Univ. of Bucharest, Romania,
²Infineon Technologies, Neubiberg, Germany.

Thursday, October 10, 09:00, Bran Hall

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

Chair:

A.M. Ionescu, EPFL, Switzerland

A. Müller, IMT Bucharest, Romania

PS2.1 MAGNETOELECTRIC DEVICES FOR
09:00 SPINTRONIC APPLICATIONS, **C. Adelman**,
IMEC, Belgium.

PS2.2 TOWARDS MONOLITHIC QUANTUM
09:30 COMPUTING PROCESSORS IN PRODUCTION
FDSOI CMOS TECHNOLOGY, **S. Voinigescu**,
University of Toronto, Canada.

PS2.3 SPIN CLUSTER QUBITS IN MOLECULAR AND
10:00 SEMICONDUCTOR SYSTEMS, **F. Troiani**, Istituto
Nanoscienze-CNR, Italy.

PS2.4 LOGIC GATES BASED ON SPIN WAVES,
10:30 **F. Ciubotaru**, IMEC, Belgium.

11:00-11:20 – COFFEE BREAK

Thursday, October 10, 11:20, Bran Hall

**NANOSCIENCE AND
NANOENGINEERING 2**

Session: N&N2: Oral presentations

Chair:

O. Buiu, IMT Bucharest, Romania

A. Avram, IMT Bucharest, Romania

N&N2.1 GRAPHENE QUANTUM DOTS – POLYMER
11:20 (GQDS – PEG600) NANOCOMPOSITE AS
ELECTRODE MODIFIER FOR ANTHRACENE
DETERMINATION, **C. Ciobanu**, **M.C. Stoian**,
A.A. Apostol, **A. Radoi**, IMT Bucharest, Romania.

N&N2.2 CONTROLLING SWIR PHOTSENSITIVITY
11:40 LIMIT BY COMPOSITION ENGINEERING:
FROM GE TO GESI NANOCRYSTALS
EMBEDDED IN TiO₂, **I. Dascalescu**^{1,2}, **O. Cojocaru**¹,
I. Lalau¹, **C. Palade**¹, **A. Slav**¹, **A.M. Lepadatu**¹,
S. Lazanu¹, **T. Stoica**¹, **M.L. Ciurea**^{1,3}, ¹National
Inst. of Materials Physics, Magurele, ²Univ. of
Bucharest, Faculty of Physics, Magurele, ³Academy
of Romanian Scientists, Bucharest, Romania.

N&N2.3 DIRECT WRITING OF PRUSSIAN BLUE
12:00 PATTERNS DOWN TO MICROMETER SCALE:
PRELIMINARY TESTS RESULTS, **C. Pachiu**,
M. Carp, **A. Radoi**, **R. Popa**, **M. Suche**,
O. Tutunaru, IMT Bucharest, Romania.

N&N2.4 EMI SHIELDING FLEXIBLE THIN FILMS
12:20 BASED ON GRAPHENE-MWCNT NANO-
COMPOSITES, **A.C. Obreja**, **V. Buiculescu**,
R. Gavrilă, **F. Comanescu**, **V. Tucureanu**,
O. Tutunaru, **M. Dragoman**, IMT Bucharest,
Romania.

13:20-14:00 – LUNCH

14:00 – Trip to BRAN Castle („Dracula Castle”)

Thursday, October 10, 11:20, Peles Hall

**INTEGRATED CIRCUITS -
STUDENT PAPERS**

Session: IC-S: Oral presentations

Chair:

F. Draghici, “Politehnica” Univ. of Bucharest,
Romania

V. Anghel, “ON Semiconductor, Bucharest,
Romania

- IC-S.1** OPTIMIZING GZIP COMPRESSION ACCELE-
11:20 RATOR FOR ZYNQ FPGAS, **O. Plugariu**,
“Politehnica” Univ. of Bucharest, Romania.
- IC-S.2** GAIN-BOOSTING STAGE FREQUENCY
11:40 RESPONSE OPTIMIZATION, **T. Azis**,
“Politehnica” Univ. of Bucharest, Romania.
- IC-S.3** PERFORMANCE ANALYSIS FOR HIGH
12:00 RESOLUTION DIGITALLY PROGRAMMABLE
POTENTIOMETERS, **G.-C. Ilie (Chiranu)^{1,2}**,
C. Tudoran¹, **O. Neagoe¹**, **Gh. Brezeanu²**, ¹ON
Semi-conductor Romania, Bucharest, ²“Politehnica”
Univ. of Bucharest, Romania.
- IC-S.4** CAPACITOR MULTIPLIER WITH ONE TRANS-
12:20 CONDUCTOR CELL, **P. Coste***, **P. Martari***, **M. Neag***,
V. Ionescu**, *Technical Univ. of Cluj-Napoca, Romania,*
**Infineon Technologies Romania.
- IC-S.5** COVERAGE FULFILLMENT METHODS AS
12:40 KEY POINTS IN FUNCTIONAL VERIFICATION OF
INTEGRATED CIRCUITS, **A. Dinu**, **P.L. Ogrutan**,
Transilvania Univ. of Brasov, Romania.
- IC-S.6** ENHANCED RIPPLE BLOCKER, **M.E. Bundaru***,
13:00 **D. Dobrescu***, **E. Franți****, **M. Enăchescu***, **M. Dascălu***,
L. Dobrescu*, * “Politehnica” Univ. of Bucharest,
**IMT Bucharest, Romania.

13:20-14:00 – LUNCH

14:00 – Trip to BRAN Castle („Dracula’s Castle”)

Friday, October 11, 09:00, Bran Hall

PLENARY SESSION 3

(Invited papers)

Session: PS3: Oral presentations

Chair:

Gh. Brezeanu, “Politehnica” Univ. of Bucharest,
Romania

D. Neculoiu, IMT Bucharest, Romania

PS3.1 FAN-OUT ENHANCED RECONFIGURABLE
09:00 SPIN WAVE BASED LOGIC, **S. Cotofana**, Delft
Univ. of Technology, The Netherlands.

PS3.2 MILLIMETER-WAVE INTEGRATED SILICON
09:30 DEVICES: ACTIVE VERSUS PASSIVE – THE
ETERNAL STRUGGLE BETWEEN GOOD AND
EVIL, **M. Spasaro**, **D. Zito**, Aarhus Univ.,
Denmark.

PS3.3 PHYSICS AND DESIGN OF A BREAKDOWN
10:00 RUGGED INSULATED GATE BIPOLAR
TRANSISTOR, **E. Napoli**, Univ. of Naples, Italy.

PS3.4 RF ENERGY HARVESTING AND WIRELESS
10:30 POWER TRANSFER, **A. Takacs**, LAAS-CNRS,
France.

11:00-11:20 – COFFEE BREAK

Friday, October 11, 10:00, Cantacuzino Hall

**WORKSHOP „SENSORS AND
INTEGRATED SYSTEMS FOR
SECURITY AND HEALTH
APPLICATIONS” – I**

Chair:

M. Gartner, “Ilie Murgulescu” Inst. of Physical
Chemistry, Bucharest, Romania

P. Petrik, Inst. for Technical Physics and
Materials Science, Hungary

WS1.1 SENSORS ARRAY WITH BIOCHEMICAL
10:00 LAYER FOR MULTIPLE DETECTION OF
EXPLOSIVES SUBSTANCES, **C. Moldovan**,
A. Anghelescu, **G. Muscalu**, **S. Dinulescu**,
C. Brasoveanu, **B. Firtat**, **M. Savin**, IMT
Bucharest, Romania.

WS1.2 MEMS PIEZOELECTRIC ENERGY HARVESTER
10:30 FOR PORTABLE SYSTEMS AND INACCESSIBLE
SENSORS NETWORKS, **B. Firtat**¹, **S. Dinulescu**¹,
G. Muscalu¹, **C. Moldovan**¹, **A. Anghelescu**¹, **S.**
Ioniță², **M. Răducu**², **A.D. Coman**², **M. Gartner**³,
¹IMT Bucharest, ²Univ. of Pitesti, ³“Ilie Murgulescu”
Inst. of Physical Chemistry, Bucharest, Romania.

11:00-11:20 – COFFEE BREAK

WS1.3 PIEZOELECTRIC 1-D NANOSTRUCTURES FOR
11:20 THE ENERGY HARVESTING APPLICATIONS,
M. Chelu¹, **H. Stroescu**¹, **J. Calderon Moreno**¹,
M. Anastasescu¹, **S. Preda**¹, **M. Gartner**¹,
C. Moldovan², **M. Gheorghe**³, ¹“Ilie Murgulescu”
Inst. of Physical Chemistry, Bucharest, ²IMT
Bucharest, ³NANOM MEMS SRL, Râșnov,
Romania.

- WS1.4** NICKEL SILICIDE COMPOUNDS INVESTIGATION OBTAINED AT LOW AND HIGH TEMPERATURES, **R. Pascu¹, C. Romanitan¹, O. Tutunaru¹, F. Comanescu¹, M. Kusko¹, Gh. Pristavu², Gh. Brezeanu²**, ¹IMT Bucharest, Romania, ²“Politehnica” Univ. of Bucharest, Romania.
- WS1.5** VOLTAGE CONTROLLED OSCILLATOR FOR SMALL-SIGNAL CAPACITANCE SENSING, **A. Enache, F. Draghici, Gh. Pristavu, Gh. Brezeanu**, “Politehnica” Univ. of Bucharest, Romania.
- WS1.6** SURFACE-ENHANCED OPTICAL DETECTION USING MULTILAYERS IN INTERNAL REFLECTION ELLIPSOMETRY, **P. Petrik¹, B. Kalas¹, K. Ferencz², M. Serényi¹, G. Safran¹, M. Fried¹, M. Stoica³, M. Gartner³**, ¹Research Inst. for Technical Physics and Materials Science, Hungarian Academy of Sciences, Budapest, ²Wigner Research Centre for Physics, Budapest, Hungary, ³“Ilie Murgulescu” Inst. of Physical Chemistry, Bucharest, Romania
- WS1.7** COMBINATORIAL BIOSENSING BY TOTAL INTERNAL REFLECTION SPECTROSCOPIC ELLIPSOMETRY, **B. Kalas, M. Serenyi, G. Safran, M. Fried, P. Petrik**, Research Inst. for Technical Physics and Materials Science, Hungarian Academy of Sciences, Budapest, Hungary.

13:20-14:00 – LUNCH

Friday, October 11, 11:20, Bran Hall

INTEGRATED CIRCUITS
Session: IC: Oral presentations

Chair:

M. Bodea, “Politehnica” Univ. of Bucharest, Romania

Gh. Stefan, “Politehnica” Univ. of Bucharest,
Romania

- IC.1** A 5.5-V 7-MHz UGBW DUAL RAIL-TO-RAIL
11:20 CMOS OP AMP WITH ENABLE PIN AND Hi-Z
OUTPUT FEATURE, **C. Stanescu¹**, **C. Dinca¹**,
D. Paul², ¹ON Semiconductor Romania S.R.L.,
Integrated Circuits Division, Bucharest, Romania,
²ON Semiconductor, Integrated Circuits Division,
Phoenix, Arizona, U.S.A.
- IC.2** LATEST CONCEPT TO GENERATE
11:20 TEMPERATURE COMPENSATED VOLTAGE
REFERENCE, **V. Banu¹**, **M. Popescu²**, **P.**
Godignon³, ¹D+T Microélectronica A.I.E. Campus
UAB, Barcelona, Catalunya, Spain, ²IMT Bucharest,
Romania, ³IMB-CNM, CSIC, Campus UAB,
Barcelona, Catalunya, Spain.
- IC.3** A DISRUPTIVE TECHNOLOGY – IMPROVING
12:00 HALF-BRIDGE GATE DRIVER
PERFORMANCES USING GALVANIC
ISOLATION, **I. Hurez^{1,2}**, **V. Anghel²**,
F. Vlădoianu², **Gh. Brezeanu¹**, ¹“Politehnica” Univ.
of Bucharest, ²ON Semiconductor Romania,
Bucharest, Romania.
- IC.4** A FAST RESPONSE OUTPUT BUFFER FOR AN
12:20 I²C HIGH SPEED INTERFACE, **A. Dragan^{1,2}**,
A. Enache², **A. Negut¹**, **A. Macarie Tache¹**,
Gh. Brezeanu², ¹ON Semiconductor Romania,
Bucharest, ²“Politehnica” Univ. of Bucharest,
Romania.
- IC.5** G_m BASED VOLTAGE MODE CAPACITANCE
12:40 MULTIPLIER, **G. Bonteanu¹**, **A. Cracan¹**,
L. Goras^{1,2}, ¹“Gheorghe Asachi” Technical Univ. of
Iasi, ²Inst. of Computer Science, Romanian
Academy, Iasi Branch, Romania.

IC.6 PROCESS CAPABILITY EVALUATION FOR
13:00 FABRICATION OF ASIC IR-UWB
TRANSCEIVERS, **N. Varachiu**¹, **J.-L. Noullet**²,
A. Rumeau², **D. Dragomirescu**², ¹IMT Bucharest,
Romania, ²LAAS-CNRS, Toulouse, France.

13:20-14:00 – LUNCH

Friday, October 11, 11:20, Peles Hall

**MICROWAVE AND MILLIMETER
WAVE CIRCUITS AND SYSTEMS**

Session: MW: Oral presentations

Chair:

D. Zito, Aarhus Univ., Denmark

A. Takacs, LAAS-CNRS, France

- MW.1** ARCHIMEDEAN SPIRAL ANTENNA WITH
11:20 COPLANAR WAVEGUIDE FEED, **A.C. Bunea¹**,
D. Neculoiu^{1,2}, **A. Avram¹**, **M. Iovea³**, ¹IMT
Bucharest, ²“Politehnica” Univ. of Bucharest,
³ACCENT PRO 2000 Ltd., Bucharest, Romania.
- MW.2** BROADBAND Y-TYPE DIVIDER IN KU-BAND
11:40 USING SUBSTRATE INTEGRATED WAVE-
GUIDE, **Y. Fu^{*}**, **K.Y. Chan^{*}**, **M.G. Banciu^{**}**,
R. Ramer^{*}, ^{*}Univ. of New South Wales, Sydney,
Australia, ^{**}National Inst. of Materials Physics,
Bucharest-Magurele, Romania.
- MW.3** MICROWAVE DETECTION WITH MOS₂-
12:00 BASED SELF-SWITCHING DIODES, **M. Aldrigo^{*}**,
M. Dragoman^{*}, **S. Iordanescu^{*}**, **A. Dinescu^{*}**,
D. Vasilache^{*}, **I. Povey^{**}**, **M. Modreanu^{**}**, ^{*}IMT
Bucharest, Romania, ^{**}Tyndall National Inst.-Univ.
College Cork, Ireland.
- MW.4** FREQUENCY SELECTIVE SURFACES WITH
12:20 HEXAGONAL ELEMENTS FOR MILLIMETER
WAVES APPLICATIONS, **M.G. Banciu**,
D.C. Geambasu, **L. Nedelcu**, **L. Trupina**, National
Inst. of Materials Physics, Magurele, Romania.

13:20-14:00 – LUNCH

Friday, October 11, 14:00, Peles Hall

**MODELLING AND
SEMICONDUCTOR DEVICES**
Session: M&SD: Oral presentations

Chair:

E. Napoli, University of Naples Federico II,
Italy

M. Brezeanu, PwC Romania, Bucharest,
Romania

M&SD.1 A NEW TUNNELLING MODEL TO
14:00 CALCULATE GIDL CURRENT FOR MOSFET
AND TFET, **A. Sen, J. Das**, Jadavpur Univ.,
Kolkata, India.

M&SD.2 COMPARISON AND SIMULATION STUDY OF
14:20 CYLINDRICAL GAA NWMBCFET FOR SUB 5
NM, **S. Ashok Kumar, J. Charles Pravin**,
Kalasalingam Academy of Research and Education,
India.

M&SD.3 ATOMISTIC MODELS OF NANOSYSTEMS,
14:40 **T. Sandu**, IMT Bucharest, Romania.

M&SD.4 SIGNAL CLASSIFICATION WITH A SINGLE
15:00 MEMRISTOR IN RESERVOIR SYSTEM,
E. Wlazlak, M. Marzec, P. Zawal, K. Szacilowski,
AGH Univ. of Science and Technology, Krakow,
Poland.

M&SD.5 NEW EXTRACTION METHOD FOR BIPOLAR
15:20 TRANSISTOR MODEL PARAMETERS USED IN
BANDGAP TYPE VOLTAGE REFERENCE,
S. Marinca*, **M. Bodea****, **A. Stiglet***, **B. Baron***,
*Infineon Romania, **"Politehnica" Univ. of
Bucharest, Romania.

M&SD.6 EXPERIMENTAL AND THEORETICAL
15:40 EVIDENCE OF PHOTOCURRENT AMPLIFICA-
TION IN HYBRID MATERIAL BASED ON
DIBENZO-18-CROWN-6, **M. Lis, K. Pilarczyk,**
K. Szacilowski, AGH Univ. of Science and
Technology, Krakow, Poland.

16:00-16:30 – COFFEE BREAK

Friday, October 11, 14:00, Cantacuzino Hall

**WORKSHOP „SENSORS AND
INTEGRATED SYSTEMS FOR
SECURITY AND HEALTH
APPLICATIONS” – II**

Chair:

C. Moldovan, IMT Bucharest, Romania

N. Goga, “Politehnica” Univ. of Bucharest,
Romania

WS2.1 DESIGN AND FABRICATION OF A NEW
14:00 FLEXIBLE PRESSURE SENSOR FOR HEALTH
APPLICATION, **M. Ion, C. Moldovan, S. Dinulescu,**
M. Savin, IMT Bucharest, Romania.

WS2.2 POLYANILINE WORKING ELECTRODES FOR
14:20 GLUCOSE SENSING, **C.M. Mihailescu¹,**
C.A. Moldovan¹, C. Brasoveanu¹, M. Savin¹,
S. Dinulescu¹, B. Firtat¹, C. Codreanu¹,
I. Ceausu², I. Stanciu³, ¹IMT Bucharest, ²„Carol
Davila” Univ. of Medicine and Pharmacy,
³“Politehnica” Univ. of Bucharest, Romania

WS2.3 ENABLING TECHNOLOGIES AND RESEARCH
14:40 CHALLENGES FOR INTERNET OF THINGS
FOR HEALTHCARE SYSTEMS, **I. Stanciu¹,**
C. Codreanu², N. Goga³, I. Marin¹, A. Oanca¹,
¹“Politehnica” Univ. of Bucharest, ²IMT Bucharest,
Romania, ³Univ. of Groningen, The Netherlands.

WS2.4 DATA ANALYSIS FOR BLOOD PRESSURE
15:00 MICROSENSORS BASED ON ARTERIAL
TONOMETRY, **I. Stanciu**, “Politehnica” Univ. of
Bucharest, Romania.

WS2.5 AN INTELLIGENT SYSTEM FOR THE
15:20 DETECTION OF PREECLAMPSIA, **I. Marin¹,**
N. Goga^{1,2}, A. Vasilateanu¹, A. Gradinaru¹,
V. Racovita³, ¹“Politehnica” Univ. of Bucharest,
Romania, ²Univ. of Groningen, The Netherlands,
³SC Info World SRL, Bucharest, Romania.

16:00-16:30 – COFFEE BREAK

Friday, October 11, 16:30-19:00, Bran Hall

**NANOSCIENCE AND
NANOENGINEERING 3**

Session: N&N3: Poster Session

Chair:

T. Sandu, IMT Bucharest, Romania

C. Kusko, IMT Bucharest, Romania

N&N3.1 ELECTROCHEMICAL SYNTHESIS OF COMPOSITE Cu-Cu₂O FILMS, **K. Mech**, **M. Bisztyga-Szklarz**, **M. Marzec**, **K. Szacilowski**, AGH Univ. of Science and Technology, Krakow, Poland.

N&N3.2 RESISTIVE PROPERTIES OF CARBON BLACK INKJET PRINTED LAYERS, **A.E. Gieva**¹, **B.G. Nikolov**², **C.B. Nikolova**³, **D.I. Ruskova**¹, ¹Depart. of Microelectronics, Technical Univ. of Sofia, ²Depart. of Electronics, Technical Univ. of Sofia, ³Depart. of Technology and Management of Communication Systems, Technical Univ. of Sofia, Bulgaria.

N&N3.3 BIONANOCOMPOSITES BASED OF POLYLACTIC ACID AND SILVER NANOPARTICLES OBTAINED BY SOLVENT EVAPORATION FOR POTENTIAL USE AS BIOMATERIALS, **P. Preda**¹, **M. Rapa**², **D.E. Mihaiescu**³, **B. Tincu**¹, **M. Avram**¹, ¹IMT Bucharest, ²Faculty of Material Science and Engineering, "Politehnica" Univ. of Bucharest, ³Faculty of Applied Chemistry and Materials Science, "Politehnica" Univ. of Bucharest, Romania.

- N&N3.4** EFFECT OF LASER IRRADIATION ON THE REFRACTIVE INDEX OF THE TiO_2 THIN FILMS, **T. Potlog¹, E. Dauksta², K. Murakami², A. Medvids³, L. Ghimpu⁴, C. Moise⁵, H. Mimura⁶**, ¹Moldova State Univ., Chisinau, Moldova, ²Graduate school of Science and Technology, Shizuoka Univ. Hamamatsu, Japan, ³Riga Technical Univ., Riga, Latvia, ⁴Inst. of Electronic Engineering and Nanotechnologies, Academy of Sciences of Moldova, Chisinau, Moldova, ⁵“Politehnica” Univ. of Bucharest, Romania, ⁶Research Inst. of Electronics, Shizuoka Univ., Hamamatsu, Japan.
- N&N3.5** CHARACTERIZATION OF NiO THIN FILMS FABRICATED BY MAGNETRON SPUTTERING, **L. Ghimpu^{*}, V. Suman^{*}, I. Lungu^{**}**, ^{*}Inst. of Electronic Engineering and Nanotechnologies, Academy of Sciences of Moldova, Chisinau, ^{**}Moldova State Univ., Chisinau, Moldova.
- N&N3.6** EFFECT OF ZINC OXIDE CONCENTRATION ON THE DIELECTRIC PROPERTIES OF 3D PRINTED ACRYLONITRILE BUTADIENE STYRENE NANOCOMPOSITES, **A. Maniadi¹, M. Vamvakaki¹, M. Petousis², N. Vidakis², M. Sucheai^{3,4*}, M. Sevastaki⁵, Z. Viskadourakis⁵, G. Kenanakis⁵, E. Koudoumas⁴**, ¹Univ. of Crete, Heraklion, Crete, ²Mechanical Engineering Depart., Hellenic Mediterranean Univ., Heraklion, Crete, Greece, ³IMT Bucharest, Romania, ⁴IESL, FORTH Hellas, Heraklion, Greece, ⁵Center of Materials Technology and Photonics, Hellenic Mediterranean Univ., Heraklion, Crete, Greece (*student*).
- N&N3.7** HIGH PERFORMANCE NIR PHOTSENSITIVE FILMS OF Ge NANOPARTICLES IN Si_3N_4 , **I. Stavarache¹, P. Prepelita², I. Lalau¹, O. Cojocaru¹, V.S. Teodorescu^{1,3}, M.L. Ciurea^{1,3}**, ¹National Inst. of Materials Physics, Magurele, ²National Inst. for Laser, Plasma and Radiation Physics, Magurele, ³Academy of Romanian Scientists, Bucharest, Romania.

- N&N3.8** BULK NANOCRYSTALLINE GRAPHITE THIN FILMS FOR PIEZOREZISTIVE SENSING APPLICATIONS, **O.-G. Simionescu**^{1,2}, **E. Anghel**^{1,3}, **R. Popa**¹, **C. Pachi**¹, **R. Gavrilă**¹, **F. Comanescu**¹, **A. Avram**¹, **G. Dinescu**^{2,4}, ¹IMT Bucharest, ²Univ. of Bucharest, Magurele, Romania, ³“Politehnica” Univ. of Bucharest, ⁴National Inst. for R&D Laser, Plasma and Radiation Physics, Magurele, Romania.
- N&N3.9** STRUCTURAL AND OPTO-ELECTRICAL ANALYSIS OF CU DOPED ZNO THIN FILMS BY SOL-GEL METHOD, **A.-I. Istrate**, **V. Dediu**, **I. Mihalache**, **C. Romanitan**, **O. Tutunaru**, IMT Bucharest, Romania.
- N&N3.10** SnO₂ AND Ni DOPED SnO₂ /POLITHIOPHENE NANOCOMPOSITES FOR GAS SENSING APPLICATIONS, **P. Pascariu**¹, **I.V. Tudose**^{2,3}, **D. Vernardou**², **E. Koudoumas**², **O.N. Ionescu**⁴, **M. Suche**^{2,4}, ¹”Petru Poni” Inst. of Macromolecular Chemistry, Iași, Romania, ²Hellenic Mediterranean Univ., Heraklion, Crete, ³Univ. of Crete, Heraklion, Crete, Greece, ⁴IMT Bucharest, Romania.
- N&N3.11** EPOXY NANOCOMPOSITES BASED ON MWCNT, **C. Paun**, **C. Obreja**, **F. Comanescu**, **V. Tucureanu**, **O. Tutunaru**, **C. Romanitan**, **O. Ionescu**, IMT Bucharest, Romania.
- N&N3.12** EFFECT OF TEMPERATURE AND FREQUENCY ON DIELECTRIC PROPERTIES OF HETEROSTRUCTURES BASED ON ULTRATHIN FERROELECTRIC FILMS OF HF/ZR OXIDES, **C. Berbecaru**^{*}, **D. Dragoman**^{*}, **M. Dragoman**^{**}, **F. Nastase**^{**}, ^{*}Univ. of Bucharest, Romania, ^{**}IMT, Bucharest, Romania.

Friday, October 11, 16:30-19:00, Bran Hall

**MICROSENSORS AND
MICROSYSTEMS 2**

Session: M&M2: Poster Session

Chair:

O. Nedelcu, IMT Bucharest, Romania

V. Avramescu, IMT Bucharest, Romania

M&M2.1 INVESTIGATION OF STRUCTURAL, OPTICAL AND LUMINESCENCE PROPERTIES OF N-DOPED ZnO THIN FILMS DEPOSITED BY RF MAGNETRON SPUTTERING, **M. Nicolescu¹, M. Anastasescu¹, J. M. Calderon Moreno¹, S. Preda¹, I. Stanculescu^{2,3}, M. Modreanu⁴, V. Kampylafka⁵, E. Aperathitis⁵, M. Gartner¹**, ¹Inst. of Physical Chemistry "Ilie Murgulescu", Romanian Academy, Bucharest, ²Horia Hulubei National Inst. of R&D for Physics and Nuclear Engineering, Magurele, ³Univ. of Bucharest, Romania, ⁴Tyndall National Inst., Univ. College Cork, Cork, Ireland, ⁵FORTH-IESL, Crete, Greece.

M&M2.2 WAVEGUIDE FILTERS DETUNING ENABLED BY RF MEMS SWITCHES, **Y. Fu^{*}, M. G. Banciu^{**}**, ^{*}The Univ. of New South Wales, Sydney, Australia, ^{**}National Inst. of Materials Physics, Romania.

M&M2.3 A CASE STUDY OF 4 GHZ PROXIMITY DETECTOR FOR SMART CROSSWALKS, **C. Andriesei, G. Anitei, D. Condrea**, "Gheorghe Asachi" Technical Univ. of Iasi, Romania.

M&M2.4 CALIBRATION METHODOLOGY FOR A 3D MEASUREMENT SYSTEM OF ELECTROMAGNETIC RADIATION, **A. Tulbure^{*}, C. Petrascu^{*}, M. Vladescu^{**}**, ^{*}"1 Decembrie 1918" Univ. of Alba Iulia, ^{**}"Politehnica" Univ. of Bucharest, Romania.

M&M2.5 SIGNAL PROCESSING CIRCUIT FOR SPIROMETRY, **C. Vasilache, D. Dobrescu, E. Franti, O.G. Profirescu, M. Dascalu, L. Dobrescu**, "Politehnica" Univ. of Bucharest, Romania (*student*).

- M&M2.6** SIGNIFICANT ENHANCEMENT OF ELECTRICAL BEHAVIOR OF SAW DEVICES ON LANGASITE AND QUARTZ SUBSTRATES OBTAINED BY IMPROVEMENTS IN DESIGN AND TECHNOLOGY, **N. Dumbravescu¹, O. Ionescu¹, I. Cernica¹, V. Buiculescu¹, F. Pistritu¹, C. Mitrea²**, ¹IMT Bucharest, ²ECONIRV, MINATECH-RO, Bucharest, Romania.
- M&M2.7** INTERDIGITATED BIOSENSOR FOR D-SERINE DETECTION, USING GOLD NANO-PARTICLES, **L. Draghiciu¹, C. Romanitan¹, C. Parvulescu¹, O. Tutunaru¹, R. Muller¹, T. Ignat²**, ¹IMT Bucharest, Romania, ²AGCS, Munich, Germany.
- M&M2.8** VERTICAL GRAPHENE BASED BIOSENSOR FOR BIOLOGICAL FLUIDS ANALYSIS, **E. Anghel^{1,2}, O. Simionescu^{1,3}, C. Pachiu¹, O. Tutunaru¹, C. Mihailescu¹, A. Avram¹**, ¹IMT Bucharest, ²“Politehnica” Univ. of Bucharest, ³Univ. of Bucharest, Romania (*student*).
- M&M2.9** IMAGE PROCESSING TECHNOLOGY FOR SCANNING ELECTRON MICROSCOPY, **O. Tutunaru, R. Pascu**, IMT Bucharest, Romania.

20:30 – CAS 2019 Banquet – *New Montana Hotel*
Restaurant

Friday, October 11, 16:30-19:00, Bran Hall

SEMICONDUCTOR DEVICES AND ICs

Session: SD&IC: Poster Session

Chair:

Gh. Pristavu, “Politehnica” Univ. of Bucharest,
Romania

C. Stanescu, ON Semiconductor, Romania

SD&IC.1 WORST-CASE INPUT VOLTAGE IN BUCK, BOOST AND BUCK-BOOST CONVERTERS, **V. Trifa***, **Gh. Brezeanu***, **E. Ceuca****, *“Politehnica” Univ. of Bucharest, **“1 Decembrie 1918” Univ. of Alba Iulia, Romania (*student*).

SD&IC.2 SiC TOOLS FOR RELIABILITY STUDY, **T. Phulpin***, **A. Jaffre***, **J. Alvarez***, **M. Lazar****, *GeePs, CNRS, Univ. Paris-Sud, Univ. Paris-Saclay, Sorbonne Univ., **ICD/L2n, CNRS, Univ. of Technology of Troyes, France.

SD&IC.3 HOMOGENEOUS RESISTIVE SWITCHING IN INDIVIDUAL ZnO NANOROD P-N JUNCTIONS, **S. Tiagulskiy**, **R. Yatskiv**, **H. Faitova**, **J. Vanis**, **J. Grym**, Inst. of Photonics and Electronics of the Czech Academy of Sciences, Prague, Czech Republic.

SD&IC.4 SIMULATION OF 30 NM CHANNEL CYLINDRICAL GAA SILICON TUNNEL FETS WITH HIGH-K GATE DIELECTRICS, **M. Kessi**, **A. Benfedila**, **A. Lakhelef**, **L. Belhimer**, **M. Djouder**, Univ. M. Mammeri, Tizi-Ouzou, Algeria (*student*).

SD&IC.5 EXPERIMENTAL AND THEORETICAL VALIDATION OF Ga₂O₃ THIN FILMS DEPOSITED BY PHYSICAL VAPOR DEPOSITION, **K.T. Lai***, **N. Badiet***, **S. Deng***, **P. Igi****, **L. Li***, *College of Engineering, Swansea Univ. Bay Campus, Swansea, **Inst. for Future Transport and Cities, Coventry Univ., Coventry, UK.

- SD&IC.6** ANALYSIS OF THE CURRENT–VOLTAGE–TEMPERATURE CHARACTERISTICS OF W/4H-SiC SCHOTTKY BARRIER DIODES FOR HIGH PERFORMANCE TEMPERATURE SENSORS, **K. Zeghdar¹, H. Bencherif¹, L. Dehimi^{1,2}, F. Pezzimenti³, F.G. Della Corte³**, ¹LMSM – Biskra Univ., ²Faculty of Material Science, Batna Univ., Algeria, ³DIIES – Mediterranea Univ. of Reggio Calabria, Italy.
- SD&IC.7** REPLACING Pb WITH Sb IN HALIDE PEROVSKITE FOR FIELD EFFECT THIN FILM TRANSISTORS, **C. Besleaga*, V. Stancu*, C. Ciobotaru*, S. Polosan*, H. Saidi**, G. Stan*, L. Pintilie***, *National Inst. of Materials Physics, Magurele, Romania, **Univ. of Monastir, Monastir, Tunisie.
- SD&IC.8** ROBUST POSE ESTIMATION USING TIME-OF-FLIGHT IMAGING, **C. Oprea, I. Pirnog, I. Marcu, M. Udrea**, “Politehnica” Univ. of Bucharest, Romania.
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- SD&IC.10** THE ADAPTIVE INTERFACES FOR EASY SIMULATION AND DESIGN OF THE CONVERTERS, **E. Ceuca**, “1 Decembrie 1918” Univ. of Alba Iulia, Romania.
- SD&IC.11** ANALYSIS AND DESIGN OF A CURRENT MODE BUCK CONVERTER WITH DIGITALLY CONTROLLED OUTPUT VOLTAGE, **C.A. Iordache, M. Bodea**, “Politehnica” Univ. of Bucharest, Romania.

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