

43rd International Semiconductor Conference CAS 2020

October 7 - 9, 2020



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TECHNICAL PROGRAM

organized by

National Institute for research and Development
in Microtechnologies – IMT Bucharest



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Ministry of Education and Research



Program overview

Wednesday, October 7, 2020

09:00 – 09:10	Welcome to CAS 2020
09:10 – 10:10	INVITED PAPERS
10:10 – 11:30	NANOSCIENCE AND NANOENGINEERING 1 (<i>Lectures</i>)
11:30 – 11:50	<i>Break</i>
11:50 – 13:10	MICROSENSORS AND MICROSYSTEMS 1 (<i>Lectures</i>)
13:10 – 14:00	<i>Break</i>
14:00 – 15:20	SEMICONDUCTOR DEVICES (<i>Lectures</i>)
15:20 – 15:30	<i>Break</i>
15:30 – 16:50	INTEGRATED CIRCUITS – STUDENT PAPERS 1 (<i>Lectures</i>)
16:50 – 17:00	<i>Break</i>
17:00 – 18:40	DEVICES AND CIRCUITS (<i>Posters</i>)

Thursday, October 8, 2020

09:00 – 10:20	INTEGRATED CIRCUITS (<i>Lectures</i>)
10:20 – 10:40	<i>Break</i>
10:40 – 12:20	MICRO- AND NANOPHOTONICS, MICROWAVE AND MILLIMETER WAVE CIRCUITS AND SYSTEMS (<i>Lectures</i>)
12:20 – 13:30	<i>Break</i>
13:30 – 14:50	MICROSENSORS AND MICROSYSTEMS 2 (<i>Lectures</i>)
14:50 – 15:10	<i>Break</i>
15:10 – 16:30	INTEGRATED CIRCUITS – STUDENT PAPERS 2 (<i>Lectures</i>)
16:30 – 17:00	<i>Break</i>
17:00 – 18:50	NANOSCIENCE AND NANOENGINEERING 2 (<i>Posters</i>)

Friday, October 9, 2020

09:00 – 10:20	MODELLING (<i>Lectures</i>)
10:20 – 10:40	<i>Break</i>
10:40 – 12:00	NANOSCIENCE AND NANOENGINEERING 3 (<i>Lectures</i>)
12:00 – 12:10	<i>Break</i>
12:10 – 13:30	INTEGRATED CIRCUITS – STUDENT PAPERS 3 (<i>Lectures</i>)
13:30 – 14:30	<i>Break</i>
14:30 – 15:50	European Projects
15:50 – 17:00	<i>Break</i>
17:00 – 17:30	Closing remarks and virtual Awards ceremony

Wednesday, October 7, 2020

09:00 – 09:10	Welcome to CAS 2020 Mircea Dragoman, IMT Bucharest, Romania ; CAS Technical Program Committee Chair
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INVITED PAPERS - Lectures

Chair: Raluca Müller, IMT Bucharest, Romania
Gheorghe Brezeanu, "Politehnica" Univ. of Bucharest, Romania

09:10 – 09:40	FUNCTIONAL OXIDES AS A TRANSFORMATIONAL PATH FOR ELECTRONICS A.M. Ionescu , Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland
09:40 – 10:10	ENHANCING SILICON'S FUNCTIONALITY WITH ADDITIONAL SENSING/ACTUATING LAYERS P.J. French , TU Delft, The Netherlands

Session: NANOSCIENCE AND NANOENGINEERING 1 - Lectures

Chair: Magdalena L. Ciurea, National Institute of Materials Physics, Romania
Mircea Dragoman, IMT Bucharest, Romania

10:10 – 10:30	NOTHING ON INSULATOR DEVICE - A 3-D-NOI FABRICATED VARIANT C. Ravariu, C. Pârvulescu* , E. Manea* , M.A. Dinescu* , M. Purica* , "Politehnica" Univ. of Bucharest, *IMT Bucharest, Romania
10:30 – 10:50	ROOM TEMPERATURE CHEMIREISTIVE ETHANOL DETECTION BY TERNARY NANOCOMPOSITES OF OXIDIZED SINGLE WALL CARBON NANOHORN (ox-SWCNH) C. Cobianu^{1,2,6} , B.-C. Serban^{1,2} , N. Dumbravescu^{1,2} , O. Buiu^{1,2} , V. Avramescu¹ , M. Bumbac^{3,4} , C.-M. Nicolescu⁴ , C. Cobianu⁵ , ¹ IMT Bucharest, ² Research Center for Integrated Systems, Nanotechnologies and Carbon-Based Nanomaterials (CENASIC) - IMT Bucharest, ³ Faculty of Sciences and Arts, Sciences and Advanced Technologies Department, Valahia Univ. of Targoviste, ⁴ Institute of Multidisciplinary Research for Science Technology, Valahia Univ. of Targoviste, ⁵ Electrical Engineering, Electronics and Information Technology Faculty, Valahia Univ. of Targoviste, ⁶ Academy of Romanian Scientists, Science and Information Technology Section, Bucharest, Romania
10:50 – 11:10	BULK PHONONS-INDUCED 1/F NOISE IN A TOPOLOGICAL INSULATOR M. Mihaila, S. Dinulescu, P. Varasteanu , IMT Bucharest, Romania
11:10 – 11:30	PHOTOCATALYTIC DEGRADATION OF ORGANIC DYES USING TiO ₂ NANOTUBE ARRAYS AND AERO-ZnOZnS UNDER UV AND VISIBLE LIGHT ILLUMINATION I. Plesco, V. Ciobanu, T. Braniste, J. Dutta* , I. Tiginyanu , Technical Univ. of Moldova, Chisinau, Republic of Moldova, *School of Engineering Sciences (SCI), Applied Physics, Stockholm, Sweden - <i>student paper</i>

11:30 – 11:50

Break

Session: MICROSENSORS AND MICROSYSTEMS 1 - Lectures

Chair: Monica Veca, IMT Bucharest, Romania
 Octavian Buiu, IMT Bucharest, Romania

11:50 – 12:10	ULTRA-SENSITIVE ELECTROCHEMICAL DETERMINATION OF QUERCETIN USING GOLD NANOPARTICLES AND GRAPHENE QUANTUM DOTS FROM PLASMA DROPLETS L.A. Dinu^{1,2}, C. Cioates Negut², C. Stefanov², J.F Van Staden² , ¹ IMT Bucharest, ² National Inst. of Research and Development for Electrochemistry and Condensed Matter, Romania
12:10 – 12:30	Ag/POLYPYRROLE COMPOSITES FOR POLARIZABLE DRY MICROSENSOR USED IN BIOIMPEDANCE MEASUREMENT G. Telipan, L. Pislaru-Danescu, I. Ion, V. Marinescu , ICPE-CA, Bucharest, Romania
12:30 – 12:50	OXYGEN SENSOR FOR COMBUSTION CONTROL V. Avramescu, M. Gologanu , IMT Bucharest, Romania
12:50 – 13:10	DESIGN, FABRICATION AND CHARACTERIZATION OF A MICROHEATER FOR METASURFACE-BASED GAS SENSORS C. Paun, R. Tomescu, D. Cristea, O. Ionescu, C. Parvulescu , IMT Bucharest, Romania

13:10 – 14:00

Break

Session: SEMICONDUCTOR DEVICES - Lectures

Chair: Mihai Brezeanu, PwC Romania
 Cornel Cobianu, IMT Bucharest, Romania

14:00 – 14:20	ELECTRICAL DEFECTS IN GROWN OXIDE ON SiC AND FROM THE OXIDE/SiC INTERFACE R. Pascu^{1,2,3}, M. Kusko¹, O. Ionescu¹, Gh. Pristavu², Gh. Brezeanu² , ¹ IMT Bucharest, ² "Politehnica" Univ. of Bucharest, ³ Univ. of Bucharest, Romania
14:20 – 14:40	THE RELATIONSHIP BETWEEN THREADING DISLOCATIONS AND THE DEBYE-WALLER FACTOR IN GAN HETEROEPITAXIAL LAYERS C. Romanitan¹, P. Varasteanu^{1,2}, I. Mihalache¹, O. Tutunaru¹, C. Pachiu¹ , ¹ IMT Bucharest, ² Univ. of Bucharest, Romania
14:40 – 15:00	AUTOMATIC PARAMETER TUNING IN FINITE ELEMENT ANALYSIS OF SEMICONDUCTOR PACKAGES G. Nicolae^{1,2}, C. Boianceanu², A. Buzo², C.V. Diaconu², H. Cucu¹, G. Pelz², C. Burileanu¹ , ¹ "Politehnica" Univ. of Bucharest, Romania, ² Infineon Technologies, Neubiberg, Germany
15:00 – 15:20	EFFECT OF INTERFACE TRAP DISTRIBUTION ON SiC-based POWER MOS DEVICE AND CIRCUIT CHARACTERISTICS S. Nayak, S. Lodha, S. Ganguly , Indian Inst. of Technology Bombay, Mumbai, India - <i>student paper</i>

15:20 – 15:30

Break

Session: INTEGRATED CIRCUITS – STUDENT PAPERS 1 - Lectures

Chair: Vlad Anghel, ON Semiconductor, Bucharest, Romania

Liviu Goras, „Gh. Asachi” Technical Univ. of Iasi, Romania

15:30 – 15:50	ADAPTIVE METHODOLOGY FOR PROCESS-VOLTAGE-TEMPERATURE VERIFICATION A. Sandu ^{1,2} , A. Buzo ³ , G. Pelz ³ , C. Burileanu ² , ¹ Infineon Technologies Romania, Bucharest, ² “Politehnica” Univ. of Bucharest, Romania, ³ Infineon Technologies, Munich, Germany.
15:50 – 16:10	PROGRAMMABLE LOW POWER PULSE MULTIPLICATION SYSTEM R. Suruianu, A.-M. Antonescu, M. Enachescu , “Politehnica” Univ. of Bucharest, Romania.
16:10 – 16:30	A PRECISION CURRENT SENSE AMPLIFIER WITH DISABLE FUNCTION V. Moise ^{1,2} , R. Pușcașu ¹ , G. Brezeanu ² , ¹ ON Semiconductor Romania, Bucharest, ² “Politehnica” Univ. of Bucharest, Romania.
16:30 – 16:50	NEW WAYS TO GENERATE STIMULI FOR MEASUREMENTS ON SENSITIVITY TO SUPPLY VARIATIONS P. Miresan ¹ , G. Petrasuc ¹ , M. Neag ¹ , M. Topa ¹ , C. Chira ² , ¹ Technical Univ. of Cluj-Napoca, ² Infineon Technologies Romania, Bucharest, Romania.

16:50 – 17:00

Break

Session: DEVICES AND CIRCUITS – Posters

Chair: Gheorghe Pristavu, “Politehnica” Univ. of Bucharest, Romania

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

17:00 – 17:10	OPTIMIZATION OF METAL INTERCONNECTS IN I/O CELLS AND BANKS TO IMPROVE ROBUSTNESS OF ESD PROTECTION NETWORK IN 16nm FINFET TECHNOLOGY E. Dumalkina, O. Semenov , NXP Semiconductors, Moscow, Russia
17:10 – 17:20	FUNCTIONAL ITO/c-Si HETEROJUNCTION IN THE SOLAR RADIATION SPECTRUM RANGE OF 300 -1100 nm, A. Simashkevich ¹ , A. Ulyashin ² , A. Thogersen ² , G. Shevchenko ³ , Iu. Bokshitz ³ , L. Bruc ¹ , M. Caraman ⁴ , I. Dementiev ⁴ , T. Goglidze ⁴ , N. Curmei ¹ , D. Serban ¹ , ¹ Inst. of Applied Physics, Chisinau, Moldova, ² SINTEF Materials and Chemistry, Oslo, Norway, ³ Belarusian State Univ., Inst. for Physical Chemical Problems, Minsk, Belarusi, ⁴ Moldova State Univ., Research and Innovation Inst., Chisinau, Moldova.
17:20 – 17:30	SMART-SENSING INTERFACE FOR CHEMO-RESISTIVE SENSOR BASED ON A WHEATSTONE QUARTER-BRIDGE M. Serbanescu, V.-M. Placinta, O. Buiu* , G. Pristavu, F. Nastase, B. Serban* , “Politehnica” Univ. of Bucharest, *IMT Bucharest, Romania – <i>student paper</i>
17:30 – 17:40	PLANAR MICRO-OPTIC SOLAR CONCENTRATOR BASED ON MICRO-LENSES ARRAY AND MICRO-PRISMS AS COUPLERS E. Manea, M. Purica, C. Tibeica, C. Parvulescu, I. Cernica , IMT Bucharest, Romania
17:40 – 17:50	THE TOOLS AND CUSTOM INTERFACES FOR SIMULATION AND FAST DESIGN OF THE CONVERTERS E. Ceuca , “1 DECEMBRIE 1918” Univ. of Alba Iulia, Romania

17:50 – 18:00	BLOCK COMMUTATION VS SINUSOIDAL COMMUTATION FOR BLDC MOTORS V. Trifa, G. Brezeanu, E. Ceuca* , “Politehnica” Univ. of Bucharest, *“1 Decembrie 1918” Univ. of Alba Iulia, Romania. – <i>student paper</i>
18:00 – 18:10	NOVEL OVERSAMPLING FOURIER TRANSFORM FOR ECG-WAVES S. Pitina, T. Dima* , Dept. of General Medicine, Privolzhsky Research Medical Univ., Russia, *Dept. of Physics, Univ. of Bucharest, Romania – <i>student paper</i>
18:10 – 18:20	MICROFLUIDIC DEVICE BASED ON GRAPHENE B. Tincu^{1,2}, M. Avram¹, C. Pachi¹, E. Chiriac¹, C. Voitincu¹, A.C. Costache^{1,3}, Maria-Roxana Marinescu^{1,3} , ¹ IMT Bucharest, ² “Politehnica” Univ. of Bucharest, ³ PhD. Student, M.Sc. Ing., at Faculty of Industrial Engineering and Robotics, “Politehnica” Univ. of Bucharest, Romania – <i>student paper</i>
18:20 – 18:30	AN ELECTRO-THERMAL MICROGRIPPER WITH BOTH CLOSING AND OPENING IN-PLANE MOVEMENT OF THE ARMS R-C. Voicu, M. Pustan*, C. Birleanu*, R. Müller , IMT Bucharest, *Technical Univ. of Cluj-Napoca, Romania
18:30 – 18:40	AN EFFECTIVE METHOD ON VIBRATION IMMUNITY FOR INCLINOMETER BASED ON MEMS ACCELEROMETER M. Long Hoang, A. Pietrosanto , Univ. of Salerno, Italy

Thursday, October 8, 2020

Session: INTEGRATED CIRCUITS - Lectures

Chair: Emilian Ceuca, 1 Decembrie 1918 Univ., Alba Iulia, Romania
 Florin Draghici, "Politehnica" Univ. of Bucharest, Romania

09:00 – 09:20	A REPROGRAMMABLE FUSE WITH EECESLS FOR TRIMMING A TEMPERATURE SENSOR A. Dragan^{1,2}, A. Negut¹, A. Macarie Tache¹, G. Brezeanu² , ¹ ON Semiconductor Romania, Bucharest, ² "Politehnica" Univ. of Bucharest, Romania
09:20 – 09:40	I/O CELLS LATCHUP IMMUNITY: METHODOLOGY FOR COMPACT LAYOUT RULES IN AN ADVANCED CMOS TECHNOLOGY M.-D. Dobre^{1,2}, P. Coll¹, G. Brezeanu² , ¹ Microchip Technology Inc., Bucharest, ² "Politehnica" Univ. of Bucharest, Romania
09:40 – 10:00	A TALE OF TWO CIRCUITS – COMPARING PERFORMANCES OF INPUT ADAPTERS AS INTERFACE ELEMENTS FOR HIGH VOLTAGE APPLICATIONS F. Vlădoianu^{1,2}, K. Song³, I. Hurez^{1,2}, V. Anghel², G. Brezeanu¹ , ¹ "Politehnica" Univ. of Bucharest, ² ON Semiconductor Romania, Bucharest, Romania, ³ ON Semiconductor, USA
10:00 – 10:20	MULTI-FUNCTION SCAN CIRCUIT M. Antonescu, G.M. Ștefan , "Politehnica" Univ. of Bucharest, Romania

10:20 – 10:40

Break

Session: MICRO- AND NANOPHOTONICS, MICROWAVE AND MILLIMETER WAVE CIRCUITS AND SYSTEMS - Lectures

Chair: Dana Cristea, IMT Bucharest, Romania
 Alexandru Müller, IMT Bucharest, Romania

10:40 – 11:00	GENETIC ALGORITHM OPTIMIZATION FOR IMPROVING SURFACE PLASMON RESONANCE BASED SENSORS' PERFORMANCES IN NEAR INFRARED REGION P. Varasteanu^{1,2} , ¹ IMT Bucharest, ² Univ. of Bucharest, Romania. – <i>student paper</i>
11:00 – 11:20	COMPOSITE OPTICAL ELEMENTS FOR THE GENERATION OF HIGH-ORDER QUASI-BESSEL BEAMS SUPERPOSITION R. Tudor, M. Kusko, C. Kusko , IMT Bucharest, Romania
11:20 – 11:40	OPTIMIZED UV NANOIMPRINTING PROCESSES FOR FABRICATION OF HIGH FIDELITY PATTERNS, C. Thanner, R. Breyer, J. Litterscheidt , EV Group., Austria.
11:40 – 12:00	FABRICATION OF FRESNEL LENSES OPERATING IN LONG INFRARED R. Rebigan, A. Avram, R. Tudor, M. Kusko, D. Vasilache, D. Ursu*, G. Sorohan*, C. Kusko , IMT Bucharest, *ProOptica S.A, Bucharest, Romania.
12:00 – 12:20	PARTIALLY DIELECTRIC-FILLED SIW CONFIGURATION: FREQUENCY BANDWIDTH AND IMPEDANCE MATCHING TO MICROSTRIP LINE S. Simion , Dept. of Electronics and Communications Engineering, MTA, Bucharest, Romania

12:20 – 13:30

Break

Session: MICROSENSORS AND MICROSYSTEMS 2 - Lectures

Chair: Raluca Müller, IMT Bucharest, Romania

Oana Nedelcu, IMT Bucharest, Romania

13:30 – 13:50	A NOVEL TRENCH FINFET AS BIOSENSOR FOR EARLY DETECTION OF DENGUE FEVER M. Aditya, C. Rishu , Delhi Technological Univ., India – <i>student paper</i>
13:50 – 14:10	METHOD OF ISOLATING AND MODELLING ACTIVE CPU CONSUMPTION IN MODERN SMARTPHONES USING SYSTEM-WIDE MEASUREMENTS V.-G. Voiculescu, A. Tulbure* , M. Vlădescu , “Politehnica” Univ. of Bucharest, *Univ. “1 Decembrie 1918”, Alba Iulia, Romania
14:10 – 14:30	VIBRATIONAL ENERGY HARVESTING DEVICES FOR STRUCTURAL HEALTH MONITORING – DESIGN OPTIMIZATION G.-S. Muscalu^{1,2}, N. Varachiu¹, B. Firtat¹, S. Dinulescu¹, A. Tulbure³, C. Moldovan¹ , ¹ IMT Bucharest, ² “Politehnica” Univ. of Bucharest, ³ Univ. “1 Decembrie 1918”, Alba Iulia, Romania
14:30 – 14:50	A NEW TECHNIQUE FOR OPTIMIZATION OF LINEAR DISPLACEMENT MEASUREMENT BASED ON MEMS ACCELEROMETER M. Long Hoang, M. Carratù, M. Avoci Ugwiri, V. Paciello, Antonio Pietrosanto , Univ. of Salerno, Italy

14:50 – 15:10

Break

Session: INTEGRATED CIRCUITS – STUDENT PAPERS 2 - Lectures

Chair: Gheorghe Stefan, “Politehnica” Univ. of Bucharest, Romania

Florin Udrea, Cambridge Univ. UK

15:10 – 15:30	EXPLORING THE EFFECT OF SEGMENTATION ON INL AND DNL FOR A 10-bit DAC F.-S. Dumitru, C.R. Ilie, M. Enachescu , “Politehnica” Univ. of Bucharest, Romania
15:30 – 15:50	PARASITIC RESISTANCE INFLUENCE ON HIGH RESOLUTION DIGITALLY PROGRAMMABLE POTENTIOMETERS LINEARITY G.-C. Ilie (Chiranu)^{1,2}, C. Tudoran¹, G. Brezeanu² , ¹ ON Semiconductor Romania, Bucharest, ² “Politehnica” Univ. of Bucharest, Romania
15:50 – 16:10	UNIPOLAR PWM VS BIPOLAR PWM IN THREE PHASE BLOCK COMMUTATION V. Trifa, Gh. Brezeanu, E. Ceuca* , “Politehnica” Univ. of Bucharest, * “1 Decembrie 1918” Univ. of Alba Iulia, Romania
16:10 – 16:30	DEBUG FPGA PROJECTS USING MACHINE LEARNING A. Dinu, G.M. Danciu, P.L. Ogruțan , Transilvania Univ. of Brasov, Romania

16:30 – 17:00

Break

Session: NANOSCIENCE AND NANOENGINEERING 2 – Posters

Chair: Andrei Avram, IMT Bucharest, Romania

Radu Popa, IMT Bucharest, Romania

17:00 – 17:10	INFLUENCE OF VARIOUS THICKNESS VALUES OF THE CLADDING AND BARRIER LAYERS ON THE PERFORMANCE OF 462 nm In _{0.02} Ga _{0.98} N QW LASERS A. Drăgulescu , “Politehnica” Univ. of Bucharest, Romania
17:10 – 17:20	ULTRASOUND ASSISTED SYNTHESIS OF CARBON-NITROGEN CO-DOPED MESOPOROUS TITANIA FOR ORGANIC POLLUTANTS REMOVAL C.G. Coromelci¹, M. Palamaru¹, M. Neamtu¹, M. Ignat^{1,2} , ¹ “A.I. Cuza” Univ. of Iasi, ² “Petru Poni” Inst. of Macromolecular Chemistry, Iasi, Romania
17:20 – 17:30	MEDICAL BIO SENSING OF COLLAGEN GOLD NANOPARTICLES CONJUGATED TO IMPROVE THE DERMIS AND JOINTS L. Draghiciu, T. Ignat*, C. Romanitan, R. Gavrilă, I. Mihalache, C. Parvulescu , IMT Bucharest, Romania, * AGCS - Munich, Germany
17:30 – 17:40	AFM STUDIES ON SURFACE MORPHOLOGY EVOLUTION AFTER ANNEALING OF V ₂ O ₅ THIN FILMS GROWN BY SPRAY PYROLYSIS C. Pachi¹, M. Carp¹, K. Mouratis^{2,4}, I.V. Tudose², C. Romanitan¹, O. Tutunaru¹, S. Couris⁴, E. Koudoumas^{2,3}, M.P. Suche^{1,2} , ¹ IMT Bucharest, Romania, ² Center of Materials Technology and Photonics, Hellenic Mediterranean Univ., ³ Dep. of Electrical and Computer Engineering, Hellenic Mediterranean Univ., Crete, ⁴ Physics Department, Univ. of Patras, Patras, ⁵ Chemistry Dep., Univ. of Crete, Heraklion, Greece
17:40 – 17:50	TRANSPARENT Fe DOPED ZnO THIN FILMS FABRICATED BY SPRAY DEPOSITION PROPERTIES P. Pascari¹, I.V. Tudose^{2,5}, C. Pachi³, E. Koudoumas^{2,4}, M.P. Suche^{2,3} , ¹ “Petru Poni” Inst. of Macromolecular Chemistry, Iasi, Romania, ² Center of Materials Technology and Photonics, Hellenic Mediterranean Univ., Crete, Greece, ³ IMT Bucharest, Romania, ⁴ Dep. of Electrical and Computer Engineering, Hellenic Mediterranean Univ., ⁵ Chemistry Department, Univ. of Crete, Heraklion, Greece
17:50 – 18:00	EFFECTIVE CONTROL OF TEOS–PECVD THIN FILM DEPOSITIONS M. Carp, V. Dediu, F. Pistrițu, E.A. Laszlo, C. Iliescu , IMT Bucharest, Romania
18:00 – 18:10	STABILITY OF THE COMPOSITE THIN FILMS MO _x – GO IN PHOTOCATALYTIC PROCESSES I. Tismanar, C. Bogatu, S. Gheorghita, A.C. Obreja*, O. Buiu*, A. Duta , Transilvania Univ. of Brasov, *IMT Bucharest, Romania
18:10 – 18:20	BIOGENIC SYNTHESIS OF SILVER NANOPARTICLES USING <i>SEA BUCKTHORN</i> FRUITS AQUEOUS EXTRACT AND ANTIBACTERIAL ACTIVITY AGAINST <i>STAPHYLOCOCCUS AUREUS</i> AND <i>PSEUDOMONAS AERUGINOSA</i> P. Preda^{1,2}, M. Avram¹, Diana Stan³, C. Romanitan¹, G. Craciun¹, M. Simion¹, I. Mihalache¹, A. Fica² , ¹ IMT Bucharest, ² “Politehnica” Univ. of Bucharest, ³ DDS Diagnostic SRL, Bucharest, Romania
18:20 – 18:30	SELF-CLEANING SPRAY DEPOSITED THIN FILMS BASED ON TiO ₂ AND WO ₃ FOR GLAZINGS M. Covei, D. Perniu, I. Visa, A. Duta , Transilvania Univ. of Brasov, Romania
18:30 – 18:40	NANO-POROUS SILICON BASED MICROARRAY FOR HUMAN PAPILLOMA VIRUS DETECTION L. Gogianu, A. Sălceanu, M. Simion , IMT Bucharest, Romania
18:40 – 18:50	DIELECTROPHORETIC SEPARATION OF CIRCULATING TUMOR CELLS AND RED BLOOD CELLS IN A MICROFLUIDIC DEVICE E. Chiriac^{1,2}, M. Avram¹, C. Bălan² , ¹ IMT Bucharest, ² “Politehnica” Univ. of Bucharest, Romania – <i>student paper</i>

Friday, October 9, 2020

Session: Modelling - Lectures

Chair: Dragos Dobrescu, "Politehnica" Univ. of Bucharest, Romania
Dan Neculoiu, IMT Bucharest, Romania

09:00 – 09:20	FORMATION OF MULTIPLE CURRENT FILAMENTS AND THE EFFECT OF FILAMENT CONFINEMENT IN SILICON BASED PIN DIODES P. Scharf, C. Sohrmann , Fraunhofer Inst. for Integrated Circuits IIS, Dresden, Germany
09:20 – 09:40	ELECTROMAGNETIC INTERFERENCE SHIELDING ASSESSMENT FROM MIXING FORMULAE T. Sandu, O.T. Nedelcu, M. Gologanu , IMT Bucharest, Romania
09:40 – 10:00	IMPROVED REAL NUMBER MODEL VERIFICATION USING POST-PROCESSED ANALOG SIMULATIONS F. Firănescu, D. Tudora* , M. Crăciun* , D. Dobrescu, L. Dobrescu , "Politehnica" Univ. of Bucharest, *Infineon Technologies Romania, Bucharest, Romania – <i>student paper</i>
10:00 – 10:20	BEHAVIORAL MODELING OF CURRENT REFERENCE FOR LEDs CONTROL APPLICATIONS, L.A. Gheorghe, L. Dobrescu, S.Ș. Vărzaru* , M. Crăciun* , D. Dobrescu , "Politehnica" Univ. of Bucharest, *Infineon Technologies Romania, Bucharest, Romania – <i>student paper</i>

10:20 – 10:40

Break

Session: NANOSCIENCE AND NANOENGINEERING 3 - Lectures

Chair: Ana Maria Lepadatu, National Institute of Materials Physics, Romania
Mihaela Kusko, IMT Bucharest, Romania

10:40 – 11:00	SWIR PHOTORESPONSE OF SiGe/TiO ₂ MULTILAYERS WITH Ge-rich SiGe NANOCRYSTALS A.M. Lepadatu¹, C. Palade¹, A. Slav¹, I. Dascalescu^{1,2}, O. Cojocaru^{1,2}, S. Iftimie², V.S. Teodorescu^{1,3}, T. Stoica¹, M.L. Ciurea^{1,3} , ¹ INCD FM, Magurele, ² Univ. of Bucharest, ³ Academy of Romanian Scientists, Bucharest, Romania
11:00 – 11:20	ANALYTICAL AND COMPUTATIONAL STUDY OF PHASE-CONTROLLING OF METASURFACES S. Iftimie, A. Radu, D. Dragoman , Univ. of Bucharest, Romania
11:20 – 11:40	ELECTRICAL PERCOLATION THRESHOLD IN OXIDIZED SINGLE WALL CARBON NANOHORN-POLYVINYLPIRROLIDONE NANOCOMPOSITE: A POSSIBLE APPLICATION FOR HIGH SENSITIVITY RESISTIVE HUMIDITY SENSOR B.-C. Serban¹, C. Cobianu^{1,5}, N. Dumbravescu¹, O. Buiu¹, V. Avramescu¹, M. Bumbac^{2,3}, C.-M. Nicolescu³, C. Cobianu⁴, M. Brezeanu⁶ , ¹ IMT Bucharest, ² Faculty of Sciences and Arts, Sciences and Advanced Technologies Department, Valahia Univ. of Targoviste, ³ Inst. of Multidisciplinary Research for Science Technology, Valahia Univ. of Targoviste, ⁴ Electrical Engineering Faculty, Electronics and Information Technology Faculty, Valahia Univ. of Targoviste, ⁵ Academy of Romanian Scientists, Science and Information Technology Section, Bucharest, ⁶ "Politehnica" Univ. of Bucharest, Romania
11:40 – 12:00	ELECTROCHEMICAL SENSOR BASED ON NITROGEN-DOPED NANO-CRYSTALLINE GRAPHITE FOR ANTHRACENE M.C. Stoian¹, O.-G. Simionescu^{1,2}, C. Romanitan¹, C. Pachi¹, N. Djourellov³, O. Tutunaru¹, M. Kusko¹, A. Radoi¹ , ¹ IMT Bucharest, ² Univ. of Bucharest, "Horia Hulubei" National R&D Institute for Physics and Nuclear Engineering (IFIN-HH), Romania. – <i>student paper</i>

12:00 – 12:10

Break

Session: INTEGRATED CIRCUITS – STUDENT PAPERS 3 - Lectures

 Chair: Claudiu Dan, “Politehnica” Univ. of Bucharest, Romania
 Traian Visan, Infineon Technologies Romania

12:10 – 12:30	A PRECISE METHOD FOR COMPENSATING BANDGAP REFERENCES OVER TEMPERATURE M. Boncu ^{1,2} , C. Botezatu ¹ , F. Draghici ² , ¹ ON Semiconductor Romania, Bucharest, ² “Politehnica” Univ. of Bucharest, Romania
12:30 – 12:50	FULL-WAVE CURRENT SENSOR FOR AUTOMOTIVE SYNCHRONOUS BUCK CONVERTER G. Petrasuc, P. Miresan, M. Neag, A. Stiglet* , Technical Univ. of Cluj-Napoca, *Infineon Technologies Romania, Bucharest, Romania
12:50 – 13:10	LOW CURRENT CONSTANT-GM TECHNIQUE FOR RAIL-TO-RAIL OPERATIONAL AMPLIFIERS A.C. Veselu ^{1,2} , C. Stănescu ¹ , G. Brezeanu ² , ¹ ON Semiconductor Romania, Bucharest, ² “Politehnica” Univ. of Bucharest, Romania
13:10 – 13:30	A DISCRETE LOW NOISE HYBRID AMPLIFIER FOR IC CHARACTERISATION B. Istrate, C. Damian, M. Bodea , “Politehnica” Univ. of Bucharest, Romania

13:30 – 14:30

Break

Session: European Projects

Chair: Mircea Dragoman, IMT Bucharest, Romania

14:30 – 14:50	Support Centre for European cooperation in micro-nanotechnologies (CESMIN) Carmen Moldovan, IMT Bucharest, Romania
14:50 – 15:10	Nanomaterials Enabling smart energy harvesting for next-generation internet-of things (NANO-EH) Mircea Modreanu, University College Cork-Tyndall National Institute, Ireland
15:10 – 15:30	NANO components for electronic SMART wireless systems (NANOSMART) Martino Aldrigo, IMT Bucharest, Romania
15:30 – 15:50	Artificial permittivity and permeability engineering for future generation sub wavelength analogue integrated circuits and systems Martino Aldrigo, IMT Bucharest, Romania

15:50 – 17:00

Break

17:00 – 17:30

Closing remarks and virtual Awards ceremony