## CONFERENCE PROGRAM

Thursday, August 21		
08.00-10.30	Registration, Accommodation	
	Distribution of the conference materials	
10.30-10.45	Opening Session	
10.45-13.45	<u>Plenary Session</u> Chairs : Cornel Panait, Violeta-Vali Ciucur, Paul Schiopu, Marian Vladescu, Razvan Tamas	
13.50	Photo Remember ATOM-N 2014 Dan Cariga	
14.30-15.30	Lunch	
16.00-17.20	Oral Session 1: Advanced materials and new technologies Chairs : Bogdan Hnatiuc, Ana Maria Catargiu Oral Session 2: Diffractive, micro optics /optical and non-optical signal processing Chairs : Dorin Dadarlat, Florin Toadere	
18.00	Welcome cocktail	
Friday, August 22		
09.00-10.00	Key Presentation   Frontiers in developing III-V optoelectronic materials: technology and new applications, Mircea Guina	
10.00-10.30	Agilrom Scientific Presentation Alin Mogos	
10.30-13.30	Oral Session 3: Sensors. microsystems, and instruments Chairs : Cristian Viespe, Adrian Tulbure / Petre Cătălin Logofătu, A.A. Popescu	
	Oral Session 4: Modeling, design and simulation Chairs : Ioan Ileana, Ioan Plotog / Emil M. Oanta, Nicolae Militaru	
14.00-15.00	Lunch	
15.30-19.30	Posters Session 1 Chairs : Victor Damian, Cornel Suciu	
19.30	Dinner	
Saturday, August 23		
08.20-09.40	Oral Session 5: Micro/nanophotonics and micro/nanotechnologies Chairs : Nicolae Enaki, Claudia Yu. Zenkova	
09.40-11.20	Special workshop: Monitoring of Electrical Tranzient Signals by Using Smart Sensors Network Chairs : Cornel Ioana, Ion Candel	
11.20-13.30	Posters Session 2 Chairs : Marian Vladescu, Daniela Elena Mitu	
14.00-15.00	Lunch	
15.00-16.30	Posters Session 2 Chairs : Liviu Constantin Stan, Mirel Paun	
16.30-19.30	Cultural Program Chairs : Ana Dumitrascu, Alexandru Caranica	
19.30	Conference Dinner and Student Awards	
Sunday, August 24		
09.30-11.00	Round Table	
11.30	Closing Session	

## 10.45-13.45 PLENARY SESSION

- **10.45** Introduction to Compressive Sampling and Applications in THz Imaging (invited) Daniela Coltuc, *Politehnica University of Bucharest, Romania*
- 11.15- Alternative Applications of the Method of Moments: from Electromagnetic Waves to Source Synthesis, Deconvolution, and Data Processing in Navigation Systems (invited) Razvan D. Tamas, Constanta Maritime University, Romania
- 11.45 Advanced intelligent control methods in open architecture systems for cooperative works on 4 nano-micro-manipulators platform (invited) Victor Vladareanu, Institute of Solid Mechanics of the Romanian Academy, Romania
- 12.15 Photoluminescence of Some Chalcogenide Glasses Doped with Rare-earth Ions (invited) Mihail Iovu, Institute of Applied Physics of Academy of Sciences of Moldova, Republic of Moldova
- **12.45** Phenomenological model of growth of *TiO*<sub>2</sub> films for nano-biomedicine (invited) N. Enaki, *Institute of Applied Physics of Academy of Sciences of Moldova, Republic of Moldova*

## THURSDAY, AUGUST 21

#### 16.00-17.20

#### **Oral Session 1: ADVANCED MATERIALS AND NEW TECHNOLOGIES**

16.00-16.20- Advanced Educational Program in Optoelectronics for Undergraduates and Graduates in Electronics,

Marian Vladescu, Politehnica University of Bucharest, Romania

16.20-16.40- New dielectric elastomers with improved properties for energy harvesting and actuation

George Stiubianu, Inorganic Polymers Laboratory, Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania

- 16.40-17.00- New conjugated polymers based on 3,6- and 2,7- carbazole linked by phenylene ethynylene segments for optoelectronic applications Ana-Maria Catargiu, P. Poni" Institute of Macromolecular Chemistry, Iasi, Romania
- 17.00-17.20- Influence of GlidArc treatment on layers formation of biofouling

Bogdan Hnatiuc, Constanta Maritime University, Romania

#### 18.00 - Welcome cocktail

#### **THURSDAY 21 AUGUST**

#### 16.00-17.20

# Oral Session 2: DIFFRACTIVE, MICRO OPTICS /OPTICAL AND NON-OPTICAL SIGNAL PROCESSING

**16.00-16.20- Diffraction grating formation during holographic recording in As2S3 thin films** Alexei Meshalkin, *Institute of Applied Physics, Academy of Sciences of Moldova, Republic of Moldova* 

16.20-16.40- Thermoelectrics (TE) used as detectors of radiation. An alternative calorimetry based on the photothermoelectric (PTE) effect.

D. Dadarlat, Department of Molecular and Biomolecular Physics, National R&D Institute for Isotopic and Molecular Technologies, Cluj-Napoca, Romania

16.40-17.00- Spectral characterization of the effect of the amber filters on the color hues of an image

Florin Toadere, Applied Optics Group, Univ. of Kent, Canterbury, UK

17.00-17.20- Comparative spectral analysis between the functionality of the human eye and of the optical part of a digital camera

Florin Toadere, Applied Optics Group, Univ. of Kent, Canterbury, UK

#### FRIDAY, AUGUST 22

#### 09.00-10.00 Key Presentation

**Frontiers in developing III-V optoelectronic materials: technology and new applications (invited)** *Prof. Mircea Guina, Optoelectronics Research Centre, Tampere University of Technology, Finland* 

#### 10.00-10.30 Agilrom Scientific Presentation Alin Mogos

#### 10.30-13.30

#### **Oral Session 3: SENSORS. MICROSYSTEMS, AND INSTRUMENTS**

- **10.30-10.50- Design and Properties of Quartz Love Wave Surface Acoustic Waves Sensors** Cristian Viespe, Laser Department, National Institute of Laser, Plasma and Radiation Physics, Magurele-Bucharest, Romania
- 10.50-11.20- Creating a Transducer Electronic Datasheet using I2C Serial EEPROM Memory and PIC32-Based Microcontroller Development Board Adrian Tulbure, Dpartment of Precise and Engineering Sciences, "I Decembrie 1918" University of Alba Iulia, Romania
- **11.20-11.50- Tele-Monitoring System for Water Environments** George Suciu, *Politehnica University of Bucharest, Romania* **11.50-12.10- Design of Anti Burglar Alarm Systems**

Aurelian Costea, Politehnica University of Bucharest, Romania

12.10-12.30- Surface plasmon resonance: Concept and applications for nano-sensors and optical active devices

A.A. Popescu, National Institute of R&D for Optoelectronics INOE 2000, Magurele, Romania

12.30-12.50- Physical Fourier encoding and compacting of optical data Petre Cătălin Logofătu, National Institute for Laser, Plasma and Radiation Physics, Magurele, Romania

- **12.50-13.10- A maritime direction finding system based on global positioning system** Alin M. Danisor, *Maritime University of Constanta, Romania*
- 13.10-13.30- Spine lateral flexion strength development differences between exercises with pelvic stabilization and without pelvic stabilization

Straton Alexandru, Maritime University of Constanta, Romania

# FRIDAY, AUGUST 22 10.30-13.30 Oral Session 4: MODELING, DESIGN AND SIMULATION

- **10.30-10.50- Spectral delay line for display control in swept source OCT** Florin Toadere, *Applied Optics Group, University of Kent, Canterbury, UK*
- **10.50-11.20- Thermal Image Filtering by Bi-dimensional Empirical Mode Decomposition** Gavriloaia Mihai-Bogdan , *Politehnica University of Bucharest, Romania*
- 11.20-11.50- Analysis and simulation of an automated LED lighting system for pedestrian crosswalk

Ioan Ileana, "1 Decembrie 1918" University of Alba Iulia, Romania

- **11.50-12.10- Investigations on Electroluminescent Tapes and Foilsin Relation to their Applications in Automotive** Ioan Plotog, "Politehnica" University of Bucharest, Romania
- **12.10-12.30- Material constraints on high speed design** Diana Bucur, University Politehnica of Bucharest, Bucharest, Romania
- **12.30-12.50- Applications of magneto-rheologic fluids in semi-active suspension systems** Andronic Florin, *Stefan cel Mare University of Suceava, Romania*
- 12.50-13.10- Roughness effect upon the flow of R134a refrigerant through rectangular microchannels,

Suciu Cornel, Stefan cel Mare University of Suceava, Romania

**13.10-13.30- Original Computer Method for the Experimental Data Processing in Photoelsticity** Emil M. Oanta, *Maritime University of Constanta, Romania* 

# FRIDAY, AUGUST 22 15.30-19.30 POSTERS SESSION 1

- PS 1- 1 Resonant Response of Electromagnetic Scattering from Ellipsoid, Gavriloaia Gheorghe, "Politehnica" University of Bucharest, Romania
- **PS 1- 2 Frequency analysis of a semi-active suspension with magneto-rheological dampers** Andronic Florin, *Stefan cel Mare University of Suceava, Romania*
- PS 1- 3 Wearable Sensors for Health Monitoring George Suciu, "Politehnica" University of Bucharest, Romania
- **PS 1- 4 A Simulink-Modeled PV Module and Array** Emmanuel Taddy, "Politehnica" University of Bucharest, Romania
- **PS 1-5 Optimal control of real ambient LED lighting powering,** Gheorghe Marc, *Electronics Department, 1 Decembrie 1918 University, Alba Iulia, Romania*
- **PS 1-6 Smart power supply system for LED street lighting,** Mircea Risteiu, *Electronics Department, 1 Decembrie 1918 University, Alba Iulia, Romania*
- **PS 1-7 Photoluminescent Nanocomposite Materials Based on SBMA Copolymer and CdS** V. Verlan, *Institute of Applied Physics, Chisinau MD 2028, Republic of Moldova*

- PS 1-8 Preparation and Characterization of CdSe Colloidal Quantum Dots by Optical Spectroscopy and 2D NMR, V. Verlan, Institute of Applied Physics, Chisinau MD 2028, Republic of Moldova
- PS 1-9 Steady-State Photoconductivity of amorphous (As4S3Se3)1-x:Snx Films Oxana Iaseniuc, Institute of Applied Physics, Academy of Sciences of Moldova, Republic of Moldova
- PS 1-10 Optical and Raman Spectra of As4S3Se3:Snx Glasses Oxana Iaseniuc, Institute of Applied Physics, Academy of Sciences of Moldova, Republic of Moldova
- PS 1-11 Optical characterization of the new nanocomposites SBMA/Eu(TTA)3(Ph3PO)2 Bordian Olga, Institute of Applied Physic, Academy of Sciences of Moldova, Republic of Moldova
- PS 1-12 Nano-indentation investigations of (As2Se3)1-x: Snx and (As4S3Se3)1-x: Snx glasses Harea Diana, Institute of Applied Physics, Academy of Sciences of Moldova, Republic of Moldova
- **PS 1-13 Preparation and Characterization of Ga2O3 and GaN Nanoparticles** E. Rusu, *Institute of Electronic Engineering and Nanotechnologies "D. Ghiţu" of the Academy* of Sciences of Moldova, Republic of Moldova
- PS 1-14 Simulation of Electron Transfer in Trimer Nanocluster Embedded in Unstructured Nondissipative Matrix in External Electromagnetic Field O.V. Yaltychenko, Institute of Applied Physics, Academy of Sciences of Moldova,
- PS 1-15 Electron-beam recording of patterns in chalcogenide films S.A. Sergeev/Mihail Iovu, Institute of Applied Physics, Academy of Sciences of Moldova,
- PS 1-16 Nanomaterials based on Gold/Silver Nanoparticles-Kuromarin Chloride and their Applications in Medicine, Liliana Olenic, National Institute for Research and Development of Isotopic and Molecular Technologies, Romania
- **PS 1-17 The azobenzene derivatives** Ionica Ionita, Valahia University of Targoviste, Faculty of Science and Arts, Romania
- PS 1-18 Analogy between "mission critical" detection in distributed systems and 13C Isotope Separation Column , Loredana Boca, "1 Decembrie 1918"University of Alba Iulia, Romania
- **PS 1-19 Theoretical study for Controlling the Regenerative Braking Energy** Emilian Ceuca, *Electronics Department, 1 Decembrie 1918 University, Alba Iulia, Romania*
- PS 1-20 Morphological Alteration of Microwave Disinfected Acrylic Resins used for Artificial Teeth and Prosthesis, M. Popescu, National Institute for R&D in Microtechnologies, Romania
- **PS 1-21 Realization of spiral phase plates by 3D lithography** Roxana Tomescu, *National Institute for R&D in Microtechnologies, Romania*
- PS 1-22 Terahertz range complex refractive index determinations for liquids using ATR Adrian Cătălin Dobroiu, *Tohoku University, RIEC, Otsuji Lab, Katahira ,Aoba-ku, Sendai, Japan.*
- PS 1-23 L1 minimization applied to two sparse signals that can be described as sums of elementary functions, Petre Cătălin Logofătu, National Institute for Laser, Plasma and Radiation Physics, Romania
- **PS 1-24 1D hyperspectral images of a Light Emitting Diodes array** Victor Damian, *National Institute for Laser, Plasma and Radiation Physics, Magurele, Romania*
- **PS 1-25 Implementation of Hadamard Spectroscopy using MOEMS as a coded aperture** Tiberus Vasile, *National Institute for Laser, Plasma and Radiation Physics, Magurele, Romania*
- **PS 1-26 Night vision adapter for an aiming telescope** Dana Granciu, S.C. IOR S.A., Bucharest, Romania
- PS 1-27 Clicks Counting System for a Riflescope 1 Andrei Drumea, "Politehnica" University of Bucharest, Romania
- **PS 1-28 Modelling and simulation of energy harvesting with solar cell** Cristina Marghescu, "*Politehnica*" University of Bucharest, Romania

PS 1-29 Diffraction patterns from holographic masks generated using combined axicon and helical
phase distributions, M. Mihailescu, Politehnica University of Bucharest, Romania
PS 1-30 Focusing criterion in DHM image reconstruction
M. Mihailescu, Physics Department, Politehnica University of Bucharest, Romania
PS 1-31 Time evolution of dimethyl carbinol in water vortex rings
Ioana - Laura Omocea, "Politehnica" University of Bucharest, Romania
PS 1-32 Security aspects of RFID communication systems
Valerică Bindar, The Special Telecommunications Service – STS, Bucharest, Romania
PS 1-33 Performance Studies of Electrochromic Displays
Ciprian Ionescu, "Politehnica" University of Bucharest, Romania
PS 1-34 Study on electrical and thermal behavior of Organic Photovoltaic (OPV) cells
Robert Alexandru Dobre, "Politehnica" University of Bucharest, Romania
PS 1-35 Universal Logic Gate with Directional Couplers
Vasile Degeratu, "Politehnica" University of Bucharest, Romania
PS 1-36 Electrogenerated networks from poly(triphenylamine-co-9,9 -dioctyl -2,7-fluorene)
with grafted side chains containing carbazole groups,
Oana Iuliana Negru, "P. Poni" Institute of Macromolecular Chemistry, Iasi-Romania
PS 1-37 Friction coefficient influence upon fluid jet atomization,
Mihai Ioan, Stefan cel Mare University of Suceava, Romania, Romania
PS 1-38 Heat transfer intensification by increasing vapour flow rate in flat heat pipes
Sprinceana Siviu, Stefan cel Mare University of Suceava, Romania
PS 1-39 Capillary layer structure effect upon heat transfer in flat heat pipes
Sprinceana Siviu, Stefan cel Mare University of Suceava, Romania
PS 1-40 Atomization of liquid droplets in multipoint injection
Marius Beniuga, Stefan cel Mare University of Suceava, Romania
PS 1-41 Spectrometry techniques in diagostics of hereditary breast cancer
Sergev Yermolenko Correlation Ontics Dent Chernivtsi National University Ukraine
PS 1-42 Spectronolarimetry of blood plazma in optimal molecular targeted therapy
Sergev Yermolenko, Correlation Ontics Dept. Chernivtsi National University Ukraine
PS 1-43 Polarization image's statistics of prostate cancer tissues
Sergev Yermolenko Correlation Optics Dept. Chernivtsi National University Ukraine
PS 1-44 Combining polarimetry and spectropolarimetry techniques in diagnostics of cancer
changes in biological tissues
Sergev Yermolenko, Chernivtsi National University, Chernivtsi, Ukraine
PS 1-45 The phase problem solving by the use of optical correlation algorithm for reconstructing
nhase skeleton of complex ontical fields
P A Riabyi Chernivtsi National University Ukraine
PS 1-46 Method of azimuthally stable Mueller-matrix diagnostics of blood plasma polycrystalline
films in cancer diagnostics
Yu A Ushenko, Chernivtsi National University, Chernivtsi, Ukraine
PS 1-47 The structure of polarization mans of skin histological sections in the Fourier domain for
the tasks of henion and malionant formations differentiation
A V Dubolazov Chernivtsi National University Chernivtsi Ukraine
PS 1-48 Mueller-matrix imaging of laser autofluorescence of biological tissues
A V Dubolazov Chernivtsi National University Chernivtsi Ukraine
11. 1. Dubblazov, Chernivisi Italional Oniversity, Chernivisi, Oktaine
SATUKDAY, AUGUST 23

## 08.20-09.40

# **Oral Session 5: MICRO/NANOPHOTONICS AND MICRO/NANOTECHNOLOGIES**

08.20-08.40- Measurements of amplitude and frequencies of subwavelength oscillations of atoms using resonance fluorescence of three levels atom in two standing waves

Nicolae Enaki, Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Republic of Moldova

- **08.40-09.00-** The use of the Rayleigh nanoparticles to diagnose optical currents and optical fields Claudia Yu. Zenkova, *Optics, Printing&Publishing Department, Chernivtsi National University, Ukraine*
- 09.00-09.20- Self-action of continuous laser radiation in a water suspension with light-absorbing particles

O. V. Angelsky, Chernivtsy National University, Chernivtsy, Ukraine

09.20-09.40- IR assessment of R134a temperature in circular micro-channels Suciu Cornel, Stefan cel Mare University of Suceava, Romania

#### 09.40-11.20-Special Workshop:

Montoring of Electrical Tranzient Signals by Using Smart Sensors Network

Cornel Ioana, Ion Candel, Grenoble Institute of Technology-GipsaLab, France

## **SATURDAY, AUGUST 23**

11.20-16.30

#### **POSTERS SESSION 2**

- **PS 2-1 Power LED Efficiency in Relation to Operating Temperature** Ioan Plotog, "*Politehnica*" University of Bucharest, Romania
- **PS 2-2 Automated Platform for Determination of LEDs Spatial Radiation Pattern** Marian Vladescu, "Politehnica" University of Bucharest, Romania
- **PS 2-3 Redundant Uplink Optical Channel for Visible Light Communication Systems** Marian Vladescu, "Politehnica" University of Bucharest, Romania
- PS 2-4 Recent Developments on Surface Acoustic Wave (SAW) Sensors for Harsh Conditions Neculai Grosu, "Politehnica" University of Bucharest, Romania
- **PS 2-5 Numerical simulations of surface plasmon resonances in metal-chalcogenide waveguides** G. C. Vasile, *Physics Department, "Politehnica" University of Bucharest, Romania*
- PS 2-6 Design of Cross-Coupled Planar Microstrip Band-Pass Filters Using a Novel Adjustment Method, Muhammed Salah Sadiq Alkafaji, Foundation of Technical Education, Iraq / "Politehnica" University of Bucharest, Romania
- PS 2-7 Aspects Regarding the Drift of Platinum Resistance Sensors Used as Reference Standards Cosmin Dinu, "Politehnica" University of Bucharest, Romania
- PS 2-8 Platform for Testing Power Management Integrated Circuits Cristian Grecu, "Politehnica" University of Bucharest, Romania
- PS 2-9 CFD Analysis of a Ball Check Microvalve Ioan Calimanescu / Constantin L. Dumitrache, *Constanta Maritime University, Romania* PS 2-10 Two Way Fluid Structure Interaction Analysis of a Valveless Micropump by CFD
  - Ioan Calimanescu / Constantin L. Dumitrache, Constanta Maritime University, Romania
- **PS 2-11 Optimized design for an electrothermal microactuator** Liviu-Constantin Stan, *Constanta Maritime University, Romania*
- **PS 2-12 The maximum life expectancy for a micro-fabricated diaphragm** Liviu-Constantin Stan, *Constanta Maritime University, Romania*
- PS 2-13 AC analysis in virtual prototypes, Mihaela Hnatiuc, Constanta Maritime University, Romania
- PS 2-14 The influence of environmental parameters on the optimal frequency in a shallow underwater acoustic channel, Zarnescu George, Constanta Maritime University, Romania
- **PS 2-15 Nanoparticles in Constanta-North Wastewater Treatment Plant** Panaitescu Mariana, *Constanta Maritime University, Romania*

- PS 2-16 Optimization of Meander Line Antennas for RFID Applications by using Genetic Algorithm, Stefania C. Bucuci, "Politehnica" University of Bucharest, Romania
- PS 2-17 Optimization of Meander Line Radiators for Frequency Selective Surfaces by using Genetic Algorithm, Stefania C. Bucuci, "Politehnica" University of Bucharest, Romania
- **PS 2-18 A new technology for fishing vessels: the use of ejector expansion refrigeration cycle** Daniela Elena Mitu, *Constanta Maritime University, Romania*
- **PS 2-19 Direction finding antenna system for spark detection and localization** Raluca E. Topor, *Constanta Maritime University, Romania*
- PS 2-20 Planar Antenna System for Direction Finding Iulia-Cezara Mardale, "Politehnica" University of Bucharest, Romania
- PS 2-21 A novel space-diversity antenna system Gabriela Cocias, "Politehnica" University of Bucharest, Romania
- PS 2-22 Electric Arc Localization Based on Antenna Arrays and MUSIC Direction of Arrival Estimation, Mirel Paun, Constanta Maritime University, Romania
- **PS 2-23 Improvement of antenna decoupling in radar systems** Liliana Anchidin, "Politehnica" University of Bucharest, Romania
- **PS 2-24 An Integrated Platform for Inertial Navigation** Ana Dumitrascu, *Constanta Maritime University, Romania*
- PS 2-25 An Automatic Speech Recognition System with Speaker-Independent Identification Support, Alexandru Caranica, *Constanta Maritime University, Romania*
- PS 2-26 Verification of the windings axial clamping forces for high voltage power transformers by using passively mode-locked fiber lasers Andrei Drăgulinescu, "Politehnica" University of Bucharest, Romania
- PS 2-27 A Balanced Wide-band Application Mircea Panzariu, "Politehnica" University of Bucharest, Romania
- **PS 2-28 Reengineering for optimized control of DC networks,** Adela Vintea, "Politehnica" University of Bucharest, Romania
- **PS 2-29 Using Optical Soliton Stability for Magnetic Field Measurement,** Ionuț Romeo Șchiopu, *"Politehnica" University of Bucharest, Romania*
- **PS 2-30 Wireless ZigBee home automation system,** R. E. Craciunescu, *"Politehnica" University of Bucharest, Romania*
- **PS 2-31 Optical solutions for unbundeled access network** Bacis (Vasile) Irina Bristena, "Politehnica" University of Bucharest, Romania
- PS 2-32 Wearable Vital Parameters Monitoring System Bacis (Vasile) Irina Bristena, "Politehnica" University of Bucharest, Romania
- **PS 2-33 Modern Techniques and Technologies for Unbundled Access in the Local Loop** Bacis (Vasile) Irina Bristena, *"Politehnica" University of Bucharest, Romania*
- PS 2-34 High Efficiency DC-DC Converter Using GaN Transistors C.-A. Tămaş, "Politehnica" University of Bucharest, Romania
- PS 2-35 Antenna for Passive RFID Tags Alexandru Craciun, "Politehnica" University of Bucharest, Romania
- **PS 2-36 Image Stabilization for SWIR Advanced Optoelectronic Device** Alexandru Craciun, "Politehnica" University of Bucharest, Romania
- **PS 2-37 Treatment with activated water by GlidArc technology of bacteria producing Biofouling** Bogdan Hnatiuc, *Constanta Maritime University, Romania*
- **PS 2-38 Conceiving a Hybrid Model of a Weighting Device,** Emil M. Oanta, *Constanta Maritime University, Romania*
- PS 2-39 Practical aspects of the use of three-phase alternating current electric machines in electricity storage system, Violeta-Vali Ciucur, Constanta Maritime University, Romania