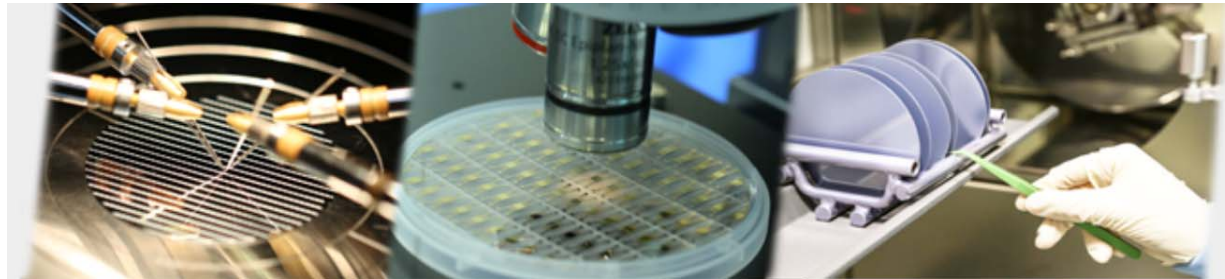




INTERNATIONAL SEMICONDUCTOR CONFERENCE

CAS 2018 - an IEEE event

SINAIA, ROMANIA, 10-12 OCTOBER 2018



<http://www.imt.ro/cas/>

CAS 2018 Preliminary Program

(vers. August 09, 2018)

Conference Organiser: National Institute for R&D in Microtechnologies IMT Bucharest, Romania



		Room Bucegi	Room Itamar
9 OCT. (Tuesday)	15:00 - 19:00	Registration	
	20:30	Welcome Cocktail	
	08:30-09:00	Registration	
	09:00-09:30	Welcome to CAS 2018 Adrian Dinescu, CAS 2018 General Chairman, IMT Bucharest, Romania	
10 OCT. (Wednesday)	09:30-11:30	PLENARY SESSION 1 (Invited papers) Chair: Adrian Dinescu Mircea Dragoman 09:30 LOW-DIMENSIONAL-STRUCTURE DEVICES FOR FUTURE ELECTRONICS Shunri ODA, Tokyo Institute of Technology, Japan 10:00 3D RADIO-FREQUENCY TO MILLIMETER WAVE HETEROGENEOUS SYSTEM INTEGRATION: EMERGING NANOTECHNOLOGIES FOR RF NANOPACKAGING Dominique BAILLARGEAT, IEEE Nanotechnology Council (NTC) Distinguished Lecturer, University of Limoges / CNRS, Limoges, France 10:30 PROCESSING ISSUES IN SIC AND GAN POWER DEVICES TECHNOLOGY Fabrizio ROCCAFORTE, Consiglio Nazionale delle Ricerche – Istituto per la Microelettronica e Microsistemi (CNR-IMM), Italy 11:00 DFT CALCULATIONS OF STRUCTURE AND OPTICAL PROPERTIES IN WIDE BAND-GAP SEMICONDUCTOR CLUSTERS FOR DYE-SENSITIZED SOLAR CELLS Mihai GIRTU, Faculty of Applied Sciences and Engineering, Ovidius University of Constanța, Romania	
		11:30-11:50	Coffee break
	11:50-13:10	Nanoscience and Nanoengineering I (Oral presentations) Chair: Mihai Girtu Dominique Baillargeat 11:50 ENHANCED PHOTOCONDUCTIVITY OF SIGE-TRILAYER STACK BY RETRENCHING ANNEALING CONDITIONS M.T. Sultan ¹ , J.T. Gudmundsson ^{2,3} , A. Manolescu ¹ , M.L.	Integrated Circuits I - Student papers (Oral presentations) Chair: Viorel Banu Florin Draghici 11:50 A HIGH PERFORMANCE MIXED-VOLTAGE DIGITAL OUTPUT BUFFER Anca Mihaela Dragan ^{1,2} , Andrei Enache ^{1,2} , Alina Negut ¹ , Adrian



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		Ciurea^{4,5}, C. Palade⁴, A. V. Maraloiu⁴, H.G. Svavarsson¹ ¹Reykjavik University, Iceland, ²School of Electrical Engineering and Computer Science, KTH-Royal Institute of Technology, Sweden, ³Science Institute, University of Iceland, Iceland, ⁴National Institute of Materials Physics, Romania, ⁵Academy of Romanian Scientists, Romania 12:10 FROM PENTACENE THIN FILM TRANSISTOR TO NANOSTRUCTURED MATERIALS SYNTHESIS FOR GREEN ORGANIC-TFT Cristian Ravariu¹, Dan Eduard Mihaiescu², Daniela Istrati², Maria Stanca² ¹UPB-University "Politehnica" of Bucharest, Faculty of Electronics ETTI, Romania, ²UPB-University "Politehnica" of Bucharest, Faculty of Applied Chemistry, Romania 12:30 ELECTRICAL PROPERTIES OF AS-DEPOSITED ALD HfO₂ FILMS RELATED TO SILICON SURFACE STATE Cornel Cobianu^{1,2}, Florin Nastase^{1,2}, Nicolae Dumbravescu^{1,2}, Octavian Buiu^{1,2}, Adrian Albu¹, Bogdan Serban^{1,2}, Mihai Danila¹, Cosmin Romanitan¹, Octavian Ionescu^{1,2} ¹IMT Bucharest, Romania, ²CENASIC - IMT Bucharest, Romania 12:50 ENHANCED PHOTOCURRENT IN GeSi NCs / TiO₂ MULTILAYERS C. Palade*, A. Slav*, O. Cojocaru*, V.S. Teodorescu*, S. Lazanu*, T. Stoica*, M.T. Sultan***, H.G. Svavarsson***, M.L. Ciurea*,** *National Institute of Materials Physics, Romania, **Academy of Romanian Scientists, Romania, ***Reykjavik University, Iceland	Macarie Tache¹, Gheorghe Brezeanu² ¹ON Semiconductor Romania, ²University "Politehnica" of Bucharest, Romania 12:10 DUTY CYCLE ADJUSTMENT FOR THE LOW COST HIGH FREQUENCY CHARGE/DISCHARGE CMOS OSCILLATOR Alexandru Mihai Antonescu, Lidia Dobrescu, Dragoş Dobrescu "Politehnica" University of Bucharest, Faculty of Electronics, Telecommunications and Information Technology, Romania 12:30 RESISTOR BASED TEMPERATURE SENSOR USING ACTIVE INDUCTOR OSCILLATOR Savinescu Viorel-Stefan*, Nica Ioan-Alexandru*, Liviu Goras** **"Gheorghe Asachi" Technical University Iasi, Romania, **Institute for Information Technology Iasi, Romania 12:50 LDO WITH A DUAL COMPLEMENTARY BUFFER ARCHITECTURE Mihai Dicianu*, Vlad Ionescu**, Claudius Dan* *POLITEHNICA University of Bucharest, Romania, **Infineon Technologies Romania SCS, Bucharest, Romania
	13:10-14:00	Lunch	
	14:00-15:20	Integrated Circuits II (Oral presentations) <i>Chair:</i> Stefan Marinca Vlad Anghel 14:00 LOW POWER AND LOW AREA CMOS CAPACITANCE MULTIPLIER Gabriel Bonteanu, Arcadie Cracan	Semiconductor Devices (Oral presentations) <i>Chair:</i> Emilian Ceuca Octavian Buiu 14:00 Ψ-MOSFET CONFIGURATION FOR DNA DETECTION Licinius Benea*, Melania Banu**, Maryline Bawedin*, Cécile Delacour***, Monica Simion**, Mihaela Kusko**, Sorin

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		"Gheorghe Asachi" Technical University of Iasi 14:20 REGULATION MECHANISM FOR DICKSON CHARGE PUMPS USING CHARGE RECYCLING AND ADIABATIC CHARGING Florin Bîzîitu, Liviu Goras *Infineon Technologies Romania, **"Gh. Asachi" Technical University of Iași and Institute of Computer Science, Romanian Academy, Iași Branch, Romania 14:40 APPLICATION SPECIFIC INTEGRATED CIRCUIT (ASIC) FOR AN ENERGY EFFICIENT IMPULSE RADIO ULTRA-WIDEBAND TRANSCEIVER. TESTING AND STATISTIC ASSESSMENT Nicolae Varachiu*, Bilal Benamrouche**, J.-L. Noullet**, A. Rumeau**, Daniela Dragomirescu** *IMT-Bucharest, **LAAS-CNRS, Universite de Toulouse, CNRS, INSA, Toulouse, France 15:00 WIDE DYNAMIC RANGE CURRENT MIRROR Arcadie Cracan*, Gabriel Bonteanu* *"Gheorghe Asachi" Technical University of Iasi, Romania	Cristoloveanu*, Irina Ionica* *Univ. Grenoble Alpes, CNRS, Grenoble INP, IMEP-LAHC, France, **IMT Bucharest, Romania, ***Néel Inst., CNRS, France 14:20 INTERFACE TRAP EFFECTS IN THE DESIGN OF A 4H-SIC MOSFET FOR LOW VOLTAGE APPLICATIONS G. De Martino, F. Pezzimenti, F. G. Della Corte University of Reggio Calabria, Italy 14:40 HIGH PILLAR DOPING CONCENTRATION FOR SIC SUPERJUNCTION IGBTs H. KANG*, F. UDREA* *Electrical Engineering Department of University of Cambridge, U.K. 15:00 SURFACE RECOMBINATION EVALUATION IN BIPOLAR JUNCTION TRANSISTORS BY COMBINED ELECTRO-OPTICAL METHOD Viorel Banu*, Josep Montserrat**, Xavier Jorda**, Philippe Godignon** *D+T Microelectronica A.I.E., Spain, ** IMB-CNM, CSIC, Spain
	15:20-15:50	Coffee break	
	15:50-17:10	Microsensors and Microsystems (Oral presentations) Chair: Danijela Randjelovic Toma Stoica 15:50 LOW-TEMPERATURE PACKAGING METHODS AS A KEY ENABLERS FOR MICROSYSTEMS ASSEMBLY AND INTEGRATION S. Stoukatch*, F. Dupont*,*, M.Kraft*** *Liege University, Belgium, ***Microelectronics and Sensors, University of Leuven (KUL), Belgium	Integrated Circuits III - Student papers (Oral presentations) Chair: Marius Neag Liviu Goras 15:50 I/O BLOCKS RELIABILITY FOR AN SRAM-BASED FPGA WHEN EXPOSED TO IONIZING RADIATION V. M. Placinta^{1,2}, I. N. Cojocariu¹, C. Ravariu² ¹Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, Romania, ²Polytechnic Univ. of Bucharest, ETTI, Romania

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		16:10 SENSING APPLICATIONS BASED ON CAVITY PERTURBATION METHOD - A PROOF OF CONCEPT Valentin Buiculescu*, Roxana Rebigan* *IMT Bucharest, Romania 16:30 CONTINUOUS-WAVE MM-WAVE WAVEGUIDE-BASED PROBE FOR SKIN TISSUE CHARACTERISATION K. Y. Chan, X. Li, Y. Fu, R. Ramer The University of New South Wales, Sydney, Australia	16:10 FAULT IMPACT ASSESSMENT FOR AUTOMOTIVE SMART POWER PRODUCTS IN AN ELECTRIC POWER STEERING APPLICATION Jonas Stricker*, Clemens Kain†, Andi Buzo†, Jerome Kirscher†, Linus Maurer*, Georg Pelz† *Bundeswehr Universität München, Germany, †Infineon Technologies AG, Germany 16:30 MESSAGE RECOVERED: A ROBUST FAULT DETECTION AND REPORTING METHOD FOR GALVANICALLY ISOLATED IGBT GATE DRIVERS Ines Hurez *,**, Ted Chen***, Florin Vlădoianu**, Vlad Anghel **, Gheorghe Brezeanu* *University "Politehnica" of Bucharest, Romania, **ON Semiconductor Romania, *** ON Semiconductor USA 16:50 COMPARISON OF LEVEL SHIFTER ARCHITECTURES: APPLICATION TO I/O CELL Radu-Valentin Petrica*,**, Mihaela-Daniela Dobre*,**, Philippe Coll*, Florin Draghici**, Gheorghe Brezeanu** *Microchip Technology Inc., **University Politehnica, Bucharest, Romania
11 OCT. (Thursday)	09:00-11:00	PLENARY SESSION 2 (Invited papers) <i>Chair:</i> <i>Raluca Müller</i> <i>Gheorghe Brezeanu</i> 09:00 ANALYTICAL MODELLING APPROACH IN STUDY OF THE TRANSIENT RESPONSE OF THERMOPILE-BASED MEMS SENSORS APPLIED FOR SIMULTANEOUS DETECTION OF PRESSURE AND GAS COMPOSITION Danijela RANDJELOVIC, ICTM - Centre of Microelectronic Technologies, Belgrade, Serbia 09:30 IC VOLTAGE REFERENCES: NEW FRONTIERS Stefan MARINCA, Infineon Technology RO, Cluj-Napoca, Romania 10:00 NANOFABRICATED NETWORKS USED FOR PROTEIN-POWERED BIOCOMPUTATION DEVICES Christoph MEINECKE, Center for Microtechnologies in Chemnitz, Germany 10:30 SECOND HARMONIC GENERATION FOR NON-DESTRUCTIVE CHARACTERIZATION OF DIELECTRIC-SEMICONDUCTOR INTERFACES Irina IONICA, Associate Professor PHELMA/GrenobleINP, IMEP-LAHC, MINATEC-INPG, Grenoble, France	



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	11:00-11:30	Coffee break	
		Nanoscience and Nanoengineering II (Oral presentations) <i>Chair:</i> Magdalena Ciurea Irina Ionica 11:30 TiO₂ – GRAPHENE OXIDE THIN FILMS OBTAINED BY SPRAY PYROLYSIS DEPOSITION I. Tismanar*, L. Isac*, A. C. Obreja**, O. Buiu**, A. Duta* *Transilvania University of Brasov, Romania, **National R&D Institute R&D for Microtechnologies, Bucharest, Romania 11:30-12:30 11:50 EFFECT OF THE DEPOSITION CONDITIONS ON TITANIUM OXIDE THIN FILMS PROPERTIES M. Pustan*, C. Birleanu*, A. Trif*, S. Garabagiu**, D. Marconi**, L. Barbu-Tudoran** *Technical University of Cluj-Napoca, Romania, **National Institute for Research and Development of Isotopic and Molecular Technologies, ClujNapoca, Romania 12:10 MOS DOSIMETER BASED ON Ge NANOCRYSTALS IN HfO₂ C. Palade, A. Slav, A.M. Lepadatu, I. Stavarache, I. Dascalescu, O. Cojocaru, T. Stoica, M.L. Ciurea, S. Lazanu National Institute of Materials Physics, Romania	Modelling (Oral presentations) <i>Chair:</i> Oana Nedelcu Gheorghe Pristavu 11:30 MULTI-SCALE FINITE ELEMENT MODELING OF CNT-POLYMER-COMPOSITES M. Schiebold, J. Mehner Chemnitz University of Technology Chemnitz, Germany 11:50 MODELING OF HIGH TOTAL IONIZING DOSE (TID) EFFECTS FOR ENCLOSED LAYOUT TRANSISTORS IN 65 NM BULK CMOS Aristeidis Nikolaou¹, Matthias Bucher¹, Nikolaos Makris¹, Alexia Papadopoulou¹, Loukas Chevas¹, Giulio Borghello^{2,4}, Henri D. Koch^{3,4}, Federico Faccio⁴ ¹Technical University of Crete, Greece, ²DPIA, Università degli Studi di Udine, Italy, ³SEMI, Université de Mons, Belgium, ⁴EP Dept., CERN, Switzerland 12:10 ANALYTICAL ANALYSIS OF THE PLASMONIC ENHANCEMENT OF RESONANCE ENERGY TRANSFER IN THE VICINITY OF A SPHERICAL NANOPARTICLE Titus Sandu*, Catalin Tibeica, Oana T. Nedelcu, Mihai Gologanu IMT Bucharest, Romania
	12:30-12:50	PHOTO REMEMBER CAS 2018 in front of the RINA Sinaia Hotel	
	13:00 – 14:00	Lunch	
	14:00 – 20:00	Trip to Poiana Brasov and Brasov old town	

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12 OCT. (Friday)	09:00 – 11:00	PLENARY SESSION 3 (Invited papers) <i>Chair:</i> <i>Fabrizio Roccaforte</i> <i>Dan Neculoiu</i> 09:00 ZERO-POWER MILLIMETER-WAVE WIRELESS SENSORS Hervé AUBERT, Institut National Polytechnique de Toulouse, Ecole Nationale Supérieure d'Electrotechnique, d'Electronique, d'Informatique et d'Hydraulique de Toulouse and Centre National de la Recherche Scientifique, Toulouse, France 09:30 DESIGN AUTOMATION FOR MICRO-ELECTRO-MECHANICAL SYSTEMS Jan MEHNER, Chemnitz University of Technology, Chair of Microsystems and Biomedical Engineering, Chemnitz, Germany 10:00 ON EFFECTIVE GRAPHENE BASED COMPUTING Sorin COTOFANA, Computer Engineering Laboratory, Delft University of Technology, The Netherlands 10:30 GENERIC INTEGRATED FORENSIC TOOLBOX (GIFT) COUPLED WITH A PORTABLE CE SYSTEM FOR ON-SITE CBRN FORENSIC INVESTIGATION IN REAL TIME Eric MOORE, Sensing and Separation Group, Tyndall National Institute, University College Cork, Cork, Ireland	
	11:00-11:30	Coffee break	
	11:30-13:10	Microwave and Millimeter Wave Circuits and Systems (Oral presentations) <i>Chair:</i> <i>Hervé Aubert</i> <i>Alexandru Müller</i> 11:30 INVESTIGATION OF LIQUID METAL AND FDM 3D PRINTED MICROWAVE DEVICES K. Y. Chan, X. Li, R. Ramer The University of New South Wales, Sydney, Australia 11:50 WAFER LEVEL PACKAGING OF GaN/Si SAW BAND PASS FILTERS WITH OPERATING FREQUENCIES ABOVE 5 GHZ	Workshop “Microsystems for Energy Harvesting and Environment Monitoring” - I, organized in connection with the projects “PiezoMEMS”, “WaterSafe” and “PiezoHARV” <i>Chair:</i> <i>Carmen Moldovan</i> <i>Mariuca Gartner</i> 11:30 PIEZOELECTRIC MEMS FOR EFFICIENT ENERGY HARVESTING Carmen Moldovan¹, Adrian Anghelescu¹, George Muscalu¹, Silviu Dinulescu¹, Mariuca Gartner², Susana Mihaie², Darko Belavic³, Barbara Malic⁴, Katarina Vojisavljevic⁴, Tanja Pecnik⁴, Hana Ursic⁴, Jerzy Zajac⁵, Darek Szmigiel⁵, Stan Ion⁶ ¹IMT-Bucharest, Romania, ²Institute of Physical Chemistry ICF-Romania, ³HIPOT-RR, Slovenia, ⁴Jožef Stefan Institute, Slovenia, ⁵Instytut Technologii Elektronowej, Poland, ⁶Romelgen SRL, Romania 11:50 NANOSTRUCTURED ZINC OXIDE FILMS DOPED WITH TRANSITIONAL METALS OBTAINED BY CHEMICAL METHODS FOR PIEZOELECTRIC APPLICATIONS

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		Alina-Cristina Bunea*, Dan Neculoiu*,**, Adrian Dinescu* *IMT Bucharest, Romania, ***"Politehnica" University of Bucharest, Romania 12:10 METAL-INSULATOR TRANSITION IN MONOLAYER MoS₂ FOR TUNABLE AND RECONFIGURABLE DEVICES Martino Aldrigo*, Mircea Dragoman*, Diego Masotti** *IMT Bucharest, Romania, **D.E.I.-University of Bologna, Italy 12:30 DESIGN ASPECTS AND EXPERIMENTAL RESULTS ON BROADBAND MONOPOLE DIELECTRIC RESONATOR ANTENNA Stefan Simion, Sergiu Iordanescu* Dept. of Electronics and Communications Engineering, MTA – Bucharest, Romania, *IMT – Bucharest, Romania 12:50 PERMITTIVITY CHARACTERIZATION USING A DOUBLE-SIDED PARALLEL-STRIP LINE RESONATOR Dusan A. Nesic*, Ivana Radnovic** *University of Belgrade, Serbia, **Institute IMTEL, New Belgrade, Serbia	S.Mihaiu, C.Vladut, E.Tenea, P.Osiceanu, J.M.Calderon-Moreno, M.Anastasescu, H.Stroescu, M.Gartner, M.Zaharescu "Ilie Murgulescu" Institute of Physical Chemistry, Romanian Academy, Romania 12:10 POWER HARVESTING AND STORAGE CIRCUIT FOR A DOUBLE ARRAY OF LEAD-FREE PIEZOELECTRIC CANTILEVERS George Muscalu^{1,2}, Bogdan Firtat^{1,2}, Silviu Dinulescu¹, Carmen Moldovan¹, Adrian Anghelescu¹, Ion Stan³ ¹IMT Bucharest, Romania, ²Faculty of Electronics, Telecommunications and Information Technology, UPB, Romania, ³ROMELGEN SRL, Romania 12:30 PZT LAYERS OBTAINED IN THICK FILM TECHNOLOGY M. Gheorghe¹, C. Moldovan², S. Gheorghe¹ ¹NANOM MEMS SRL, Râșnov, Romania, ²IMT Bucharest, Romania 12:50 DESIGN AND SIMULATION OF PIEZOELECTRIC ENERGY HARVESTER FOR AEROSPACE APPLICATIONS George Muscalu^{1,2}, Bogdan Firtat^{1,2}, Silviu Dinulescu¹, Carmen Moldovan¹, Adrian Anghelescu¹, Ciprian Vasile^{3,2}, Daniela Ciobotaru³, Cristian Hutanu³ ¹IMT Bucharest, Romania, ²Faculty of Electronics, Telecommunications and Information Technology, UPB-Bucharest, ³Advanced Technologies Institute, Romania
	13:10-14:00	Lunch	
	14:00-15:40	Devices & Integrated Circuits - Student papers (Oral presentations) Chair: Florin Udrea Mihai Brezeanu 14:00 POWER SUPPLY DUTY CYCLING FOR HIGHLY CONSTRAINED IOT DEVICES A. Monti*, E. Alata**, A. Takacs***, D. Dragomirescu**	SESSION 12 Workshop "Microsystems for Energy Harvesting and Environment Monitoring" - II, organized in connection with the projects "PiezoMEMS", "WaterSafe" and "PiezoHARV" Chair: Maria Zaharescu Peter Petrik 14:00 ELECTROCHEMICAL SENSORS FOR DETECTION OF DIFFERENT IONIC SPECIES (NITRITES/NITRATES AND HEAVY METALS) IN NATURAL WATER SOURCES

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		*LAAS-CNRS, University of Toulouse, CNRS, France, **LAAS-CNRS, University of Toulouse, CNRS, INSA, France, ***LAAS-CNRS, University of Toulouse, CNRS, UPS, France 14:20 OVER-TEMPERATURE PROTECTION FOR A SWITCHED-CAPACITOR DC-DC CONVERTER WITH CONTROLLED CHARGING CURRENT Cosmin-Sorin Plesa*, Marius Neag*, Cristian Mihai Boianceanu** *Technical University of Cluj-Napoca, Romania, **INFINEON Technologies, Bucharest, Romania 14:40 INFLUENCE OF PLATINUM-HYDROGEN COMPLEXES ON SILICON P+/N-DIODE CHARACTERISTICS Jennifer Prohinig*,*, Fabian Rasinger*, Hans-Joachim Schulze***, Gregor Pobegen* *KAI Kompetenzzentrum Automobil- u. Industrieelektronik GmbH, Austria, **Graz University of Technology, Institute of Solid State Physics, Austria, ***Infineon Technologies AG, Germany 15:00 NUMERICAL SIMULATIONS OF RADIATION DAMAGE EFFECTS IN ACTIVE-EDGE SILICON PIXEL SENSORS FOR HIGH-ENERGY PHYSICS EXPERIMENTS D. Djamai*, M. Chahdi**, A. Lounis***, S. Oussalah**** *Université Abbes Laghrour Khenchela, Algeria, **Université de Batna1, Algeria, ***Université Paris-Sud XI, CNRS/IN2P3 Orsay, France, ****Centre de Développement des Technologies Avancées, Algeria	M. Gartner¹, C. Lete¹, M. Chelu¹, H. Stroescu¹, M. Zaharescu¹, C. Moldovan², C. Brasoveanu², M. Gheorghe³, S. Gheorghe³, A. Duta⁴, Z. Labadi⁵, B. Kalas⁵, A. Saftics⁵, M. Fried^{5,6}, P. Petrik⁵, E. Tóth⁷, H. Jankovics⁷, F. Vonderviszt⁷ ¹Institute of Physical Chemistry "Ilie Murgulescu" of the Romanian Academy, Romania, ²IMT Bucharest, Romania, ³NANOM MEMS SRL, Romania, ⁴Transilvania University of Braşov, Romania, ⁵Institute for Technical Physics and Materials Science, MFA, Hungary, ⁶Institute of Microelectronics and Technology, Óbuda University, Hungary, ⁷Research Institute of Biomolecular and Chemical Engineering, University of Pannonia, Hungary 14:20 NEW SYSTEM FOR NITRITES AND NITRATES DETECTION FROM NATURAL WATER SOURCES Carmen Moldovan¹, Silviu Dinulescu¹, Marian Ion¹, Mihaela Savin¹, Costin Brasoveanu¹, Bogdan Firtat¹, Mariuca Gartner², Cecilia Lete², Susana Mihaiu², Marin Gheorghe³, Simona Gheorghe³ ¹IMT Bucharest, Romania, ²Institute for Physical Chemistry "Ilie Murgulescu" Bucharest, Romania, ³NANOM MEMS, Romania 14:40 COATINGS FOR ELECTRONIC WATER POLLUTION SENSORS A.Saftics¹, B. Kalas¹, J. Nador¹, A. Romanenko¹, É. Tóth², Z. Labadi¹, M. Gheorghe³, L. Illes¹, B. Kovacs¹, C. Moldovan⁴, M. Gartner⁵, F. Vonderviszt^{1,2}, M. Fried^{1,6}, P. Petrik¹ ¹Institute for Technical Physics and Materials Science, Hungarian Academy of Sciences, Hungary, ²University of Pannonia, Hungary, ³NANOM MEMS SRL, Romania, ⁴IMT Bucharest, Romania, ⁵"Ilie Murgulescu" Institute of Physical Chemistry of the Romanian Academy, Romania, ⁶Institute of Microelectronics and Technology, Óbuda University, Hungary 15:00 PHOTOVOLTAIC PANEL FOR PORTABLE APPLICATIONS M. Gheorghe, S. Gheorghe NANOM MEMS SRL, Romania

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		15:20 INVESTIGATION OF CARBON INTERSTITIALS IN THE VICINITY OF THE SiO₂/4H-SiC(0001) INTERFACE Hind Alsnani¹, JP Goss¹, Oras A Al-Ani¹, SH Olsen¹, P R Briddon¹, MJ Rayson¹, AB Horsfall² ¹ Newcastle University, UK, ² Durham University, UK	
	15:40-16:00	Coffee break	
	16:00-18:00	Nanoscience; Micro- and nanophotonics POSTER SESSION <i>Chair:</i> Sorin Cotofana Mihai Mihaila GRAPHENE AND TiO₂ - PVDF NANOCOMPOSITES FOR POTENTIAL APPLICATIONS IN TRIBOELECTRONICS P. Pascariu¹, I. V. Tudose², C. Pachiu³, M. Danila³, O. Ionescu³, M. Popescu³, E. Koudoumas², M. Suchea^{2,3} ¹"Petru Poni" Institute of Macromolecular Chemistry, Iași, Romania, ²School of Engineering, Technological Educational Institute of Crete, Greece, ³IMT-Bucharest, Romania KINETICS OF LANTHANUM AND YTTRIUM DOPED ZIRCONIA CRYSTALLIZATION BY X-RAY POWDER DIFFRACTION D.V.Drăguț*, V.Bădiliță*, R.R.Piticescu, A.Motoc * National Research and Development Institute For Non-Ferrous And Rare Metals – INCDMNR- IMNR, Romania. COMPARATIVE STUDY OF Sm And La DOPED ZnO properties I. V. Tudose¹, P. Pascariu², C. Pachiu³, F. Comanescu³, M. Danila³, R. Gavrilă³, E. Koudoumas¹, M. Suchea^{1,3} ¹School of Engineering, Technological Educational Institute of Crete, Heraklion, Greece, ²"Petru Poni" Institute of Macromolecular Chemistry, Romania, ³IMT-Bucharest, Romania	Semiconductor devices and Microsystems POSTER SESSION <i>Chair:</i> Marius Pustan Alexandra Nicoloiu EFFICIENCY AND TOTAL HARMONIC DISTORSION IN COMPOSITE RIGHT-/LEFT-HANDED DISTRIBUTED OSCILLATORS Giancarlo Bartolucci*, Lucio Scucchia*, Stefan Simion** *University of Roma Tor Vergata, Italy, ** Dept. of Electronics and Communications Engineering, MTA – Bucharest, Romania EFFECT OF DEGENERATION ON A MILLIMETER WAVE LNA: APPLICATION OF MICROSTRIP TRANSMISSION LINES M. Fanoro *, S. S. Olokede**, S. Sinha *** *Univ. of Johannesburg, Kingsway Campus, Auckland Park, Johannesburg, South Africa, **Univ. of Johannesburg, Doornfontein Campus, South Africa, ***University of Johannesburg, South Africa MILLIMETER WAVE AND TERAHERTZ INVESTIGATIONS ON SOME DIELECTRIC MATERIALS M. G. Banciu*, T. Furuya**, D. C. Geambasu*, L. Nedelcu*, D. Pantelica***, M.-D. Dracea***, P. Ionescu***, A. Iuga*, C. Chirila*, L. Hrib*, L. Trupina*, M. Tani** *National Institute of Materials Physics, Romania, **Research Center for Development of Far-Infrared Region, Fukui University, Japan, ***Horia Hulubei National Institute for Research and Development in Physics and Nuclear Engineering, Romania

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		CARBON NANOTUBE/POLYANILINE COMPOSITE FILMS PREPARED BY HYDROTHERMAL- ELECTROCHEMICAL METHOD FOR BIOSENSOR APPLICATIONS L. M. Cursaru (Popescu)*, A.G. Plaiasu**, C.M. Ducu**, R.M. Piticescu*, I.A. Tudor* *National Research-Development Institute for Non-Ferrous and Rare Metals, Romania, ** University of Pitesti, Romania GESI NANOCRYSTALS IN SiO₂ MATRIX WITH EXTENDED PHOTO RESPONSE IN NEAR INFRARED I. Stavarache*, L. Nedelcu*, V.S. Teodorescu*, V.A. Maraloiu*, I. Dascalescu*, M. L. Ciurea*,** *National Institute of Materials Physics, Romania, **Academy of Romanian Scientists, Romania THE EFFECT OF H₂/AR PLASMA TREATMENT OVER PHOTOCONDUCTIVITY OF SiGe NANOPARTICLES SANDWICHED BETWEEN SILICON OXIDE MATRIX M.T. Sultan¹, J.T. Gudmundsson^{2,3}, A. Manolescu¹, M.L. Ciurea^{4,5}, H.G. Svavarsson¹ ¹Reykjavik University, Iceland, ²KTH-Royal Institute of Technology, Sweden, ³Science Institute, University of Iceland, Iceland, ⁴National Institute of Materials Physics, Romania, ⁵Academy of Romanian Scientists, Romania DIRECT WRITING PATTERNS FOR GOLD THIN FILM WITH DPN TECHNIQUE Carp Mihaela*, Pachiuc Cristina*, Dediu Violeta* *IMT Bucharest, Romania SUBSTRATE EFFECT ON THE MORPHOLOGY AND OPTICAL PROPERTIES OF ZnO NANORODS LAYERS GROWN BY MICROWAVE-ASSISTED HYDROTHERMAL METHOD Ana Filip*, Viorica Musat*, Nicolae Tigau*, Alina Cantaragiu*, Cosmin Romanitan**, Munizer Purica** **"Dunărea de Jos" University of Galati, Romania, **IMT Bucharest, Romania (student)	METHODS FOR ART PRESERVATION AND RESTAURATION. IDENTIFICATION OF PARAMETERS FOR POTENTIAL MONITORING THE TEMPORAL EVOLUTION OF PUTTIES Ioana-Maria Giura*, Cristina Pachiuc**, Marian Popescu**, Bogdan Bita**, Octavian Narcis Ionescu**, Mirela Sucheana**,*** *Restorer - Romanian Patriarchy, Bucharest, Romania, **IMT-Bucharest, Romania ***School of Engineering, Technological Educational Institute of Crete, Greece TEMPERATURE MEASUREMENTS WITH FOUR-RESISTOR SENSOR PATTERNED ON GOLDEN LAYER Milija Sarajlić*, Miloš Frantlović*, Predrag Poljak*, Katarina Radulović*, Dana Vasiljević Radović* *University of Belgrade, Institute of Chemistry, Technology and Metallurgy, Serbia MANUFACTURE AND INVESTIGATION OF A VERTICAL MEMS SWITCH A.Baracu*, R. Müller*, R. C. Voicu *, Marius Pustan **, Corina Birleanu**, Adrian Dinescu * *IMT Bucharest, Romania, **Micro & Nano Systems Laboratory, Technical University of Cluj-Napoca, Romania THE GATE CURRENT IN MOSFETS VERSUS PLANAR-NOI DEVICES Cristian Ravariu¹, Elena Manea², Catalin Parvulescu², Florin Babarada¹, Alina Popescu², Avireni Srinivasulu³ ¹University "Politehnica" of Bucharest, Faculty of Electronics ETTI, Romania, ²IMT Bucharest, Romania, ³JECRC University, Dept. of E.C.E, India IMPROVED Ti/Pt/Au - N-TYPE Si CONTACTS BY POST-METALLIZATION ANNEALING IN NITROGEN ATMOSPHERE Razvan Pascu¹, Mihai Danila¹, Pericle Varasteanu¹, Mihaela Kusko¹, Gheorghe Pristavu², Gheorghe Brezeanu², Florin Draghici² ¹IMT Bucharest, Romania, ²University "Politehnica" of Bucharest, Romania

		Room Bucegi	Room Itamar
		TECHNIQUES FOR THE FABRICATION OF CUSTOMIZED HOLOGRAPHIC SECURITY ELEMENTS Roxana Tomescu*, Catalin Parvulescu*, Dana Cristea*, Bogdan Bit*, Brandus Comanescu**, Mihaela Pelteacu** *IMT-Bucharest, Romania **S.C. Optoelectronica 2001 S.A, Romania RAMAN INVESTIGATION OF CRITICAL STEPS IN MONOLAYER GRAPHENE TRANSFER FORM COPPER SUBSTRATE TO OXIDIZED SILICON BY MEANS OF ELECTROCHEMICAL DELAMINATION Florin Comanescu, Anca Istrate, Munizer Purica IMT Bucharest, Romania DESIGN AND FABRICATION OF A FRACTIONAL OPTICAL VORTEX BY ELECTRON BEAM LITHOGRAPHY Mihai Kusko, Roxana Tomescu, Cristian Kusko IMT -Bucharest, Romania ELECTRON TRANSFER AND DYE REGENERATION IN DYE-SENSITIZED SOLAR CELLS Corneliu I. Oprea¹, Atoumane Ndiaye², Anamaria Trandafir^{1,3}, Fanica Cimpoesu⁴, Mihai A. Gîrțu¹ ¹Ovidius University of Constanța, Romania, ² Cheikh Anta Diop University of Dakar, Senegal, ³University of Bath, UK, ⁴Institute for Physical Chemistry, Romania	COMPARATIVE STUDY OF THE ELECTRICAL PROPERTIES OF CZTS-TIO2 AND CZTS-ZNO HETEROJUNCTIONS FOR PV APPLICATIONS M. Covei*, C. Bogatu*, D. Perniu*, S. Cisse**, A. Duta* *R&D Centre: Renewable Energy Systems and Recycling, Transilvania University of Brasov, Romania, **Cheikh Anta Diop University of Dakar, Sénégal TECHNOLOGICAL PROCESSES FOR PLANAR – NOTHING ON INSULATOR STRUCTURE E.Manea¹, C.Ravariu², C.Parvulescu¹, A.Popescu¹, L.Staicu¹, I.Cernica¹, F.Babarada², F.Comanescu¹ ¹IMT Bucharest, ²Politehnica University of Bucharest, Faculty of Electronics ETTI, Romania THREE PHASE SYNCHRONOUS BOOST RECTIFIER V. Trifa*, Gh. Brezeanu**, E. Ceuca*** *Politehnica University of Bucharest, Romania, **Dept.of Applied Electronics, Politehnica University of Bucharest, Romania, *** Dept. of Applied Electronics, “1 December 1918” University of Alba Iulia, Romania
	20:30	CAS 2018 BANQUET RINA Sinaia Hotel Restaurant Hall	