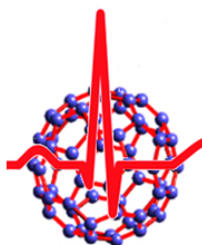


# **2<sup>nd</sup> INTERNATIONAL CONFERENCE on Nanotechnologies and Biomedical Engineering**

## **GERMAN-MOLDOVAN WORKSHOP on Novel Nanomaterials for Electronic, Photonic and Biomedical Applications**

April 18-20, 2013, Chisinau, Republic of Moldova

# **Conference Program**



**INTERNATIONAL CONFERENCE  
on Nanotechnologies and  
Biomedical Engineering**

**ICNBME - 2013**

**GERMAN-MOLDOVAN WORKSHOP  
on Novel Nanomaterials for Electronic,  
Photonic and Biomedical Applications**

The Organizing Committee of the **2<sup>nd</sup> International Conference on Nanotechnologies and Biomedical Engineering** and **German-Moldovan Workshop on Novel Nanomaterials for Electronic, Photonic and Biomedical Applications** highly appreciates the support of the German Ambassador to Moldova **Mr. Matthias Meyer**, as well as the financial and technical support provided by the following institutions, agencies and enterprises:

- **Academy of Sciences of Moldova**
- **Technical University of Moldova**
- **State Medical and Pharmaceutical University "Nicolae Testemitanu" of the Republic of Moldova**
- **Moldavian Society of Biomedical Engineering**
- **Alexander von Humboldt Foundation (Workshop)**
- **Swiss Agency for Development and Cooperation**
- **Berlin-Chemie Moldova**
- **OPTEC Company**
- **IM Global Biomarketing Group - Moldova SRL**
- **Research Institute "ELIRI"**

**2<sup>nd</sup> International Conference**  
***Nanotechnologies and Biomedical Engineering***  
**German-Moldovan Workshop**  
***Novel Nanomaterials for Electronic,***  
***Photonic and Biomedical Applications***

***Organized by***

- Academy of Sciences of Moldova
- Technical University of Moldova
- State Medical and Pharmaceutical University "Nicolae Testemitanu" of the Republic of Moldova
- Moldavian Society of Biomedical Engineering

## **Information Note**

***ICNBME-2013 continues the series of International Conferences in the field of nanotechnologies and biomedical engineering. The conference aims at bringing together scientists and engineers dealing with fundamental and applied research for reporting on the latest theoretical developments and applications in the fields involved.***

The conference details are available through the website:  
<http://www.icnbme.sibm.md/home.html>

**Program Committee**  
**Organizing Committee**

**Address:**

168, Stefan cel Mare av., MD-2004, Chisinau, Republic of Moldova

Tel.: 03732(2) 509910, Fax: 03732(2) 509910, GSM : 0373 79460338

E-mail: [icnbme@mail.utm.md](mailto:icnbme@mail.utm.md), [sontea@mail.utm.md](mailto:sontea@mail.utm.md),

Web: <http://www.icnbme.sibm.md/home.html>

The Conference and Workshop will be held in the central building of the State Medical and Pharmaceutical University "Nicolae Testemitanu", Stefan cel Mare av. 165.

Participants registration will take place in the central building of the State Medical and Pharmaceutical University "Nicolae Testemitanu" of the Republic of Moldova, Stefan cel Mare av. 165 on April 17<sup>th</sup> from 9.00 to 22.00 and on April 18<sup>th</sup> from 8.00 to 16.00.

The conference will open at 9.00, April 18, 2013.

## **Language**

The official language of the Conference is **English**.

## **Available equipment**

The conference rooms will contain equipment for PowerPoint presentation.

## ***Honorary Chairmen of the ICNBME – 2011***

- ***Academician Ion Ababii***, Rector of the State Medical and Pharmaceutical University "Nicolae Testemitanu" of the Republic of Moldova
- ***Academician Ion Bostan***, Rector of the Technical University of Moldova
- ***Academician Gheorghe Duca***, President of the Academy of Sciences of Moldova

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<b>D. Makarov</b>	<i>Germany</i>	<b>V. Vlad</b>	<i>Romania</i>
		<b>Yu. Yakymenko</b>	<i>Ukraine</i>

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<b>L. Kulyuk</b>	<i>Moldova</i>		<b>R. Werlein</b>	<i>Switzerland</i>

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<b>I. Pocaznoi</b>	<i>Moldova</i>	
<b>A. Rosioru</b>	<i>Moldova</i>	

# Conference Topics

- **Nanotechnologies and nanomaterials;**
- **Plasmonics and metamaterials;**
- **Nanotechnologies and nanocomposites for space applications;**
- **Sensors and transducers;**
- **Biophysics;**
- **Biomedical instrumentation and devices;**
- **Tissue and molecular engineering;**
- **Health care management;**
- **Medical imaging and signal processing;**
- **Radiation protection and dosimetry, biological effects of radiation;**
- **Biomedical engineering education;**
- **Information technologies for health care, telemedicine and e-health.**



# CONFERENCE PROGRAM

**18 April 2013**

**8<sup>00</sup> – 9<sup>00</sup> Registration**  
**9<sup>00</sup> – 9<sup>30</sup> Conference Opening**  
**Welcome speeches**

**PLENARY SESSION PL1 *Room 1***  
**9:30 – 11:00**

**Co-chairs:** *Hans Hartnagel, Hidenori Mimura*

**9<sup>30</sup> *Ion Tiginyanu, Ion Ababii***  
**Nanotechnologies in Biomedicine: Current Status and Perspectives**  
*Academy of Sciences of Moldova, Chisinau, Moldova*  
*State University of Medicine and Pharmacy, Chisinau, Moldova*

**10<sup>00</sup> *Hans Hartnagel***  
**Nano-Electronics with Particular Reference to Medical Applications**  
*Technical University Darmstadt, Fachgruppe Mikrowellenelektronik, Darmstadt, Germany*

**10<sup>30</sup> *Nicolas Pallikarakis, Zhivko Bliznakov***  
**Medical Devices Vigilance and Patient Safety the MEDEVIPAS project**  
*University of Patras, Greece*

**11:00 – 11:30 COFFEE BREAK**

# PLENARY SESSION PL2 *Room 1*

11:30 – 13:30

Co-chairs: *Jan Linnros, Nicolas Pallikarakis*

11<sup>30</sup> *Hidenori Mimura*<sup>1</sup>, *Yoichiro Neo*<sup>1</sup>, *Toru Aoki*<sup>1</sup>, *Tomoya Yoshida*<sup>2</sup>,  
*and Masayoshi Nagao*<sup>2</sup>  
**Novel Microcolumn Using a Multi-gated Field Emitter**  
<sup>1</sup>*Research Institute of Electronics, Shizuoka University, Hamamatsu, Japan*  
<sup>2</sup>*AIST, Japan*

12<sup>00</sup> *Jan Linnros*  
**Nanowires for Biomolecule Detection**  
*Materials Physics, School of ICT, Royal Institute of Technology (KTH),  
Stockholm, Sweden*

12<sup>30</sup> *Rainer Adelung*  
**Production, Properties and Perspectives of Ultra Porous Materials  
Like Flexible Ceramics and Aerographite.**  
*Functional Nanomaterials, Institute for Materials Science, University of Kiel,  
Kiel, Germany*

13<sup>00</sup> *Gediminas Ramanauskas*  
**Horizont-2020 Framework Program**  
*European Commission, Brussels, Belgium*

**13:30–14:30 LUNCH**

## **SECTION S1-N Nanotechnologies and Nanomaterials**

**14:30-18:30 *Room 3***

Co-chairs: *N. Sobolev, P. Forsh*

14<sup>30</sup> *H. Cesiulis*<sup>1</sup>, *T. Maliar*<sup>1</sup>, *N.Tsyntsaru*<sup>2,3</sup>, *E. Podlaha-Murphy*<sup>4</sup>  
**Anodic Titanium Oxide and its Photoelectrochemical and  
Tribocorrosion Behavior (*Invited*)**

<sup>1</sup>*Vilnius University, Dept. Phys. Chem, Vilnius, Lithuania*

<sup>2</sup>*Institute of Applied Physics, Chisinau, Moldova*

<sup>3</sup>*KU Leuven, Dep. MTM, Heverlee, Belgium*

<sup>4</sup>*Northeastern University, Dept. Chem. Eng. Boston, USA*

- 14<sup>50</sup> V. Koval, O. Bogdan, Y. Yakymenko**  
**Nanocrystalline Silicon Multilayer Structures for Optoelectronics**  
**(Invited)**  
*Research Institute of Applied Electronics, NTUU “Kyiv Polytechnic Institute”, Kyiv, Ukraine*
- 15<sup>10</sup> S. Kopyl<sup>1</sup>, A. Timopheev<sup>2</sup>, V. Bystrov<sup>3,4</sup>, M. Maiorov<sup>5</sup>, I. Bdikin<sup>1</sup>, M. A. Valente<sup>2</sup>, E. Maevskij<sup>6</sup>, N. A. Sobolev<sup>2</sup>, A.C.M. Sousa<sup>1</sup>**  
**Magnetic Properties and Applications of Carbon Nanotubes Filled with Fe<sub>3</sub>O<sub>4</sub> Nanoparticles (Invited)**  
<sup>1</sup>*Nanotechnology Research Division, TEMA, Department of Mechanical Engineering, University of Aveiro, Portugal*  
<sup>2</sup>*Physics Department and I3N, University of Aveiro, Portugal*  
<sup>3</sup>*Department of Materials and Ceramic Engineering and CICECO, University of Aveiro, Portugal*  
<sup>4</sup>*Institute of Mathematical Problems of Biology RAS, Pushchino, Russia*  
<sup>5</sup>*Institute of Physics, University of Latvia, Latvia*  
<sup>6</sup>*Institute of Theoretical and Experimental Biophysics RAS, Puschino, Russia*
- 15<sup>30</sup> K. Atlasov**  
**Scanning Electron Microscopes Carl Zeiss: new Functional Capabilities for Nanoanalysis and 3D Visualization of Nanoobjects**  
*Department of Research and Industrial Material Science, LLC OPTEC, St.Petersburg, Russia*
- 16<sup>00</sup> E. Forsh<sup>1,2,\*</sup>, A. Ilyin<sup>1</sup>, M. Martyshov<sup>1,2</sup>, P. Forsh<sup>1,2</sup>, P.L Kashkarov<sup>1,2,3</sup>**  
**Stretched-Exponential Photoconductivity Decay in Nanocrystalline Indium Oxide**  
<sup>1</sup>*Lomonosov Moscow State University, Russia*  
<sup>2</sup>*National Research Center “Kurchatov Institute”, Russia*  
<sup>3</sup>*Moscow Institute of Physics and Technology, Russia*
- 16<sup>15</sup> U. Bubnienė<sup>1,2</sup>, Z. Balevičius<sup>1,3</sup>, A. Ramanavičienė<sup>1</sup>, B. Bugelytė<sup>1</sup>, A. Ramanavičius<sup>1,2\*</sup>**  
**Adsorption of Gold Nanoparticle Multilayers**

<sup>1</sup> Centre of Nanotechnology and Material Science, Faculty of Chemistry, Vilnius University, Vilnius, Lithuania.

<sup>2</sup> Department of Physical Chemistry, Faculty of Chemistry, Vilnius University, Vilnius, Lithuania

<sup>3</sup> Department of Materials Science and Electronics, Institute of Semiconductor Physics, State Scientific Research Institute Center for Physical Sciences and Technology, Vilnius, Lithuania

## 16:30-17:00 COFFEE BREAK

**Co-chairs: A.I.Dikusar, D.E. Creanga**

17<sup>00</sup> **D.E. Creanga<sup>1</sup>, M. Oprisan<sup>1</sup>, C. Nadejde<sup>1</sup>, V.Nica<sup>1</sup> M. Racuciu<sup>2</sup>**  
**Soft Magnetic Materials in the Form of Nanosized Metal Oxides in Stable Suspension**

<sup>1</sup>University Alexandru Ioan Cuza, Physics Department, Iasi, Romania,

<sup>2</sup>University Lucian Blaga, Science Faculty, Sibiu, Romania

17<sup>15</sup> **P. Forsh<sup>1,2,\*</sup>, A. Emelyanov<sup>1</sup>, A. Kazanski<sup>1</sup>, M. Khenkin<sup>1</sup>,  
S. Zobotnov<sup>1,2</sup>, P. Kashkarov<sup>1,2</sup>, M. Gecevicius<sup>3</sup>, M. Beresna<sup>3</sup>,  
P. Kazansky<sup>3</sup>**

**Down-Shifted Luminescent Features Engineering in Amorphous Silicon by Femtosecond Laser**

<sup>1</sup>Lomonosov Moscow State University, Russia

<sup>2</sup>National Research Center "Kurchatov Institute", Russia

<sup>3</sup>Optoelectronics Research Centre, University of Southampton, UK

17<sup>30</sup> **D. I. Solonenko<sup>1,2</sup>, O.Ye. Rayevska<sup>2</sup>, O.L. Stroyuk<sup>2</sup>, S.Ya. Kuchmiy<sup>2</sup>**  
**Spectral Properties of Ultrasmall CdS Nanoparticles Stabilized by Mercaptoacids and Hydrazine**

<sup>1</sup>National University of "Kyiv-MohylaAcademy", Kyiv, Ukraine

<sup>2</sup>L.V. Pysarzhevskiy Institute of Physical Chemistry of NationalAcademy of Sciences of Ukraine, Kyiv, Ukraine

17<sup>45</sup> **A. Belenchuk<sup>1</sup>, S. Hühn<sup>2</sup>, M. Jungbauer<sup>2</sup>, M. Michelmann<sup>2</sup>,  
O. Shapoval<sup>1</sup>, E. Zasavitsky<sup>1</sup>, V. Moshnyaga<sup>2</sup>**  
**Oxide Engineering Using Metalorganic Aerosol Deposition**

<sup>1</sup>D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova

<sup>2</sup>*I. Physikalisches Institut, Georg-August-Universität-Göttingen,  
Germany*

**18<sup>00</sup>** *A. Nastas, M. Iovu, G. Triduh, A. Prisacar, A. Meshalkin*  
**Influence of Corona Discharge on the Formation of Submicron  
Periodic Holographic Structures in System Metal - Chalcogenide  
Glass Semiconductor**  
*Institute of Applied Physics, Chisinau, Moldova*

**18<sup>15</sup>** *V.I.Agafii\*, E.V.Yurchenko\*\*, V.I.Yurchenko\*\*, V.I.Petrenko\*,  
A.I.Dikumar\*\*\**  
**Deposition of Al-Sn Nanostructured Coatings on Aluminum  
Surface Using Electrospark Alloying and Their Wear Resistance  
under Lubricated Friction**  
*\*Institute of Applied Physics, Chisinau, Moldova*  
*\*\*Shevchenko Pridnestrov'e State University, Tiraspol, Moldova*

## **SECTION S2-N Micro- and Nano-objects, Nanostructured and Highly Integrated Systems 14:30-18:30 Room 4**

**Co-chairs: V. Fomin, V. Dorogan**

**14<sup>30</sup>** *Dedicated to the 80-ies anniversary of the Members of Academy of  
Sciences of Moldova, professors T. Shishiyanu and S. Dimitraki*

*T.Shishiyanu*

**Reliability and Mechanism of Radiation Degradation of  
Microelectronic Devices**

*Technical University of Moldova, Chisinau, Moldova*

**15<sup>00</sup>** *G.A. Emelchenko, A.A. Zhokhov, V.M. Masalov, I.I. Khodos<sup>1</sup>*  
**Micro-and Mesoporous Carbon Inverse Opal Nanostructures  
(invited)**  
*Institute of Solid State Physics Russian Academy of Sciences Chernogolovka,  
Moscow District, Russia*

<sup>1</sup>*Institute of Microelectronics Technology and High Purity Materials, Russian Academy of Sciences, Moscow District, Russia*

**15<sup>20</sup> M. Nazarov**  
**Rare Earth Activated Phosphors for Different Applications Products (Invited)**

<sup>1</sup>*Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Moldova*

<sup>2</sup>*School of Materials and Mineral Resources Engineering University Sains Malaysia, Penang, Malaysia*

**15<sup>40</sup> V. M. Fomin**  
**Novel Manifestations of the Aharonov-Bohm Effect in Quantum Rings and Möbius Rings (invited)**

*Institute for Integrative Nanosciences, IFW Dresden, Germany*

**16<sup>00</sup> Y.I. Yakimenko, A.V. Bogdan, A.I. Zazerin, A.T. Orlov, V.M. Spivak**  
**A sensors Kit for a Versatile Reconfigurable Measuring Platform**  
*National Technical University of Ukraine "Kiev Polytechnic Institute", Kyiv, Ukraine*

**16<sup>15</sup> A. Bakerenkov, A. Solomatin, V. Pershenkov, O. Nagovitsina**  
**An automatic Equipment for Nanoelectronic Devices Electrical Characteristics Measurement**

*National Research Nuclear University (MEPhI), Moscow, Russia*

## **16:30-17:00 COFFEE BREAK**

**Co-chairs: N. Syrbu, G.A. Emelchenko**

**17<sup>00</sup> V. Abashkin, E. Achimova, T. Kryskov, A. Meshalkin, A. Prisacar, G. Triduh, M. Vlcek<sup>1</sup>**

**Investigations of Optical Properties of As<sub>2</sub>S<sub>3</sub>-Se Nanomultilayers**  
*Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Moldova*

<sup>1</sup>*Department of General and Inorganic Chemistry, Faculty of Chemical Technology, University of Pardubice, Pardubice, Czech Republic*

- 17<sup>15</sup> **L. Sirbu<sup>1</sup>, L. Ghimpu<sup>1</sup>, R. Muller<sup>2</sup>, R. Voicu<sup>2</sup>, T. Dascalu<sup>3</sup>,  
V. Sergentu<sup>4</sup>, R. Doblebaev<sup>5</sup> and V. Ursaki<sup>4,5</sup>**  
**Superhydrophobic Polytetrafluoroethylene Coated Micro-fluidic  
Chip for Bio-applications Integrated With THz Spectroscopy  
Technology**  
*<sup>1</sup>D. Ghitu Institute of Electronic Engineering and Nanotechnologies,  
Chisinau, Moldova*  
*<sup>2</sup>National Institute for R&D in Microtechnologies- IMT Bucharest, Bucharest,  
Romania*  
*<sup>3</sup>National Institute for Laser, Plasma and Radiation Physics, Magurele,  
Romania*  
*<sup>4</sup>Institute of Applied Physics, Academy of Science of Moldova, Chisinau,  
Moldova*  
*<sup>5</sup>Technical University of Moldova, Chisinau, Moldova*
- 17<sup>30</sup> **V. Dorogan, T. Vieru, S. Vieru, A. Dorogan**  
**Photoelectric Properties of Nanostuctured Layers**  
*Technical University of Moldova, Chisinau, Moldova*
- 17<sup>45</sup> **O. F. Vasilieva**  
**Exciton–Polariton Parametric Oscillator Dynamics in the  
Semiconductor Microcavity**  
*T.G.Shevchenko Pridnestrovian State University, Tiraspol, Moldova*
- 18<sup>00</sup> **I.G. Stamov<sup>1</sup>, N.N. Syrbu<sup>2</sup>, V.I. Parvan<sup>2</sup>, V.V. Zalamai<sup>3</sup>**  
**Birefringence and Excitonic Spectra of CdGa<sub>2</sub>S<sub>4</sub> Crystals**  
*<sup>1</sup>Tiraspol State Corporative University, Tiraspol, Moldova*  
*<sup>2</sup>Technical University of Moldova, Chisinau, Moldova*  
*<sup>3</sup>Institute of Applied Physics, Chisinau, Moldova*
- 18<sup>15</sup> **D.Grabco, C. Pyrtsac, O. Shikimaka**  
**Deformation Under Nano/microindentation of LiF, MgO, Si  
Monocrystals Stipulated as Support Materials for Cu/substrate  
Structures**  
*Institute of Applied Physics, Chisinau, Moldova*

# SECTION S3-B Biomedical Instrumentation and Devices

14:30-18:30 *Room 1*

Co-chairs: *M. Dragoman, Yu.A.Ushenko*

- 14<sup>30</sup> *S.K. Dick<sup>1</sup>, G.G Chistyakova<sup>2</sup>, A.S. Terekh<sup>1</sup>, A.V. Smirnov<sup>1</sup>, N.I. Rosenik<sup>2</sup>, M.M. Salimi Zadakh<sup>1</sup>*  
**Application of Optical Methods for Diagnostics and Therapy of Dentine Caries (Invited)**  
<sup>1</sup>*Belarus State University of Informatics and Radioelectronics, Minsk, Belarus*  
<sup>2</sup>*Belarus State Medical University, Minsk, Belarus*
- 14<sup>50</sup> *M. Dragoman<sup>1</sup>, A. Cismaru<sup>1</sup>, A. Radoi<sup>1</sup>, D. Dragoman<sup>2</sup>*  
**DNA Hybridization Detection Using Microwave Resonators (Invited)**  
<sup>1</sup>*National Institute for Research and Development in Microtechnology (IMT), Bucharest, Romania*  
<sup>2</sup>*University of Bucharest, Physics Dept., Bucharest, Romania*
- 15<sup>10</sup> *L. Cepoi<sup>1</sup>, L. Rudi<sup>1</sup>, T. Chiriac<sup>1</sup>, A. Valuta<sup>1</sup>, I. Zinicovscaia<sup>2,3</sup>, T. Mitina<sup>2</sup>, Gh. Duca<sup>4</sup>, E. Kirkesali<sup>3</sup>, M.V. Frontasyeva<sup>3</sup>, S.S. Pavlov<sup>3</sup>*  
**Microalgae as Possible Silver “Nanofactories” (Invited)**  
<sup>1</sup>*Institute of Microbiology and Biotechnology of the Academy of Science of Moldova, Chisinau, Moldova*  
<sup>2</sup>*Institute of Chemistry of the Academy of Science of Moldova, ,Chisinau, Moldova*  
<sup>3</sup>*Joint Institute for Nuclear Research,, Dubna, Russia*  
<sup>4</sup>*Academy of Science of Moldova, Chisinau, Moldova*
- 15<sup>25</sup> *V. Secrieru, E. Munteanu, Ş.Balica, A. Dorogan, S. Vieru, T. Vieru, V. Dorogan*  
**Active Bioresonance Therapy Device**  
*Technical University of Moldova, Chisinau, Moldova*



- 15<sup>40</sup> **A. Rotaru, V. Vovc, I. Cojocar, A. Saulea, Dr. Rotaru**  
**Interaction of the Extremely High Frequency and Low Intensity of**  
**Electromagnetic Radiation with Living Objects**  
*State Medical and Pharmaceutical University "Nicolae Testemitanu",*  
*Chisinau, Moldova*
- 15<sup>55</sup> **K. Belocopitova<sup>1,2</sup>, N. Koltovaya<sup>1</sup>**  
**Analysis of Plasmid Deletion Induced by Ionizing Radiation in**  
**Yeast *Saccharomyces cerevisiae***  
<sup>1</sup>*Joint Institute for Nuclear Research, Dubna, MoscowReg, Russia*
- 16<sup>10</sup> **A. Baciu<sup>1</sup>, N. Jula<sup>2</sup>, A. Sotir<sup>3</sup>, G. Marin<sup>4</sup>**  
**Simulation of Radiation Field Effects on a Maritime Ship upon an**  
**Electric Model of the Human Body**  
<sup>1</sup>*Romanian Nautical College,*  
<sup>2</sup>*Military Technical Academy, Bucharest*  
<sup>3</sup>*Naval Academy "Mircea cel Bătrân", Constanta*  
<sup>4</sup>*Research Center for Navy, Constanta*

## 16:30-17:00 COFFEE BREAK

**Co-chairs: G.N. Rozorynov, N. Jula**

- 17<sup>00</sup> **G.N. Rozorynov<sup>1</sup>, Fendri Mohamed Aymen<sup>2</sup>**  
**Electrostimulation of Trunk Muscles with S-shaped Scoliosis**  
<sup>1</sup>*State University of Information and Communication Technologies, Kiev,*  
*Ukraine*  
<sup>2</sup>*National Technical University of Ukraine "Kiev Polytechnic Institute", Kiev,*  
*Ukraine*
- 17<sup>15</sup> **Yu.A.Ushenko, P.O.Angelsky, A.V. Dubolazov, L.Ya. Kushnerick,**  
**L.B.Bodnar,**  
**Fourier-Stokes Polarimetry Of Fields Scattered By Birefringence**  
**Biological Tissues**  
*Chernivtsi National University, Ukraine*
- 17<sup>30</sup> **A. Iavorschi<sup>1</sup>, N. Zoric<sup>1</sup>, S. Ajkalo<sup>2</sup>**  
**Wireless Communication System for Temperature Monitoring**  
<sup>1</sup>*Technical University "Gheorghe Asachi", Iasi, Romania*

<sup>2</sup>*University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia*

17<sup>45</sup> **A. Trandabat, M. Pislaru, C. Lorenz, M. Sireteanu**  
**Internet Based Virtual Laboratory in Bioengineering Field**  
*"Gheorghe Asachi" Technical University of Iasi, Romania*

18<sup>00</sup> **A. Iavorschi, V. Sontea, V. Pirtac, E. Lazari, M. Luchita, V. Bobu**  
**Complex Device for Heart Activity Monitoring**  
*Technical University of Moldova, Chisinau, Moldova*

18<sup>15</sup> **I. Cretescu**  
**Real-time monitoring of accidental oil pollution in ground waters using an innovative transducer**  
*"Gheorghe Asachi" Technical University of Iasi, Romania*

## **SECTION S4-B Biomaterials**

### **14:30-16:30 Room 2**

**Co-chairs: V.V. Barun, V. Prisacari**

14<sup>30</sup> **K.D. Yashin<sup>1</sup>, S.K. Dick<sup>1</sup>, G.K. Zhavnerko<sup>2</sup>, V.S. Osipovich<sup>1</sup>,  
T.I. Terpinskaya<sup>3</sup>, V.V. Barun<sup>1</sup>, A.A. Kvasyuk<sup>2</sup>, E.A. Petrova<sup>3</sup>**  
**Functionalized Fluorescent Nanoparticles for Cell Labeling for  
Further Sensor Diagnostics (Invited)**

<sup>1</sup>*Belarus State University of Informatics and Radioelectronics, Minsk, Belarus*

<sup>2</sup>*The Institute of Chemistry of New Materials, National Academy of Sciences, Minsk, Belarus*

<sup>3</sup>*The Institute of Physiology, National Academy of Sciences, Minsk, Belarus*

14<sup>50</sup> **F. Tanasa, M. Zanoaga**  
**Polymeric Nanoparticles as Carriers for Stimuli-responsive Drug  
Delivery Systems (Invited)**  
*"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania*

15<sup>10</sup> **V. Prisacari**  
**Synthetic Substances - Antibacterial and Antifungal Potential  
Products(Invited)**

*State University of Medicine and Pharmacy "Nicolae Testemitanu", Chisinau, Moldova*

- 15<sup>30</sup> **S. Robu<sup>1</sup>, V. Filip<sup>1</sup>, V. Prisacari<sup>2</sup>, A. Dizdari<sup>2</sup>, P. Gheocaca<sup>3</sup>, B. Spurcaci<sup>3</sup>, I. Culeac<sup>4</sup>**  
**Synthesis and Characterization of Copolymers Based on Styrene-Butadiene Grafted with Antimicrobial Agents**  
<sup>1</sup>*State University of Moldova, Chisinau, Moldova*  
<sup>2</sup>*State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Moldova*  
<sup>3</sup>*National Research- Development Institute for Chemistry and Petrochemistry, ICECHIM, Bucharest, Romania*  
<sup>4</sup>*Institute of Applied Physics, Chisinau, Moldova*
- 15<sup>45</sup> **M. Zanoaga, F. Tanasa**  
**Polymer-Based Materials with Biocide Activity for Biomedical Applications**  
*"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania*
- 16<sup>00</sup> **V. Granciuc, G. Manascurtă, G. Granciuc**  
**Implant-bone boundary, management with coordinative of zinc and vanadium compounds**  
*Public Academy of Dentistry in Moldova*

**16:30-17:00 COFFEE BREAK**

**SECTION S6-B Health Technologies Management and Information Technologies for Health Care, 17:00-18:30 Room 2**

**Co-chairs: C. Zaugg, D. Zaharia**

- 17<sup>00</sup> **V. Sontea\*, R. Werlein\*\*, C. Zaugg\*\***  
**Health Technology Management in the Republic of Moldova. Realizations and Perspectives (Invited)**  
*\*Technical University of Moldova*  
*\*\* Swiss Centre for International Health.*

- 17<sup>20</sup> **C. Corciovă, D. Zaharia**  
**Elements for Medical Equipment Quality Assurance (Invited)**  
*University of Medicine and Pharmacy „Grigore T. Popa”, Iasi, Romania*
- 17<sup>40</sup> **Claudio Zaugg<sup>1</sup>, Tatiana Buzdugan<sup>2</sup>**  
**The Role of Biomedical Engineers in the Introduction and Maintenance of Health Information Systems**  
<sup>1</sup>*Swiss Tropical and Public Health Institute, Basel, Switzerland,*  
<sup>2</sup>*Centre for Health Policies and Services Foundation, Moldovan branch, Chisinau, Moldova*
- 17<sup>55</sup> **S. Cojocaru, C. Gaidric, O. Popcova, I. Secrieru**  
**Concept of Clinical Computer-based Shared Platform in Domain of Ultrasound Diagnostics**  
*Institute of Mathematics and Computer Science of the Academy of Sciences of Moldova, Chisinau, Moldova*
- 18<sup>10</sup> **M. Beldiga (Vasilache), Gh. Căpățână**  
**Decision Support Systems and Medicine**  
*State University of Moldova, Chisinau, Moldova*
- 18<sup>25</sup> **P. Stratulat, I. Gamurari, T. Caraus, A. Curteanu**  
**Teleradiology Support for Maternal and Newborn Health in II Level Perinatal Centers**  
*Research Institute for Mother and Child Health Care, Chisinau, Moldova*

## 19:30 CONFERENCE DINNER

**19 April 2013**

**GERMAN-MOLDOVAN WORKSHOP  
on Novel Nanomaterials for Electronic, Photonic  
and Biomedical Applications**

**9:00-12:30 Room 4**

**Co-chairs: Rainer Adelung, Helmut Föll**

**9<sup>00</sup> H. Föll, E. Quiroga-González, E. Ossei-Wusu, J. Carstensen,  
M. Amirmaleki**  
**Making and Using Macroporous p-Type Silicon with Modulated  
Pore Diameters (Invited)**

*Institute for Materials Science, Christian-Albrechts-University of Kiel,  
Germany*

**9<sup>25</sup> Hans Koops**  
**'Anomalous Electron Transport' with “Giant Current  
Density” at Room Temperature Observed with  
Nanogranular Materials (Invited)**

*HaWilKo GmbH, Germany*

**9<sup>50</sup> H.L. Hartnagel**  
**Terahertz-Electronics with particular reference to security  
applications (Invited)**

*Technical University Darmstadt, Darmstadt, Germany*

**10<sup>15</sup> M.-D. Gerngross\*, V. Hrkac, L. Kienle, J. Carstensen, and H. Föll**  
**Formation and Characterization of Ni Nanostructures in  
Porous InP – from Crystallites to Wires (Invited)**

*Institute for Materials Science, Christian-Albrechts-University of Kiel,  
Germany*

- 10<sup>40</sup> **M. Baytekin\***, **M.-D. Gerngross**, **Q. Li**, **S. Viebig**, **C. Selhuber-Unkel**,  
**J. Carstensen**, **H. Föll** and **R. Adelung**  
**Surface Modification of Ti by Chemical Etching  
and HA Sputtering for Dental Applications (Invited)**  
*Institute for Materials Science, Christian-Albrechts-University of Kiel,  
Germany*

## 11:00-11:30 COFFEE BREAK

Co-chairs: *Hans Koops, Anatol Casian*

- 11<sup>30</sup> **A. Casian**, **I. Balmus**, **I. Sanduleac**  
**Organic Nanostructured Material for Thermoelectric  
Sensors of Infrared Radiations (Invited)**  
*Technical University of Moldova, Chisinau, Moldova*
- 11<sup>45</sup> **E. Monaico<sup>1,2</sup>**, **I. Tiginyanu<sup>2,3</sup>**, **K. Nielsch<sup>1</sup>**, **V. Ursaki<sup>4</sup>**,  
**G. Colibaba<sup>5</sup>**, **D. Nedeoglo<sup>5</sup>**, **A. Cojocaru<sup>6</sup>**, and **H. Föll<sup>6</sup>**  
**Comparative Study of Porosification in InAs, InP, ZnSe and  
ZnCdS (Invited)**  
<sup>1</sup> *Institute of Applied Physics, University of Hamburg, Germany*  
<sup>2</sup> *National Center for Materials Study and Testing, Technical University of  
Moldova, Chisinau, Moldova*  
<sup>3</sup> *Institute of Electronic Engineering and Nanotechnologies, Academy of  
Sciences of Moldova, Chisinau, Moldova*  
<sup>4</sup> *Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau,  
Moldova*  
<sup>5</sup> *State University of Moldova, Chisinau, Moldova*  
<sup>6</sup> *Faculty of Engineering, Christian-Albrechts-University of Kiel, 24143 Kiel,  
Germany*
- 12<sup>00</sup> **L. Ghimpu<sup>1</sup>**, **T. Pauporté<sup>2</sup>**, **V. M. Guérin<sup>2</sup>**, **O. Lupan<sup>2,3</sup>**, **I. Tiginyanu<sup>1</sup>**  
**Synthesis of Nanofibrous ZnO by Magnetron Sputtering and its  
Integration in Dye-Sensitized Solar Cells (Invited)**  
<sup>1</sup> *Laboratory of Nanotechnology, Institute of Electronic Engineering and  
Nanotechnologies, Academy of Sciences of Moldova, and National Center  
for Materials Study and Testing, Technical University of Moldova, Republic  
of Moldova*

<sup>2</sup>Laboratoire d'Electrochimie, Chimie des Interfaces et Modélisation pour l'Energie (LECIME), France.

<sup>3</sup>Department of Microelectronics and Semiconductor Devices, Technical University of Moldova, Republic of Moldova.

12<sup>15</sup> **M. Enachi, T. Braniste, E. Borodin and V. Postolache**  
**Relaxation of Photoconductivity and Persistent Photoconductivity in TiO<sub>2</sub> nanotubes**

*Technical University of Moldova, Chisinau, Moldova*

12<sup>30</sup> **V. Popa<sup>1</sup>, F. Braniste<sup>1</sup>, I.M. Tiginyanu<sup>2</sup>, C. Lisii<sup>3</sup>, V. Nacu<sup>3</sup>**  
**Nanoparticles for Cells Proliferation Enhancement**

<sup>1</sup>National Center for Materials Study and Testing, Technical University of Moldova, Chisinau, Moldova

<sup>2</sup>Institute of Electronic Engineering and Nanotechnologies, Academy of Sciences of Moldova, Chisinau, Moldova

<sup>3</sup>State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Moldova

12<sup>45</sup> **E.Ya. Badinter, A.M. Ioisher, S.G. Sircu**  
**Nanostructured Microwire-Based Micronanoelectrodes Intended for Biomedical Research**

*Research Institute "ELIRI", Chisinau, Moldova*

## **SECTION S1-N Nanotechnologies and Nanomaterials**

**9:00-12:30 Room 3**

**Co-chairs: S.V. Gaponenko, V. Ursaki**

9<sup>00</sup> **L. Konopko<sup>1,2</sup>, A. Nikolaeva<sup>1,2</sup>, T. Huber<sup>3</sup>**  
**Influence of Electric Field Effect on Quantum Oscillations in Single Crystal Bi Nanowires (Invited)**

<sup>1</sup>D.Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova

<sup>2</sup>International Laboratory of High Magnetic Fields and Low Temperatures, Wroclaw, Poland

<sup>3</sup>Department of Chemistry, Howard University, Washington, U.S.A.

- 9<sup>20</sup> **D.Tsiulyanu<sup>1</sup>, O.Mocreac<sup>1</sup>, M. Enachi<sup>2</sup>, G.Volodina<sup>3</sup>**  
**Evidence for the Concentration Induced Extinction of Gas Sensitivity in Amorphous and Nanostructured Te Thin Films (Invited)**  
<sup>1</sup>*Technical University of Moldova, Chisinau, Moldova*  
<sup>2</sup>*National Center of Materials Study and Testing, Technical University of Moldova, Chisinau, Moldova*  
<sup>3</sup>*Institute of Applied Physics, Chisinau, Moldova*
- 9<sup>40</sup> **S.Shishiyanu<sup>1</sup>, Gh. Stratan<sup>2</sup>, V.Vartic<sup>1</sup>, M. Zarrelli<sup>3</sup>, M. Giordano<sup>3</sup>, E. Rusu<sup>2</sup>, T. Shishiyanu<sup>1</sup>**  
**Raman Spectra of TiO<sub>2</sub> Thin Films Deposited Electrochemically and by Spray Pyrolysis**  
<sup>1</sup>*Technical University of Moldova, Chisinau, Moldova*  
<sup>2</sup>*D. Ghițu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*  
<sup>3</sup>*Institute of Composite and Biomedical Materials, Napoli, Italy*
- 9<sup>55</sup> **S. Pyshkin<sup>cd</sup>, E. Rusu<sup>a</sup>, M. Iacob<sup>b</sup>, V. Ursaki<sup>c</sup>, T. Gutsul<sup>b</sup>, J. Ballato<sup>d</sup>**  
**Preparation and Characterization of GaP Colloidal Nanoparticles and Films**  
<sup>a</sup>*D. Ghitsu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*  
<sup>b</sup>*Institute of Chemistry, Chisinau, Moldova*  
<sup>c</sup>*Institute of Applied Physics, Chisinau, Moldova*  
<sup>d</sup>*Center for Optical Materials Science & Engineering Technologies and the School of Materials Science and Engineering, Clemson University, Anderson, USA*
- 10<sup>10</sup> **V. Abashkin, E. Achimova, S.Sergheev, A. Prisacar**  
**Computer-Assisted Electron Beam Recording of Patterns in As<sub>2</sub>S<sub>3</sub> Films**  
*Institute of Applied Physics, Chisinau, Moldova*
- 10<sup>25</sup> **I.I. Geru, A.V. Mirzac, A.B. Tarabukin**  
**Synthesis of CdSe Colloidal Quantum Dots and Quantum Transinions under Action of Low Power Optical Excitation**  
*Institute of Chemistry, Chisinau Moldova*



- 10<sup>40</sup> *N. Tsyntaru*<sup>1,2</sup>, *P. Globa*<sup>1</sup>, *A. Dikusar*<sup>1</sup>, *J.-P. Celis*<sup>2</sup>  
**Cobalt Deposition Into a Nanotemplate Made of Anodized Aluminum Alloys**  
<sup>1</sup>*Institute of Applied Physics, Chisinau, Moldova*  
<sup>2</sup>*KU Leuven, Dep. MTM, Heverlee, Belgium*

## 11:00-11:30 COFFEE BREAK

Co-chairs: *D. Makarov, T. Shishiyanu*

- 11<sup>30</sup> *M. Melzer*<sup>1</sup>, *D. Makarov*<sup>1</sup>, *D. Karnaushenko*<sup>1</sup> and *O. G. Schmidt*<sup>1,2</sup>  
**Shapeable Magnetolectronics (Invited)**  
<sup>1</sup>*Institute for Integrative Nanosciences, IFW Dresden, Germany*  
<sup>2</sup>*Material Systems for Nanoelectronics, Chemnitz University of Technology, Germany*
- 11<sup>50</sup> *O. Sapoval*<sup>1</sup>, *A. Belenchuk*<sup>1</sup>, *V. Canter*<sup>1</sup>, *E. Zaslavitsky*<sup>1</sup>,  
*V. Moshnyaga*<sup>2</sup>  
**LSMO-STO(110) Multilayered Structure Grown by Metalorganic Aerosol Deposition**  
<sup>1</sup>*D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau Moldova*  
<sup>2</sup>*I. Physikalisches Institut, Georg-August-Universität-Göttingen, Germany,*
- 12<sup>05</sup> *F. Grosu, M. Bologna*  
**On Control of Submicron Particles by Electric Field**  
*Institute of Applied Physics, Chisinau, Moldova*
- 12<sup>20</sup> *S. Cojocaru*<sup>1</sup>, *L. Dohotaru*<sup>2</sup>, *V. Moscalenco*<sup>3</sup>  
**The Effect of Size, Shape and Environment on Magnetic Properties of a Nanoparticle: Microscopic Model Analysis**  
<sup>1</sup>*National Institute of Physics and Nuclear Engineering, Romania; Institute of Applied Physics, Chisinau, Moldova*  
<sup>2</sup>*Technical University of Moldova*  
<sup>3</sup>*Institute of Applied Physics, Chisinau, Moldova; Joint Institute for Nuclear Research, Russia*
- 12<sup>35</sup> *A. Meshalkin*<sup>1</sup>, *S. Robu*<sup>1,2</sup>, *A. Prisacar*<sup>1</sup>, *L. Bets*<sup>3</sup>, *G. Triduh*<sup>1</sup>,  
*E. Achimova*<sup>1</sup>

## **Synthesis, Thin Film Deposition and Optical Characterization of Epithiopropylcarbazole Polymer**

<sup>1</sup>*Institute of Applied Physics, Chisinau, Moldova*

<sup>2</sup>*Moldova State University, Chisinau, Moldova*

<sup>3</sup>*Institute of Chemistry, Chisinau, Moldova*

## **SECTION S3-B Biomedical Instrumentation and Devices**

**9:00-12:30 Room 1**

**Co-chairs: V. Vovc, V. V. Barun**

**9<sup>00</sup>**

***K. Atlasov***

**Correlative Light-Electron Microscopy and Full 3D High-Resolution Imaging of Bio Objects (*invited*)**

*LLC OPTEC, St.Petersburg, Russia*

**9<sup>30</sup>**

***V. V. Barun<sup>1,2</sup>, S. K. Dick<sup>1</sup>, A. P. Ivanov<sup>2</sup>, N. D. Abramovich<sup>1</sup>***

**Simulation of Speckle Structure of Scattered Light inside Multi-Layered Skin Tissue**

<sup>1</sup>*Belarus State University of Informatics and Radioelectronics, Minsk, Belarus*

<sup>2</sup>*B.I. Stepanov Institute of Physics, Belarus National Academy of Sciences, Minsk, Belarus*

**9<sup>45</sup>**

***S. Samson, V. Burlacu, E. Zota, V. Nacu V.Palarie***

**Dental Pulp Stem Cells for Regenerative Medicine**

*State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Moldova*

**10<sup>00</sup>**

***V.V. Barun<sup>1,2</sup> and A.P. Ivanov<sup>1</sup>***

**Spectral Control by Light Interaction with Soft Biological Tissues for Light-Therapy Purposes**

<sup>1</sup>*B.I. Stepanov Institute of Physics, Belarus National Academy of Sciences, Minsk, Belarus*

<sup>2</sup>*Belarus State University of Informatics and Radioelectronics, Minsk, Belarus*

- 10<sup>15</sup>** *A.G. Ushenko, M.I. Sydor, A.V. Dubolazov, A.O. Karachevtsev, L.I. Bizer, L.B. Bodnar, O.I.Olar, T.M. Boychuk*  
**Polarization Selection of Birefringence Polycrystalline Networks of Blood Plasma Layers**  
*Chernivtsi National University, Ukraine*
- 10<sup>30</sup>** *I. Ababii, S. Diacova, A. Chiaburu, S. Parii, D. Chirtoca, M. Maniuc, L. Danilov, P. Ababii*  
**Diagnostics of Otitis Media With Effusion**  
*State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Moldova*
- 10<sup>45</sup>** *L. Sidorencu<sup>1</sup>, V. Vovc<sup>1</sup>, I. Moldovanu<sup>2</sup>*  
**Influences of Cognitive and Affective Components of Emotions on Heart Rate Variability and Respiratory Pattern in Condition of Evoked Psychoemotional States**  
<sup>1</sup> *State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Moldova*  
<sup>2</sup> *Institute of Neurology and Neurosurgery, Chisinau, Moldova*

## **11:00-11:30 COFFEE BREAK**

**Co-chairs:** *S. Sanchez, V. Tronciu*

- 11<sup>30</sup>** *S. Sanchez, W. Xi, A. Solovev, O. Schmidt*  
**Self-Propelled Nanotools drilling into cells and tissues (Invited)**  
*Institute for Integrative Nanosciences, Dresden, Germany*
- 11<sup>50</sup>** *Nellu Ciobanu<sup>1</sup>, Anatol Rotaru<sup>2</sup>, and V.Z. Tronciu<sup>3</sup>*  
**Nonlinear Cooperative Phenomena Caused by Fröhlich Phonons in Biological Objects (Invited)**  
<sup>1</sup> *State University of Moldova, Chisinau, Moldova*  
<sup>2</sup> *S State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Moldova*  
<sup>3</sup> *Technical University of Moldova, Chisinau, Moldova*

**12<sup>05</sup>** *N. Popova, A. Papcenco*

**The Effects of Electrical Pulses on Structure of Cells of Plant Tissue**

*Institute of Applied Physics, Chisinau, Moldova*

12<sup>20</sup>

**L. Danilov**

**Etio - Pathogenic Aspects and Complex Conservative Treatment of Chronic Tonsillitis in Children**

*State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Moldova*

12<sup>35</sup>

**V. Nacu, V. Trifan, C. Lisii, A. Corobciuc, A. Bitca, D. Vartic, V. Nacu**

**Experimental Cell Therapy in Type I Diabetes**

*State Medical and Pharmaceutical University "Nicolae Testemitanu", Chişinău, Moldova*

12<sup>50</sup>

**T. Besleaga<sup>1</sup>, P. Calabrese<sup>2</sup>, V. Vovc<sup>1</sup>, P. Baconnier<sup>2</sup>, I. Moldovanu<sup>1</sup>, A. Eberhard<sup>2</sup>**

**Airflow and Volume Profiles Involve Some Respiratory Individual Peculiarities**

<sup>1</sup> *State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, R. Moldova*

<sup>2</sup> *Lab. PRETTA-TIMC, University Joseph Fourier, Grenoble, France*

13<sup>05</sup>

**V.N. Sokolov, L.V. Anishchenko, G.M. Rozhkovsky, V.M. Tsvigovsky, T.K. Dorofeeva, Y.V. Stasiuk**

**The Role of Methods of Radiation Diagnosis in Detecting Vascular Dementia**

*Odessa State Medical University, Diagnostic Center "South Ukrmedteh", Odessa, Ukraine*

**SECTION S5-B Medical Imaging, Image and  
Signal Processing  
9:00 -13:30 Room 2**

**Co-chairs: V.O. Ushenko, Y. Kovalenko**

- 9<sup>00</sup> I. Morkvenaite-Vilkonciene, A. Ramanavicius**  
**Imaging Glucose Oxidase by Scanning Electrochemical  
Microscopy (Invited)**  
*Vilnius University, Vilnius, Lithuania*
- 9<sup>20</sup> Y. Kovalenko**  
**Organizational, Technical and Economic Aspects of  
Implementation of Mammographic Screening in Ukraine(Invited)**  
*P.L.Shupyk National Medical Academy of Post-Graduate Education, Kyiv,  
Ukraine*
- 9<sup>40</sup> Gr. Arzumanyan and K. Voskanyan**  
**CARS Microscopy for Imaging**  
*Joint Institute for Nuclear Research, 141980, Dubna, Russia*
- 9<sup>55</sup> S.V. Balashov<sup>1</sup>, Yu.N. Kovalenko<sup>2</sup>**  
**Control System Of Digital X-Ray Systems by Quality  
Parameters**  
*<sup>1</sup> National Aviation University, Ukraine  
<sup>2</sup> P.L.Shupyk National Medical Academy of Post-Graduate Education, Kyiv,  
Ukraine*
- 10<sup>10</sup> V.O. Ushenko, G.D. Koval, A.V. Dubolazov, A.O. Karachevtsev, O.I.  
Olar, T.M. Boychuk**  
**Evolution of Mueller Matrix Images of the Myometrium for the  
Optical Anisotropy Oncological Changes**  
*Chernivtsi National University, Ukraine*
- 10<sup>25</sup> Y. Kovalenko<sup>1</sup>, S. Miroshnichenko<sup>3</sup>, A.Nevgasimy<sup>4</sup>, S.Balashov<sup>3</sup>,  
N.Potrahov<sup>2</sup>, Y.Mironova<sup>5</sup>**  
**Low Dose Radiographic System for Pediatrics**

<sup>1</sup>*National Medical Academy of Postgraduate Education named after P.L. Shupyk, Kiev, Ukraine*

<sup>2</sup>*St. Petersburg Electro-Technical University, St. Petersburg, Russia*

<sup>3</sup>*National Aviation University, Kyiv, Ukraine*

<sup>4</sup>*Teleoptic PRA, Kiev, Ukraine*

<sup>5</sup>*KRU KTMO "University Hospital", Simferopol, Ukraine*

- 10<sup>40</sup>** **C. Virlan , N. Bondarevskaia , Gh. Granciuc**  
**Cephalometric Investigation of Class III Malocclusion According to McNamara Method**  
*State University of Medicine and Pharmacy "Nicolae Testemitanu", Chisinau, Moldova*

## **11:00-11:30 COFFEE BREAK**

**Co-chairs: Gr. Arzumanyan, A. Buzdugan**

- 11<sup>30</sup>** **A. Buzdugan**  
**Nuclear and Radiological Regulation in Moldova**  
*National Agency for Regulation of Nuclear and Radiological Activity, Chisinau, Moldova*
- 11<sup>45</sup>** **L. Burtseva**  
**Unconventional Computation Answer on Challenges of Medical Imaging**  
*Institute of Mathematics and Computer Science, Chisinau, Moldova*
- 12<sup>00</sup>** **A. Penin<sup>1</sup>, A. Sidorenko<sup>1</sup>, A. Vaseashta<sup>2</sup>**  
**Non-Euclidean Geometry of Human Body and Electrical Networks**  
<sup>1</sup>*D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*  
<sup>2</sup>*Institute for Advanced Sciences Convergence & Int'l Clean Water Institute, Herndon, USA*
- 12<sup>15</sup>** **M. Rusu<sup>1</sup>, Horia-Nicolai L. Teodorescu<sup>2</sup>**  
**Quality Analysis of Image Segmentation Based on G-UN-MMS**

<sup>1</sup>*Technical University of Moldova, Chisinau, Moldova*

<sup>2</sup>*Institute of Computer Science of the Romanian Academy - Iasi Branch and  
Technical University "Gheorghe Asachi" of Iasi, Romania*

12<sup>30</sup> **V.Sudakevich<sup>1</sup>, Y.Kovalenko<sup>2</sup>, S.Miroshnichenko<sup>3</sup>, S. Balashov<sup>3</sup>,  
A. Nevgasimy<sup>4</sup>**  
**Digital Radiographic Complexes for Traumatological Department**

<sup>1</sup>*Uman central regional hospital*

<sup>2</sup>*Natsionalnaya Medical Academy of Postgraduate Education named after  
P.L. Shupyk, Kiev, Ukraine*

<sup>3</sup>*National Aviation University, Kyiv, Ukraine*

<sup>4</sup>*Teleoptic PRA, Kiev, Ukraine*

12<sup>45</sup> **B. Mironov**  
**On the Visualization of Biological Object using the Acoustic  
Holography**

*Technical University of Moldova, Chisinau, Moldova*

**13:30–14:30 LUNCH**

**PLENARY SESSION PL3**

**14:30 - 17:00 Room 1**

**Co-chairs: S. Gaponenko, R. Negoescu**

14<sup>30</sup> **James Lloyd-Hughes**  
**Ultrafast Spectroscopic Probes of Acoustic Phonons in Multiferroic  
Thin Films and Semiconductor Heterostructures**  
*University of Warwick, UK*

15<sup>00</sup> **Ashok Vaseashta**  
**Innovations Ecosystem in Nanotechnologies Supporting Safety,  
Security and Sustainability**  
*Institute for Advanced Sciences Convergence & Int'l Clean Water Institute,  
Herndon, USA*

- 15<sup>30</sup> *Sergey Gaponenko*  
**Plasmonic enhancement of scattering and emission of light in nanostructures: From basic science to biomedical applications**  
*National Academy of Sciences of Belarus, B.I. Stepanov Institute of Physics*
- 16<sup>00</sup> *Radu Negoescu*  
**Biomedical Engineering 2013: The State of the Art**  
*National Institute of Public Health, Bucharest, Romania*
- 16<sup>30</sup> *Valeriu Kantser, Sergiu Carlig*  
**Topological Interface States and Effects for Next Generation of Innovative Devices**  
*D.Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*

## POSTERS SESSION

### 12:30 - 14:30

**Co-chairs: V. Nacu, Iu. Nica**

#### **SECTION S4-B Biomaterials**

1. *C. Scutari<sup>1</sup>, V. Gonciar<sup>1</sup>, I. Cekman<sup>1</sup>, S. Cerlat<sup>2</sup>*  
**Biological Properties of Nanoiron**  
<sup>1</sup>*State Medical and Pharmaceutical University „N. Testemitanu”, Chisinau Moldova*  
<sup>2</sup>*National Medical University, „A.A.Bogomoleț”, Kiev, Ukraine*
2. *Liliana-Laura Badita, Gh.Gheorghe*  
**Study of the Titanium Alloys Surfaces Used in Orthopaedic Systems**  
*National Institute of Research and Development in Mechatronics and Measurement Technique, Bucharest, Romania*
3. *S. Ya. Prislowski<sup>1</sup>, E.K.Naumenko<sup>1</sup>, I. M. Tiginyanu<sup>2,3</sup>, L. Ghimpu<sup>2</sup>, E. Monaico<sup>3</sup>, L. Sirbu<sup>2</sup>, and S.V.Gaponenko<sup>1\*</sup>*  
**Retroreflection from Nanoporous InP**  
<sup>1</sup>*B. I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, Minsk, Belarus*



<sup>2</sup>*D.Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau  
Moldova*

<sup>3</sup>*National Centre for Materials Study and Testing, Technical University of  
Moldova, Chisinau, Moldova*

## **SECTION S3-B Biomedical Instrumentation and Devices**

4. ***S. Comsa, A. Pacioga, D. N. Ciobota***  
**Development of Implants Anatomically Adapted to Patient Specific Anatomy**  
*National Institute of Research and Development for Mechatronics and Measurement Technique, Bucharest, Romania*
  
5. ***K. Voskanyan<sup>1,2</sup>, S. Vorozhtsova<sup>2</sup>, A. Abrosimova<sup>2</sup>, G. Mitsyn<sup>1</sup> and V. Gaevsky<sup>1</sup>***  
**Laser Device for the Protection of Biological Objects from the Damaging Action of Ionizing Radiation**  
<sup>1</sup>*Joint Institute for Nuclear Research, Dubna, Russia*  
<sup>2</sup>*Institute of Medico-Biological Problems of the Russian Academy of Sciences, Moscow, Russia*
  
6. ***A. Spinei<sup>1</sup>, Iu. Nica<sup>2</sup>***  
**Evaluating the Effectiveness of UV Irradiation on the Oral Cavity in Rats**  
<sup>1</sup>*State Medical and Pharmaceutical University "Nicolae Testemițanu", Chișinău, Moldova*  
<sup>2</sup>*"D. Ghitu" Institute of Electronic Engineering and Nanotechnologies, Chișinău, Moldova*
  
7. ***O. Arnaut***  
**Proteases/Antiproteases System in ALI/ARDS Caused by Polytrauma  
(an experimental study)**  
*State Medical and Pharmaceutical University "Nicolae Testemițanu", Chișinău, Moldova*
  
8. ***S.N.Maslobrod<sup>1</sup>, Yu.A.Mirgorod<sup>2</sup>, G.A.Lupashku<sup>1</sup>, N.A.Borsch<sup>2</sup>***  
**Stimulation of Seeds Viability by Means of Disperse Solution of Copper Nano-Particles at Extremely Low Concentration**

<sup>1</sup>*Institute of Genetics and Plant Physiology of the Academy of Sciences of Moldova, Chişinău, Moldova*

<sup>2</sup>*Kursk State Technical University, Russia*

9. **Cociug, E. Zota, N. Capros, O. Macagonova, V. Nacu, I. Marin**  
**The dynamics of the vascular wall changes evolution in the lumbar intervertebral disc. Insights.**  
*State Medical and Pharmaceutical University "Nicolae Testemiţanu", Chisinau, Moldova*
10. **A. Margarint**  
**Device for Alternate Wireless Input and Helping People with Disabilities to Rehabilitate Back to Normal Social Communication**  
*Technical University of Moldova, Chişinău, Moldova*
11. **T. Revenu, V. Trifan, L. Nacu, O. Tagadiuc, V. Smeşnoi and V. Nacu**  
**The Influence of Certain Obstetric Factors on the Collection, Isolation and Quality of Cord Blood Units**  
*State Medical and Pharmaceutical University "Nicolae Testemiţanu", Chişinău, Moldova*
12. **A. Rotaru, Gh. Tabarna, V. Jovmir, I. Cojocar, A. Saulea, Dr. Rotaru.**  
**Using millimeter Waves for Treating Cancer Diseases**  
*State Medical and Pharmaceutical University "Nicolae Testemiţanu", Chisinau, Moldova*
13. **M. Barbut<sup>1</sup>, V. Chetruş<sup>1</sup>, P. Lozovanu<sup>2</sup>**  
**Treatment of Marginal Parodontites with Ozonated Liquids Activated with Laser radiation**  
*<sup>1</sup>State Medical and Pharmaceutical University "Nicolae Testemiţanu", Chisinau, Moldova*  
*<sup>2</sup>State University of Moldova*
14. **M. Kovalicov**  
**Non-ionizing Radiation and Humans Health**  
*Russian-Moldavian Scientific Organization "Ecran Grup", Chisinau, Moldova*
15. **S. Grosu, V. Vovc**  
**An Outline of Molecular and Cellular Endocannabinoid Functioning in the Nervous System**

*State Medical and Pharmaceutical University "Nicolae Testemițanu", Chisinau, Moldova*

16. **R. Breahnă, I. Turtureanu, S. Lozovanu, V. Ojog, A. Ganenco, O. Arnaut**  
**Functional Electrical Stimulation**  
*State Medical and Pharmaceutical University "Nicolae Testemițanu", Chisinau, Moldova*
17. **V. Cojocaru<sup>1,2</sup>, V. Mardari<sup>1</sup>, Iu. Nica<sup>1</sup>**  
**Device for Hypothermic Therapy**  
<sup>1</sup>*D. Ghitu Institute of the Electronic Engineering and Nanotechnologies Chisinau, Moldova*  
<sup>2</sup>*Technical University of Moldova, Chisinau, Moldova*
18. **Culeac<sup>1</sup>, I. Nistor<sup>1</sup>, M. Iovu<sup>1</sup>, A. Buzdugan<sup>2</sup>, V. Ciornea<sup>1</sup>, I. Cojocaru<sup>1</sup>**  
**Fiber Optic Intrusion Monitoring System**  
<sup>1</sup>*Institute of Applied Physics, Chisinau, Republic of Moldova*  
<sup>2</sup>*National Agency for Regulation of Nuclear and Radiological Activities, Chisinau, Moldova*
19. **S.A. Baranov<sup>a, b</sup>**  
**Cast Amorphous Magnetic Microwires for Medical Locator Applications**  
<sup>a</sup>*Institute of Applied Physics,, Chisinau, Moldova.*  
<sup>b</sup>*Shevchenko Pridnestrov'e State University, Tiraspol, Moldova.*
20. **S.N.MaslobrodI, Yu.A.Mirgorod<sup>2</sup>, G.A.Lupashku<sup>1</sup>, N.A.Borsch<sup>2</sup>**  
**Stimulation of Seed Viability by Means of Dispersed Solution of Silver Nano-Particles**  
<sup>1</sup>*Institute of Genetics and Plant Physiology of the Academy of Sciences of Moldova, Chisinau, Moldova*  
<sup>2</sup>*Kursk State Technical University, Russia*
21. **D. Dvornikov\*, B. Comanescu\*\***  
**Mid-IR Fiber Laser for Medical Application**  
*\*Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*  
*\*\*S.C. Optoelectronica-2001 SA. Magurele, Ilfov, Romania*
22. **Anca – Iulia Nicu, Radu V. Ciupa**

**Assessment of the Electric Field Induced in the Human Tissue during Magnetotherapy**

*Technical University of Cluj-Napoca, Cluj-Napoca, Romania*

23. **M.M. Asimov, R.M. Asimov<sup>a</sup>, V.Yu. Plavskii, D.B. Vladimirov**  
**Optical Methods and Devices for Elimination of Carbon Monoxide Toxic Effect on Human Body**

*Institute of Physics National Academy of Sciences of Belarus, Minsk, Belarus*  
*"Sensotronic Ltd.", Belarus High Technologies Park, Minsk, Belarus*

**SECTION S5-B Medical Imaging, Image and Signal Processing**

24. **Nikolay N. Potrakhov**

**Penetration Ability of Microfocus X-Ray Radiography**

*Saint Petersburg Electrotechnical University "LETI", Russia*

25. **D. Krumpane, Yu. Dekhtyar, I. Surkova, M. Romanova**  
**Photoelectron Emission as a Tool to Assess Dose of Electron Radiation Received by ZRO<sub>2</sub>:PbS Films**

*Riga Technical University, Institute of Biomedical Engineering and Nanotechnology, Riga, Latvia*

26. **D. Lazar, I. Cimpoiș, Gh. Sorokin, S. Gritcov**  
**High-speed Methods of Image Compression/Decompression**

*Technical University of Moldova, Chisinau, Moldova*

**SECTION S2-N Micro- and Nano-objects, Nanostructured and highly integrated systems, Biophysics**

27. **S.Shishianu, V.Verjbitki, T.Shishianu, A.Machidon**  
**The Device for Conversion and Displaying Ecological Information Using Sensors on the Base of ZnO Films**

*Technical University of Moldova, Chisinau, Moldova*

28. **Yu. Khaydukov<sup>1</sup>, J.-H. Kim<sup>1</sup>, G. Logvenov<sup>1</sup>, R. Morari<sup>2</sup>, E. Babakova<sup>2</sup>, A. Sidorenko<sup>2</sup>**  
**CuNi/Nb S-F Hybrid Heterostructures for Investigation of Induced Magnetization in Superconducting Layer**

*<sup>1</sup>Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany*

<sup>2</sup> *Institute of Electronic Engineering and Nanotechnologies, MD028, Kishinev, Moldova*

29. **I. Kerner**

**Detection in the Structures Based on a Semiconductor (Bi-Sb)/ Superconductor (NbN) Contacts: Optimization for High Frequency Signal**

*D. Ghitu Institute of the Electronic Engineering and Nanotechnologies, Chisinau, Moldova*

30. **I. Beloussov**

**Generalized Bipolariton Model. Propagation of a Ultrashort Laser Pulse Through a Thin Semiconductor Film in the Conditions of Two-Photon Generation of Biexcitons**

*Institute of Applied Physics, Chisinau, Moldova*

31. **E.Arama<sup>1</sup>, V. Vovc<sup>1</sup>, E. Iv. Gheorghita<sup>2</sup>, V. Pinte<sup>3</sup>**  
**Luminescence of Single Crystals of Manganese-doped Zinc Indium Binary Sulfides**

<sup>1</sup>*State Medical and Pharmaceutical University "Nicolae Testemitanu", Chisinau, Moldova*

<sup>2</sup>*Moldova Tiraspol State University, Chisinau, Moldova*

<sup>3</sup>*Technical University of Moldova, Chisinau, Moldova*

32. **S. Bazgan and N. Enaki**

**Mechanical Influences to the Resonance Fluorescence of Ions in the Dressed Standing Waves**

*Institute of Applied Physics of Moldova*

33. **A.Mashnic<sup>1</sup>, L. Nemerenco<sup>1</sup>, N.N. Syrbu<sup>1</sup>, V.V. Ursaki<sup>2</sup>, V.V. Zalamai<sup>2</sup>**  
**Optical Properties of TIGaS<sub>2</sub>Crystals**

<sup>1</sup>*Technical University of Moldova, Chisinau, Moldova*

<sup>2</sup>*Institute of Applied Physics, Chisinau, Moldova*

34. **F. M, Muntyanu<sup>1,2</sup>, A. Gilewski<sup>2</sup>, A. J. Zaleski<sup>3</sup>, T. Palewski<sup>2</sup>, V.Munteanu<sup>1</sup> and V. Chistol<sup>4</sup>**

**Peculiarity of Superconducting and Galvanomagnetic Properties of Bicrystals of 3D Topological Insulator Bi<sub>1-x</sub>Sb<sub>x</sub> (0,07 ≤ x ≤ 0,2)**

<sup>1</sup>*D. Ghitu Institute of Electronic Engineering and Industrial Technologies, Chisinau, Moldova*

<sup>2</sup> *International Laboratory of High Magnetic Fields and Low Temperatures, Wroclaw, Poland*

<sup>3</sup> *Institute of Low Temperatures and Structural Research, Polish Academy of Sciences, Wroclaw, Poland*

<sup>4</sup> *Technical University of Moldova, Chisinau, Moldova*

35. **D.V.Harea, E.E.Harea, E.P.Colomeico, M.S.Iovu**  
**Photoplastic and Photoinduced Effects in Amorphous**  
**As<sub>2</sub>Se<sub>3</sub>:Sn<sub>x</sub> Thin Films**  
*Institute of Applied Physics, Chisinau, R. Moldova*
36. **L. Sirbu<sup>1</sup>, M. Danila<sup>2</sup>, R. Muller<sup>2</sup>, L. Ghimpu<sup>1</sup>, R. Doblebaev<sup>6</sup>,**  
**T. Dascalu<sup>3</sup>, O. Grigore (Sandu)<sup>3</sup>, A. Sarua<sup>4</sup> and V. Ursaki<sup>5,6</sup>**  
**Porous vs. Magnetron RF Sputtering Of InP for Portable THz-TDS**  
**in Pharmaceutical and Medical Applications**  
<sup>1</sup>*D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*  
<sup>2</sup>*National Institute for R&D in Microtechnologies- IMT Bucharest, Bucharest, Romania*  
<sup>3</sup>*National Institute for Laser, Plasma and Radiation Physics Laboratory of Solid-State Quantum Electronics, Magurele, Romania*  
<sup>4</sup>*H.H. Wills Physics Laboratory, University of Bristol, Bristol, United Kingdom*  
<sup>5</sup>*Institute of Applied Physics, Chisinau, Moldova*  
<sup>6</sup>*Technical University of Moldova, Chisinau, Moldova*
37. **V. Postica, V. Crețu, O. Lupan**  
**PSpice Model of Hydrogen Nanosensors and Ultraviolet**  
**Photodetectors**  
*Technical University of Moldova, Chisinau, Moldova*
38. **A. Zingan, P. Khadzhi**  
**Regime of Self-trapping in Bose–Einstein Condensate**  
*Dniester State University after T.G. Shevchenko, Tiraspol, Moldova*
39. **V. A. Moscalenco<sup>1,2</sup>, L. A. Dohotaru<sup>1,3</sup>, D. F. Digor<sup>1</sup> and I.D. Cebotari<sup>1</sup>**  
**Superconducting State in the Twofold Degenerate Anderson**  
**Impurity Model**  
<sup>1</sup>*Institute of Applied Physics, Moldova Academy of Sciences, Chisinau, Moldova*  
<sup>2</sup>*BLTP, Joint Institute for Nuclear Research, Dubna, Russia*

<sup>3</sup>*Technical University of Moldova, Chisinau, Moldova*

40. **R. Morari**

**Nano-Structures Based on Superconducting Nb and Ferromagnetic CuNi Alloy for Elaboration of Spin-Valve Core**

*D. Ghitu Institute of the Electronic Engineering and Nanotechnologies, Chisinau, Moldova*

41. **S. Candraman**

**CANopen Protocol for High Precision Ground Station Antenna Positioning**

*Technical University of Moldova, Chisinau, Moldova*

42. **S. A. Moskalenko<sup>1</sup>, I. V. Podlesny<sup>1</sup>, M. A. Liberman<sup>2</sup>,  
B.V. Novikov<sup>3</sup>, and E.S. Kiselyova<sup>4</sup>**

**Two-dimensional Magnetoexciton-polariton in Semiconductor Microcavity**

<sup>1</sup>*Institute of Applied Physics, Chisinau, Moldova*

<sup>2</sup>*Department of Physics, Uppsala University, Uppsala, Sweden*

<sup>3</sup>*Department of Solid State Physics, St. Petersburg State University, St. Petersburg, Russia*

<sup>4</sup>*Moldova State University, Chisinau, Republic of Moldova*

43. **L. Nemerenco, A. Masnic, V. Mirovschiu, Iu. Ivanenco**

**Birefringence in Anisotropic Crystals CuGa(Al)S<sub>2</sub> and Based on Them Optical Filters**

*Technical University of Moldova, Chisinau, Moldova*

44. **A. Nikolaeva<sup>1,2</sup>, L. Konopko<sup>1,2</sup>, T. Huber<sup>3</sup>, P. Bodiul<sup>1</sup>, I. Popov<sup>1</sup>, E.  
Moloshnik<sup>1</sup>, G. Rastegaev<sup>1</sup>**

**Electrical And Thermoelectric Properties Of Semiconducting Bi<sub>1-x</sub>Sb<sub>x</sub> Nanowires**

<sup>1</sup>*D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*

<sup>2</sup>*International Laboratory of High Magnetic Fields and Low Temperatures, Wroclaw, Poland*

<sup>3</sup>*Department of Chemistry, Howard University, Washington, U.S.A.*

45. **V. Grabov, V. Komarov, N. Kablukova**  
**Dependence of the Galvanomagnetic Properties of Bismuth-Antimony Thin Films on Their Composition and Crystal Structure**  
*Herzen State Pedagogical University, St. Petersburg, Russia*
46. **V. Smyslov<sup>1</sup>, V. Yakunin<sup>1</sup>, I. Belotserkovskii<sup>1</sup>, A. Yakunin<sup>1</sup>, A. Vaseashta<sup>2</sup>**  
**Electronic Pressure Transducer with Digital Output**  
<sup>1</sup>*D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*  
<sup>2</sup>*Institute for Advanced Sciences Convergence & Int'l Clean Water Institute, Herndon, USA*
47. **I. Caraman<sup>1</sup>, Ig. Evtodiev<sup>2</sup>, L. Palachi<sup>3</sup>, V. Nedeff<sup>4</sup>, L. Leontie<sup>4</sup>, O. Racoveț<sup>2</sup>, D. Untila<sup>2</sup>, E. Vatavu<sup>2</sup>.**  
**Crystalline Structure, Photoluminescence and Optical Absorption of  $\beta - Ga_2S_3$  crystals**  
<sup>1</sup>*University of Bacau, Bacau, Romania*  
<sup>2</sup>*Moldova State University, Chisinau, Republic of Moldova*  
<sup>3</sup>*Free International University of Moldova, Chisinau, Republic of Moldova*  
<sup>4</sup>*Al.I. Cuza University, Iasi, Romania*

## **SECTION S1-N Nanotechnologies and Nanomaterials**

48. **V. Trofim<sup>1</sup>, V. Crețu<sup>1</sup>, O. Lupan<sup>1</sup>, I. Stamov<sup>2</sup>, N. Syrbu<sup>1</sup>, V. Zalamai<sup>3</sup>, L. Chow<sup>4</sup>**  
**Properties of MoO<sub>3</sub> Nanostructures Grown Via Thermal Oxidation**  
<sup>1</sup>*Technical University of Moldova, Chisinau, Moldova*  
<sup>2</sup>*Tiraspol State University of Moldova, Tiraspol,*  
<sup>3</sup>*Academy of Sciences of Moldova, Chisinau, Moldova*  
<sup>4</sup>*University of Central Florida, USA*
49. **S. Vaschenko<sup>1</sup>, A. Ramanenka<sup>2</sup>, A. Lunevich<sup>3</sup>, Yu. Glukhov<sup>3</sup>, S. Gaponenko<sup>4</sup>**  
**Plasmon-Enhanced Fluorescence of FITC Labeled Human IgG**  
<sup>1</sup>*Belarusian State University, the Chemistry Department, National Academy of Sciences of Belarus, B.I. Stepanov Institute of Physics*  
<sup>2</sup>*Belarusian State University, the Physics Department*  
<sup>3</sup>*ELTA Ltd.*  
<sup>4</sup>*National Academy of Sciences of Belarus, B.I. Stepanov Institute of Physics*



50. **V. Postolache**  
**Comparative Study of Persistent Photoconductivity in GaP and GaN Nanostructures**  
*National Center of Materials Study and Testing, Technical University of Moldova, Chisinau, Moldova*
51. **T. Gutul**  
**A Study of the Conjugation of CdSe Nanoparticles with Functional Polyoxometalates Involving Aminoacids**  
*D. Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*
52. **O. Lupan, V. Crețu, S. Railean**  
**Facile Synthesis and Properties of Single-Crystal SnO<sub>2</sub>Nanostructures**  
*Technical University of Moldova, Chisinau, Moldova*
53. **A. Tsurkan**  
**Shubnikov de Haas Oscillations in Bi Wires Doped with Acceptor Impurities**  
*D.Ghitu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*
54. **E.V.Dumanov<sup>a</sup>, S.A.Moskalenko<sup>a</sup>, M.A.Liberman<sup>b,d</sup>, D.W.Snock<sup>c</sup>, S.S.Rusu<sup>a</sup>, F.Cerbu<sup>a</sup>**  
**True, quasi and unstable Nambu–Goldstone modes of the 2D Bose–Einstein condensed magnetoexcitons with different wave vectors**  
<sup>a</sup>*Institute of Applied Physics, Chisinau, Moldova*  
<sup>b</sup>*Department of Physics, Uppsala University, Uppsala, Sweden*  
<sup>c</sup>*Department of Physics and Astronomy, University of Pittsburgh, Pittsburgh, , USA*  
<sup>d</sup>*Moscow Institute of Physics and Technology, Dolgoprudnyi, Moskovsk. obl., Russia*
55. **E. Zasavitsky**  
**A Study of Properties of Hygroscopic Pyrotechnic Compositions for Inducing Artificial Rainfall**  
*D.Gitsu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*

56. **Bordian<sup>1</sup> V. Verlan<sup>1</sup>, I. Culeac<sup>1</sup>, M. Iovu<sup>1</sup>, A. Popușoi<sup>2</sup>, M Popușoi<sup>2</sup>, G. Dragalina<sup>2</sup>**  
**PEPC/CoPc Nanocomposites: Technology and Their Optical Characteristics**  
<sup>1</sup>*Institute of Applied Physics Chisinau, Moldova*  
<sup>2</sup>*State University of Moldova, Chisinau, Moldova*
57. **S.Banu, V.Botnariuc, L.Gorceac, A.Coval, B.Cinic, P.Chetruș, S.Raevschi**  
**Electrophysical Properties of Nanometric CdS Layers Deposited by Pulverization Method**  
*Moldova State University, Chisinau, Moldova*
58. **O.Lupan<sup>1,2,3</sup>, V. Crețu<sup>1</sup>, V. Trofîm<sup>1</sup>, V. Sontea<sup>1</sup>, Th. Pauporté<sup>3</sup>, L. Chow<sup>2</sup>**  
**Enhancement of Zn<sub>1-x</sub>Cd<sub>x</sub>O Nanowires Sensor Performance through Cd-Doping**  
<sup>1</sup>*Technical University of Moldova, Chisinau, Moldova*  
<sup>2</sup>*University of Central Florida, USA*  
<sup>3</sup>*Chimie-Paristech, LECIME, CNRS, France*
59. **O.V.Yaltychenko, E.Yu. Kanarovskii**  
**Role of the Dissipative Organic Matrix in the Two-electron Transfer in the Dimer Nanocluster**  
*Institute of Applied Physics, Chisinau, Moldova*
60. **L. Sirbu<sup>1</sup>, T. Gutul<sup>1</sup>, A. Todosiciuc<sup>1</sup>, M. Danila<sup>2</sup>, R. Muller<sup>2</sup>, A. Sarua<sup>3</sup>, R. Webster<sup>3</sup>, I.M. Tiginyanu<sup>1,4</sup> and V. Ursaki<sup>4,5</sup>**  
**Synthesis of Colloidal InP Nanocrystal Quantum Dots**  
<sup>1</sup>*D. Ghiu Institute of Electronic Engineering and Nanotechnologies, Chisinau, Moldova*  
<sup>2</sup>*National Institute for R&D in Microtechnologies - IMT Bucharest, Bucharest, Romania*  
<sup>3</sup>*H.H. Wills Physics Laboratory, University of Bristol, Bristol, United Kingdom*  
<sup>4</sup>*Institute of Applied Physics, Chisinau, Moldova*  
<sup>5</sup>*Technical University of Moldova, Chisinau, Moldova*

61. **V. Sergentu<sup>\*</sup>, M. Olednic<sup>\*\*</sup>**  
**Tachyon-like Spectrum of Electromagnetic Modes in the Case of Extremely Low Frequencies in a System of Nanopores**  
<sup>\*</sup>*Institute of Applied Physics, Chisinau, Moldova*  
<sup>\*\*</sup>*Technical University of Moldova, Chisinau, Moldova*
62. **O.V. Iaseniuc**  
**Effects of the Annealing and Exposure on the Optical and Photoinduced Properties of Amorphous (As<sub>4</sub>S<sub>3</sub>Se<sub>3</sub>)<sub>1-x</sub>:Sn<sub>x</sub> Thin Films**  
*Institute of Applied Physics, Chisinau, Moldova*
63. **S. Raevschi, V. Botnariuc, L. Gorceac, S. Tiron, M. Kompan<sup>1</sup>, Yu. Zhilyaev<sup>1</sup>**  
**Nanodimensional AlN layers Grown on Silicon in the System H<sub>2</sub>-HCl-Al-NH<sub>3</sub>**  
*Moldova State University, Chisinau, Moldova*  
<sup>1</sup>*Ioffe Physico-Technical Institute, 194021 St Petersburg, Russia*
64. **M.M. Asimov<sup>1\*</sup>, S.S. Anufrik<sup>2</sup>, V.V. Tarkovsky<sup>2</sup>, H.H. Sazonko<sup>2</sup>**  
**New Compositions of Cadmium Selenium Nanoparticles and Dye Molecules with Cyclodextrin Inclusion Complexes**  
<sup>1</sup>*Institute of Physics National Academy of Science of Belarus, Minsk, Belarus*  
<sup>2</sup>*Yanka Kupala State University of Grodno, Grodno, Belarus*
65. **I.Geru<sup>1</sup>, D. Korbutyak<sup>2</sup>, Y. Kryuchenko<sup>2</sup>**  
**Radiation of a Point Dipole in “Spherical Semiconductor Quantum Dot + Spherical Metal Nanoparticle” Structure (theory)**  
<sup>1</sup>*Institute of Chemistry, Chisinau, Moldova*  
<sup>2</sup>*Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine*
66. **I.V. Podlesny<sup>1</sup>, S. A. Moskalenko<sup>1</sup>, A. A. Kiselyov<sup>2</sup>, L. Gherciu<sup>1</sup>, and I.A. Lelyakov<sup>1</sup>**  
**Landau Quantization of Two-dimensional Heavy Holes and Acceptor-bound Triions Auger-recombination Lines**  
<sup>1</sup>*Institute of Applied Physics, Chisinau, Moldova*  
<sup>2</sup>*State University of Civil Aviation, St. Petersburg, Russia*
67. **V.G. Lytovchenko<sup>1</sup>, T.I. Gorbanyuk<sup>1</sup>, V.S. Solntsev<sup>1</sup>, L.L. Davtian<sup>2</sup>, O.V. Dultseva<sup>2</sup>**

## **Investigation of PL Spectra of Porous Silicon with Inclusions of Organic Molecules**

<sup>1</sup>*V.Lashkaryov Institute of Semiconductor Physics of NAS Ukraine, Kyiv, Ukraine,*

<sup>2</sup>*P.L.Shupyk National Medical Academy of Postgraduate Education, Kyiv, Ukraine*

68. *Ainorkhilah Mahmood\*<sup>1,2</sup>, Naser M. Ahmed<sup>1</sup>, Ion Tiginyanu<sup>3</sup>, Yushamdan Yusof<sup>1</sup>, Yam Fong Kwong<sup>1</sup>, Chuah Lee Siang<sup>4</sup> and Zainuriah Hassan<sup>1</sup>*

### **The Role of Alternating Current in Photo-Assisted Electrochemical Porosification of GaN**

<sup>1</sup>*Nano-Optoelectronic Research and Technology Laboratory, School of Physics, Universiti Sains Malaysia, Penang, Malaysia*

<sup>2</sup>*Dept. of Applied Sciences, Universiti Teknologi MARA, Permatang Pauh, Penang, Malaysia*

<sup>3</sup>*Institute of Electronic Engineering and Nanotechnologies and NCMST, Technical University of Moldova, Republic of Moldova*

<sup>4</sup>*Physics Section, School of Distance Education, Universiti Sains Malaysia, Penang, Malaysia*

## **17:00 CLOSING CEREMONY**

## **17:30 SOCIAL EVENTS - *Visit to Cricova***

# **20 April 2013**

**9:00-13:00 A trip to monasteries**

**16:00 Departure of Participants**