
Monday, October 3, 9:00, Room "A"

PLENARY SESSION
(Invited Speakers)
Session PS: Oral presentations

Chairmen: **D. Dascalu**, IMT-Bucharest, Romania
A. Rusu, "Politehnica" University, Bucharest,
Romania

PS.1 *NANOTUBE AND NANOWIRE TRANSISTORS,*
9:00 **G.A.J. Amaratunga¹, A.S. Teh¹, S.N. Cha¹,**
 G.W. Ho¹, J.E. Jang¹, Y. Yang¹, Y. Choi¹,
 K.B.K. Teo¹, S.H. Dalal¹, D.J. Kang^{2,3},
 N.L. Rupesinghe¹, W.I. Milne¹, D. Hasko²,
 M.E. Welland¹, J.M. Kim⁴, ¹Cambridge
University, ²Cavendish Laboratory, Cambridge,
UK, ³Sungkyunkwan University, ⁴Samsung
Advanced Institute of Technology, Suwon,
Korea.

PS.2 *GROWTH OF C₆₀AT's NANOWHISKERS FOR*
9:35 *QUIET MILLIMETRE-WAVE DETECTORS,*
 S. Lucyszyn, M.P. Larsson, K. Miyazawa*,
 J.-J. Tsaur*, M. Ryutaro*, Imperial College
London, UK, *National Institute of Advanced
Industrial Science and Technology Tsukuba,
Japan.

PS.3 *WIDE BAND GAP TECHNOLOGY,* **G.**
10:10 **Konstantinidis,** FORTH, IESL, MRG, Heraklion,
Crete, Greece.

10:45–11:15 COFFEE BREAK

- PS.4** *4H-SiC PIN DIODES FOR MICROWAVE*
11:15 *APPLICATIONS*, **K. Zekentes**¹, **N. Camara**^{1,2},
L.P. Romanov³, **A.V. Kirillov**³, **M.S.**
Boltovets⁴, **A.A. Lebedev**⁵, **K.V. Vassilevski**⁶,
¹FORTH, MRG, IESL, Heraclion, Crete, Greece,
²IMEP, ENSERG, Grenoble, France, ³Svetlana-
Electronpribor, St. Petersburg, Russia, ⁴State
Enterprise Research Institute “Orion”, Kiev,
Ukraine, ⁵A.F. Ioffe Institute., St.
Petersburg, Russia, ⁶Newcastle University, UK.
- PS.5** *FACING THE CHALLENGES OF THZ*
11:50 *QUANTUM CASCADE LASER DEVICE*
DEVELOPMENT: THE RELEVANCE OF
NONEQUILIBRIUM MANY BODY THEORIES,
M. Pereira, Tyndall National Institute, Cork,
Ireland.
- PS.6** *WET ETCHING OF GLASS*, **C. Iliescu**¹,
12:25 **F.E.H. Tay**^{1,2}, ¹Institute of Bioengineering
and Nanotechnologies, ²National University,
Singapore.

13:30-13:10 PHOTO REMEMBER CAS 2005
in front of the Sinaia Hotel

Monday, October 3, 15:00, Room “A”

DEVICES: Modeling & Technology
Session D: Oral presentations

Chairmen: **F. Udrea**, Cambridge University, UK.
P. Godignon, CNM-CSIC, Barcelona, Spain.

D.1 *A COMPACT STEADY-STATE SELF-HEATING*
15:00 *MODEL FOR A THIN SOI LIGHT, S. Gamage¹,*
V. Pathirana¹, F. Udrea^{1,2}, ¹Cambridge University,
²Cambridge Semiconductor Ltd., UK.

D.2 *EEPROM FUSES FOR MIXED-SIGNAL*
15:20 *APPLICATIONS: EXPERIMENTAL OPTIMISATION*
OF THE EE FUSE OPERATING
CONDITIONS, M. Badila, T. Dunca, P. Cosmin,
Catalyst Semiconductor, Sunnyvale, CA, USA.

D.3 *HIGHLY EFFICIENT EDGE TERMINATIONS FOR*
15:40 *DIAMOND SCHOTTKY DIODES, M. Brezeanu¹,*
S. J. Rashid¹, T. Butler¹, N.L. Rupesinghe¹, F.
Udrea¹, A. Garraway², L. Coubeck², P. Taylor²,
G.A.J. Amaratunga¹, D.J. Twitchen³, A. Tajani³,
M.P. Dixon³, ¹Cambridge University, ²Dynex
Semiconductors Ltd., Lincoln, ³Element Six Ltd.,
Berkshire, UK.

D.4 *ON THE DEFECTS INTRODUCED BY AC/DC*
16:00 *DEGRADATION IN SOI “SMART-CUT” BODY*
CONTACT MOSFETs, M.A. Exarchos, G.J.
Papaioannou, J. Jomaah, F. Balestra*, National*
and Kapodistrian University, Athens, Greece,
**IMEP UMR CNRS/INPG/UJF, ENSERG,*
Grenoble, France.

16:20–16:40 COFFEE BREAK

- D.5** *INTERPRETING FITTING PARAMETERS OF TEMPERATURE DEPENDENCES OF DARK CURRENTS IN SOME CCDs*, **E. Bodegom, R. Widenhorn, D. Iordache***, Portland State University, Oregon, USA, *"Politehnica" University, Bucharest, Romania.
- D.6** *PROCESS DEPENDENCE AND CHARACTERIZATION OF MO, CR, TI AND W SILICON SCHOTTKY DIODES*, **K.E. Moselund, J.E. Freiermuth, P. Dainesi, A.M. Ionescu**, Ecole Polytechnique Federale de Lausanne, Switzerland.
- D.7** *SCHOTTKY DIODE IN HV CMOS SMART POWER TECHNOLOGY AND ITS DEMONSTRATION FOR CHARGE PUMP APPLICATION*, **J. Hadzi-Vukovic, M. Jevtic*, H. Rothleitner, P. Del Croce, M. Ladurner, F. Wachter**, Infineon Technologies, Villach, Austria, *Institute for Physics, Zemun, Serbia and Montenegro.
- D.8** *MODELING THE BEHAVIOUR OF THE SUB-MICRON MOS TRANSISTORS IN MIXED-SIGNAL INTEGRATED CIRCUITS*, **D. Dobrescu, N. Vizireanu, L. Dobrescu**, "Politehnica" University, Bucharest, Romania.

Monday, October 3, 15:00, Room “B”

MICROWAVE & RF MEMS
Session Mw: Oral presentations

Chairmen: **S. Lucyszyn**, Imperial College, London, UK
A. Muller, IMT–Bucharest, Romania

Mw.1 *SAW RESONATORS ON CERAMICS WITH*
15:00 *CONTROLLED PIEZOELECTRIC PROPERTIES,*
G. Sajin, A.M. Moisin*, F. Craciunoiu,
A.-I. Dumitru*, IMT–Bucharest, *National
Institute for Research and Development in Electrical
Engineering, Bucharest, Romania.

Mw.2 *X-BAND FILTER MANUFACTURED WITH ZST*
15:20 *DIELECTRIC RESONATORS,* **A. Ioachim,**
M.G. Banciu, M.I. Toacsan, L. Nedelcu,
C.A. Dutu, I. Radu*, I. Nicolaescu*, INCD-FM,
*Military Technical Academy, Bucharest,
Romania.

Mw.3 *DESIGN OF PHASE SHIFTERS BASED ON RF*
15:40 *MEMS SHUNT SWITCHES,* **G. Bartolucci¹, R.**
Marcelli², G. Minucci², S. Catoni², B. Margesin³,
F. Giacomozzi³, ¹University of Roma “Tor
Vergata”, ²CNR–Institute for Microelectronics and
Microsystems, Roma, ³ITC–irst, Microsystems
Division, Povo, Italy.

Mw.4 *LOW LOSS COPLANAR LINES ON LOW*
16:00 *RESISTIVITY SILICON BY SU-8 THICK*
NEGATIVE PHOTORESIST, **R. Marcelli,**
S. Catoni, L. Frenguelli, CNR, Institute for
Microelectronics and Microsystems, Roma, Italy.

16:20–16:40 COFFEE BREAK

- Mw.5** *DESIGN AND ANALYSIS OF TUNABLE BANDPASS FILTER CONSISTING OF DISTRIBUTED MEMS TRANSMISSION LINES*, **S. Simion**, Military Technical Academy, Bucharest, Romania.
- Mw.6** *A NEURAL NETWORK APPROACH TO THE DESIGN OF THE HIGH FREQUENCY DEVICES*, **M.G. Banciu, A. Ioachim**, INCD-FM, Bucharest, Romania.
- Mw.7** *ELECTROMAGNETIC MODELING OF MICROMACHINED GaN THIN FILMS FOR FBAR APPLICATIONS*, **D. Neculoiu¹, G. Konstantinidis², K. Mutamba³, A. Takacs¹, D. Vasilache¹, C. Sydlo³, T. Kostopoulos², A. Stavrinidis², A. Muller¹**, ¹IMT-Bucharest, Romania, ²FORTH, IESL, MRG, Heraklion, Crete, Greece, ³IHT, TU Darmstadt, Germany.
- Mw.8** *MEMBRANE SUPPORTED 77 GHZ YAGI-UDA ANTENNAE: DESIGN AND EXPERIMENT*, **D. Neculoiu, A. Muller, D. Vasilache, I. Petrini, C. Buiculescu, R. Plana*, P. Pons*, L. Bary*, M. Saadaoui***, IMT-Bucharest, Romania, *LAAS, CNRS, Toulouse, France.

DEVICES & IC's
Session D & IC:Poster presentations

Chairmen **D. Neculoiu**, IMT–Bucharest, Romania
C. Stanescu, Catalyst-Semiconductors Romania
SRL, Bucharest, Romania

- D&IC 1** *MOS FUNCTIONAL DEVICE WITH INCREASED TRANSCONDUCTANCE*, **L. Dobrescu**, **A. Rusu**, “Politehnica” University, Bucharest, Romania.
- D&IC 2** *APPLICATION OF GREEN'S FUNCTIONS FOR THERMAL ANALYSIS OF ELECTRONIC CIRCUITS*, **M. Janicki**, **A. Napieralski**, Technical University, Lodz, Poland.
- D&IC 3** *MOSFET CONDUCTANCE MODELLING INCLUDING DISTORTION ANALYSIS ASPECTS*, **O. Profirescu**¹, **F. Babarada**¹, **M.D. Profirescu**¹, **C. Ravariu**¹, **E. Manea**², **N. Dumbravescu**², **C. Dunare**³, **D. Ulieru**⁴, ¹“Politehnica” University, Bucharest, ²IMT–Bucharest, Romania, ³University of Edinburgh, UK, ⁴ROMES SA, Bucharest, Romania.
- D&IC 4** *SPICE SIMULATIONS AND CIRCUIT TESTS OF DIGITAL NOISE REDUCTION WITH MEMS INDUCTORS*, **M.-O. Dima**, **K.-H. Becks**, Wuppertal University, Germany.
- D&IC 5** *THE JUNCTION EDGE LEAKAGE CURRENT AND THE BLOCKING I–V CHARACTERISTICS OF COMMERCIAL GLASS PASSIVATED THYRISTOR DEVICES*, **V.V.N. Obreja**, **E. Manea**, **C. Codreanu**, **M. Avram**, **C. Podaru**, IMT–Bucharest, Romania.

Student paper

- D&IC 6** *THE NOISE-EQUIVALENT MAGNETIC INDUCTION SPECTRAL DENSITY OF MAGNETOTRANSISTORS*, **G. Caruntu, M. Dragulinescu***, Maritime University, Constantza, *"Politehnica" University, Bucharest, Romania.
- D&IC 7** *A 6 BIT RESOLUTION, 1 GSAMPLES/SEC. DIGITAL TO ANALOG CONVERTER*, **S. Spiridon, F. Op't Eynde**, AsicAhead International SRL, Bucharest, Romania.
- D&IC 8** *CURRENT-MODE EUCLIDEAN DISTANCE CIRCUIT INDEPENDENT ON TECHNOLOGICAL PARAMETERS*, **C. Popa**, "Politehnica" University, Bucharest, Romania.
- D&IC 9** *VIRTUAL ENVIRONMENT FOR ROBOTS INTERFACES DESIGN AND TESTING*, **E. Franti¹, D. Tufis³, S. Goschin¹, M. Dascalu², P.L. Milea⁴, G. Stefan⁴, T. Balan¹, C. Slav⁴, R. Demco⁵**, ¹IMT-Bucharest, ²Centre for New Electronic Architecture, ³Research Institute for Artificial Intelligence, ⁴"Politehnica" University, Bucharest, Romania, ⁵Electronic & Information Technology Research Center, Stockholm, Sweden.
- D&IC 10** *AN INVESTIGATION OF GAIN, CARRIER DENSITY, AND PHOTON RATE OF SIGNAL AND ASE IN A SEMICONDUCTOR OPTICAL AMPLIFIER USING NUMERICAL REPRESENTATION*, **S.A. Sedigh Zyabari¹, M.K. Moravvej Farshi², A. Zarifkar³, S. Mirzakuchaki⁴**, ¹Islamic Azad University of Roudbar, ²Tarbiat Modarres University, ³Iran Telecommunication Reserch Centre, ⁴Iran University of Science and Technology, Tehran, Iran.
- D&IC 11** *FIELD-EFFECT TRANSISTORS BASED ON ORGANIC SEMICONDUCTING MATERIALS*, **M.D. Damaceanu, M. Bruma**, "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania.

D&IC 12 *TESTING OF DIGITAL CIRCUITRY USING XILINX CHIPSCOPE LOGIC ANALYZER*, **O. Oltu, P.L. Milea, A. Simion**, “Politehnica” University, Bucharest, Romania.

D&IC 13 *TEST METHODS USED IN FPGA IMPLEMENTATION OF AUTOMATIC IDENTIFICATION SYSTEM*, **O. Oltu, P.L. Milea, A. Simion**, “Politehnica” University, Bucharest, Romania.

Monday, October 3, 18:00–19:30, Room “C”

MEMS & Microsensors

Session M²: Poster presentations

Chair: **R. Muller**, IMT–Bucharest, Romania
G. Konstantinidis, FORTH, IESL, MRG, Heraklion,
Crete, Greece

- M².1** *LASER PATTERNING–INNOVATIVE TECHNOLOGY FOR MASS PRODUCTION OF MICROSTRUCTURES*, **D. Ulieru, A. Ciuciumis***, ROMES S.A., Bucharest, *IMT–Bucharest, Romania.
- M².2** *NEW TECHNOLOGICAL SURFACE MICRO-FABRICATION METHODS USED TO OBTAIN MICROCHANNELS BASED SYSTEMS ONTO VARIOUS SUBSTRATES*, **A. Coraci, C. Podaru, E. Manea, A. Ciuciumis, O. Corici***, IMT–Bucharest, *Genesys, Bucharest, Romania.
- M².3** *SURFACE STUDIES AND ELECTRICAL TESTS OF POROUS-SILICON SnO₂ GAS-SENSORS*, **O. Dima, K.-H. Becks, A. Dima*, C. Moldovan***, Wuppertal University, Germany, *IMT–Bucharest, Romania.
- M².4** *IN SITU TEMPERATURE MONITORING SYSTEM FOR EXPERIMENTAL INVESTIGATION OF MICROSTRUCTURES*, **C. Codreanu, I. Stan*, F. Craciunoiu, V.V.N. Obreja**, IMT–Bucharest, *Romelgen SRL, Bucharest, Romania.

Tuesday, October 4, 9:00, Room "A"

A CENTURY OF SILICON CARBIDE SiC

Session SiC: Oral presentations

Chairmen: **G.A.J. Amaratunga**, Cambridge University, UK
M. Badila, Catalyst Semiconductor, Sunnyvale,
CA, USA

- SiC.1** *SILICON CARBIDE (SiC): A SHORT HISTORY.*
9:00 *AN ANALYTICAL APPROACH FOR SiC POWER*
DEVICE DESIGN, G. Brezeanu, "Politehnica"
University, Bucharest, Romania.
- SiC.2** *SiC JUNCTION FETs - A STATE OF THE ART*
9:20 *REVIEW, A. Mihaila, F. Udrea, S.J. Rashid,*
P. Godignon*, **J. Millan***, Cambridge University,
UK, *CNM-CSIC, Barcelona, Spain.
- SiC.3** *A STUDY OF THE THERMAL OXIDATION OF*
9:40 *TaSi₂ AND Ta₂Si SILICIDES TO FORM*
DIELECTRIC LAYERS FOR MIS STRUCTURES
ON 4H-SiC, A. Perez-Tomas, P. Godignon,
N. Mestres*, **J. Montserrat, J. Millan**, CNM-
CSIC, *ICMAB-CSIC, Barcelona, Spain.
- SiC.4** *BREKDOWN PERFORMANCES IMPRO-*
10:00 *VEMENTS OF SiC DIODES USING HIGH-K*
DIELECTRICS, G. Brezeanu¹, M. Badila²,
M. Brezeanu³, F. Udrea³, C. Boianceanu¹,
I. Enache¹, F. Draghici¹, A. Visioreanu¹,
¹"Politehnica" University, Bucharest, Romania;
²Catalyst Semiconductor Inc., Sunnyvale, USA,
³Cambridge University, UK.

- SiC.5** *FABRICATION OF ELECTROSTATIC RESONATORS WITH MONOCRISTALINE 3C- SiC GROWN ON SILICON*, **M. Placidi**¹, **P. Godignon**¹, **N. Mestres**¹, **J. Esteve**¹, **G. Ferro**², **A. Leycuras**³, **T. Chassagne**⁴, ¹CNM-CSIC, Barcelona, Spain, ²Laboratoire des Multimatériaux et Interfaces, Villeurbanne, ³CRHEA, CNRS, Valbonne, ⁴NOVASIC, France.
- SiC.6** *CONTRIBUTIONS TO DEVELOPMENT OF HIGH POWER SiC-IGBT*, **M. Avram**¹, **G. Brezeanu**², **A. Avram**², **O. Neagoie**³, **M. Brezeanu**⁴, **C. Iliescu**⁵, **C. Codreanu**¹, **C. Voitincu**¹, ¹IMT-Bucharest, ²”Politehnica” University, Bucharest, ³Catalyst Semiconductors Romania SRL, Bucharest, Romania, ⁴Cambridge University, UK, ⁵Institute of Bioengineering and Nanotechnologies, Singapore.
- SiC.7** *PULSE VOLTAGE STRESS DEGRADATION OF 4H-SiC SCHOTTKY DIODES STUDIED BY I-V AND NOISE MEASUREMENTS*, **M. Jevtic**, **J. Hadzi-Vukovic**, **D. Dinu**, Institute for Physics, Zemun, Serbia and Montenegro.

11:20–11:35 COFFEE BREAK

Tuesday, October 4, 9:40, Room "B"

MICROSENSORS
Session Ms: Oral presentations

Chairmen: **K. Zekentes**, FORTH, MRG, IESL, Heraclion,
Crete, Greece

M. Purica, IMT-Bucharest, Romania

Ms.1 *TEMPERATURE DEPENDENCE OF CO*
9:40 *DETECTION BY SnO₂: Pd SENSITIVE FILMS GAS*
SENSORS, **M. Bercu**¹, **A. Tomescu**², **R. Roescu**²,
C. Moldovan³, ¹University of Bucharest, ²INCD-
FM, Bucharest, ³IMT-Bucharest, Romania.

Ms.2 *THE PTAT SENSORS IN CMOS TECHNOLOGY,*
10:00 **M. Szermer**, **A. Napieralski**, Technical University,
Lodz, Poland.

Ms.3 *CHEMORESISTIVE GAS SENSOR MANU-*
10:20 *FACTURING USING MIXED TECHNOLOGIES,*
C. Moldovan¹, **S. Sosin**^{1,8}, **O. Nedelcu**¹, **U.**
Kaufmann², **H.-J. Ritzhaupt-Kleissl**², **S. Dimov**³,
P. Petkov³, **R. Dorey**⁴, **K. Persson**⁵, **D. Gomez**⁶, **P.**
Johander⁷, ¹IMT-Bucharest, Romania, ²Institut fur
Materialforschung III, Karlsruhe, Germany, ³Cardiff
University, ⁴Cranfield University, Bedfordshire,
UK, ⁵IMEGO, Goteborg, Sweden, ⁶Fundacion
Tekniker, Spain, ⁷IVF- Industrial Research and
Development Corporation, Molndal, Sweden, ⁸Delft
University of Technology, The Netherlands.

Ms.4 *MICROTECHNOLOGY WITH SILAR AND RPP*
10:40 *FOR SEMICONDUCTOR OXIDE GAS SENSORS,*
S.T. Shishyanu, **T.S. Shishyanu**, **O.I. Lupan**,
Technical University, Chisinau, Moldova.

Ms.5 *PROCESSES CONTROLLING THE RATE OF In₂O₃*
11:00 *THIN FILM GAS SENSOR'S RESPONSE,* **G.**
Korotcenkov, **V. Brinzari**, **M. Ivanov**, **I. Blinov**, **J.**
Stetter*, Technical University, Chisinau, Moldova,
*Illinois Institute of Technology, Chicago, USA.

11:20–11:35 COFFEE BREAK

Tuesday, October 4, 11:35, Room "A"

**LOW POWER INTEGRATED
CIRCUITS**

Session IC: Oral presentations

Chairmen: **A. Manolescu**, "Politehnica" University,
Bucharest, Romania
M Bazu, IMT-Bucharest, Romania

IC.1 *STANDARD INPUT CMOS GAIN STAGES NOISE*
11:35 *ANALYSIS, A. Danchiv, M. Bodea, C. Dan,*
"Politehnica" University, Bucharest, Romania.

IC.2 *QUICK-START CMOS VOLTAGE REFERENCE*
11:55 *FOR POSITIVE LDOS, C. Stanescu, C. Caracas,*
G. Aungurenci*, **A. Russell***, Catalyst
Semiconductor Romania S.R.L., Bucharest,
Romania, *Catalyst Semiconductor Inc.,
Sunnyvale, CA, USA.

IC.3 *LOW POWER CMOS FULLY DIFFERENTIAL*
12:15 *VARIABLE-GAIN AMPLIFIER, S. Spiridon,*
F. Op't Eynde, AsicAhead International SRL,
Bucharest, Romania.

IC.4 *A MULTITHREADING ARCHITECTURE FOR*
12:35 *LOW POWER PROCESSORS, M. Stoian,*
G. Stefan*, "Politehnica" University, Bucharest,
*Connex Technology, Bucharest, Romania.

IC.5 *A NEW IMPROVED LINEARITY ACTIVE*
12:55 *RESISTOR USING COMPLEMENTARY*
FUNCTIONS, C. Popa, "Politehnica" University,
Bucharest, Romania.

Tuesday, October 4, 11:35, Room “B”

MEMS

Session M: Oral presentations

Chair: **A.M. Manolescu**, “Politehnica” University,
Bucharest, Romania
C. Moldovan, IMT–Bucharest, Romania

M.1 *OPTIMIZATION OF SPRAY COATING PHOTO-*
11:35 *RESIST FOR HIGH TOPOGRAPHY SURFACES,*
Y.Y. Lee¹, L. Yu², F.E.H. Tay^{1,2}, C. Iliescu¹,

¹Institute of Bioengineering and Nanotechnology,
²National University, Singapore.

M.2 *INVESTIGATION OF THERMALLY ACTIVATED*
11:55 *CHARGING EFFECTS IN RF-MEMS SWITCHES,*
M. Exarchos¹, V. Theonas¹, G.J. Papaioannou¹,
G. Konstantinidis², S. Psychias², D. Vasilache³,
M. Dragoman³, Al. Muller³, D. Neculoiu³,

¹University of Athens, ² FORTH, IESL, Heraklion,
Crete, Greece, ³IMT–Bucharest, Romania.

M.3 *ANALYTICAL VS. COMPUTATIONAL APPROACH*
12:15 *OF THE PULL-IN VOLTAGE OF ELECTRO-*
STATICALLY ACTUATED MICRO-BRIDGES,
C. Tibeica, R. Voicu, M. Bazu, V.E. Ilian,
D. Vasilache, L. Galateanu, P. Pons*, K. Yacine*,
F. Flourens, IMT-Bucharest, Romania, *LAAS–
CNRS, Toulouse, France.

M.4 *NEW HYBRID INTEGRATION TECHNIQUE FOR*
12:35 *CUSTOM DESIGNED HIGH SPEED OPTICAL*
MICROMATRIX, I. Cernica, E. Manea,
N. Dumbravescu, IMT–Bucharest, Romania.

M.5 *TRENDS AND TRAJECTORIES IN MEMS-*
12:55 *RELATED TECHNOLOGIES: AN ANALYSIS ON*
THE BASIS OF PATENT APPLICATION DATA,
C. Meister, M. Meister*, Eindhoven University of
Technology, The Netherlands, *European Patent
Office, Berlin, Germany.

Tuesday, October 4, 15:00, Room “A”

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

Chair: **A. Angelescu**, IMT–Bucharest, Romania
M. Pereira, Tyndall National Institute, Cork, Ireland

N1.1 *COMPUTING PERIODIC SYMMETRIC FUNCTIONS IN SINGLE ELECTRON TUNNELING TECHNOLOGY*, **C.H. Meenderinck**, **S.D. Cotofana**, Delft University of Technology, The Netherlands.

N1.2 *GROWTH OF TITANIUM OXIDE NANORODS*, **15:20 R. Plugaru**, **A. Cremades***, **J. Piqueras***, IMT–Bucharest, Romania, *University Complutense, Madrid, Spain.

N1.3 *QUANTUM CONFINEMENT IN THE PHOTO-LUMINESCENCE OF NANOCRYSTALLINE POROUS SILICON*, **I. Stavarache**, **M.L. Ciurea**, **V. Iancu***, INCD–FM, **Politehnica” University, Bucharest, Romania.

N1.4 *SYNTHESIS AND MAGNETIC PROPERTIES OF Co AND Ni BASED NANOSTRUCTURES*, **16:00 H. Chiriac**¹, **A.E. Moga**¹, **C. Gherasim**^{1,2},
¹National Institute of R & D for Technical Physics,
²“Al.I. Cuza” University, Iasi, Romania.

16:20–16:40 COFFEE BREAK

Tuesday, October 4, 15:00, Room "B"

STUDENTS PAPER

Session S: Oral presentations

Chairmen: **G. Brezeanu**, "Politehnica" University, Bucharest,
Romania
V. Cimpoca, "Valahia" University, Targoviste,
Romania

S.1 *TEMPERATURE SENSOR, BAND-GAP VOLTAGE*
15:00 *REFERENCE AND I²C INTERFACE FOR CAT 75,*
A. Negut^{1,2}, C. Chiritescu^{1,2}, D. Grosu²,
¹"Politehnica" University, Bucharest, ²Catalyst
Semiconductor Romania S.R.L., Bucharest, Romania.

S.2 *THE INFLUENCE OF DIFFUSION CURRENT ON*
15:20 *THE ZERO-TC POINT OF A MOS TRANSISTOR,*
S. Eftimie, Alexandru Rusu*, Catalyst Semicon-
ductor Romania SRL, Bucharest, *"Politehnica"
University, Bucharest, Romania.

S.3 *MEMBRANE SUPPORTED SPIRAL INDUCTORS*
15:40 *FOR UP TO 10 GHz FILTER APPLICATIONS,*
Andrei A. Muller, D. Neculoiu, G. Brezeanu,
"Politehnica" University, Bucharest, Romania.

S.4 *MICROFLUIDIC CHIP DESIGN WITH APPLICA-*
16:00 *TION IN BIOCHEMISRTY USING POLYMERS, D.*
Esinenco, R. Rebigan, IMT-Bucharest, Romania.

16:20-16:40 COFFEE BREAK

S.5 *THERMAL EFFECTS IN POWER MOSFETs,*
16:40 C.M. Albina, GME, Munhen, Germany.

S.6 *ELLIPSOMETRIC STUDY OF $SiN_x/nc-Si/SiN_x$*
17:00 *MULTILAYERS, P. Basa, P. Petrik,*
Research Institute for Technical Physics and
Materials Science, Budapest, Hungary.

S.7 *A PARALLEL BETWEEN DIFFERENTIAL EVO-*
17:20 *LUTION AND GENETIC ALGORITHMS WITH*
EXEMPLIFICATION IN A MICROFLUIDICS
OPTIMIZATION PROBLEM, I. Codreanu, IMT-
Bucharest, Romania.

S.8 *SYNTHESIS AND CHARACTERIZATION OF*
17:40 *INDIUM TIN OXIDE AND CERIUM DIOXIDE*
THIN FILMS BY SOL-GEL METHOD,
A. Ciuciumis, I. Cernica, IMT-Bucharest, Romania.

Tuesday, October 4, 16:40, Room "A"

PHYSICS OF MATERIALS 1

Session PM1: Oral presentations

Chairmen: **M.I. Ciurea**, INCD-FM, Bucharest, Romania
I. Morjan, National Institute for Laser, Plasma and
Radiation Physics, Bucharest Romania

PM1.1 *SPIN-ORBIT INTERACTION AND SPINTRONICS*
16:40 *EFFECTS IN SEMICONDUCTOR STRUCTURES*
DRIVEN BY INTERBAND COUPLING
THROUGH OPTICAL PHONON LIKE
DISPLACEMENTS, **V.G. Kantser**, **S. Arapan**,
S. Carlig, **F. Ermalai**, LISES, Institute of Applied
Physics, Chisinau, Moldova.

PM1.2 *NANOSTRUCTURED TiO₂ FOR SOLAR*
17:00 *ENERGY CONVERSION*, **A. Duta**, **I. Visa**,
S. Manolache, **A. Enesca**, **L. Andronic**,
G.R. Calin, Transilvania University, Brasov,
Romania.

PM1.3 *PIEZOELECTRIC PROPERTIES OF BISMUTH*
17:20 *MODIFIED LEAD TITANATE CERAMICS*,
C. Miclea, **L. Amarande**, **C. Tanasoiu**,
I. Spanulescu*, **C.F. Miclea**, INCD-FM,
*Hyperion University, Bucharest, Romania.

**MICROSTRUCTURES FOR BIO
& MEDICAL APPLICATIONS**

Session B: Poster presentations

Chair: **M. Avram**, IMT–Bucharest, Romania
C. Iliescu, Institute of Bioengineering and
Nanotechnologies, Singapore.

- B.1** *ARTIFICIAL MUSCLE FOR LOCOMOTORY PROTHESIS*, **T. Balan**¹, **E. Franti**¹, **T. Alexa**², **D. Tufis**³, **G. Stefan**⁴, **C. Nanea**⁵, **P.L. Milea**⁴, **C. Slav**⁴, **R. Demco**⁶, ¹IMT–Bucharest, ²Centre for New Electronic Architecture, ³Research Institute for Artificial Intelligence, ⁴“Politehnica” University, Bucharest, ⁵Medicine University “Carol Davila”, Bucharest, Romania, ⁶Electronic & Information Technology Research Center, Stockholm, Sweden.
- B.2** *A MEMS DEDICATED TO THE BIO-COMPONENTS DETECTION, INSPIRED FROM THE SON ARCHITECTURE*, **C. Ravariu**, **A. Rusu**, **O. Nedelcu***, **F. Ravariu***, **F. Babarada**, **L. Dobrescu**, “Politehnica” University, Bucharest, *IMT–Bucharest, Romania.
- B.3** *MICROFLUIDIC DYNAMIC SYSTEM FOR BIOLOGICAL FLUIDS VISCOSITY MEASUREMENTS*, **M. Avram**¹, **A. Avram**², **C. Iliescu**³, **E. Manea**¹, **C. Voitincu**¹, ¹IMT–Bucharest, ²University of Bucharest, Romania, ³Institute of Bioengineering and Nanotechnologies, Singapore.

- B.4** *INTEGRATED POLYMERIC MACH ZEHNDER INTERFEROMETER FOR BIOSENSING APPLICATIONS*, R. Muller¹, D. Esinenco¹, M. Kusko¹, P. Obreja¹, E. Manea¹, O. Ligor¹, D. Apostol², V. Damian², M. Mateescu³, L. Moldovan³, L. Tcacenco³, S. D. Psoma⁴, A. Schneider⁴, E. Huq⁴, ¹IMT-Bucharest, ²INCDFLPR, Bucharest, ³INCDSB, Bucharest, Romania, ⁴Central Microstructure Facility, UK.
- B.5** *BUILDING AN ELECTROCHEMICAL MICRO-CELL FOR MICRO-BIOSENSORS*, L. Galateanu¹, M. Bazu¹, V. Ilian¹, C. Tibeica¹, N. Cimpoa¹, C. Podaru¹, I. Ardelean², L. Dumitru², M. Grigoras³, M. Ivanoiu³, M. Totolin³, D. Conduruta³, ¹IMT-Bucharest, ²Institute of Biology, Bucharest, ³“Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania.
- B.6** *BIOANALYTICAL SILICON MICRO-DEVICES FOR DNA*, M. Simion¹, I. Kleps¹, T. Ignat¹, E. Condac², F. Craciunoiu¹, A. Angelescu¹, M. Miu¹, A. Bragaru¹, M. Costache², L. Savu³, ¹IMT-Bucharest, ²University of Bucharest, ³DEXTER Com SRL, Bucharest, Romania.
- B.7** *INTEGRATED SYSTEM ON SILICON FOR ELECTRICALLY CONTROLLED DRUG DELIVERY*, M. Miu, A. Angelescu, I. Kleps, F. Craciunoiu, A. Bragaru, T. Ignat, M. Simion, IMT-Bucharest, Romania.

20:30 GALLA DINNER – Sinaia Hotel, Restaurant Hall

MICROPHOTONICS

Session O: Poster presentations

Chair: **D. Cristea**, IMT–Bucharest, Romania
P. Arguel, LAAS–CNRS, Toulouse, France

- O.1** *ANALYSIS OF THE SENSITIVITY OF A MONOLITHIC OPTICAL PHASE-SHIFT DETECTOR TO GEOMETRICAL PARAMETER VARIATIONS*, **J. Valentin**, **P. Arguel***, **O. Bouchard***, **F. Lozes-Dupuy***, **S. Bonnefont***, PROBION–Analysis, Bagneux, *LAAS–CNRS, Toulouse, France.
- O.2** *PHOTOCAPACITANCE RELAXATION IN AMORPHOUS As_2Se_3 AND $As_2Se_3: Sn$ FILMS*, **I.A. Vasiliev**, **M.S. Iovu**, **V.Yu. Mirovitskii***, **E.P. Colomeiko**, **D.V. Harea**, Center of Optoelectronics, *Institute of Applied Physics, Chisinau, Moldova.
- O.3** *CORRUGATED MICROSTRUCTURES FOR SILICON PHOTODETECTORS*, **A. Dinescu**, **G. Conache**, **R. Gavrilă**, IMT–Bucharest, Romania.
- O.4** *INTENSITY–POSITION NEURAL NETWORK*, **V. Degeratu**^{1,2}, **S. Degeratu**^{1,2}, **P. Schiopu**¹, ¹”Politehnica” University, Bucharest, ²02 Micro Romania, Bucharest, Romania.
- O.5** *IMPROVEMENTS IN THE QUALITY OF $CuSbS_2$ FILMS USED IN SOLID STATE SOLAR CELLS*, **S.A. Manolache**¹, **M. Nanu**^{2,1}, **A. Duta**¹, **A. Goossens**² **J. Schoonman**^{2,1}, ¹Transilvania University, Brasov, Romania, ²Delft University of Technology, The Netherland.

- O.6** *PREPARATION OF YTTRIUM ALUMINUM GARNET DOPED WITH CERIUM FOR APPLICATION IN OPTOELECTRONICS*, **V. Schiopu, M. Macrin***, **I. Cernica**, IMT–Bucharest, *S.C. Microelectronica SA, Bucharest, Romania.
- O.7** *DESIGN OF VERTICALLY COUPLED MICRORING RESONATORS*, **M. Kusko, C. Kusko, D. Cristea**, IMT-Bucharest, Romania.
- O.8** *SILICON SOLAR CELLS TECHNOLOGY USING HONEYCOMB TEXTURED FRONT SURFACE*, **E. Manea, E. Budianu, M. Purica, C. Podaru, I. Cernica, A. Coraci, F. Babarada***, ¹IMT–Bucharest, *”Politehnica” University, Bucharest, Romania.
- O.9** *SYNTHESIS OF THE TRANSPARENT AND CONDUCTIVE CdS THIN FILMS FOR OPTOELECTRONIC DEVICES APPLICATIONS*, **F. Iacomi¹, M. Purica², E. Budianu², D. Macovei³**, ¹Al.I. Cuza University, Iasi, ²IMT–Bucharest, ³National R & D Institute of Material Physics, Bucharest, Romania.
- O.10** *POLYMERIC WAVEGUIDES WITH BIO (CHEMICAL) SENSING APPLICATIONS–DESIGN AND PRELIMINARY EXPERIMENTAL RESULTS*, **R. Rebigan, D. Esinenco, M. Kusko**, IMT–Bucharest, Romania.

20:30 GALLA DINNER – Sinaia Hotel, Restaurant Hall

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Student paper

Tuesday, October 4, 18:00–19:30, Room “C”

**NANOSCIENCE &
NANOENGINEERING 2**

Session N2: Poster presentations

Chairmen: **S. Cotofana**, Delft University, The Netherlands
F. Craciunoiu, IMT–Bucharest, Romania

- N2.1** *A NOI-NANOTRANSISTOR*, **C. Ravariu**,
“Politehnica” University, Bucharest, Romania.
- N2.2** *INVESTIGATION ON NANOSTRUCTURED METAL OXIDE COMPOSITE MATERIAL WITH ELECTROCATALYTICAL PROPERTIES*, **M. Jitaru**¹, **F. Kormos**², **C. Roman**³, **M. Pava**², **Gy. Tolnai**⁴, **E. Kalman**⁴, ¹“Babes–Bolyai” University, ²Institute of Research in Chemistry „Raluca Ripan”, ³Institute of Research in Analytical Instrumentation, Cluj-Napoca, Romania, ⁴Center of Research in Chemistry, Budapest, Hungary.
- N2.3** *APPLICATION OF SEMICONDUCTOR QUANTUM DOTS FOR A STUDY OF BIOLOGICAL SYSTEMS*, **G.G. Zegrya**, **N.L. Bazhenov**, **K.D. Mynbaev**, **S.I. Pokutnyi**^{*}, A.F. Ioffe Physico–Technical Institute, St. Petersburg, Russia, ^{*}Mechnikov National University, Il’ichevsk, Ukraine.
- N2.4** *LIGHT ABSORPTION IN NANOSTRUCTURED CRYSTALLINE ZNO THIN FILMS*, **M. Danila**, **I. Licea**^{*}, **M. Purica**, IMT–Bucharest, ^{*}University of Bucharest, Romania.
- N2.5** *BIOCOMPATIBLE GOLD/Si NANOCOMPOZITE LAYERS*, **I. Kleps**, **M. Danila**, **A. Angelescu**, **M. Miu**, **M. Simion**, **T. Ignat**, **A. Bragaru**, IMT–Bucharest, Romania.

N2.6 *ENGINEERING OF METAL-OXID NANO-PARTICLE SURFACES*, **E. Kalman***, **I. Felhosi**, **P. Nagy**, **Gy. Tolnai**, Chemical Research Center Hungarian Academy of Sciences, Budapest, Hungary.

N2.7 *MULTILAYER NANOGRANULAR THIN FILMS AS THE MATERIALS FOR MAGNETIC MICROINDUCTORS*, **M. Urse**, **H. Chiriac**, **M. Grigoras**, **M. Tibu**, National Institute of R & D for Technical Physics, Iasi, Romania.

20:30 GALLA DINNER – Sinaia Hotel, Restaurant Hall

PHYSICS OF MATERIALS 2
Session PM2: Poster presentations

Chairmen: **V. Iancu**, “Politehnica” University, Bucharest,
Romania
C. Miclea, INCD–FM, Bucharest, Romania

- PM2.1** *Ba_{1-x}Sr_xTiO₃ CERAMICS FOR TUNABLE MICROWAVE DEVICES*, **A. Ioachim¹**, **M.I. Toacsan¹**, **M.G. Banciu¹**, **L. Nedelcu¹**, **D. Ghetu¹**, **A.C. Dutu¹**, **F. Vasiliu¹**, **H.V. Alexandru²**, **C. Berbecaru²**, **G. Stoica³**, **P. Nita⁴**, ¹INCD–FM, Bucharest, ²University of Bucharest, ³S.C. IPEE S.A., Curtea de Arges, ⁴S.C. METAV S.A., Bucharest, Romania.
- PM2.2** *THERMOELECTRIC POWER OF p-DOPED PbTe SEMICONDUCTOR MICROWIRES WITH RESONANT STATES OF TALLIUM IMPURITIES*, **E.A. Zasavitsky**, **V.G. Kantser**, **D.F. Meglei**, LISES, Academy of Sciences of Moldova, Chisinau, Moldova.
- PM2.3** *FABRICATION NANOTIPS ARRAY FOR THERMOELECTRIC COLLERS USING NERCOM PROCESS*, **F.E.H. Tay^{1,2}**, **C. Iliescu¹**, **H.T. Chua³**, ¹Institute of Bioengineering and Nanotechnology, ²National University, Singapore, ³Western Australia University, Australia.
- PM2.4** *CYLINDRICAL THERMOELECTRIC MICRO-WIRES UNDER RADIAL ELECTRIC FIELD EFFECT*, **V. Kantser**, **Z. Dashevsky***, **D. Meglei**, **I. Bejenari**, LISES, Institute of Applied Physics, Chisinau, Moldova, *Ben–Gurion University, Negev, Israel.

- PM2.5** *PHOTOELECTRODE MATERIALS OF TUNGSTEN OXIDE (WO₃) FOR WATER SPLITTING*, Al. Enesca, A. Duta, M. Nanu*, C. Enache, R. van der Krol*, J. Schoonman*, Transilvania University, Brasov, Romania, *Delft Institute for Sustainable Energy, TU Delft, The Netherlands.
- PM2.6** *ON THE LUMINESCENCE AND STRUCTURAL PROPERTIES OF GaInNAs LATTICE MATCHED TO GaAs*, E. -M. Pavelescu^{1,2,3}, A. Gheorghiu⁴, N. Baltateanu⁴, J. Konttinen¹, V. Cimpoca³, M. Pessa¹, ¹Optoelectronics Research Centre, ²Institute of Materials Chemistry, Tampere University of Technology, Finland, ³“Valahia” University, Targoviste, ⁴Hyperion University, Bucharest, Romania.
- PM2.7** *PHOTOLUMINESCENCE IN CdIn₂O₄ AND CdGa₂O₄*, V. Zhitar, S. Muntean, G. Volodina, E. Arama*, T. Shemyakova, Institute of Applied Physics, *University of Medicine and Pharmacy “Nicolae Testemitanu”, Chisinau, Moldova.
- PM2.8** *MODIFIED AROMATIC POLYIMIDES WITH POTENTIAL PIEZOELECTRIC PROPERTIES*, E. Hamciuc, M. Bruma, C. Hamciuc, R. Lungu, Institute of Macromolecular Chemistry, Iasi, Romania.

20:30 GALLA DINNER – Sinaia Hotel, Restaurant Hall
