

**INTERNATIONAL CONFERENCE  
on Nanotechnologies  
and Biomedical Engineering**

**ICNBME - 2011**

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

**INTERNATIONAL CONFERENCE  
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and Biomedical Engineering**

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

**PROGRAM**

**Chisinau, Moldova, July 7-8, 2011**

## Conference Schedule

July 6, 2011	9 <sup>00</sup> -22 <sup>00</sup>	Accommodation, Registration, Distribution of the Conference Materials			
July 7, 2011	8 <sup>00</sup> -9 <sup>00</sup>	Registration, Distribution of the Conference Materials			
	9 <sup>00</sup> -11 <sup>10</sup>	<b>CONFERENCE OPENING</b> <b>WELCOME SPEECHES</b> <b>PLENARY SESSION PL1 - Room 1</b>			
	11 <sup>10</sup> -11 <sup>40</sup>	COFFEE BREAK			
	11 <sup>40</sup> -13 <sup>20</sup>	<b>PLENARY SESSION PL2 - Room 1</b>  13:20 - 15:00 LUNCH			
	15 <sup>00</sup> -16 <sup>40</sup>	<b>SECTION S1-N</b> <b>Nanotechnologies and Nanomaterials</b> <i>Room 3</i>	<b>SECTION S2-N</b> Micro- and Nano-objects, nanostructures and highly integrated systems, Biophysics <i>Room 4</i>	<b>SECTION S3-B</b> <b>Biomedical Instrumentation and Devices</b> <i>Room 1</i>	<b>SECTION S5-B</b> <b>Medical Imaging, Image and Signal Processing</b> <i>Room 2</i>
	16 <sup>40</sup> -17 <sup>00</sup>	COFFEE BREAK			
	17 <sup>00</sup> -18 <sup>30</sup>	<b>SECTION S1-N</b> <b>Nanotechnologies and Nanomaterials</b> <i>Room 3</i>	<b>SECTION S2-N</b> Micro- and Nano-objects, Nanostructured and highly integrated systems, Biophysics <i>Room 4</i>	<b>SECTION S3-B</b> <b>Biomedical Instrumentation and Devices</b> <i>Room 1</i>	<b>SECTION S6-B</b> Information Technologies for Health Care, Telemedicine and E-Health <i>Room 2</i>
19 <sup>30</sup>	CONFERENCE DINNER				
July 8, 211	9 <sup>00</sup> -11 <sup>05</sup>	<b>GERMAN-MOLDOVAN WORKSHOP</b> Novel Nanomaterials for Electronic, Photonic and Biomedical Applications <i>Room 3</i>	<b>GE WORKSHOP</b> New Technologies in Medical Diagnostics <i>Room 1</i>	<b>SECTION S4-B</b> <b>Biomaterials</b> <i>Room 2</i>	
	11 <sup>05</sup> -11 <sup>30</sup>	COFFEE BREAK			
	11 <sup>30</sup> -13 <sup>30</sup>	<b>GERMAN-MOLDOVAN WORKSHOP</b> Novel Nanomaterials for Electronic, Photonic and Biomedical Applications <i>Room 3</i>	<b>GE WORKSHOP</b> New Technologies in Medical Diagnostics <i>Room 1</i>	<b>SECTION S4-B</b> <b>Biomaterials</b> <i>Room 2</i>	
	13:30 - 15:00 LUNCH				
	15 <sup>20</sup> -17 <sup>00</sup>	<b>PLENARY SESSION PL3</b> <i>Room 1</i>	14:00 - 16:00 <b>POSTERS SESSION</b>		
	17 <sup>00</sup>	CLOSING CEREMONY			
	17 <sup>30</sup>	SOCIAL EVENTS - Visit to Milestii-Mici			
July 9, 2011	9 <sup>00</sup> -13 <sup>00</sup>	A TRIP to Orheiul Vechi			
	16 <sup>00</sup>	Departure of Participants			

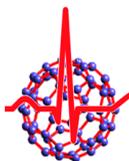


# **INTERNATIONAL CONFERENCE on Nanotechnologies and Biomedical Engineering**

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

July 7-8, 2011, Chisinau, Republic of Moldova

# **Conference Program**



INTERNATIONAL CONFERENCE  
on Nanotechnologies and  
Biomedical Engineering

**ICNBME - 2011**

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

**Technical University of Moldova**

The Organizing Committee of the **International Conference on Nanotechnologies and Biomedical Engineering and German-Moldovan Workshop on Novel Nanomaterials for Electronic, Photonic and Biomedical Engineering** highly appreciates the support of the German Ambassador to Moldova **Dr. Berthold Johannes**, 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**
- **Medical Imagistic Society of Moldova**
- **Moldavian Association of Medical Informatics**
- **European Federation for Medical Informatics**
- **GE Healthcare**
- **Alexander von Humboldt Foundation (Workshop)**
- **Global Biomarketing Group-Moldova**
- **NITECH S.R.L.**
- **Intermed Company**
- **XEROX Moldova**

**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-2011 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 University of Medicine and Pharmacy, Stefan cel Mare av. 165. Please note that the VisPas Hotel (<http://www.vispas.com/>) is in walking distance from the Conference venue. The conference venue can be reached from the Bella Donna Hotel (<http://hotelbelladonna.md/>) by Maxi-Taxi no 101 (see the map above).

Participants registration will take place in the central building of the University of Medicine and Pharmacy, Stefan cel Mare av. 165 on July 6th from 9.00 to 22.00 and on July 7 from 8.00 to 16.00.

The conference will open at 9.00, July 7<sup>th</sup>, 2011.

## **Language**

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

## **Available equipment**

The conference rooms will contain equipment for PowerPoint presentation.

## ***Honorary Chairmen oh 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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| • V. Litovchenko       | <i>Ukraine</i>  | • D. Zaharia           | <i>Romania</i>   |

## Program Committee

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- **V. Ursaki** *Moldova*
- **A. Usatii** *Moldova*
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- **I. Zatusevski** *Moldova*

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- **A. Rosioru**                 *Moldova*
- **V. Scripnic**                *Moldova*
- **S. Sisianu**                  *Moldova*

# Conference Topics

- **Nanotechnologies and Nanomaterials;**
- **Micro- and Nano-objects, Nanostructured and highly integrated systems, Biophysics;**
- **Plasmonics and Metamaterials;**
- **Biomedical Optics and Lasers;**
- **Sensors and Transducers;**
- **Terahertz spectroscopy;**
- **Biomedical Instrumentation and Devices;**
- **Health Care Management;**
- **Medical Imaging, Image and Signal Processing;**
- **Radiation Protection and Dosymetry, Biological Effect of Radiation;**
- **Biomedical Engineering Education;**
- **Information Technologies for Health Care, Telemedicine and E-Health;**
- **Other topics in biomedical engineering.**

# CONFERENCE PROGRAM

7 July 2011

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*

Co-chairs: *Hans Hartnagel, Ion Tiginyanu*

9<sup>30</sup> *H. Hartnagel*  
**Challenges of Nanometric Technology and Quantum Electronics for Science and Engineering**  
*Technical University Darmstadt, Fachgruppe Mikrowellenelektronik, Darmstadt, Germany*

9<sup>55</sup> *I. Ababii*  
**Perspectives for development of medical sciences based on modern technologies**  
*State University of Medicine and Pharmacy, Moldova*

10<sup>20</sup> *D. Dascalu*  
**Activities in nanomedicine in Romania**  
*National Institute for Research and Development in Microtechnologies (IMT-Bucharest), Romania*

10<sup>45</sup> *I. Tiginyanu*  
**State Programme on Nanotechnologies and Nanomaterials**  
*Academy of Sciences of Moldova, Chisinau, Republic of Moldova*

**11.10 – 11.40 COFFEE BREAK**

# PLENARY SESSION PL2 *Room 1*

Co-chairs: *H. Mimura, R. Negoescu*

11<sup>40</sup> *H. Mimura*<sup>1</sup>, *A.Koike*<sup>1</sup>, *T. Aoki*<sup>1</sup>, *Y.Neo*<sup>1</sup>, *T. Yoshida*<sup>2</sup>,  
and *M. Nagao*<sup>2</sup>

## **Multi-gated Field Emitters for a Micro-column**

<sup>1</sup>*Research Institute of Electronics, Shizuoka University, Hamamatsu, Japan*

<sup>2</sup>*National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan*

12<sup>05</sup> *R. Negoescu*

## **Bioengineering the Mind: from Artificial Intelligence Towards Artificial Consciousness**

*National Institute of Public Health, Bucharest, Romania*

12<sup>30</sup> *V. Cantser*

## **Topological Insulator Materials and Nanostructures for Future Electronics, Spintronics and Energy Conversion**

*Institute of Electronic Engineering and Nanotechnologies "D. Ghitu" of the  
Academy of Sciences of Moldova, Kishinev, Moldova*

12<sup>55</sup> *R. Engelbrecht*<sup>1</sup>, *C.Hildebrand*<sup>2</sup>, *H. Demski*<sup>2</sup>

## **Cross-Sector-Communication and Continuity of Care: Using Standards for an Integrative Health Environment**

<sup>1</sup>*ProRec Germany, Glaslweg 33 D 85737 Ismaning*

<sup>2</sup>*IBMI -Institute for Biological and Medical Imaging, MEDIS - Medical  
Information Systems,*

*Helmholtz Zentrum München, German Research Center for Environmental  
Health*

*Ingolstädter Landstr. 1, D 85764 Neuherberg, Germany*

**13<sup>20</sup> – 15<sup>00</sup> LUNCH**

# SECTION S1-N Nanotechnologies and Nanomaterials

15:00-18:30 Room 3

Co-chairs: A. Andries, F.J. Manjón

15<sup>00</sup> **F.J. Manjón<sup>1</sup>, O. Gomis<sup>2</sup>, S. Ray<sup>1</sup>, S.F. León-Luis<sup>3</sup>, U.R. Rodríguez-Mendoza<sup>3</sup>, V. Lavín<sup>3</sup>, A. Segura<sup>4</sup>, D. Martínez-García<sup>4</sup>, and Ch. Ferrer-Roca<sup>4</sup>**

**High-Pressure Study of YVO<sub>4</sub> Nanoboxes (Invited)**

<sup>1</sup>Instituto de Diseño para la Fabricación y Producción Automatizada, MALTA Consolider Team, Universitat Politècnica de València, València, Spain G.A.

<sup>2</sup>Instituto de Centro de Tecnologías Físicas, MALTA Consolider Team, Universitat Politècnica de València, Camí de Vera s/n, 46022 València (Spain)

<sup>3</sup>Instituto de MALTA Consolider Team and Departamento de Física Fundamental y Experimental, Electrónica y Sistemas, Universidad de La Laguna, E-38200 San Cristóbal de La Laguna, Santa Cruz de Tenerife (Spain)

<sup>4</sup>Instituto de Ciencia de Materiales de la Universidad de Valencia, MALTA Consolider Team, Universitat de València, C/. Dr. Moliner 50, 46100 Burjassot, València (Spain)

15<sup>20</sup> **O. Lupan**

**ZNO Growth Technologies: Current Status and Perspectives (Invited)**

*Technical University of Moldova, Chisinau, Moldova*

15<sup>40</sup> **G.A. Emelchenko, A.A. Zhokhov, V.M. Masalov, E.A. Kudrenko, A.N. Tereshenko, .A. Steinman, I.I. Khodos<sup>1</sup>, V.I. Zinenko<sup>1</sup>, Yu.A. Agafonov<sup>1</sup>**

**Nanowires of silicon carbide and 3D SiC/C nanocomposites with inverse opal structure (Invited)**

*Institute of Solid State Physics, Russian Academy of Sciences, Chernogolovka, Moscow District, Russia*

<sup>1</sup>*Institut of Microelectronics Technology and High Purity Materials, Russian Academy of Science, Chernogolovka, Moscow District, Russia*

- 16<sup>00</sup>** *S.A.Moskalenko<sup>1</sup>, M.A.Liberman<sup>2</sup>, E.V.Dumanov<sup>1</sup>, S.Rusu<sup>1</sup>, F.Cerbu<sup>1</sup>*  
**Collective Elementary Excitations of 2D Magnetoexcitons Taking into Account Excited Landau Levels (Invited)**

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

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

- 16<sup>20</sup>** *Y.I. Yakimenko<sup>1</sup>, G.M. Mladenov<sup>2</sup>, V.M. Spivak<sup>1</sup>, A.V. Bogdan<sup>1</sup>, V.M.Koval<sup>1</sup>*  
**Photoelectric Converters: Current State Analysis and Prospects of Evolution (Invited)**

<sup>1</sup>*National Technical University of Ukraine "Kiev Polytechnic Institute", Kiev, Ukraine*

<sup>2</sup>*Institute of Electronics, Bulgarian Academy of Sciences, Sofia, Bulgaria*

## **16:40-17:00 COFFEE BREAK**

**Co-chairs:** *D. Tsiulyanu, H.N. Teodorescu*

- 17<sup>00</sup>** *N. Tsyntaru\*, B. Kavas\*\*, J.P. Celis\**  
**Synthesis of AAO Nanotemplate and Its Properties**

\* *Katholieke Universiteit Leuven, Leuven, Belgium*

\*\* *Istanbul Technical University, Istanbul, Turkey*

- 17<sup>15</sup>** *V. Cojocar<sup>1</sup>, A. Katashev<sup>2</sup>, H. N. Teodorescu<sup>1,3</sup>*  
**Analysis of the Behavior of PVDF Layers Deposited under Various Conditions**

<sup>1</sup> *'Gheorghe Asachi' Technical University of Iasi, Faculty of Electronics, Communications and I.T., Iasi, Romania*

<sup>2</sup> *Riga Technical University, Biomedical Engineering and Nanotechnologies Institute, Riga, Latvia*

<sup>3</sup> *Institute of Computer Science of the Romanian Academy, Iasi, Romania*

- 17<sup>30</sup> **E. Kapon<sup>1</sup>, A. Mereuța<sup>1</sup>, A. Dorogan<sup>2</sup>, N.Dragutan<sup>2</sup>, T. Vieru<sup>2</sup>, N. Syrbu<sup>2</sup>**  
**Exciton Luminescence in In<sub>0.3</sub>Ga<sub>0.7</sub>As/GaAs Quantum Well Heterostructures**  
<sup>1</sup>Swiss Federal Institute of Technology in Lausanne, Lausanne, Switzerland  
<sup>2</sup>Technical University of Moldova, Kishinev, Moldova
- 17<sup>45</sup> **D. Tsiulyanu, O. Mocreac**  
**Effect of Harmful Gases on the a.c. Conductivity of Tellurium Thin Films**  
*Technical University, Department of Physics*
- 18<sup>00</sup> **M.S. Iovu, E.P. Colomeico, V.G. Benea, A.M. Andriesh**  
**Optical Properties of Phase Change Memory Ge<sub>1</sub>Sb<sub>2</sub>Te<sub>4</sub> Glasses**  
*Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Republic of Moldova*
- 18<sup>15</sup> **S.A. Moskalenko<sup>1,\*</sup>, I.V. Podlesny<sup>1</sup>, B.V. Novikov<sup>2</sup>, E.S. Kiselyova<sup>3</sup>, I.A. Lelyakov<sup>1</sup>, and L. Gherciu<sup>1,3</sup>**  
**Exchange Electron-Hole Interaction of Two-Dimensional Magnetoexcitons under the Influence of the Rashba Spin-Orbit Coupling**  
<sup>1</sup>Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Republic of Moldova  
<sup>2</sup>Department of Solid State Physics, Institute of Physics, St.Petersburg State University, St.Petersburg, Russia  
<sup>3</sup>Moldova State University, Chisinau, Republic of Moldova
- 18<sup>30</sup> **A.S.H. Makhlof**  
**Smart self-healing eco-friendly nano and nano-composite protective coatings**  
*Center of Research Excellence in Corrosion, King Fahd University of Petroleum & Minerals, Dhahran 31261, Saudi Arabia*

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

**15:00-18:30 Room 4**

**Co-chairs: A. Casian, A. Sarua**

**15<sup>00</sup> A. Sarua<sup>1</sup>, T. Schuller<sup>1</sup>, M. Kuball<sup>1</sup>, S. Flower<sup>2</sup>, T. D. James<sup>2</sup>,  
J. Fossey<sup>3</sup>, Jo Das<sup>4</sup>, S. Degroot<sup>4</sup>, M. Germain<sup>4</sup>  
Functionalised ALGaN/GaN Heterostructures for Electronic  
Saccharide Sensing (Invited)**

<sup>1</sup> H.H. Wills Physics Laboratory, University of Bristol, Bristol, United Kingdom

<sup>2</sup> Department of Chemistry, University of Bath, Bath, United Kingdom

<sup>3</sup> School of Chemistry, University of Birmingham, Birmingham, United Kingdom

<sup>4</sup> Interuniversity Microelectronics Center, Leuven, Belgium

**15<sup>20</sup> A. Casian, I. Balmus, V. Duscian, V. Nicic  
More Efficient Nanostructured Material for Noncontact  
Body Temperature Measurement (Invited)**

*Technical University of Moldova, Chisinau, Moldova*

**15<sup>40</sup> L. Konopko<sup>1,2</sup>, A. Nikolaeva<sup>1,2</sup>, T. Huber<sup>3</sup>, A. Tsurkan<sup>1</sup>  
Single-Crystal Microwires Based on Doped Bi for  
Anisotropic Thermoelectric Devices (Invited)**

<sup>1</sup> Institute of Electronic Engineering and Nanotechnologies "D. Ghitu" of the Academy of Sciences of Moldova, Kishinev, 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.

**16<sup>00</sup> J. Kehrlé<sup>a</sup>, V. Zdravkov<sup>a,b</sup>, C. Mueller<sup>a</sup>, G. Obermeier<sup>a</sup>, M. Schreck<sup>a</sup>,  
S. Gsell<sup>a</sup>, S. Horn<sup>a</sup>, R. Tidecks<sup>a</sup>, R. Morari<sup>b,c</sup>, A. Prepelitsa<sup>b</sup>,**

*E. Antropov<sup>b</sup>, A. Socrovisciuc<sup>b</sup>, E. Nold<sup>c</sup>, L. Tagirov<sup>a,d</sup>,  
A. Sidorenko<sup>b,c</sup>*

**Superconducting Spin Switch Based on Superconductor-Ferromagnet Nanostructures for Spintronics (Invited)**

*<sup>a</sup>University of Augsburg, Augsburg, Germany*

*<sup>b</sup>Institute of Electronic Engineering and Nanotechnologies “D. Ghițu” of the Academy of Sciences of Moldova, Chisinau, Moldova*

*<sup>c</sup>Institute of Nanotechnology, Karlsruhe, Germany*

*<sup>d</sup>Solid State Physics Department, Kazan State University, Kazan, Russia;*

**16<sup>15</sup> N. Jula<sup>1</sup>, T. Ursu<sup>2</sup>, C. N. Diaconescu<sup>3</sup>, R. Obreja<sup>4</sup>  
High Resolution Position Inductive Transducers  
for Harsh Environmental Conditions**

*1Military Technical Academy – Bucharest, ROMANIA*

*2S.C. Sistem Euroteh – Buzau, ROMANIA*

*3Technical University Gheorghe Asachi – Iasi, ROMANIA*

*S.C. Sistem Euroteh – Buzau, ROMANIA*

**16<sup>30</sup> A. Bakerenkov  
The fitting parameters extraction of conversion model of the  
low dose rate effect in bipolar devices**

*National Nuclear University “MEPhI”, Moscow, Russia*

**16:40-17:00 COFFEE BREAK**

**Co-chairs: T. Shishiyanu, N.Jula**

**17<sup>00</sup> C.Yu. Zenkova, I.V. Soltys  
About the Using of Polarization Methods in Investigating the  
Polarization Sensitive Nanosystems**

*Chernivtsy National University, Chernivtsy, Ukraine*

**17<sup>15</sup> A.Meshalkin<sup>1</sup>, A.Andries<sup>1</sup>, E.Achimova<sup>1</sup>, L.Bets<sup>2</sup>, I.Andries<sup>3</sup>,  
S.Drahnea<sup>3</sup>  
Interferometric Method Application for Sub-Micrometers  
Thickness Measurements of Spin-Coated Peps and Petpc  
Polymer Films**

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

<sup>2</sup>*Institute of Chemistry of Academy of Sciences of Moldova, Chisinau, Moldova*

<sup>3</sup>*Moldova State University, Chisinau, Moldova*

17<sup>30</sup> **O. Iaseniuc, A. Andriesh, E. Achimova, V. Abashkin**  
**Design of The Holographic Fiber-Optic Electronic Speckle Pattern Interferometer for Optical Constants of Glasses Measurements**

*Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Moldova*

17<sup>45</sup> **S.T. Shishiyanu<sup>1</sup>, T.S. Shishiyanu<sup>1</sup>, E. Yilmaz<sup>2</sup>, R. Turan<sup>3</sup>, N.A.P. Mogaddam<sup>3</sup>**  
**Improvement of SiO<sub>2</sub>(Ge)SiO<sub>2</sub>/Si Nanostructures by Low Dose  $\gamma$ -radiation**

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

<sup>2</sup>*Abant Izzet Baysal University, Bolu, Turkey*

<sup>3</sup>*Meddle East Technical University, Ankara, Turkey*

18<sup>00</sup> **D. Esinenco<sup>1</sup>, L. Sirbu<sup>2</sup>, I. Voda<sup>3</sup>, L. Ghimpu<sup>2</sup>, R. Muller<sup>4</sup>, R. Voicu<sup>4</sup>, M. Danila<sup>4</sup>, A. Leca<sup>5</sup>, T. Dascalu<sup>5</sup>, I.M. Tiginyanu<sup>1,2</sup> and V. Ursaki<sup>1,6</sup>**  
**Nanoperforated Indium Phosphide for Terahertz Imaging Bio-Applications**

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

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

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

<sup>4</sup>*National Institute for R&D in Microtechnologies - IMT Bucharest, Bucharest, Romania*

<sup>5</sup>*National Institute for Laser, Plasma and Radiation Physics Laboratory of Solid-State Quantum Electronics, Magurele, Romania*

<sup>6</sup>*Institute of Applied Physics of the Academy of Science of Moldova, Chisinau, Moldova*

18<sup>15</sup> **L.Dmitroglu<sup>1</sup>, D. Untila<sup>1</sup>, P.Chetrush<sup>1</sup>, I. Evtodiev<sup>1</sup>, Iu. Caraman<sup>2</sup>, G. Lazar<sup>2</sup>, V. Nedeff<sup>2</sup>**

**Nanolamellar Structures of Oxide-A<sup>III</sup>B<sup>VI</sup>:Cd  
Semiconductors Type for Use as Detectors of Radiation in the  
UV Spectral Region**

<sup>1</sup>*Moldova State University, Chisinau, Republic of Moldova*

<sup>2</sup>*University of Bacau, Bacau, Romania*

- 18<sup>30</sup> **R.Singh G.F. Alapatt, N. Gupta, K.F. Poole**  
**Fundamental Issues in the Manufacturing of  
Nanoelectromechanical (NEMS) and Related Nanosystems**  
*Clemson University, Clemson, USA*

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

**15:00-18:30 Room 1**

**Co-chairs:** *M.M. Asimov, Iu. Nica*

- 15<sup>00</sup> **<sup>1</sup>S. Arora, <sup>1</sup>S.H. Park, <sup>2</sup>J. Mauser, <sup>2</sup>D. Chakrabarti, <sup>1</sup>A. Schulte**  
**Micro-Spectroscopy of Single Erythrocytes Infected with the  
Malaria Parasite (Invited)**  
<sup>1</sup>*Department of Physics and College of Optics and Photonics, <sup>2</sup>Burnett School  
of Biomedical Sciences, University of Central Florida, Orlando, USA*
- 15<sup>20</sup> ***Yu. Dekhtyar, L. Lancere, N. Polyaka, A. Sudnikovich, F. Tyulkin***  
**Ultra Violet radiation regulates wettability property of  
prosthetic PMMA (Invited)**  
*Riga Technical University, Riga, Latvia*
- 15<sup>40</sup> **V. Vovc**  
**Obstructive sleep apnea: biomedical devices for treatment**  
*State Medical and Pharmaceutical University "Nicolae Testemitanu",  
Chisinau, Republic of Moldova*

- 15<sup>55</sup> **I. Ababii, S. Diacova, M. Maniuc, P. Ababii, L. Danilov**  
**Electro-acoustical and Electrophysiological Examinations  
 in Diagnostics of Otitis Media in Infants**  
*<sup>1</sup>State University of Medicine and Pharmacy „N.Testemitanu”, Chisinau,  
 Moldova*
- 16<sup>10</sup> **Iu. Nica, S. Zavrăjnii, A. Gritzco, I. Tiron, D. Eshanu,  
 V. Musteatza, A. Stalbe**  
**Installation for Local Hyperthermia in Crossed Laser Fluxes**  
*Institute of Electronical Engineering and Nanotechnologies „Dumitru Ghiiu”  
 of the Academy of Sciences of Moldova, Chişinău, Moldova*
- 16<sup>25</sup> **I. Ababii, L. Danilov, M. Maniuc, P. Ababii, S. Diacova**  
**The Role of Microscopic Techniques in Performing  
 Tympanoplasty in Children**  
*State University of Medicine and Pharmacy „N.Testemitanu”, Chisinau,  
 Moldova*

## 16:40 -17:00 COFFEE BREAK

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

- 17<sup>00</sup> **V. Dorogan, V. Secrieru, T. Vieru, S. Vieru, A. Dorogan,  
 E. Munteanu, Ş. Balica**  
**Biomedical Physiotherapeutic Complex**  
*Technical University of Moldova, Chisinau, Moldova*
- 17<sup>15</sup> **A.Ganenco<sup>1</sup>, V. Vovc<sup>1</sup>, I. Moldovanu<sup>2</sup>, S. Lozovanu<sup>1</sup>**  
**Heart rate variability: the Involvement of Breathing Pattern  
 (Chest Breathing, Abdominal Breathing) and Anxiety**  
*<sup>1</sup>State University of Medicine and Pharmacy “N. Testemitanu”, Chisinau,  
 Moldova  
<sup>2</sup>Institute of Neurology and Neurosurgery, of the Academy of Sciences of  
 Moldova, Chişinău, Moldova*
- 17<sup>30</sup> **V. Scripnic<sup>1</sup>, V. Şontea<sup>2</sup>, I. Zatuşevski<sup>3</sup>, A. Saulea<sup>4</sup>, E. Zemţovski<sup>5</sup>,  
 A. Iavorschi<sup>2</sup>, V. Pârţac<sup>2</sup>, V. Socolov<sup>4</sup>, N. Alexeeva<sup>6</sup>**

## **New Investigation Technologies of the Cardiovascular System and of the Vegetative Nervous System**

<sup>1</sup>*Medical Center of Social Rehabilitation, Chisinau, Moldova*

<sup>2</sup>*Technical University of Moldova, Chisinau, Moldova*

<sup>3</sup>*State University of Medicine and Pharmacy "N. Testemitanu", Chisinau, Moldova*

<sup>4</sup>*Free International University of Moldova, Chisinau, Moldova*

<sup>5</sup>*Medical Pediatric Academy, Sankt Petersburg, Russia*

<sup>6</sup>*Chuvash State Teacher Training University, Russia*

**17<sup>45</sup> M.M. Asimov<sup>1</sup>, R.M. Asimov<sup>2</sup>, A.N. Rubinov<sup>1</sup>, A.I. Gisbrecht<sup>3</sup>  
Optical Dosimetry for Controlling the Efficiency of Laser  
Phototherapy**

<sup>1</sup>*Institute of Physics National Academy of Sciences of Belarus, Minsk, Belarus*

<sup>2</sup>*"Sensotronica Ltd.", Minsk, Belarus*

<sup>3</sup>*Institute of Electronics Bulgarian Academy of Sciences, Sofia, Bulgaria*

**18<sup>00</sup> V. Şontea, A. Iavorschi, V. Pahomi, V. Pîrţac, D. Anghiloglou,  
S. Railean  
Complex Device for Recording and Signal Processing of  
Cardiac Activity**

*Technical University of Moldova, Chisinau, Moldova*

**18<sup>15</sup> A. Saulea, V. Chihai  
The Change of Peripheral Excitability Caused by Millimeter  
Waves**

*State University of Medicine and Pharmacy „N.Testemitanu”, Chisinau, Moldova*

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

15:00 -16:40 Room 2

Co-chairs: A.G. Ushenko, M. Porat

15<sup>00</sup> *A.G. Ushenko, A.V. Dubolazov, A.O. Karachevtsev*  
**Polarization-singular Processing of Biological Layers Laser Images in Order to Diagnose and Classify their Optical Properties (Invited)**

*Chernivtsi National University, Chernivtsi. Ukraina*

15<sup>20</sup> *Y. Kerner, M. Porat*  
**An Optimized Compounding Approach to Ultrasound Imaging (Invited)**

*Technion, Haifa, Israel*

15<sup>40</sup> *O. Marginean<sup>1</sup>, K. Branzaniuc<sup>2</sup>, Marginean C., A. M. Pitea<sup>1</sup>, L. Azamfirei<sup>4</sup>, L. Bologa<sup>5</sup>, L. Cerempei<sup>5</sup>, N. Revenco<sup>5</sup>*  
**Elastography - New Imagistic Method for Assessment of Liver Structure in Children**

<sup>1</sup> *University of Medicine and Pharmacy Tg.-Mures, Romania*

<sup>2</sup> *University of Medicine and Pharmacy Tg.-Mures, Romania*

<sup>3</sup> *University of Medicine and Pharmacy Tg.-Mures, Romania*

<sup>4</sup> *University of Medicine and Pharmacy Tg.-Mures, Romania*

<sup>5</sup> *State University of Medicine and Pharmacy "N. Testemitanu", Chisinau, Moldova*

15<sup>55</sup> *D. Taralunga<sup>1</sup>, W. Wolf<sup>2</sup>, M. Ungureanu<sup>1</sup>, R. Strungaru<sup>1</sup>*  
**Fetal Survey via Abdominal Recorded Signals**

<sup>1</sup> *Politehnica University of Buharest, Bucharest, Romania,*

<sup>2</sup> *Universität der Bundeswehr München, Institut für Informationstechnik, Germany*

16<sup>10</sup> *Yu. Ushenko, O. Telenha, V. Balanetska, M. Sidor*

**Statistic and Fractal Processing of Human Biological Fluids  
Phase-inhomogeneous Images**

*Chernivtsi National University, Chernivtsi, Ukraina*

- 16<sup>25</sup> Mahjoubian Masoud<sup>1</sup>, G.N. Rozorynov<sup>1</sup>, Fendri Mohamed Aymen<sup>1</sup>  
Application of a Threshold Methods for Compression of  
Vocal Signals**

*<sup>1</sup>National Technical University of Ukraine "Kiev Polytechnic Institute", Kiev,  
Ukraine*

**16:40-17:00 COFFEE BREAK**

**SECTION S6-B Information Technologies for  
Health Care, Telemedicine and E-Health**

**17:00-18:30 Room 2**

**Co-chairs: C. Zaugg, C. Gajndric**

- 17<sup>00</sup> C. Zaugg<sup>1,2</sup>  
Better Information, better Decisions, better Care  
– Introducing a Web-based Inventory System for Medical  
Devices in Moldova**

*<sup>1</sup>Swiss Tropical and Public Health Institute*

*<sup>2</sup>Moldova-Swiss Perinatology Project*

- 17<sup>15</sup> N. Rogovschi<sup>1</sup>. N. Grozavu<sup>2</sup>  
Towards an Images Dataset Processing Trough Supervised  
and Unsupervised Learning**

*<sup>1</sup>LIPADE, Paris-Descartes University, France*

*<sup>2</sup>LIPN, Paris 13 University, France*

- 17<sup>30</sup> P. Stratulat\*, T. Carauș\*, M. Blunier\*\*, A. Curteanu\*  
Use of Telemedicine in Pilot Centers Within the Perinatal**

## **System**

\*- *Mother and Child Research Institute from the Republic of Moldova, Chişinău, Moldova*

\*\*-. *Swiss Tropical and Public Health Institute, Switzerland*

- 17<sup>45</sup> **L. Burtseva, S. Cojocaru, C. Gaindric, O. Popcova, I. Secrieru**  
**SonaRes - Computer-Aided Approach for Advanced  
Ultrasound Medical Diagnostics**  
*Institute of Mathematics and Computer Science of the Academy of Sciences of  
Moldova, Chişinău, Moldova*
- 18<sup>00</sup> **A. Roşioru**  
**The Analysis of the Legal Framework in the eHealth Field in  
Moldova, in the Context of European Integration**  
*National Health Management Center, Technical University of Moldova,  
Chişinău, Moldova*
- 18<sup>15</sup> **M. Butnaru<sup>1</sup>, A. Capatana<sup>1,2</sup>, G. Capatana<sup>1</sup>, O. Cobileanschi<sup>3,4</sup>,  
A. Popov<sup>4</sup>**  
**The Intelligent Support System for Remission in Patients  
with Psychiatric Disorders in Epilepsy**  
<sup>1</sup>*State University of the Republic of Moldova, Chişinău, Moldova*  
<sup>2</sup>*Yale University, New Haven, USA*  
<sup>3</sup>*State Medical and Pharmaceutical University "Nicolae Testemitanu" of the  
Republic of Moldova, Chişinău, Moldova*  
<sup>4</sup>*Psychiatric Hospital of the Republic of Moldova, Chişinău, Moldova*

**19:30 CONFERENCE DINNER**

**8 July 2011**

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

**9:00-13:30 Room 3**

**Co-chairs: H. Föll, D. Pavlidis**

- 9<sup>00</sup> H. Föll**  
**The Collaborative Research Center “Magnetoelectric Composites - Future Biomagnetic Interfaces” at the Christian-Albrechts-University in Kiel (*Invited*)**  
*Institute for Materials Science, Christian-Albrechts-University of Kiel, Germany*
- 9<sup>25</sup> R. Adelung**  
**Two Simple Examples for the Micro-nano Integration of Nanowires as Electronic Device Elements (*Invited*)**  
*Functional Nanomaterials, Institute for Materials Science, University of Kiel, Kiel, Germany*
- 9<sup>50</sup> H.L. Hartnagel**  
**Ballistic Charge Carrier Devices for Terahertz Signal Generation (*Invited*)**  
*Technical University Darmstadt, Darmstadt, Germany*
- 10<sup>15</sup> D. Pavlidis**  
**Nitride and Carbon-based Nano-electronics. (*Invited*)**  
*Technical University Darmstadt, Darmstadt, Germany*
- 10<sup>40</sup> A. Rastelli, R. Trotta, E. Zallo, P. Atkinson, E. Magerl, F. Ding, J. D. Plumhof, S. Kumar, K. Dörr, O.G. Schmidt**

## **Strain-Tunable Quantum Dot Devices (*Invited*)**

*Institute for Integrative Nanosciences, IFW Dresden, Helmholtzstr. 20, 01069 Dresden, Germany*

### **11:05-11:30 COFFEE BREAK**

**Co-chairs:** *R. Adelung, A. Rastelli*

**11<sup>30</sup> *M. Leisner, J. Carstensen, H. Föll***  
**Monte-Carlo-Simulation of Crystallographical Pore Growth in III-V-Semiconductors (*Invited*)**

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

**11<sup>45</sup> *M.-D. Gerngross<sup>\*</sup>, M. Leisner, J. Carstensen and H. Föll***  
**Porous InP as Piezoelectric Matrix Material in 1-3 Magnetolectric Composite Sensors (*Invited*)**

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

**12<sup>00</sup> *O. Lupan<sup>1</sup>, L. Chow<sup>2</sup>, T. Pauporté<sup>3</sup>***  
**Zinc Oxide Nanostructures: New Properties for Advanced Applications (*Invited*)**

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

<sup>2</sup>*University of Central Florida, USA*

<sup>3</sup>*Chimie-Paristech, LECIME, UMR7575, CNRS, France*

**12<sup>15</sup> *E. Monaico<sup>1</sup>, I. Tiginyanu<sup>1,2</sup>, G. Colibaba<sup>3</sup>, D. D. Nedeoglo<sup>3</sup>, A. Cojocar<sup>4</sup>, H. Föll<sup>4</sup>***  
**Development of Conductive Nanotemplates on ZnSe (*Invited*)**

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

<sup>1</sup>*Institute of Electronic Engineering and Nanotechnologies "D. Ghitu" of the Academy of Sciences of Moldova, Chişinău, Moldova*

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

<sup>4</sup>*Christian-Albrechts-University of Kiel, Kiel, Germany*

- 12<sup>30</sup> **V. Popa,<sup>1</sup> T. Braniste,<sup>1</sup> O. Volciuc,<sup>1</sup> D. Pavlidis,<sup>2</sup> A. Sarua,<sup>3</sup> P. Heard,<sup>4</sup> M. Kuball<sup>3</sup>**  
**Development of GaN-based Nanosensors using Surface Charge Lithography (Invited)**  
<sup>1</sup> *Technical University of Moldova, Chisinau, Republic of Moldova*  
<sup>2</sup> *Technical University Darmstadt, Darmstadt, Germany*  
<sup>3</sup> *University of Bristol, Bristol, United Kingdom*  
<sup>4</sup> *Interface Analysis Centre, Oldbury House, Bristol, United Kingdom*
- 12<sup>45</sup> **M. Enachi<sup>1</sup>, V. Ursaki<sup>2</sup>, V. Sergentu<sup>2</sup>**  
**Surface Plasmon Enhanced Luminescence from Ag Covered Anatase Titania Nanotubes (Invited)**  
<sup>1</sup> *Technical University of Moldova, Chisinau, Republic of Moldova*  
<sup>2</sup> *Institute of Applied Physics of the Academy of Sciences of Moldova, Chisinau, Moldova*
- 13<sup>00</sup> **A. Cojocar<sup>1\*</sup>, J. Carstensen<sup>1</sup>, J. Boor<sup>2</sup>, V. Schmidt<sup>2</sup>, H. Föll<sup>1</sup>**  
**Investigation of Mesoporous Structures for Thermoelectric Applications (Invited)**  
<sup>1</sup> *Institute for Materials Science, Christian-Albrechts-University of Kiel, Kiel, Germany.*  
<sup>2</sup> *Max-Planck-Institute of Microstructure Physics Weinberg 2, Germany*
- 13<sup>15</sup> **A. Ioisher<sup>1</sup>, E. Badinter<sup>1</sup>, N. Leporda<sup>2</sup>, V. Postolache<sup>1</sup>, E. Monaico<sup>3</sup>, I. Tiginyanu<sup>2</sup>**  
**Perspectives of Single Cast Nanowires Technology (Invited)**  
<sup>1</sup> *Institute "ELIRI", Chisinau, Republic of Moldova*  
<sup>2</sup> *Institute of Electronic Engineering and Nanotechnologies "D. Ghitu" of the Academy of Sciences of Moldova, Chişinău, Moldova*  
<sup>3</sup> *Technical University of Moldova, Chişinău, Moldova*

# **GE WORKSHOP**

## **New Technologies in Medical Diagnostics**

**9:00-13:30 Room 1**

**Co-chairs: T. Ceaicovschii, R. Gorduză-Lupu**

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

*Andrei Rosca*

**The implementation of modern digital technology in X-ray medical diagnoses in Republic of Moldova – a stringent necessity.**

*Technical University of Moldova, Chisinau, Moldova*

**9<sup>20</sup>**

*Florentin Preoteasa*

**New technics in MRI acquisition.**

*GE, Romania*

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

*Nagy Barnabas*

**New x-ray imaging technologies in Interventional Cardiology and Radiology**

*GE, Romania*

**11:05-11:30 COFFEE BREAK**

**11<sup>30</sup>**

*Andrei Daniela*

**Carrying Design – MRI in a New Light**

*GE, Romania*

## SECTION S4-B Biomaterials

9:00-13:30 Room 2

Co-chairs: A. Ciubotaru, I.A. Ivanova

- 9<sup>00</sup> S. Cebotari<sup>1</sup>, I. Tudorache<sup>1</sup>, E. Cheptanaru<sup>2</sup>, S. Barnaciuc<sup>2</sup>, A. Cazacu<sup>2</sup>, O. Maliga<sup>2</sup>, O. Repin<sup>2</sup>, L. Maniuc<sup>2</sup>, T. Breyman<sup>1</sup>, S. Sarikouch<sup>1</sup>, D. Boethig<sup>1</sup>, A. Goerler<sup>1</sup>, A. Haverich<sup>1</sup>, A. Ciubotaru<sup>2</sup>  
**Mid-term Results of Tissue Engineered Valvular Grafts for Pulmonary Valve Replacement in Pediatric Patients and Young Adults (Invited)**  
<sup>1</sup>Department of Cardio-Thoracic, Transplantation and Vascular Surgery, Hannover Medical School, Hannover, Germany  
<sup>2</sup>Heart Surgery Center, National Institute of Cardiology, Chisinau, Moldova
- 9<sup>20</sup> I.A. Ivanova<sup>1\*</sup>, O. Angelov<sup>3</sup>, L. Krasteva<sup>2</sup>, T. Peshkova<sup>2</sup>, K. Papazova<sup>2</sup>, D. Dimova-Malinovska<sup>3</sup>, C. D. Dushkin<sup>2</sup>  
**Interaction of Bacteria With Nanostructured Zinc-Oxide Thin Films (Invited)**  
<sup>1</sup>Department of Microbiology, Faculty of Biology, University of Sofia St. Kliment Ohridski, Sofia, Bulgaria,  
<sup>2</sup>LNST, Department of General and Inorganic Chemistry, Faculty of Chemistry, University of Sofia St. Kliment Ohridski, Sofia, Bulgaria;  
<sup>3</sup>Central Laboratory of Solar Energy and New Energy Sources, Bulgarian Academy of Sciences, Sofia, Bulgaria.
- 9<sup>40</sup> S.T. Shishiyanu<sup>1</sup>, T.S. Shishiyanu<sup>1</sup>, P.S. Stefanov<sup>2</sup>, V.K. Gueorguiev<sup>3</sup>  
**DLC Biocompatible Thin Films for Cardiovascular Implants (Invited)**  
<sup>1</sup>Technical University of Moldova, Chisinau, Moldova  
<sup>2</sup>ISMA Ltd., Sofia, Bulgaria  
<sup>3</sup>Institute of Solid State Physics, Bulgarian Academy of Sciences, Sofia, Bulgaria
- 10<sup>00</sup> M. Romanova<sup>1</sup>, Y. Dekhtyar<sup>1</sup>, A. Kachanovska<sup>1</sup>, D. Skrastina<sup>2</sup>, R. Renhofa<sup>2</sup>, P. Pumpens<sup>2</sup>, A. Patmalnieks<sup>3</sup>

## **Silica Nanoparticles for Improving Efficiency of Virus-Like Particle Based Hepatitis B Vaccine**

<sup>1</sup> *Riga Technical University, Institute of Biological Engineering and Nanotechnology, Latvia*

<sup>2</sup> *Biomedical Research and Study Centre, Riga, Latvia*

<sup>3</sup> *University of Latvia, Riga, Latvia*

**10<sup>15</sup>** *L. E. Nita, M. T. Nistor, A. P. Chiriac, I. Neamtu*  
**Network Macromolecular Structures. The Crosslinker Effect**  
*“Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania*

**10<sup>30</sup>** *E. Mocan, O. Tagadiuc, T. Revencu V.Nacu*  
**Collagen - Isolation and Perspectives of Application of Nature Nanomaterials**  
*State Medical and Pharmaceutical University “Nicolae Testemitanu”, Chisinau, Moldova*

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

**Co-chairs:** *V. Rudic, V.Nacu*

**11<sup>30</sup>** *C. Scutari<sup>1</sup>, V. Gonciar<sup>1</sup>, I. Cekman<sup>2</sup>, N. Gorceacova<sup>2</sup>*  
**Colloidal Nanosilver – a product of Nanotechnology**  
<sup>1</sup>*State Medical and Pharmaceutical University „N. Testemitanu”, Chisinau, Moldova*  
<sup>2</sup>*National Medical University „A.A.Bogomoleț”, Kiev*

**11<sup>45</sup>** *V. Rudic\*, L. Cepoi\*, L. Rudi\*, T.Chiriac\*, A. Nicorici\*\*, A. Todosiciuc\*\*, T. Gutsul\*\**  
**Synthesis of CdSe Nanoparticles and Their Effect on the Antioxidant Activity of Spirulina Platensis and Porphyridium Cruentum Cells**  
*\* Institute of Microbiology and Biotechnology of the Academy of Sciences of Moldova, Chişinău, Moldova*  
*\*\*Institute of Electronic Engineering and Nanotechnologies "D. Ghitu" of the Academy of Sciences of Moldova, Chişinău, Moldova*

**12<sup>00</sup>** *O. Tagadiuc<sup>1</sup>, A. Gulea<sup>2</sup>, V. Rudic<sup>3</sup>, V. Gudumac<sup>1</sup>*

**Influence of copper coordination compounds and cyanobacterian remedy BioR on bone collagen and hydroxyproline concentrations (ontogenetic view)**

<sup>1</sup>*State University of Medicine and Pharmacy „N.Testemitanu”, Chisinau, Moldova*

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

<sup>3</sup>*Institute of Microbiology and Biotechnology, Academy of Science, Moldova, Chisinau, Moldova*

**12<sup>15</sup>** *M. Iordatii, A. Venot, C. Duclos*

**Identification and Analysis of Sources Relative to the Characteristics of Pharmaceutical Innovation**

*Laboratoire d'Informatique Médicale et Bioinformatique, UFR SMBH, Université Paris 13, Bobigny, France*

**12<sup>30</sup>** *Gh. Granciuc*

**Innovative Realizations in the Research of Dental Implants**

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

**13<sup>30</sup> – 15<sup>00</sup> LUNCH**

**PLENARY SESSION PL3**

**15:20 - 17:00 Room 1**

**Co-chairs:** *V.Kantser, R. Strungaru*

**15<sup>20</sup>** *V. Şontea<sup>1,4</sup>, P. Stratulat<sup>2,4</sup>, R. Werlein<sup>3,4</sup>*

**Health Technology Management**

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

<sup>2</sup>*State University of Medicine and Pharmacy „N.Testemitanu”,*

<sup>3</sup>*Swiss Tropical and Public Health Institute,*

<sup>4</sup>*Moldova-Swiss Perinatology Project*

- 15<sup>40</sup> **R. Strungaru, G. Mihaela Ungureanu**  
**Advanced EEG Signal Processing**  
*Politehnica University of Bucharest, Bucharest, Romania*
- 16<sup>00</sup> **V. Iakovlev**  
**Nano Metrology Aspects of Design, Simulation, Fabrication, Testing , Reliability and Failure Analysis of Wafer Fused VCSEL**  
*Laboratory of Physics of Nanostructures, École polytechnique fédérale de Lausanne, Lausanne, Switzerland*
- 16<sup>20</sup> **V.G. Litovchenko, T.I. Gorbanyuk**  
**Influence of adsorption of organic molecules on the PL spectra of porous nanostructure and carbon nanotubes, covering the surface of silicon**  
*V. Lashkaryov Institute of Semiconductor Physics of NAS Ukraine, Kiev, Ukraine*

## POSTERS SESSION

### 14:00 - 16:00

**Rsponsables:** *O.Lupan, S, Shishiyanu, Iu.Nica*

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

1. **I.Stamov, L. Nemerenco, Iu. Ivanenco, N. Syrbu**  
**Superposition of the Luminescence Spectra of Free and Bound Excitons in  $\text{ZnP}_2\text{-D}_4^8$**   
*Technical University of Moldova, Chişinău, Moldova*
2. **L. Nemerenco, Iu. Ivanenco**  
**Exciton spectra of  $\text{AgAsS}_2$  crystals**  
*Technical University of Moldova, Chişinău, Moldova*
3. **V.Parvan, V.Mirovscii, A.Masnic**

## **Large Oscillator Strength Excitons in PbGa<sub>2</sub>S<sub>4</sub> Crystals**

*Technical University of Moldova, Chişinău, Moldova*

4. **E. Zasavitsky<sup>1</sup>, V. Kantser<sup>1</sup>, A. Sidorenko<sup>1</sup>, I. Garaba<sup>2</sup>, E. Potapov<sup>2</sup>, N. Kim<sup>3</sup>**

### **Effect of time on the properties of crystallization agents: ice-forming aerosols**

<sup>1</sup>*Institute of Electronic Engineering and Nanotechnologies “D.Ghitu” of the Academy of Sciences of Moldova, Chişinău, Moldova*

<sup>2</sup>*Special Service for Active Influences on Hydrometeorological Processes of Republic of Moldova, Chişinău, Moldova*

<sup>3</sup>*Scientific Production Center “Meteoteh”, Russia*

5. **I. Kerner**

### **Detection in the Contacts with Bismuth-antimony Alloy: Numerical Modeling of the Contact Area Role**

*Institute of Electronic Engineering and Nanotechnologies “D. Gitsu” Academy of Sciences of Moldova, Chişinău, Moldova*

6. **D.V.Harea, M.S.Iovu, V.G.Benea, E.P.Colomeico, I.A.Cojocaru**  
**Optical properties of amorphous As-Se thin films**

*Institute of Applied Physics, Academy of Sciences of Moldova, Chişinău, Moldova*

7. **E. Rusu<sup>1</sup>, I. Ghiţu<sup>1</sup>, V. Prilepov<sup>2</sup>, V. Zalamai<sup>3</sup>, V. Ursaki<sup>3</sup>**  
**Morphology and Luminescence Properties of ZnO layers produced by Magnetron Spattering**

<sup>1</sup>*Institute of Electronic Engineering and Nanotechnologies “D.Ghitu”, Academy of Sciences of Moldova, Chişinău, Moldova*

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

<sup>3</sup>*Institute of Applied Physics of the Academy of Sciences of Moldova, , Moldova, Chişinău, Moldova*

8. **V.I. Verlan<sup>a</sup>, M.S. Iovu<sup>a</sup>, S.A. Buzurniuc<sup>a</sup>, Yu.H. Nistor<sup>a</sup>, I. Culeac<sup>a</sup>, C.I. Turta<sup>b</sup>, V.E. Zubareva<sup>b</sup>, L.A. Malahov<sup>c</sup>**

### **Effective Laser Luminescence of Nanocomposites Eu(TTA)<sub>2</sub>(Ph<sub>3</sub>PO)<sub>2</sub>NO<sub>3</sub>-Polyvinylpyrrolidone**

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

<sup>b</sup> *Institute of Chemistry of the Academy of Sciences of Moldova, Chisinau, Moldova*

<sup>c</sup> *Institute of Mathematics of Academy of Sciences of Moldova, Chisinau, Moldova*

9. **L. Ghimpu<sup>2</sup>, O. Lupan<sup>1</sup>, L. Popescu<sup>1</sup>, I.M. Tiginyanu<sup>2</sup>**  
**Nanoporous Zinc Oxide Films Prepared by Magnetron Sputtering**

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

<sup>2</sup>*Technical University of Moldova, Chisinau, Moldova*

10. **E. Kapon<sup>1</sup>, A. Mereuța<sup>1</sup>, A. Dorogan<sup>2</sup>, N. Dragutan<sup>2</sup>, T. Vieru<sup>2</sup>,  
N. Syrbu<sup>2</sup>, V. Zalamai<sup>3</sup>**

**Interband Optical Transitions in the Region of Excitonic Resonance in In<sub>0.3</sub>Ga<sub>0.7</sub>As/GaAs Quantum Wells**

<sup>1</sup>*Swiss Federal Institute of Technology in Lausanne, Lausanne, Switzerland*

<sup>2</sup>*Technical University of Moldova, Chisinau, Moldova*

<sup>3</sup>*Institute of Applied Physics, Chisinau, Republic of Moldova*

11. **E. Condrea**

**Quantum Oscillations of Conductivity in Bismuth Wires**

*Institute of Electronic Engineering and Nanotechnologies “D. Ghitu” of the Academy of Sciences of Moldova, Kishinev, Moldova*

12. **A. Mitioglu, C. Gherman, R. Lascova, A. Cuharuc, A. Gavrilița,  
L. Culiuc**  
**Synthesis and Characterization of Colloidal PbS Quantum Dots in Gelatin**

*Institute of Applied Physics of the Academy of Sciences of Moldova, Chisinau, Republic of Moldova*

13. **O. Shapoval<sup>1</sup>, A. Belenchuk<sup>1</sup>, E. Zasavitsky<sup>1</sup>, V. Kantser<sup>1</sup>,  
V. Moshnyaga<sup>2</sup>**  
**Magnetotransport Properties of Ultrathin LaMnO<sub>3</sub> Layers**

<sup>1</sup>*Institute of Electronic Engineering and Nanotechnologies "D. Ghitu" of the Academy of Sciences of Moldova, Kishinev, Moldova*

<sup>2</sup>*Erstes Physikalisches Institut, Universität Göttingen, Göttingen, Germany*

**14. Belousov<sup>1</sup>, P. Khodzhi<sup>1,2</sup>, T. Shemyakova<sup>1</sup>, and S. Rusu<sup>3</sup>**

**Nonlinear Transmission of Two Successive Ultrashort Laser Pulses by a Thin Semiconductor Film under Two-Photon Generation of Biexcitons. Giant Oscillator Strength Model.**

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

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

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

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

**15. A. Penin, A. Sidorenko**

**Approximation of MOSFET transistor characteristics in micro- and nanoelectronics**

*Institute of Electronic Engineering and Nanotechnologies "D. Ghitu", Academy of Sciences of Moldova, Chisinau, Moldova*

**16. V. Smyslov, V. Yakunin, I. Belotserkovskii, and A. Yakunin**

**Electronic Hydrostatic Transducer with Digital Output**

*Institute of Electronic Engineering and Nanotechnologies "D. Ghitu", Academy of Sciences of Moldova, Chisinau, Moldova*

**17. B. Mironov**

**Wave Model as a Physical Basis of an Algebra of Bio- and Nano- structures**

*Technical University of Moldova, Chisinau, Moldova*

**18. M. Ţurcan**

**Two-Photon Coherent Fields and its Application in Communication**

*Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Moldova*

19. *E. Gromov*

**Ignition Method of Corona Discharge with Modulation of the Field in Ion Source of Ion Mobility Spectrometer**

*National Nuclear Research University «MEPhI», Moscow, Russia*

20. *V. Vasiliev*

**Calibration Method for Ion Mobility Spectrometer**

*National Nuclear University “MEPhI”, Moscow, Russia*

21. *E. Malkin*

**The simulation of pulsed heater for a sampling system for the ion mobility spectrometer**

*National Research Nuclear University MEPhI, Moscow, Russia*

22. *A.V. Golovin*

**Electrostatic Ion Shutter with Ejecting Electrode as a Part of a Ion Mobility Spectrometer**

*National Research Nuclear University MEPhI, Moscow, Russia*

23. *O.V. Angelsky, C.Yu. Zenkova*

**The Controlling of Nanoparticles by the Polarization Methods**

*Chernivtsy National University, Chernivtsy, Ukraine*

24. *C. Păstrăvanu<sup>1</sup>, M. Ignat<sup>1</sup>, E. Popovici<sup>1</sup>, I. Cretescu<sup>2\*</sup>*

**Preparation and Characterization of N-doped TiO<sub>2</sub> with Enhanced Photocatalytic Activity**

<sup>1</sup> *“Al. I. Cuza” University of Iasi, Romania*

<sup>2</sup> *“Gheorghe Asachi” Technical University of Iasi, Romania*

25. *Y. Rudzevich<sup>1</sup>, Y. Lin<sup>1</sup>, G. Evans<sup>1</sup>, A. Ordonez<sup>1</sup>, O. Lupan<sup>1,2</sup> and L. Chow<sup>1</sup>*

**Periodic Signals From a Nanopore Coulter Counter**

<sup>1</sup> *University of Central Florida, Orlando, , U.S.A.*

<sup>2</sup> *Technical University of Moldova, Chisinau, Republic of Moldova*

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

26. **A. Gritzco, S. Zavrajnyi, A. Stalbe, Iu. Nica**

### **Optical Power Control Module**

*Institute of Electronical Engineering and Nanotechnologies „Dumitru Ghițu”, Academy of Sciences of Moldova, Chisinau, Moldova*

27. **Iu. Nica<sup>1\*</sup>, L. Pogorelschi<sup>1</sup>, E. Maximov<sup>1</sup>, V. Cebotari<sup>1</sup>,  
C. Iavorschi<sup>1,2</sup>, V. Bologa<sup>2</sup>, V. Nahaba<sup>3</sup>, E. Țîmbalari<sup>3</sup>**

### **Photon Irradiation Device for Antimicrobial Therapy**

<sup>1</sup>*Institute of Electronical Engineering and Nanotechnologies „Dumitru Ghițu”, Academy of Sciences of Moldova, Chisinau, Moldova*

<sup>2</sup>*Institute of Phthisiopneumology „Chiril Draganiuc”, Chisinau, Moldova*

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

28. **S. Zavrajnyi, Iu. Tiron, A. Grițco, A. Stalbe, Iu. Nica**

### **Temperature Monitoring System**

*Institute of Electronical Engineering and Nanotechnologies „Dumitru Ghițu”, Academy of Sciences of Moldova, Chisinau, Moldova*

29. **O. Belic<sup>1</sup>, E. Aramă<sup>2</sup>, M. Ștefanet<sup>1</sup>, A. Iavorschi<sup>3</sup>, V. Pîrțac<sup>3</sup>,  
A. Babuci<sup>1</sup>**

### **Device for Testing of Biological Material**

<sup>1</sup>*Human Anatomy Department, <sup>3</sup>State Medical and Pharmaceutical University "Nicolae Testemițanu", Chisinau, Moldova*

<sup>2</sup>*Department of Biophysics, Informatics and human Physiology, State Medical and Pharmaceutical University "Nicolae Testemițanu", Chisinau, Moldova*

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

30. **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>**

### **Influence of Face Mask on Breathing During Hyperventilation Test**

<sup>1</sup>*State University of Medicine and Pharmacy “N. Testemițanu”, Chisinau, Moldova*

<sup>2</sup>*University Joseph Fourier, Grenoble, France*

31. **Iu. Sainsus, S. Railean, A. Rotaru, A. Conev, Iu. Russev, S. Postoronca, D. Scerbii**  
**Millimeter Wave Nonthermal Therapeutic Device Based on Parallel-Strip Technology**

*<sup>1</sup>Institute of Electronical Engineering and Nanotechnologies „Dumitru Ghițu”, Academy of Sciences of Moldova, Chisinau, Moldova*

32. **I. Ababii, E. Arama**  
**Sensors of Ultraviolet Radiation for Medical Equipment**

*State University of Medicine and Pharmacy „N.Testemitanu”, Chisinau, Moldova*

33. **A.Slobozeanu<sup>1</sup>, I.Zatușevski<sup>2</sup>, A.Crețu<sup>3</sup>, V.Șontea<sup>4</sup>**  
**Advanced potential of the photolpetismograph PPG-2 in the non-invasive vascular diagnosis**

*<sup>1</sup>Republican Clinical Hospital, Chisinau, Moldova*

*<sup>2</sup>State Medical and Pharmaceutical University ”Nicolae Testemițanu”, Chisinau, Moldova*

*<sup>3</sup>Republican Center of Medical Diagnosis, Chisinau, Moldova*

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

## **Section S4-B Biomaterials**

34. **S. Comșa, A. Pacioga, D. Gheorghiu, S. Maria**  
**Comparative Study of the Mechanical Characteristics of Dental Implants Made from Biomaterials Covered with DLC Depositions**

*National Institute of Research & Development for Mechatronics and Measurement Technique, Bucharest, Romania.*

35. **A.P. Chiriac, L.E. Nita, M.T. Nistor**  
**Using Nonconventional Structures as Protective Colloids in the Dispersion Polymerization of 2 - Hydroxyethyl Methacrylate with a Comonomer with Spiroacetal Moiety**

*“Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania*

36. **F. Tanasa, M. Zanoaga**

## **Biocompatible and Resorbable Polymeric Materials for Surgical Sutures**

*“Petru Poni” Institute of Macromolecular Chemistry Iasi, Romania*

**37. M. Zanoaga, F. Tanasa**

### **Antimicrobial Polymers: from Structure Design to Specific Properties and Applications**

*“Petru Poni” Institute of Macromolecular Chemistry Iasi, Romania*

## **Section S5-B Medical Imaging, Image and Signal Processing**

**38. Yu.A. Ushenko**

### **New Parameter for Describing and Analysis of Optical-anisotropic Properties of Biological Liquid Crystals Nets**

*Chernivtsy National University, Chernivtsy, Ukraine*

**39. A. Dubolazov, A. Karachevtsev, V. Ushenko, V. Istratii**

### **The Interconnection of Polarization Singular Structure and Mueller-matrix Images of Biological Tissues in the Tasks of Cancer Changes Diagnostics**

*Chernivtsi National University, Chernivtsi. Ukraina*

**40. Ari LEV-OR, Moshe PORAT**

### **Ultrasound Imaging: Correction of Geometric Distortions using Warping**

*Technion, Haifa, Israel*

**41. M. Maniuc, P. Ababii**

### **Computed Tomography Aspects of the Endoscopic Sinus Surgery in children**

*State Medical and Pharmaceutical University “Nicolae Testemitanu”, Chisinau, Moldova*

**Section S6-B Information Technologies for Health Care,  
Telemedicine and E-Health**

**42. A. Iavorschi, V. Pahomi, V. Pirtac, D. Anghiloglu, S.Railean,  
A.Bragarenco, V.Scripnic**

**Information System Analysis of Heart Rate Variability**

*Technical University of Moldova, Chişinău, Moldova*

**43. O. Kudelina**

**Formation of economic-managerial knowledge system  
within training of healthcare workers**

*Siberian State Medical University, Tomsk, Russia*

**17:00 CLOSING CEREMONY**

**17:30 SOCIAL EVENTS - *Visit to Milestii-Mici***

**July 9, 2011**

**9:00-13:00 A trip to *Orheiul Vechi***

**16:00 Departure of Participants**