
Wednesday, September 27, 9:15, Room "A"

9:15 Opening of the Conference

PLENARY SESSION
(Invited Speakers)
Session PS: Oral presentations

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

PS. 1 *DEEP DEPLETION SOI POWER DEVICES,*
9:30 **E. Napoli**, Univ. of Napoli, Italy.

PS. 2 *MINIATURIZED WIRELESS SENSORS*
10:10 *NETWORKS, A. Lecointre, D. Dragomirescu,*
D. Dubuc, K. Grenier, P. Pons, A. Aubert,
A Muller*, P. Berthou, T. Gayraud, R. Plana,
LAAS-CNRS, Toulouse, France, *IMT-
Bucharest, Romania.

10:50–11:20 COFFEE BREAK

PS. 3 *CODING AND CRYPTOGRAPHY FOR*
11:20 *RESOURCE CONSTRAINED WIRELESS SENSOR*
NETWORKS: A HARDWARE-SOFTWARE CO-
DESIGN APPROACH, E. M. Popovici, National
Univ. of Ireland, Cork, Ireland.

PS. 4 *CMOS ECG, EEG AND EMG WAVEFORM*
12:00 *BIO-SIMULATOR, C.C. du Preez, S. Sinha,*
M. du Plessis, Univ. of Pretoria, South Africa.

12:45-13:00 PHOTO REMEMBER CAS 2006
in front of the Sinaia Hotel

Wednesday, September 27, 15:00, Room "A"

**MICROSTRUCTURES FOR BIO &
MEDICAL APPLICATIONS**

Session B: Oral presentations

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

L. Dumitru, Institute of Biology, Bucharest, Romania

Invited Paper *MEMSWEAR - BIOMONITORING SYSTEM IN A BODY AREA NETWORK (BAN)*,
**F.E.H. Tay^{1,2}, M.N. Nyan¹, D.G. Guo¹,
15:00 C.P. Ng¹, L. Xu¹, C.T. Tan¹**, ¹Nat. Univ. of Singapore, ²Inst. of Bioengineering and Nanotechnology, Singapore.

B. 1 *DEVELOPMENT OF TECHNOLOGY FOR
15:40 SILICON TEST DEVICE FOR GENETIC ANALYSES*, **M. Simion, I. Kleps, F. Craciunoiu, L. Savu***, **M. Miu, A. Bragaru**, IMT-Bucharest, *DEXTER com. SRL, Bucharest, Romania.

B. 2 *STUDY OF THE PIEZOCERAMIC INFLUENCE
16:00 ON BIOLOGICAL MEDIA IN MICROFLUIDIC APPLICATIONS*, **G. Sajin, D. Petrescu*, M. Sajin*, F. Craciunoiu, R. Gavrila**, IMT-Bucharest, *"Carol Davila" Medical Univ., Bucharest, Romania.

16:20–16:50 COFFEE BREAK

B. 3 *STRESS AND DISPLACEMENT IN CANTILEVER-
16:50 BASED TRANSDUCERS FOR BIOSENSING
APPLICATION*, **I. Bineva, R. Voicu, D. Esinenco,
A. Dinescu, R. Muller, B. Bucur*, M. Diaconu*,
L.G. Radu***, IMT-Bucharest, *INCDSB, Bucharest,
Romania.

B. 4 *NANOSIZED TECHNOLOGY FOR TRANS-
17:10 DERMAL CONTROLLED DRUG DELIVERY*,
M. Trif, M. Moisei, A. Roseanu, Inst. of
Biochemistry, Bucharest, Romania.

B. 5 *ADVANCED MAGNETORESISTANCE SENSING
17:30 OF ROTATION RATE FOR BIOMEDICAL
APPLICATIONS*, **M. Avram¹, M. Volmer²,
A.M. Avram¹, C. Iliescu³, A. Bragaru¹**, ¹IMT-
Bucharest, ²“Transilvania” Univ. of Brasov,
Romania, ³Inst. of Bioengineering and
Nanotechnologies, Singapore.

17:50-18:00

Presentation of the project:

INTEGRAMplus - Integrated MNT platforms and services

Speaker: Carmen Moldovan, IMT-Bucharest, Romania

**“MULTI-DOMAIN MODELING AND BIO-
MATERIALS INTEGRATION ACTIVITIES”**

Wednesday, September 27, 15:00, Room "B"

**ADVANCED DEVICES
STRUCTURES**

Session AD: Oral presentations

Chairmen: **A. Rusu**, "Politehnica" University of Bucharest,
Romania

M. Mihaila, Honeywell Advanced Technology
Center, Bucharest, Romania

AD.1 *SIMULATED SUPERIOR PERFORMANCE OF*
15:00 *SUPERJUNCTION BIPOLAR TRANSISTORS,*
M. Antoniou, F. Udrea, Cambridge Univ., UK.

AD. 2 *NUMERICAL AND EXPERIMENTAL INVESTI-*
15:20 *GATION ON BIPOLAR OPERATION OF 4H-SiC*
NORMALLY-ON VERTICAL JFETs, **A. Mihaila¹,**
F. Udrea¹, S.J. Rashid¹, P. Godignon²,
P. Brosselard², D. Tournier², J. Millan²,
G. Amaratunga¹, G. Brezeanu³, ¹Cambridge
Univ., UK, ²CNM, Campus Univ. Autonoma de
Barcelona, Spain, ³"Politehnica" Univ. of
Bucharest, Romania.

AD. 3 *PENTACENE ORGANIC MOSFETs WITH Au*
15:40 *AND Pt BOTTOM CONTACTS,* **C. Anghel^{1,2},**
A. Manolescu², A.M. Ionescu¹, ¹Ecole
Polytechnique Federale de Lausanne, Switzerland,
²"Politehnica" Univ. of Bucharest, Romania.

AD. 4 *EXPERIMENTAL DRAIN I-V CHARACTERISTICS*
16:00 *OF POWER MOS TRANSISTORS AND THE*
NATURE OF REVERSE LEAKAGE CURRENT OF
OXIDE PASSIVATED PN JUNCTIONS,
V.V.N. Obreja, C. Podaru, E. Manea, A. Coraci,
C. Codreanu, IMT-Bucharest, Romania.

16:20–16:50 COFFEE BREAK

Wednesday, September 27, 16:50, Room "B"

**NEW MATERIALS FOR
SEMICONDUCTOR DEVICES**

Session SD: Oral presentations

Chairmen: **E. Napoli**, University of Napoli, Italy
A. Mihaila, Cambridge University, UK

SD. 1 *ON-STATE BEHAVIOUR OF DIAMOND M-i-P*
16:50 *STRUCTURES*, **M. Brezeanu**, **S.J. Rashid**,
G.A.J. Amaratunga, **N.L. Rupesinghe**, **T. Butler**,
F. Udrea, **G. Brezeanu***, Cambridge Univ., UK,
**"Politehnica" Univ. of Bucharest, Romania.

SD. 2 *PHOTOGENERATED CURRENTS IN*
17:10 *PENTACENE FIELD EFFECT TRANSISTORS*,
R. Plugaru, **C. Anghel***, **A.M. Ionescu***, IMT-
Bucharest, Romania, *Ecole Polytechnique
Fédérale de Lausanne, Switzerland.

SD. 3 *OFF - STATE PERFORMANCES OF IDEAL*
17:30 *SCHOTTKY BARRIER DIODES (SBD) ON*
DIAMOND AND SILICON CARBIDE,
G. Brezeanu, **A. Visoreanu**, **M. Brezeanu***,
F. Udrea*, **G.A.J. Amaratunga***, **I. Enache**,
I. Rusu, **F. Draghici**, "Politehnica" Univ. of
Bucharest, Romania, *Cambridge Univ., UK.

SD. 4 *TEMPERATURE ANALYSIS OF POLY-Si TFTs*
17:50 *TRANSFER CHARACTERISTICS*, **L. Michalas¹**,
G.J. Papaioannou¹, **D.N. Kouvatsos²**,
A.T. Voutsas³, ¹National and Kapodistrian Univ. of
Athens, ²NCSR "Democritos", Athens, Greece,
³LCD Process Technology Laboratory, Camas,
WA, USA.

SD. 5 *TERMINATION OPTIMIZATION FOR 4H-SiC*
18:10 *p-i-n DIODES*, **C. Boianceanu**¹, **K. Zekentes**¹,
N. Camara^{1,2}, **M. Kayambaki**¹, **W. Rouet**³,
¹IESL, MRG, Foundation for Research and
Technology, Crete, Greece, ²IMEP, ENSERG,
Grenoble, ³Ecole Polytechnique de l'Univ. de
Tours, France.

MICROPHOTONICS 2
Session O2: Poster presentations

Chairwoman: **M. Purica**, IMT–Bucharest, Romania

- O2. 1** *2D MULTIPLE BEAM INTERFERENCE LITHOGRAPHY*, **D. Apostol, V. Damian, F. Garoi, I. Iordache, P.C. Logofatu, V. Nascov, A. Sima, D. Cristea*, R. Muller***, INFLPR, Bucharest, *IMT-Bucharest, Romania.
- O2. 2** *NUMERICAL ANALYSIS OF A LONG PERIOD WAVEGUIDE GRATING SENSOR*, **M. Kusko, R. Rebigan, D. Cristea**, IMT-Bucharest, Romania.
- O2. 3** *REVERBERANT NEURAL NETWORK IN OPTICAL TECHNOLOGY*, **V. Degeratu^{1,2}, S. Degeratu^{1,2}, P. Schiopu¹**, ¹“Politehnica” Univ. of Bucharest, ²O2Micro Romania, Bucharest, Romania.
- O2. 4** *OPTICAL AND STRUCTURAL PROPERTIES OF SnO₂-BASED SOL-GEL THIN FILMS*, **M. Anastasescu, M. Gartner, S. Mihaiu, C. Anastasescu, M. Purica*, E. Manea*, M. Zaharescu**, Inst. of Physical Chemistry “Ilie Murgulescu”, Bucharest, *IMT-Bucharest, Romania.
- O2. 5** *AFM APPLICATIONS TO THE STUDY OF THIN FILMS MORPHOLOGY: A POWER SPECTRAL DENSITY APPROACH*, **R. Gavrila, A. Dinescu, D. Mardare***, IMT-Bucharest, **“A.I. Cuza” Univ., Iasi, Romania.
- O2. 6** *DEVELOPMENT OF NEW TECHNIQUES OF CdS/CdTe SOLAR CELL ENHANCEMENT*, **T. Potlog**, Moldova State Univ., Chisinau, Moldova.

- O2.7** *RAPID PHOTOTHERMAL PROCESSING FOR SILICON SOLAR CELLS FABRICATION*, **S. Shishiyanu^{1,2}, R. Singh², T. Shishiyanu¹, O. Lupan¹, S. Railean¹, S. Sargu¹**, ¹Technical Univ. of Moldova, Chisinau, Moldova, ²Clemson Univ., USA.
- O2.8** *OPTICAL CHARACTERIZATION OF SnO₂ THIN FILMS, PREPARED BY SOL GEL METHOD, FOR "HONEYCOMB" TEXTURED SILICON SOLAR CELLS*, **E. Manea, E. Budianu, M. Purica, C. Podaru, A. Popescu, I. Cernica, F. Babarada***, IMT-Bucharest, *"Politehnica" Univ. of Bucharest, Romania.
- O2.9** *FIRST PRINCIPLE AND EXPERIMENTAL INVESTIGATION ON OPTICAL AND MICROSTRUCTURAL PROPERTIES OF p-TYPE TRANSPARENT CONDUCTIVE OXIDES*, **M. Modreanu¹, M. Nolan¹, S.D. Elliott¹, O. Durand², B. Servet², H. Gehan², G. Huyberegts³, E. Aperathitis⁴, E.L. Papadopoulou⁴, M. Androulidaki⁴**, ¹Tyndall National Inst. Cork, Ireland, ²Thales Research & Technology, France, ³Umicore Group Research & Development, Olen, Belgium, ⁴Inst. of Electronic Structure & Laser, Crete, Greece.

**NANOSCIENCE &
NANOENGINEERING 2**
Session N2: Poster presentations

Chairman: **F. Craciunoiu**, IMT-Bucharest, Romania

- N2. 1** *ATOM FORCE MICROSCOPY OF SnO₂ NANO LAYERS*, **L.N. Filevskaya, V.A. Smytyna, V.S. Grinevich**, Odessa National “I.I. Mechnikov” Univ., Odessa, Ukraine.
- N2. 2** *HALL-PETCH TYPE BEHAVIOR OF MILLED NANO-POWDERS*, **M. Danila, R. Radoi, I. Licea***, IMT-Bucharest, *Univ. of Bucharest, Romania.
- N2. 3** *MAGNETO-TRANSPORT PHENOMENA IN NANOLAYERED [FeCoNiB/Co/Cu/Co]_n THIN FILMS*, **M. Urse, M.H. Chiriac, M. Grigoras**, National Inst. of R & D for Technical Physics, Iasi, Romania.
- N2. 4** *SILVER/POROUS SILICON (PS) NANO-COMPOSITE LAYERS FOR BIOMEDICAL APPLICATIONS*, **I. Kleps, M. Miu, M. Danila, M. Simion, T. Ignat, A. Bragaru, L. Dumitru*, G. Teodosiu***, IMT-Bucharest, *Inst. of Biology, Bucharest, Romania.
- N2.5** *CONTRIBUTION OF SURFACE DEFECTS TO CATHODOLUMINESCENCE EMISSION SPECTRA OF NANOCRYSTALLINE TITANIUM DIOXIDE*, **R. Plugaru**, IMT-Bucharest, Romania.

- N2.6** *SELECTIVE MODIFICATION OF NANOPORE ELECTRODES AS SENSITIVE BIOSENSING PLATFORM*, L. Stoica¹, S. Neugebauer¹, K. Zor¹, G. Hartwich², M. Stelzle³, W. Schuhmann¹,
¹Analytical Chemistry-Elektroanalytisk und Sensorik, Bochum, ²FRIZ Biochem, Munich, ³NMI, Reutlingen, Germany.
- N2.7** *Ge DOTS EMBEDDED IN SILICON DIOXIDE USING SOL-GEL $Si_{1-x}Ge_xO_2$ DEPOSITION*, T.F. Stoica¹, M. Gartner², V. Teodorescu¹, T. Stoica¹,
¹INCD-FM, ²Inst of Physical Chemistry, Bucharest, Romania.

PHYSICS OF MATERIALS 2
Session PM2: Poster presentations

Chairman: **V. Iancu**, “Politehnica” University of Bucharest,
Romania

- PM2. 1** *FABRICATION OF POROUS SOL-GEL CATHODES FOR Li BATTERIES*, **A. Dima**, **M. Casalino**, **F. Della Corte**, Inst. per la Microelettronica e Microsistemi, Napoli, Italy.
- PM2. 2** *CHARACTERIZATION OF $Ba_{0.5}Sr_{0.5}TiO_3$ THIN FILMS FOR TUNEABLE DEVICES*, **A. Ioachim**, **M.I. Toacsan**, **M.G. Banciu**, **L. Nedelcu**, **C.A. Dutu**, **F. Sava**, **M. Popescu**, **N. Scarisoreanu***, **M. Dinescu***, INCD-FM, *INFLPR, Bucharest, Romania.
- PM2. 3** *LIGHT-INDUCED PROPERTIES IN POLYIMIDES CONTAINING SIDE AZOBENZENE GROUPS*, **I. Sava**¹, **M. Bruma**¹, **B. Schulz**^{2,3}, **J. Stumpe**^{2,4}, ¹”Petru Poni” Inst. of Macromolecular Chemistry, Iasi, Romania, ²Inst. for Thin Film and Microsensorics Technology, Teltow, ³Univ. of Potsdam, ⁴Fraunhofer Inst. for Applied Polymer Research, Potsdam, Germany.
- PM2. 4** *TEMPERATURE DEPENDENCE OF THE MAIN PIEZOELECTRIC PARAMETERS OF A Nb-Li DOPED PZT CERAMIC*, **C. Miclea**, **C. Tanasoiu**, **L. Amarande**, **M. Cioangher**, **L. Trupina**, **C.T. Miclea**, **C. David***, INCD-FM, *Hyperion Univ., Bucharest, Romania.

- PM2. 5** *PHOTOINDUCED OPTICAL ANISOTROPY IN MODIFIED POLYIMIDES*, **E. Hamciuc¹, I. Sava¹, M. Bruma¹, T. Kopnick², J. Stumpe^{2,3}**,
¹"Petru Poni" Inst. of Macromolecular Chemistry, Iasi, Romania, ²Inst. of Thin Film and Microsensoric Technology, Teltow, ³Fraunhofer Inst. for Applied Polymer Research, Potsdam, Germany.
- PM2. 6** *SENSING PROPERTIES OF TELLURIUM BASED THIN FILMS TO OXYGEN, NITROGEN AND WATER VAPOUR*, **D. Tsiulyanu, I. Stratan, A. Tsiulyanu, I. Eisele***, Technical Univ., Chisinau, Moldova, *Univ. of the Bundeswehr Munich, Neubiberg, Germany.

Thursday, September 28, 9:00, Room "A"

MICROPHOTONICS 1

Session O1: Oral presentations

Chair: **H.-G. Rubahn**, University of Southern, Denmark
D. Cristea, IMT-Bucharest, Romania

- 01.1** *III/V WAFER BONDING TECHNOLOGY FOR WAFER-LEVEL FABRICATION OF GaInAsP/InP MICRORING RESONATORS*, **V. Dragoi¹, G. Mittendorfer¹, C. Thanner¹, P. Lindner¹, M. Alexe², L. Pintilie², M. Hamacher³, H. Heidrich³**, ¹EV Group, St. Florian, Austria, ²Max Planck Inst. of Microstructure Physics, Halle, ³Fraunhofer Inst. for Telecommunications, Berlin, Germany.
- 01.2** *LEFT-HANDED ELECTROMAGNETISM IN A METALLO-DIELECTRIC PHOTONIC CRYSTAL; A NUMERICAL ANALYSIS*, **C. Kusko, M. Kusko**, IMT-Bucharest, Romania.
- 01.3** *OPTICALLY TRANSPARENT ELECTRODES FOR PHOTORESPONSE ENHANCEMENT OF MSM PHOTODETECTOR*, **E. Budianu, M. Purica, F. Iacomi*, C. Baban***, IMT-Bucharest, *"Al. I. Cuza" Univ., Iasi, Romania.
- 01.4** *METAL BASED SULFIDES, p-TYPE SEMICONDUCTORS IN SOLID STATE SOLAR CELLS*, **S.A. Manolache¹, L.A. Isac¹, A. Duta¹, A. Kriza², M. Nanu^{1,3}**, ¹"Transilvania" Univ. of Brasov, ²Univ. of Bucharest, Romania, ³TU Delft, The Netherlands.
- 01.5** *PHOTOCONDUCTIVITY OF THE AMORPHOUS As₂Se₃ FILM IN THE MEDIUM INFRARED RANGE*, **M.S. Iovu, I.A. Vasiliev, E.P. Colomeiko**, Inst. of Applied Physics, Chisinau, Moldova.

10:40–11:10 COFFEE BREAK

Thursday, September 28, 9:00, Room "B"

**ADVANCED MICROWAVE
DEVICES & CIRCUITS**

Session Mw: Oral presentations

Chairmen: **R. Plana**, LAAS-CNRS, Toulouse, France
D. Neculoiu, IMT-Bucharest, Romania

Invited Paper *TECHNOLOGY OF WIDE-BANDGAP DIODE STRUCTURES FOR HIGH-FREQUENCY OPERATION*, **K. Mutamba**, **O. Yilmazoglu**,
9:00 **O. Cojocari**, **C. Sydlo**, **D. Pavlidis**,
H.L. Hartnagel, Technische Univ. Darmstadt, Germany.

Mw. 1 *SCALING MEANDER INDUCTORS FROM*
9:40 *MICRO TO NANO*, **G. Stojanovic**, **T. Ljekar**,
R. Sordan*, Faculty of Technical Sciences, Novi Sad, Serbia, *Interuniv. Center Como, Italy.

Mw. 2 *OPTIMISATION OF CASCADED BAND STOP*
10:00 *MSW RESONATORS USING CPW LINES*,
A. Cismaru, **R. Marcelli***, IMT-Bucharest, Romania, *CNR-IMM, Rome, Italy.

Mw.3 *PLANAR MICROWAVE BANDPASS FILTERS*
10:20 *WITH DEFECTED GROUND RESONATORS*,
N. Militaru, **G. Lojewski**, **M.G. Banciu***,
"Politehnica" Univ. of Bucharest, *INCD-FM, Bucharest, Romania.

10:40–11:10 COFFEE BREAK

Thursday, September 28, 11:10, Room "A"

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

Chair: **F.E.H. Tay**, National University of Singapore
I. Kleps, IMT–Bucharest, Romania

Invited Paper 11:10 *MOLECULAR NANOTECHNOLOGY USING ORGANIC NANOFIBERS*, **H.-G. Rubahn**, Mads Clausen Inst., Soenderborg, Denmark.

N1.1 11:50 *QUANTUM CONFINEMENT MODEL FOR PHOTOTRANSPORT PROCESSES IN NANOCRYSTALLINE POROUS SILICON*, **M.L. Ciurea, I. Stavarache, V. Iancu***, INCD-FM, Bucharest, *"Politehnica" Univ. of Bucharest, Romania.

N1.2 12:10 *PREPARATION AND MAGNETIC PROPERTIES OF Fe AND Ni BASED NANOPARTICLES AND NANOWIRES*, **H. Chiriac¹, A.E. Moga¹, C. Gherasim^{1,2}**, ¹National Inst. of R&D for Technical Physics, ²"Al. I. Cuza" Univ., Iasi, Romania.

N1.3 12:30 *BASIC BUILDING BLOCKS FOR EFFECTIVE SINGLE ELECTRON TUNNELING TECHNOLOGY BASED COMPUTATION*, **C. Meenderinck, S. Cotofana**, Delft Univ. of Technology, Delft, The Netherlands.

Thursday, September 28, 11:10, Room "B"

RF MEMS & NEMS

Session M&N: Oral presentations

Chairmen: **K. Mutamba**, Technical University Darmstadt, Germany.

A. Muller, IMT-Bucharest, Romania

- M&N. 1** *COMPACT LUMPED ELEMENTS MICRO-MACHINED BAND-PASS FILTERS WITH DISCRETE SWITCHING FOR 1.8/5.2 GHz APPLICATIONS*, **D. Neculoiu**^{1,2}, **F. Giacomozzi**³, **L. Bary**⁴, **D. Vasilache**¹, **Andrei A. Muller**¹, **B. Margesin**³, **I. Petrini**¹, **C. Buiculescu**¹, **A. Takacs**¹, **R. Plana**⁴, **A. Muller**¹, ¹IMT-Bucharest, ²"Politehnica" Univ. of Bucharest, Romania, ³ITC-IRST, Povo, Italy, ⁴LAAS-CNRS, Toulouse, France.
- M&N. 2** *RF NEMS SWITCH BASED ON CARBON NANOTUBE VERTICAL TWEEZERS*, **M. Dragoman**¹, **A. Takacs**¹, **H. Hartnagel**², **R. Plana**³, ¹IMT-Bucharest, Romania, ²Technische Univ. Darmstadt, Germany, ³LAAS-CNRS, Toulouse, France.
- M&N. 3** *TUNABLE MEMS FILTERS FOR MILLIMETER WAVE APPLICATIONS*, **A. Takacs**, **D. Neculoiu**, **D. Vasilache**, **A. Muller**, **P. Ponce**^{*}, **H. Aubert**^{*}, **R. Plana**^{*}, IMT-Bucharest, Romania, ^{*}LAAS-CNRS, Toulouse, France.

- M&N. 4** *60 GHz BAND RF MEMS SWITCH,*
12:10 **D. Vasilache¹, M. Dragoman¹, G. Constantinidis²,
Y. Psychias², F. Vladoianu³, T. Kostopoulos²,
C. Tibeica¹, L. Bary⁴, A. Cismaru¹,
D. Neculoiu¹, C. Buiculescu¹, I. Petrini¹,
R. Plana⁴, A. Muller¹,** ¹IMT–Bucharest,
Romania, ²FORTH-IESL Heraklion, Crete,
Greece, ³ATMEL Romania SRL, Bucharest,
Romania, ⁴LAAS-CNRS, Toulouse, France.
- M&N. 5** *FULL-WAVE ELECTROMAGNETIC DESIGN*
12:30 *AND ANALYSIS OF BROADBAND CRLH*
COUPLERS, **S. Simion, G. Sajin,
F. Craciunoiu,** IMT-Bucharest, Romania.

Thursday, September 28, 15:00, Room "A"

STUDENT PAPERS

Session S: Oral presentations

Chairmen: **G. Brezeanu**, "Politehnica" University of Bucharest,
Romania

F. Udrea, Cambridge University, UK

S. 1 *DESIGN OF INKJET PRINTING HEAD, BASED*
15:00 *ON ELECTROWETTING EFFECT, FOR*
PRINTABLE ELECTRONICS APPLICATIONS,
D. Esinenco, I. Codreanu, R. Rebigan, IMT-
Bucharest, Romania.

S. 2 *HYPERGRAPH CONTEXTUAL GRAMMARS FOR*
15:20 *SELF-ASSEMBLING DNA BOOLEAN CIRCUITS*
MODELLING, T. Dediu¹, A.-H. Dediu^{1,2},
¹"Politehnica" Univ. of Bucharest, Romania,
²Rovira i Virgili Univ., Tarragona, Spain.

S. 3 *MICROMACHINED BANDPASS FILTER WITH A*
15:40 *NEW CONTROLLED RESONANCE IN THE*
STOPBAND FOR WLAN 5200 FILTER
APPLICATIONS, Andrei A. Muller, D. Neculoiu,
D. Vasilache, A. Takacs, A. Cismaru, P. Pons*,
R. Plana*, IMT-Bucharest, Romania, *LAAS-
CNRS, Toulouse, France.

S. 4 *MOVABLE MICROMIRRORS - DESIGN AND*
16:00 *SIMULATION, F. Comanescu, C. Tibeica,*
D. Esinenco, M. Purica, IMT-Bucharest, Romania.

16:20–16:50 COFFEE BREAK

S. 5 *SIMPLE PARAMETER EXTRACTION ALGORITHMS FOR A PRECISE MOSFET MODEL*,
16:50 **S. Eftimie, Alexandru Rusu***, **A. Rusu***, Catalyst Semiconductor Romania S.R.L., *"Politehnica" Univ. of Bucharest, Romania.

S. 6 *FLOW OF NON-NEWTONIAN FLUIDS*,
17:10 **M.A. Avram, M. Avram, C. Iliescu***,
A. Bragaru, IMT-Bucharest, Romania, *Inst. of Bioengineering and Nanotechnologies, Singapore.

20:30 BANQUET – Sinaia Hotel, Restaurant Hall

Thursday, September 28, 15:00, Room "B"

PHYSICS OF MATERIALS 1

Session PM1: Oral presentations

Chair: **M.L. Ciurea**, INCD-FM, Bucharest, Romania
I. Morjan, INFLPR, Bucharest, Romania

PM1.1 *DIELECTRIC PROPERTIES OF FINE GRAINS*

15:00 *BARIUM TITANATE CERAMICS PREPARED BY MECHANOCHEMICAL SYNTHESIS*, **C. Miclea, C. Tanasoiu, I. Spanulescu***, C.F. Miclea, **A. Gheorghiu***, **L. Amarande, M. Cioangher**, INCD-FM, *Hyperion Univ., Bucharest, Romania.

PM1.2 *INVESTIGATION OF WO₃ AND TiO₂ THIN FILMS*

15:20 *USED IN PHOTOCATALYSIS*, **Al. Enesca, L. Andronic, A. Duta, S. Manolache**, "Transilvania" Univ. of Brasov, Romania.

PM1.3 *DEFECT CHEMISTRY OF CuSbS₂*, **D. Perniu¹**,

15:40 **A. Duta¹, J. Schoonman^{1,2}**, ¹"Transilvania" Univ. of Brasov, Romania, ¹Delft Univ. of Technology, Delft, The Netherlands.

PM1.4 *MEMORY EFFECTS IN Si/SiO₂/NANO-*

16:00 *CRYSTALLINE PbS HETEROSTRUCTURES*, **M. Buda, V. Stancu, E. Pentia, T. Botila**, INCD-FM, Bucharest, Romania.

16:20–16:50 COFFEE BREAK

PM1.5 *ANNEALING EFFECTS ON PROPERTIES OF*

16:50 *Ba(Zn_{1/3}Ta_{2/3})O₃ DIELECTRIC MATERIALS*, **A. Ioachim, M.I. Toacsan, M.G. Banciu, L. Nedelcu, C.A. Dutu, E. Andronescu***, **S. Jinga***, INCD-FM, Bucharest, *"Politehnica" Univ. of Bucharest, Romania.

**PM1.6 CALIXARENE-DOPED POLYANILINE FOR
17:10 APPLICATIONS IN SENSING, B. Serban¹,
M. Bercu^{1,2}, S. Voicu^{1,3}, M. Mihaila¹,
Gh. Nechifor³, C. Cobianu¹, ¹Honeywell Advanced
Technology Center, Bucharest, ²Univ. of Bucharest,
³“Politehnica” Univ. of Bucharest, Romania.**

**PM1.7 CHARACTERIZATION OF PULSED-LASER-
17:30 DEPOSITED AlN FILMS AS A GATE
DIELECTRIC IN AlN-Si MIS STRUCTURES,
S. Simeonov, S. Bakalova, E. Kafedjiiska,
A. Szekeres, S. Grigorescu*, A. Popescu*,
C. Cojanu*, F. Sima*, G. Socol*,
I.N. Mihailescu*, Inst. of Solid State Physics,
Sofia, Bulgaria, *INFLPR, Bucharest, Romania.**

20:30 BANQUET – Sinaia Hotel, Restaurant Hall

Friday, September 29, 9:00, Room "A"

MICROSENSORS

Session Ms: Oral presentations

Chairmen: **E. Popovici**, National University of Ireland, Cork, Ireland

M. Bazu, IMT-Bucharest, Romania

Ms. 1 *ISFET MICROSENSORS HfO₂ BASED FOR BIOMEDICAL APPLICATIONS*, **C. Moldovan¹, R. Iosub¹, M. Modreanu², D. Ulieru³, B. Firtat¹, M. Ion¹**, ¹IMT-Bucharest, Romania, ²Tyndall National Inst., Cork, Ireland, ³ROMES S.A, Bucharest, Romania.

Ms. 2 *SUS ADHESIVE BONDING USING CONTACT IMPRINTING*, **L. Yu^{1,2}, C. Iliescu¹, F.E.H. Tay^{1,2}, B. Chen¹**, ¹Inst. of Bioengineering and Nanotechnology, ²National Univ. of Singapore, Singapore.

Ms. 3 *MECHANICAL PERFORMANCES OF AN INTEGRATED MICROPUMP. APPLICATION IN ELECTROPHORESIS*, **F. Ravariu, C. Ravariu*, O. Nedelcu, F. Babarada*, E. Manea, C. Podaru**, IMT-Bucharest, *"Politehnica" Univ. of Bucharest, Romania.

Ms. 4 *CERAMIC MICRO HEATER TECHNOLOGY FOR GAS SENSORS*, **C. Moldovan¹, O. Nedelcu¹, P. Johander², I. Goenaga³, D. Gomez³, P. Petkov⁴, U. Kaufmann⁵, H.-J. Ritzhaupt-Kleissl⁵, R. Dorey⁶, K. Persson⁷**, ¹IMT-Bucharest, Romania, ²IVF- Industrial R&D Corporation, Sweden, ³Fundacion Tekniker, Spain, ⁴Cardiff Univ., UK, ⁵Forschungszentrum Karlsruhe, Germany, ⁶Cranfield Univ., UK, ⁷IMEGO, Goteborg, Sweden.

Ms. 5 *NOVEL ZINC OXIDE NANOSTRUCTURED THIN
10:20 FILMS FOR VOLATILE ORGANIC COMPAUNDS
GAS SENSORS, T. Shishyanu, S. Shishyanu,
O. Lupan, V. Sontea, A. Bragorencu, Technical
Univ. of Moldova, Chisinau, Moldova.*

10:40–11:10 COFFEE BREAK

Friday, September 29, 9:00, Room "B"

INTEGRATED CIRCUITS

Session IC: Oral presentations

Chair: **S. Sinha**, University of Pretoria, South Africa
A.M. Manolescu, "Politehnica" University of Bucharest,
Romania

IC. 1 *DESIGN CONSIDERATIONS AND RESIDUAL*
9:00 *OFFSET ANALYSIS FOR AN AUTOZERO*
TRANSCONDUCTANCE AMPLIFIER TO-
POLOGY, **A. Danchiv**, **M. Bodea***, **C. Dan***,
Infineon Technologies Romania, Bucharest,
*“Politehnica” Univ. of Bucharest, Romania.

IC. 2 *PHONY STABILITY PROBLEM IN FAST LDOS*,
9:20 **C. Stanescu**, Catalyst Semiconductor Romania
S.R.L., Bucharest, Romania.

IC. 3 *TECHNOLOGY-BASED STATIC FIGURE OF*
9:40 *MERIT FOR HIGH VOLTAGE ICs*, **M.M. Iqbal**,
F. Udrea, Cambridge Univ., UK.

IC. 4 *A 10-BIT, 40 MSAMPLES/S LOW POWER*
10:00 *PIPELINE ADC FOR SYSTEM-ON-A-CHIP*
DIGITAL TV APPLICATION, **J. Francke**,
H. Yang, **R. Luo**, Tsinghua Univ., Beijing,
P.R. China.

IC. 5 *THE THREE VALUED LOGIC IMPLEMEN-*
10:20 *TATION ON A HYBRID SOI STRUCTURE*,
C. Ravariu, **H. Zoltan**, **F. Ravariu***,
L. Dobrescu, "Politehnica" Univ. of Bucharest,
*IMT-Bucharest, Romania.

10:40–11:10 COFFEE BREAK

- IC. 6** *PID ALGORITHM FOR CONTROLLER*
11:10 *PROCESSORS, V. Chesaru, C. Dan*,*
 *M. Bodea**, O2Micro Romania, *"Politehnica"
 Univ. of Bucharest, Romania.
- IC. 7** *MULTIFUNCTIONAL LINEAR STRUCTURE*
11:30 *WITH APPLICATIONS IN VLSI DESIGNS,*
 C. Popa, "Politehnica" Univ. of Bucharest,
 Romania.
- IC. 8** *LOGIC BIST FOR STRUCTURED ASIC,*
11:50 *R. Gavrus, C. Gerigan*, "Transilvania" Univ. of
 Brasov, Romania.

Friday, September 29, 11:10, Room “A”

MODELLING

Session M: Oral presentations

Chairmen: **G. Papaioannou**, University of Athens, Greece
M. Dragoman, IMT–Bucharest, Romania

M. 1 *SYNTHESIS OF GEOMETRICAL SHAPE OF THE*
11:10 *DISTRIBUTED RESISTIVE MICROELECTRONIC*
STRUCTURES FOR MAXIMUM ROBUSTNESS,
A. Manolescu, A.M. Manolescu, “Politehnica”
Univ. of Bucharest, Romania.

M. 2 *VECTOR DISCRETIZATION SCHEMES BASED*
11:30 *ON UNSTRUCTURED NEIGHBORHOOD*
INFORMATION, **O. Triebel, T. Grasser**, Inst. for
Microelectronics, TU, Wien, Austria.

M. 3 *DESIGN OF TEST STRUCTURES FOR*
11:50 *REDUCED ORDER MODELING OF THE*
SQUEEZE FILM DAMPING IN MEMS, **A. Soma,**
A. Ballestra, Politecnico di Torino, Italy.

M. 4 *CAPACITIVE GATE INSULATOR THICKNESS*
12:10 *AND ITS IMPACT ON STATIC AND DYNAMIC*
BEHAVIOR OF SCALED PD-SOI-MOSFET,
T. Herrmann, W. Klix, R. Stenzel, T. Feudel*,
J. Hoentschel*, M. Horstmann*, Univ. of
Applied Sciences Dresden, *AMD Saxony LLC &
Co. KG, Germany.

**DEVICES & IC: MODELLING &
SIMMULATION**

Session D&IC: Poster presentations

Chairmen: **D. Dobrescu**, "Politehnica" University of Bucharest,
Romania
C. Stanescu, Catalyst Semiconductor Romania SRL,
Bucharest, Romania
L. Galateanu, IMT-Bucharest, Romania

- D&IC. 1** *DEVELOPMENT OF PATENT FILING FIGURES IN THE FIELD OF MICROELECTROMECHANICAL DEVICES*, **M. Meister, C. McGinley**, European Patent Office, Berlin, Germany.
- D&IC. 2** *IMPROVED LINEARITY CMOS ACTIVE RESISTOR WITH INCREASED FREQUENCY RESPONSE AND CONTROLLABLE EQUIVALENT RESISTANCE*, **C. Popa, A.M. Manolescu, A. Manolescu**, "Politehnica" Univ. of Bucharest, Romania.
- D&IC. 3** *AN EXPERIMENTAL APPROACH OF THE HOT WIRE METHOD FOR MEASUREMENT OF THE THERMAL CONDUCTIVITY*, **C. Codreanu, N.-I. Codreanu*, V. Obreja**, IMT-Bucharest, *Catalyst Semiconductor Romania SRL, Bucharest, Romania.
- D&IC. 4** *BROADBAND PLANAR FILTERS WITH ENHANCED COUPLINGS USING DEFECTED GROUND STRUCTURES*, **N. Militaru, M.G. Banciu*, G. Lojewski**, "Politehnica" Univ. of Bucharest, *INCD-FM, Bucharest, Romania.

- D&IC. 5** *THEORETICAL MODEL AND SIMULATIONS FOR THE SHAPE VARIATION OF A DROPLET IN THE ELECTROWETTING EFFECT*, **I. Codreanu, D. Esinenco**, IMT-Bucharest, Romania.
- D&IC. 6** *FPGA IMPLEMENTATIONS OF CELLULAR AUTOMATA FOR PSEUDO-RANDOM NUMBER GENERATION*, **P. Anghelescu, E. Sofron, S. Ionita, L. Ionescu**, Univ. of Pitesti, Romania.
- D&IC. 7** *LAYOUT PARASITIC LIMITATIONS IN HIGH-SPEED CIRCUITS*, **C.M. Albina, G. Hackl**, GME mbH Munchen, Germany.
- D&IC. 8** *SENSORS MICROPROCESSING BY LASER DIRECT PATTERNING (LDP) FOR INDUSTRIAL PRODUCTION*, **D. Ulieru¹, A. Ciuciumis², A. Tantau³, E. Ulieru³**, ¹ROMES S.A., Bucharest, ²IMT-Bucharest, ³SITEX 45 SRL, Bucharest, Romania.
- D&IC. 9** *TWO ALTERNATIVE LOW TEMPERATURE TECHNOLOGICAL METHODS FOR MICROCHANNELS MICROFABRICATION*, **A. Coraci, C. Podaru, D. Vasilache, E. Iancu, A. Ciuciumis, A. Polescu, O Corici***, IMT-Bucharest, *Oilfield Schlumberger, Bucharest, Romania.
- D&IC. 10** *THE STABILITY AND THE NEMI OF HALL MAGNETIC MICROSENSORS*, **C. Panait, G. Caruntu**, Maritime Univ. of Constantza, Romania.
- D&IC. 11** *BOUND STATES REVEALED IN A HETEROSTRUCTURE WITH TIME-PERIODIC POTENTIAL*, **Z.I. Al-Sahhar, M.M. Shabat***, Al-Aqsa Univ., *Islamic Univ., Gaza Strip, Palestinian Authority.

- D&IC. 12** *A NEW CLASS OF S-TYPE CURRENT CONTROLLED NONLINEAR NEGATIVE RESISTANCES*, **D.N. Vizireanu, L. Dobrescu, M. Udrea, R. Preda**, "Politehnica" Univ. of Bucharest, Romania.
- D&IC. 13** *A METHOD TO ANALYZE THE FAULT TOLERANCE OF MOLECULAR QUANTUM-DOT CELLULAR AUTOMATA SYSTEMS*, **D. Milosavljevic, S.D. Cotofana**, Delft Univ. of Technology, Delft, The Netherlands.
- D&IC. 14** *FINITE ELEMENT ANALYSIS ON THE MECHANISM OF LAMB WAVE GENERATION WITH PIEZOELECTRIC TRANSDUCERS*, **N. Constantin, St. Sorohan, V. Anghel, M. Gavan**, "Politehnica" Univ. of Bucharest, Romania.