

LASER BUCHAREST CONGRESS

2010 MEETING



PROGRAM AT-A-GLANCE

(DRAFT)



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Congress venue: National Military Palace
November 11-13, 2010, Bucharest, Romania

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SUPPORTING INSTITUTIONS AND ASSOCIATIONS



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INTERNATIONAL SCIENTIFIC COMMITTEE

(alphabetically, incomplete)

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Yoshimi Asagai (*Shinano Handicapped Children's Hospital, Shimosuwa-town, Nagano, Japan*)

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Theodor Necsoiu (*Optoelectronica 2001, Bucharest-Magurele, Romania*)
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Mihai Pascu (*Nat. Inst. for Laser, Plasma and Radiation Physics, Bucharest, Romania*)
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Carmen Todea (*Victor Babes University of Medicine and Pharmacy, Timisoara, Romania*)
Jan Tuner (*Swedish Laser Medical Society, Sweden*)
Victor Voicu (*Romanian Academy, Bucharest, Romania*)
Lutz Wilden (*Bad Fussing, Germany*)

Nov 11, Thursday

14⁰⁰-20⁰⁰ Training courses 1 (Hall 3 – Alba Iulia)

14⁰⁰-15⁰⁰ C₁ *Basic Introduction in Laser Therapy* **David G. BAXTER** (University of Otago, School of Physiotherapy, Dunedin, New Zealand)

15⁰⁰-16⁰⁰ C₂ *Laser irradiation effects on the nervous system* **Juanita ANDERS** (Uniformed Services University of the Health Sciences, Bethesda, USA)

16⁰⁰-17⁰⁰ C₃ *How photons can stimulate wound healing and how ultrasound can monitor it* **Mary DYSON** (King's College London, UK)

17⁰⁰-18⁰⁰ C₄ *Mechanisms of therapeutic effects of visible and near IR light* **Kira SAMOILOVA** (Institute of Cytology RAS, Saint Petersburg, Russian Federation)

18⁰⁰-19⁰⁰ C₅ *Laser Safety For Healthcare Professionals* **Penny J. SMALLEY** (TCI, Chicago, USA)

19⁰⁰-20⁰⁰ C₆ *Low Level Laser Therapy in Rehabilitation* **Adriana Sarah NICA** (III RD Rehabilitation Clinic of National Institute of Rehabilitation, Bucharest, Romania)

16³⁰-18⁰⁰ **Visit at Royal Library with Discussion about terminology in Physiotherapy, and group photos**

18⁰⁰-19⁰⁰ Registration

19⁰⁰-21³⁰ Open Ceremony and Welcome Reception (National Military Palace, Marmura Hall)

Nov 12, Friday

7³⁰-8⁰⁰ Registration

8⁰⁰-9³⁰ Plenary Session 1 (Main Hall - Cinema)

Chairmen: **Albert BOHBOT** (Laboratoire de Recherche sur le Laseropuncture, La Chapelle Montlinard, France), **Ciprian RĂCUCIU** ("Lumina" University, Bucharest, Romania)

8⁰⁰-8³⁰ **PS 1** *Laser Medicine yesterday, today and tomorrow* **Leonardo LONGO** (Institute Laser Medicine of Florence - Siena, Italy, IALMS)

8³⁰-9⁰⁰ **PS 2** *Treatment Guidelines for Laser Therapy* **David G. BAXTER** (University of Otago, School of Physiotherapy, Dunedin, New Zealand)

9⁰⁰-9³⁰ **PS 3** *The absorption behavior of oxygen and the mitochondrial energy transfer - the importance of electromagnetic radiation (light)*

Lutz WILDEN (Private Practice for hearing loss and inner ear diseases, Bad Füssing, Germany)

9³⁰-9⁴⁵ Coffee Break

9⁴⁵-12⁰⁰ Visit and Workshop 1 at the National Institute for Laser, Plasma and Radiation Physics, Măgurele, Romania

12³⁰-13³⁰ Lunch (Technical Military Academy)

14⁰⁰-19³⁰ Session 1: Basic Sciences (Hall 1 – Nicolae Grigorescu)

Chairmen: Mary DYSON (King's College London, UK), Sorin COMOROȘAN (Romanian Academy, Bucharest, Romania), Ion MIHĂILESCU (National Institute for Laser, Plasma and Radiation Physics - NILPRP, Măgurele, Romania)

Invited Papers

14⁰⁰-14³⁰ IP1 *The role of the immune and circulatory systems in amplifying the effects of photons: the PAsER principle* Mary DYSON (King's College London, UK)

14³⁰-15⁰⁰ IP2 *The Type of Laser Beam Polarization is an important factor determining its biological effects* G.E. BRILL¹, I.A. BUDNIK¹, K.V. AGADZHANOVA¹, S.E. LOGINOVSKAYA¹, A.B. PRAVDIN², L.V. GASPARYAN³, A.M MAKELA⁴ (¹V.I. Razumovsky State Medical University, Saratov, Russia; ²N.G. Chernyshevsky State University, Saratov, Russia; ³EMRED Oy, Helsinki, Finland; ⁴ABER Institute, Helsinki, Finland)

15⁰⁰ 15³⁰ IP3 *Biphasic dose-effect relationship: A simple mathematical model in a multidimensional parameter space. Is there really a threshold observed?* Hans A. ROMBERG (Dr. Hans ROMBERG Medizintechnik, Stutensee, and I³M, Heidelberg, Germany)

Papers

15³⁰-15⁴⁵ 1.1 *Does it have to be a laser to get good result in Laser Phototherapy? Aspects of coherence and polarization* Lars HODE (Swedish Laser-Medical Society, Sweden)

15⁴⁵-16⁰⁰ 1.2 *The influence of magnetized water on some physiological functions in plants* Zoltan MAROSY (Ecological University of Bucharest, Romania), Răzvan RAICU (MTA, Romania)

16⁰⁰-16¹⁵ 1.3 *Processing of natural light in the hypothalamic suprachiasmus nucleus and other hypothalamic nuclei by consonance under the control of usual biorhythms, consistent with modern applications in forensics and criminology* Toma Octavian MELINTE¹, Alexandru Vladimir CIUREA², Dan SIPOȘAN¹, Jean CIUREA², Lucian ANTON¹ (¹MTA, Bucharest, Romania, ² Bagdasar Arseni Urgency Hospital of Neurosurgery)

16¹⁵-16³⁰ 1.4 *New methods of investigating the ultrastructure changes of water subjected to the action of low-power laser radiation used in phototherapy* Dumitru BĂDILĂ¹, Dan SIPOȘAN² (¹Thermomedics, Romania, ²MTA, Romania)

16³⁰-16⁴⁵ 1.5 *Noninvasive investigation of human biomarkers by laser photo-acoustic spectroscopy method* **Cristina ACHIM, Doru DUȚU, Dan DUMITRAȘ** (NILPRR, Măgurele, Romania)

16⁴⁵-17⁰⁰ 1.6 *Studies on the water diamagnetized by electrographic methods* **Lajos KACSÓ¹, Zoltán István MAROSY², Răzvan RAICU³** (¹Medical Devices District Center in Covasna, Sfântul Gheorghe, Romania, ²Ecological University of Bucharest, Romania, ³MTA, Romania)

17⁰⁰-17¹⁵ 1.7 *Orbital gyro-magnetic movement – assumption and applications* **Zoltán István MAROSY¹, Doinița BEJAN², Dan SIPOȘAN³** (¹Ecological University of Bucharest, Romania, ²University of Bucharest, Faculty of Physics, Romania, ³MTA, Romania)

17¹⁵-17³⁰ Coffee Break

17³⁰-17⁴⁵ 1.8 *Influence of magnetic or electric environment on the structure of aqueous solutions with salt* **Lajos KACSÓ¹, Zoltán István MAROSY²** (¹Medical Devices District Center in Covasna, Sfântul Gheorghe, Romania, ²Ecological University of Bucharest, Romania)

17⁴⁵-18⁰⁰ 1.9 *Proteins vibrations in THz frequency domain* **Maria MERNEA¹, Traian DASCĂLU², Dan MIHĂILESCU³** (¹University of Bucharest, ²Faculty of Biology, Romania, ³NILPRR, Romania, University of Bucharest, Faculty of Biology, Romania)

18⁰⁰-18¹⁵ 1.10 *A round on The Center of Laser Application by the Institute of Nuclear Energy Research on Brazil* **Andrea De Avilez CALMON, Martha Ribeiro** (IPEN/Universidade Sao Paulo, Brazil)

18¹⁵-18³⁰ 1.11 *Structure, function and environment of serum proteins from human and bovine organisms* **Claudia CHILOM, Doina GĂZDARU and Aurel POPESCU** (University of Bucharest, Faculty of Physics, Department of Electricity and Biophysics)

18³⁰-18⁴⁵ 1.12 *Possible mechanisms of laser-induced ATP production* **Gabriel DROCHIOIU** (Al. I. Cuza University of Iași, Romania, Dept. of Biochemistry and Toxicology)

18⁴⁵-19⁰⁰ 1.13 *Does low level laser therapy reduce acute inflammation and pain, and accelerate tissue healing by increasing ATP production?* **Gabriel DROCHIOIU, Ionel MANGALAGIU** (Al. I. Cuza University of Iași, Romania, Dept. of Biochemistry and Toxicology)

19⁰⁰-19¹⁵

19¹⁵-19³⁰

17³⁰ - 19³⁰ Poster Session (Hall 4 - Sfântul Gheorghe)

Chairmen: Anu MAKELA¹, Levon GASPARYAN², Premysl FRYDA³ (¹ABER Institute, Helsinki, Finland, ²EMRED Oy, Helsinki, Finland, ³European Medical Laser Association, Prague, Czech Republic)

P 1 *Innovative digital radiological equipment for veterinary use* **Alexandra CĂRĂMIZOIU, Octavian LINTE, Vasile BULIGA** (Optoelectronica-2001 S.A, Măgurele, Romania)

P 2 *Diode pumped Nd:YAG laser* **Brînduș COMĂNESCU, Radu-Florin STANCU, Andreea FAZACAȘ** ((Optoelectronica-2001 S.A, Măgurele, Romania)

P 3 *Fiber optic laser system* **Brînduș COMĂNESCU, Radu-Florin STANCU, Andreea FAZACAȘ** (Optoelectronica-2001 S.A, Măgurele, Romania)

P 4 *Digital techniques for holographic marks security* **Olguța CURCAN¹, Mona MIHĂILESCU², Teodor NECȘOIU¹** (¹Optoelectronica-2001 S.A, Măgurele, Romania, ²“Politehnica” University of Bucharest, Physics Department, Romania)

P 5 *Security Equipment* **Gabriel DOBRESCU, Adelina IGHIGEANU, Teodor NECȘOIU** (Optoelectronica-2001 S.A, Măgurele, Romania)

P 6 *Microelements fabrication using E-beam lithography and vapour chemical etching* **Mona MIHĂILESCU¹, Arcadi SOBETKII², Mihaela PELTEACU³, Diana PĂIUȘ³** (¹Politehnica University of Bucharest, Romania, ²SC Opticoat SRL, Bucharest, Romania, ³Optoelectronica-2001 S.A, Măgurele, Romania)

P 7 *AVNCMOS night vision system* **Valentin GHIȚĂ, Teodor NECȘOIU** (Optoelectronica-2001 S.A, Măgurele, Romania)

P 8 *Multibiometric system* – **Valentin GHIȚĂ, Teodor NECȘOIU, Mihaela APOSTOL** (Optoelectronica-2001 S.A, Măgurele, Romania)

P 9 *Safety considerations for operators and service personnel against the effects of high power laser radiation used in technological applications* **Avarvarei IULIAN** (Politehnica University Bucharest, Romania)

P 10 *The influence of the angular two-photon absorption coefficient anisotropy* **Ion N. MIHĂILESCU¹, Camelia AVĂDANEI², Liviu DUȚĂ¹, Mihai OANE¹, Gabriela FLORESCU¹, Constantin OPROIU¹** (¹National Institute for Laser, Plasma and Radiation Physics, Magurele, Romania, and IFIN-HH, Măgurele, Romania, ²Subsidiary of Technology and Engineering for Nuclear Projects, Măgurele, Romania)

P 11 *OCT monitoring of laser ablation processes in the ENT surgery* **Mioara PETRUȘ¹, Dan DUMITRAȘ¹, C. SARAFOLEANU², C. MANEA², C. IOSIF², E.M. CÂRSTEA³, Doru C. DUȚU¹** (¹National Institute for Laser, Plasma and Radiation Physics (INFLPR), Magurele, Romania, ² St. Maria Hospital, Bucharest, Romania, ³National Institute of R&D Optoelectronics (INOE 2000), Măgurele, Romania)

P 12 *Phototherapy for treating patients with chronic arterial insufficiency of low extremities* **V.I. KARANDASHOV, A.I. GUSEINOV** (State Research and Clinical Center for Laser Medicine, Moscow, Russian Federation)

P 13 *Optoelectronic light-emitting bracelet* **V.I. KARANDASHOV** (State Research and Clinical Center for Laser Medicine, Moscow, Russian Federation)

P 14 *Antibacterial effect of photodynamic therapy on Haemophilus influenzae, Streptococcus pneumoniae and Moraxella catarrhalis* **Dong-Hee KIM, Jin-Chul AHN, Chung-Ku RHEE** (Dankook University College of Medicine, Medical Laser Research Center, Korea)

P 15 *Fotoditazine accumulation during experimental peritonitis* **Rovshan Dgalal ogli MYSTAFAEV, Tikhov Gregory VIATCHESLAVOVITCH, Kizevadze Roman IGOREVITCH** (State Research and Clinical Center for Laser Medicine FMBA, Russian Federation, Moscow)

P 16 *Photo – and extremely high frequency therapy of postoperative wounds at patients with breast cancer after chemo – and radiation*

therapy Vasile JOVMIR¹, Dmitri DVORNIKOV², Anatol ROTARU² (¹Institute of Oncology, Chişinău, Moldova, ²Institute of Electronic Engineering and Industrial Technologies, Chişinău, Moldova)

P 17 *The influence of the human tissue state of health on the polarization properties of ultra-short laser beam* **Ovidiu-Theodor**

TOMA, Iulian IONIŢĂ (Faculty of Physics, Univ. of Bucharest)

14⁰⁰-19³⁰ Session 2: Phototherapy 1 ((Rehabilitation, Inner Diseases, Ophthalmology, Neurology, other specialties) **(Hall 2 – Ştefan cel Mare)**

Chairmen: David G. BAXTER (University of Otago, School of Physiotherapy, Dunedin, New Zealand, **Roberto CASALE** (Dept. of Clinical Neurophysiology & Pain, Rehabilitation Unit, Rehabilitation Institute of Montescano, Foundation Salvatore Maugeri, Italy), **Adriana Sarah NICA** (National Institute of Rehabilitation, physical Medicine and SPA, Bucharest, Romania)

Invited Papers

14⁰⁰-14³⁰ IP1 *Laser therapy controls pain and electrophysiological parameters in symptomatic carpal tunnel syndrome: a short term study of Laser vs TENS* **Roberto CASALE** (Dept. of Clinical Neurophysiology & Pain Rehabilitation Unit Rehabilitation Institute of Montescano, Foundation Salvatore Maugeri, Montescano, Italy), **Adriana Sarah NICA** (National Institute of Rehabilitation, physical Medicine and SPA, Bucharest, Romania))

14³⁰-15⁰⁰ IP2 *CO₂ and Low Level Laser treatments for Neck and Back Pain - 120.000 treatments for neck and back pain* **Anne HARILA** (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

Papers

15⁰⁰-15¹⁵ 2.1 *Laser Therapy as a method of choice in rehabilitation of newborns with a congenital ichthyosis* **Armen ABRAHAMYAN** (Clinic of Laser Medicine, Yerevan, Armenia)

15¹⁵-15³⁰ 2.2 *Comparative evaluation of local and systemic Low-Intensive Laser irradiation clinical efficiency in the treatment of patients with bronchial asthma on the background of hormonal disorders* **Lilia TITOVA** (Voronezh N. N. Burdenko State Medical Academy, Russian Federation)

15³⁰-15⁴⁵ 2.3 *Low-level Laser Therapy (LLLT) in Cesarean wound healing in normal healthy women - A single-blinded placebo controlled study* **S. MOKMELI, N.KAZEMI, Khalil ABBASI, Sh. NIROMANESH, P. Seadat MOLANAKIAIE** (Laser Department of Milad Hospital, Tehran, Iran).

15⁴⁵-16⁰⁰ 2.4 *Study Regarding the Benefits of Low Level Laser Therapy in Multimodal Application in the Complex Rehabilitation Program* **Adriana Sarah NICA, Brinduşa Ilinca MITOIU, Gilda MOLOGHIANU, Lili MIRON, Roxana NARTEA** (III RD Rehabilitation Clinic of National Institute of Rehabilitation, Bucharest, Romania)

16⁰⁰-16¹⁵ 2.5 *Study on effects of Laser Therapy using the laser clusters in functional recovery of patients with herniated disc* **Mirela VLAICU**

(National Institute for Complementary and Alternative Medicine, Bucharest, Romania)

16¹⁵-16³⁰ 2.6 Adaptable Laser System for Ophthalmic Microscopes Sorin-Laurentiu STANESCU¹, Vasile SAVA², Mircea-Virgil UDREA³, Dan SAVASTRU⁴, Sorin MICLOS⁴, Aurelian POPESCU⁴, Valeriu SAVU⁴, Paul Dan CRISTEA¹ (¹University “Politehnica” of Bucharest, Biomedical Engineering Centre, Romania, ²University of Bucharest, Faculty of Physics, Măgurele, Romania, ³National Institute for Laser, Plasma and Radiation Physics, Măgurele, Romania, ⁴National Institute of Research and Development for Optoelectronics INOE 2000, Măgurele, Romania)

16³⁰-16⁴⁵ 2.7 Optical coherence tomography investigation of the normal temporo-mandibular joint disc Eniko Tunde STOICA¹, Corina MĂRCĂUȚEANU¹, Cosmin SINESCU¹, Meda NEGRUȚIU¹, Andrei MOTOC¹, Rodica LIGHEZAN¹, Liliana VASILE¹, Florin TOPALĂ¹, Adrian BRADU¹, Carmen TODEA¹, Adrian Gh. PODOLEANU² (¹Victor Babeș University of Medicine and Pharmacy of Timișoara, School of Dentistry, Timișoara, Romania, ²University of Kent, School of Physical Sciences, Applied Optics Group, Canterbury, CT2 7NH United Kingdom)

16⁴⁵-17⁰⁰ 2.8 Functional evaluation and medical rehabilitation in the post plastic hand surgery A. S. NICA, A. MURGU, G. MOLOGHIANU, C. BRĂILESCU, R. SCARLET, M. IVAȘCU, B. MITOIU (National Institute of Rehabilitation, Physical Medicine and Balneoclimatology, Bucharest, Romania)

17⁰⁰-17¹⁵ 2.9 Monte Carlo Simulation of Photon Way through Live Cell Solution Iulian IONIȚĂ (University of Bucharest, Faculty of Physics, Optics Dep., Bucharest-Măgurele, Romania)

17¹⁵-17³⁰ Coffee Break

17³⁰-17⁴⁵ 2.10 Low Level Laser for Sports Injuries Petter HARILA WESTERBY (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

17⁴⁵-18⁰⁰ 2.11 Low Level Laser for frozen shoulder Anne HARILA (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

18⁰⁰-18¹⁵ 2.12 Low Level Laser for Broken Bones – legs and arms Anne HARILA (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

18¹⁵-18³⁰ 2.13 Treating hip pain arthrosis with Low Level Laser Anne HARILA (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

18³⁰-18⁴⁵ 2.14 Knee pain treatments with Low Level Laser - 40200 knees treated Anne HARILA (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

18⁴⁵-19⁰⁰ 2.15 Head pain caused by eye muscles stiffness; LLLT for the eye muscles Anne HARILA (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

19⁰⁰-19¹⁵ 2.16 LLLT for Facial Paresis and Trigeminal Neuralgia Anne HARILA (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

19¹⁵-19³⁰ 2.17 Laser treatments for Asthma using LLTT and divergent CO₂ Anne HARILA (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

14⁰⁰-20⁰⁰ Training courses 2 (Hall 3 – Alba Iulia)

14⁰⁰-15⁰⁰ C₇ *Current Research in Laser Therapy* David G. BAXTER (University of Otago, School of Physiotherapy, Dunedin, New Zealand)

15⁰⁰-16⁰⁰ C₈ *Fractional CO₂ Laser for various pathologies* Anne HARILA (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

16⁰⁰-17⁰⁰ C₉ Levon GASPARYAN (²EMRED Oy, Helsinki, Finland)

17⁰⁰-18⁰⁰ C₁₀ Lars HODE (Swedish Laser-Medical Society, Sweden)

18⁰⁰-19⁰⁰ C₁₁ *Non-invasive high resolution imaging including confocal microscopy and basics of OCT (Optical Coherence Tomography)*

Adrian PODOLEANU ((University of Kent, Canterbury, United Kingdom)

19⁰⁰-20⁰⁰ C₁₂ *The physical basis of laser action in biology* Hans ROMBERG (Int. Institute for Interdisciplinary Medicine, Heidelberg, Germany)

20⁰⁰-22³⁰ Dinner (Presidential Banquet, “Lumina” University)

Nov 13, Saturday

8⁰⁰-9³⁰ Plenary Session 2 (Main Hall - Cinema)

Chairmen: Soheila MOKMELI, (Iranian Medical Laser Association - IMLA, Tehran, Iran), Ragip GOKCEL (“Lumina” University, Turkey)

**8⁰⁰-8³⁰ PS 1 *Phototherapy supports neuroprotection and neuroregeneration of the injured and diseased nervous system* Juanita ANDERS
(Uniformed Services University of the Health Sciences, Bethesda, USA)**

8³⁰-9⁰⁰ PS 2

9⁰⁰-9³⁰ PS 3 *A new interaction of high density green photons with biological and chemical systems* Sorin COMOROȘAN (Romanian Academy, Bucharest, Romania)

9³⁰-14⁰⁰ Session 2: Phototherapy 2 (Photobiostimulation, Photohaemotherapy, ENT, Laseropuncture) (Hall 1 – Nicolae Grigorescu)

Chairmen: Juanita ANDERS (Uniformed Services University of the Health Sciences, Bethesda, USA), Lutz WILDEN (Private Practice for hearing loss and inner ear diseases, Bad Füssing, Germany), Kira SAMOILOVA (Institute of Cytology RAS, Saint Petersburg, Russia)

Invited Papers

9³⁰-10⁰⁰ IP1 *Comparative and Preliminary Study in Spinal Cord Injured Individuals of Romanian Nationality Who Received the*

Laseropuncture Technique and at Cell Therapy **Albert BOHBOT** (Laboratoire de Recherche sur le Laseropuncture, La Chapelle Montlinard, France)

10⁰⁰-10³⁰ IP2 *Transcutaneous blood photomodulation as a trigger mechanism of systemic effect of phototherapy with visible and near infrared (IR) light* **Kira Samoilo** (Institute of Cytology RAS, Saint Petersburg, Russia)

Papers

10³⁰-10⁴⁵ 2.1 *Flow cytometric evaluation of low intensity laser action on human red blood cells (RBCs) viability stored in SAGM medium for 3 weeks* **Ana-Maria GHEORGHE¹, Alexandrina RUGINĂ¹, Aurel ARDELEAN¹, Ștefan BOBE², Dan SIPOȘAN³, Daniela BRATOSIN¹** (¹National Institute R&D for Biological Sciences, Bucharest, Romania, ²Transfusional Hematology Center of the Army, Bucharest, Romania, ³MTA, Bucharest, Romania)

10⁴⁵-11⁰⁰ 2.2 *Superoxide dismutase in mice after LLLT and gamma irradiation* **Z. FREITINGER SKALICKA¹, J. RACEK⁴, V. NAVRATIL², M. ZADINOVÁ³, Z. HON², L. NAVRATIL^{2,3}** (¹University of South Bohemia, Faculty of Health and Social Studies, Department of Radiology and Toxicology, Ceske Budejovice, Czech Republic; ²Czech Technical University in Prague, Faculty of Biomedical Engineering, Kladno, Czech Republic, ³Charles University in Prague, First Faculty of Medicine, Prague, Czech Republic, ⁴Charles University in Prague, Faculty of Medicine in Pilsen, Pilsen, Czech Republic)

11⁰⁰-11¹⁵ 2.3 *Intravascular laser therapy (IVL) in pre-hypertension and hypertension patients* **S. MOKMELI, F. BAHADORI, M. HAZRATPOUR, S.H. BISHE** (Iranian Medical Laser Association - IMLA, Tehran, Iran)

11¹⁵-11³⁰ 2.4 *Preventive and therapeutic effects of low level laser irradiation on gentamicin vestibulotoxicity in rat utricle* **Chung-Ku RHEE** (Dankook University, College of Medicine, Department of Otolaryngology, Medical Laser Research Center, Cheonan, Korea)

11³⁰-11⁴⁵ 2.5 *Low level laser irradiation and cytokines: review study* **Yulia EFREMOVA, Vaclav NAVRATIL, Leos NAVRATIL** (Czech Technical University in Prague, Faculty of Biomedical Engineering, Department of Medicine and Humanities, Kladno, Czech Republic)

11⁴⁵-12⁰⁰ Coffee Break

12⁰⁰-12³⁰ Special presentation (devoted exclusively to Romanian physicians): *How to attract funds from the grant program of “Rompetrol”, in order to renovate/equip the medical unit where physicians work/conduct research. (Main Hall)*

12³⁰-12⁴⁵ 2.6 *The different response of the main symptoms of inner ear exhaustion to a specific high dosage in low level laser therapy* **Lutz WILDEN** ((Private Practice for hearing loss and inner ear diseases, Bad Füssing, Germany)

12⁴⁵-13⁰⁰ 2.7 *Low Level Laser Therapy Device Design for Tissue Repair* **Sorin-Laurențiu STĂNESCU¹, Vasile SAVA², Mircea-Virgil UDREA³, Gabriela UDREA⁴, Paul Dan CRISTEA¹** (¹University “Politehnica” of Bucharest, Biomedical Engineering Centre, Romania, ²University of Bucharest, Faculty of Physics, Măgurele, Romania, ³NILPRP, Măgurele, Romania, ⁴“Dr. Ioan Cantacuzino” Hospital, Bucharest, Romania)

13⁰⁰-13¹⁵ 2.8 *Medical procedures using portable device for in situ vein evidence* **Mihai ȘERBĂNESCU** (Optoelectronica-2001 S.A, Măgurele,

Romania)

13¹⁵-13³⁰ 2.9 *Portable Er: YAG Laser Equipment for Blood Sampling* **L. PONCE, M. ARRONTE, T. FLORES, J. CABRERA, A. PENA** (IPN, CICATA-Altamira, Mexico)

13³⁰-13⁴⁵ 2.10 *Low-level Laser (LLLT) Monotherapy - Photobiostimulation in the treatment of osteochondrosis (osteoarthritis) of joints - double blind-crossover, placebo controlled clinical study* **Zlatko SIMUNOVIC** (Laser Center, Locarno, Switzerland)

13⁴⁵-14⁰⁰ 2.11 *Low Level Laser for Chronic Sinusitis* **Anne HARILA** (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

14⁰⁰-15⁰⁰ Lunch (National Military Palace Restaurant)

9³⁰-14⁰⁰ Session 3: Laser Surgery and Aesthetics (Hall 2 - Ștefan cel Mare)

Chairmen: **Anne HARILA** (Laserklinikken, Sandvika, Norway), **Zlatko SIMUNOVIC** (Laser Center, Locarno, Switzerland)

Invited Papers

9³⁰-10⁰⁰ IP1 *Herpes virus infection with human pathogen herpes virus applied as mono therapy in treatment of human pathogen herpes virus infection - Clinical study with randomized double blind (placebo) and control group* **Zlatko SIMUNOVIC** (Laser Center, Locarno, Switzerland)

10⁰⁰-10³⁰ IP2 *Low Level Laser to treat side effects after CO₂ Fractional Lasers- how to try to avoid side effects* **Anne HARILA** (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

Papers

10³⁰-10⁴⁵ 3.1 *VSP technology: a clinical point of view* **Gianfranco SEMEZ** (Private practice, Trieste, Italy, PhD Victor Babeș University of Medicine and Pharmacy of Timișoara, Student School of Dentistry, Romania)

10⁴⁵-11⁰⁰ 3.2 *Investigating skin lesions with OCT* **Luminița GHERVASE¹, Elfrida M. CÂRSTEA¹, Ana Maria FORSEA²** (¹INOE, Bucharest, Romania; ²Dermatology Department Elias University Hospital, “Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania)

11⁰⁰-11¹⁵ 3.3 *Effect of Low Level laser on Hair Cell Regeneration Following Gentamicin Induced Ototoxicity In Postnatal Organotypic Culture of Rat Cochlea* **Chung-Ku RHEE** (Dankook University, College of Medicine, Department of Otolaryngology, Medical Laser Research Center, Cheonan, Korea)

11¹⁵-11³⁰ 3.4 *Tattoo removal with Q-switched Nd:Yag laser* **Anne HARILA** (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

11³⁰-11⁴⁵ 3.5 *Hair removal with Laser Diode from white and black skin* **Anne HARILA** (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

11⁴⁵-12⁰⁰ Coffee Break

12⁰⁰-12³⁰ Special presentation (devoted exclusively to Romanian physicians): *How to attract funds from the grant program of “Rompetrol”, in order to renovate/equip the medical unit where physicians work/conduct research. (Main Hall)*

12³⁰-12⁴⁵ 3.6

12⁴⁵-13⁰⁰ 3.7 *Low Level Laser for acne treatments in combination with CO₂ laser and 532 nm Q-switched laser* **Petter HARILA WESTERBY**
(Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

13⁰⁰-13¹⁵ 3.8 *Treatments with Laser Diode for ingrown hairs and abscesses* **Anne HARILA** (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

13¹⁵-13³⁰ 3.9 *Laser treatments for keloid scars after operation, and painful scars after operations* **Anne HARILA** (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

13³⁰-13⁴⁵ 3.10 *CO₂ laser for foot warts* **Anne HARILA** (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

13⁴⁵-14⁰⁰ 3.11 *Low Level Laser treatments for Migraine and other head pain* **Anne HARILA** (Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway)

14⁰⁰-15⁰⁰ Lunch (National Military Palace Restaurant)

15⁰⁰-19³⁰ Session 4: Laser Dentistry and Medical Imaging (Hall 1 – Nicolae Grigorescu)

Chairmen: **Carmen TODEA** (Victor Babes University of Medicine and Pharmacy, Timisoara, Romania), **Adrian PODOLEANU** (University of Kent, Canterbury, United Kingdom)

Invited Papers

15⁰⁰-15³⁰ IP1 *Optical Coherence Tomography, with applications in ophthalmology, dentistry and endoscopy* **Adrian PODOLEANU** (University of Kent, Canterbury, UK)

15³⁰-16⁰⁰ IP2 *Use low level laser in the treatment of function disorders of temporomandibular joint* **Petra HLINAKOVA¹, Vaclav NAVRATIL², Eliska BLASKOVA³, Tatjana DOSTALOVA¹, Leos NAVRATIL⁴** (¹Charles University in Prague, Second Faculty of Medicine, Department of Pediatrics Stomatology, Czech Republic; ²Czech Technical University in Prague, Faculty of Biomedical Engineering, Department of Medicine and Humanities, Czech Republic, ³Health care institutions THERAP-TILIA, Department of Physiotherapy, Prague, Czech Republic; ⁴Charles University in Prague, First Faculty of Medicine, Institute of Biophysics and Informatics, Czech Republic)

16⁰⁰-16³⁰ IP3 *New highlights in laser-assisted diagnosis and treatment in dentistry* **Carmen TODEA** (Victor Babeş University of Medicine and Pharmacy of Timișoara, School of Dentistry, Timișoara, Romania)

Papers

16³⁰-16⁴⁵ 4.1 *Soft-tissue diode laser – a new aid in orthodontics* **Radmila DIMOVSKA** (Private Dental Practice "KRUNA MS", Skopje, Macedonia)

16⁴⁵-17⁰⁰ 4.2 *Low-level Laser Therapy and its Effect Upon Bone Growth in the Young Periodontal Patient* **Dana VIERU** (New York University Dental School, USA).

17⁰⁰-17¹⁵ 4.3 *Mucocele excision with laser diode: related clinic case* **Andrea DE AVILEZ CALMON** (IPEN / Universidad de Sao Paulo, Brazil)

17¹⁵-17³⁰ 4.4 *Features of the changes induced by organic solvents to the self cured PMMA layer using optoelectronic techniques* **Adelina Elena STOIA¹, Florin TOPALĂ¹, Cosmin SINESCU¹, Meda Lavinia NEGRUȚIU¹, Mihai ROMÎNU¹, Adrian BRADU², George DOBRE², Adrian PODOLEANU²** (¹University of Medicine and Pharmacy "Victor Babeş" Timișoara, Faculty of Dentistry, ²University of Kent, Canterbury, UK, Applied Optics Group, School of Physical Sciences)

17³⁰-17⁴⁵ 4.5 *The use of Er:YAG and Nd:YAG lasers in implant surgery: Clinical report* **Gianfranco SEMEZ^{1,2} and Carmen TODEA²** (¹Private practice, Trieste, Italy, ²Victor Babeş University of Medicine and Pharmacy of Timișoara, School of Dentistry, Romania)

17⁴⁵-18⁰⁰ 4.6 *Effects of occlusal overload on dental hard tissues. An en Face Optical Coherence Tomography investigation* **Corina MĂRCĂUȚEANU¹, Eniko Tunde STOICA¹, Cosmin SINESCU¹, Meda NEGRUȚIU¹, Goguta LUCIANA¹, Liliana VASILE¹, Adrian BRADU¹, Carmen TODEA¹, Adrian Gh. PODOLEANU²** (¹Victor Babeş University of Medicine and Pharmacy of Timișoara, School of Dentistry, Timișoara, Romania, ²University of Kent, School of Physical Sciences, Applied Optics Group, Canterbury, United Kingdom)

18⁰⁰-18¹⁰ 4.7 *Laser Joining versus Microimpulse Welding of Dental Alloys: A quality approach* **Meda L. NEGRUȚIU, Florin I. TOPALĂ, Daniela M. POP, Cosmin SINESCU, Dorin DODENCIU, Mihai ROMÎNU** (Victor Babeş University of Medicine and Pharmacy of Timișoara, Faculty of Dentistry, Romania)

18¹⁵-18³⁰ 4.8 *Metal-Ceramic Interfaces investigated with Radiographic, Micro Computer Tomography and Optical Coherence Tomography Methods* **Cosmin SINESCU¹, Meda Lavinia NEGRUȚIU¹, Ciprian IONIȚĂ², Florin TOPALĂ¹, Emanuela PETRESCU¹, Roxana ROMÎNU¹, Daniela Maria POP¹, Liviu MARSAVINA³, Radu NEGRU³, Adrian BRADU⁴, Carmen TODEA¹, Mihai ROMÎNU¹ and Adrian Gh. PODOLEANU⁴** (¹Victor Babeş University of Medicine and Pharmacy of Timișoara, School of Dentistry, Timișoara, Romania, ²State University of New York at Buffalo, New York, ³Department Strength of Materials, Polytechnic University of Timișoara, Romania, ⁴University of Kent, School of Physical Sciences, Applied Optics Group, Canterbury, United Kingdom)

18³⁰-18¹⁵ 4.9 *Optical Coherence Tomography Assesment of Direct Composite Restorations* **Mihai ROMÎNU¹, Florin TOPALĂ¹, Cosmin**

SINESCU¹, Meda Lavinia NEGRUȚIU¹, Roxana ROMÎNU¹, Emanuela PETRESCU¹, Daniela Maria POP¹, Adrian BRADU², Carmen TODEA¹, and Adrian Gh. PODOLEANU² (Victor Babeș University of Medicine and Pharmacy of Timișoara, ¹School of Dentistry, Timișoara, Romania, ²University of Kent, School of Physical Sciences, Applied Optics Group, Canterbury, United Kingdom)

18¹⁵-18³⁰ 4.10 *3D Reconstructions of dental restorations based on en face OCT images* **Florin I. TOPALĂ¹, Cosmin SINESCU¹, A. BRADU², Meda L. NEGRUȚIU¹, M.ROMÎNU¹, A.Gh.PODOLEANU²** (¹Victor Babeș University of Medicine and Pharmacy of Timișoara, Faculty of Dentistry, Romania, ²Applied Optics Group, School of Physical Sciences, University of Kent, Canterbury, UK)

18³⁰-18⁴⁵ 4.11 *Optical Coherence Tomography and Radiological Investigations of Ceramic Repaired Crowns* **Emanuela Lidia PETRESCU, Meda Lavinia NEGRUȚIU, Cosmin SINESCU, Daniela Maria POP, Roxana Otilia ROMÎNU, Mihai ROMÎNU** (¹Victor Babeș University of Medicine and Pharmacy of Timișoara, School of Dentistry, Timișoara, Romania)

18⁴⁵-19⁰⁰ 4.12 *Imagistic approach on orthodontic interfaces* **Roxana ROMÎNU¹, Cosmin SINESCU¹, Meda Lavinia NEGRUȚIU¹, Florin TOPALĂ¹, Emanuela PETRESCU¹, Daniela Maria POP¹, Adrian BRADU², Carmen TODEA¹, Mihai ROMÎNU¹ and Adrian Gh. PODOLEANU²** (¹Victor Babeș University of Medicine and Pharmacy of Timișoara, School of Dentistry, Timișoara, Romania, ²University of Kent, School of Physical Sciences, Applied Optics Group, Canterbury, CT2 7NH United Kingdom)

19⁰⁰-19¹⁵ 4.13 *En-face OCT investigation of cavity microleakage after Er:YAG laser preparation* **Cosmin BALABUC¹, Adrian Gh. PODOLEANU², Cosmin SINESCU¹, Meda NEGRUȚIU¹, Mariana MIRON¹, Laura FILIP¹, Carmen TODEA¹** (¹Victor Babeș University of Medicine and Pharmacy of Timișoara, School of Dentistry, Timișoara, Romania, ²University of Kent, School of Physical Sciences, Applied Optics Group, Canterbury, CT2 7NH United Kingdom)

19¹⁵-19³⁰ 4.14 *Femtodentistry a new concept for 21st century* **Iulian IONIȚĂ** (University of Bucharest, Faculty of Physics, Optics Dep., Bucharest-Măgurele, Romania)

15⁰⁰-19³⁰ Session 5: Laser Technology and Laser Safety (Hall 2 - Ștefan cel Mare)

Chairmen: Penny SMALLEY (TCI, Chicago, United States), **Hans ROMBERG** (Int. Institute for Interdisciplinary Medicine, Heidelberg, Germany), **Leos NAVRATIL** (Czech Technical University in Prague, Prague, Czech Republic)

Invited Papers

15⁰⁰ - 15³⁰ IP1 *Laser Safety: Beyond Signs and Goggles* **Penny J. SMALLEY** (Technology Concepts International, Chicago, Illinois, USA)

15³⁰-16⁰⁰ IP2 *Pulsed laser transfer of organic/hybrid biomaterials nanostructured coatings for biomimetic implants, drug delivery control and biosensing* **I. N. MIHĂILESCU, C. RISTOSCU, F. SIMA, G. SOCOL** (NILPRP, Lasers Department, Măgurele, Romania)

16⁰⁰-16³⁰ IP3 *ISO international standards can help you to improve quality in your clinic* **Premysl FRYDA** (European Medical Laser Association, Prague, Czech Republic)

Papers

16³⁰-16⁴⁵ 5.1 *Optoelectronic light-emitting bracelet* **V.I. KARANDASHOV** (State Research and Clinical Center for Laser Medicine, Moscow, Russian Federation)

16⁴⁵-17⁰⁰ 5.2 *A new method of investigating the ultrastructural modifications of water subjected to the action of low-power laser radiation used in phototherapy* **¹Dumitru BĂDILĂ, ²Dan SIPOȘAN** (¹Thermomedics, Romania, ²MTA, Bucharest, Romania)

17⁰⁰-17¹⁵ 5.3 *Near infrared spectroscopy system for dynamic and static measurements of oxygenation and blood volume changes in a liquid phantom* **M. PATACHIA, D. C. A. DUȚU, D. C. DUMITRAȘ** (National Institute for Laser, Plasma and Radiation Physics, Department of Lasers, Măgurele, Romania)

17¹⁵-17³⁰ 5.4 *Multislice CT of the coronary artery disease* **Dragoș CUZINO** (Medical Military Institute, Bucharest, Romania)

17³⁰-17⁴⁵ 5.5 *Research concerning fiber laser used in hologram engraving* **Brînduș COMĂNESCU, Marian LAZĂR, Mihaiela ILIESCU, Radu-Florin STANCU** (Optoelectronica-2001 S.A, Măgurele, Romania)

17⁴⁵-18⁰⁰ 5.6 *In vivo laser induced fluorescence spectroscopy device for food samples* **Andreea FAZACAȘ, Radu-Florin STANCU** (Optoelectronica-2001 S.A, Măgurele, Romania)

18⁰⁰- 18¹⁵ 5.7 *Excimer Laser Mask Technique Processing* **Vasile SAVA¹, Cristinel ILIE², Marius POPA³, Sorin STANESCU³, Mircea UDREA⁴** (¹University of Bucharest, Faculty of Physics, Romania, ²ICPE-CA - National Institute for R&D in Electrical Engineering, Bucharest, Romania, ³”Politehnica” University of Bucharest, Biomedical Engineering Centre, ⁴ NIPLR-National Institute for Laser, Plasma and Radiation Physics), Bucharest, Romania)

18¹⁵-18³⁰ 5.8 *Establishing The Pulpal Blood Flow Changes Caused By Termal Vitality Tests Using Laser Doppler Flowmetry* **Mariana MIRON¹, D. DODENCIU², Laura FILIP¹, C BALABUC¹, Elena HANIGOVSKI¹, Carmen TODEA¹** (“Victor Babeș” University of Medicine and Pharmacy, Timisoara, Romania, ¹Department of Oral Rehabilitation and Dental Emergencies, School of Dentistry, ²Department of Biophysics, Medical Informatics and Biostatistics)

18³⁰18⁴⁵- 5.9 *Laser Doppler investigation of tooth archwire engagement* **Laura Maria FILIP¹, Mariana MIRON¹, Cosmin BALABUC¹, Carmen TODEA¹** (¹School of Dentistry, Victor Babeș University of Medicine and Pharmacy, Timișoara, Romania)

18⁴⁵-19⁰⁰ 5.10 *Biophysical Investigations of different types of weldings in Dental Technology* **Danila Maria POP, Dorin DODENCIU, Cosmin SINESCU, Meda Lavinia NEGRUȚIU, Florin Ionel TOPALĂ, Emanuela Lidia PETRESCU, Roxana Otilia ROMÎNU, Adelina Elena STOIA, Mihai ROMÎNU** (Victor Babes University of Medicine and Pharmacy of Timișoara, Faculty of Dentistry, Romania)

19⁰⁰-19¹⁵ **5.11** *Differences in Laser and LED action in the pacer, and in the non-pacer regime from a physicist point of view* (Dr. **Hans ROMBERG** Medizintechnik, Stutensee, and I³M, Heidelberg, Germany)

19¹⁵-19³⁰ **5.12**

15⁰⁰-17³⁰ **Session 6: Laser Applications in Defence Systems** (Hall 3 Alba Iulia)

Chairmen: Lars HODE (Swedish Laser-Medical Society, Sweden); Adrian STOICA (MTA, Romania)

Invited Papers

15⁰⁰-15³⁰ **IP1** *Can we make enemy soldiers blind?* Lars HODE (Swedish Laser-Medical Society, Sweden), Adrian STOICA (ATM, Romania), Dan RĂDUCANU (ATM, Romania)

15³⁰-16⁰⁰ **IP2**

Papers

16⁰⁰-16¹⁵ **6.1** *Laser Beam Expander Optimization* Niculae GUZULESCU¹, Mircea DUMITRESCU², Ioan VEDINAȘ³ (¹Military Equipment and Technologies Research Agency, Romania, ² Department of Armaments, Romania, ³Military Technical Academy, Romania)

16¹⁵-16³⁰ **6.2** *Velocities determination through Laser Doppler method* Iulian NICOLA, Mircea DUMITRESCU (Military Equipment and Technologies Research Agency, Romania)

16³⁰-16⁴⁵ **6.3** *The role of optoelectronic information in decision making process* Cornel PLEȘA, Liviu COȘEREANU, Mircea DUMITRESCU (Military Equipment and Technologies Research Agency, Romania)

16⁴⁵-17⁰⁰ **6.4** *Target identification using laser radiation* Cornel TODIRICĂ, Mircea DUMITRESCU (Military Equipment and Technologies Research Agency, Romania)

17⁰⁰-17¹⁵ **6.5**

17¹⁵-17³⁰ **6.6**

17³⁰-19³⁰ **Workshop 2** (Hall 4 - Sfântul Gheorghe)

Applying of low level laser therapy in aesthetic and beauty Soheila MOKMELI (Laser Department of Milad Hospital, Tehran, Iran)

17³⁰-19³⁰ **Workshop 3** (Hall 3 - Alba Iulia)

LLLT of Inner ear diseases (tinnitus, hyper and dysacusis, pressure in the ear, loss of hearing, otogenetic vertigo, Morbus Meniere) Lutz WILDEN (Private Practice for hearing loss and inner ear diseases, Bad Füssing, Germany)

17³⁰-19³⁰ Workshop 4 (Hall 5 - Oglinzilor)

Low Level Laser Therapy in locomotory diseases: post-trauma soft tissue, periarthritis and osteoarthritis **Adriana Sarah Nica, Andreea Murgu, Gilda Mologheanu, Mihaela Călin** (National Institute of Recovery, Physical Medicine and SPA, Bucharest, Romania)

Devices using light for research applications in biology and medical therapy” **Dumitru BĂDILĂ** (Termomedica, Romania), **Dan SIPOȘAN** (Military Technical Academy), **Razvan RAICU** (Military Technical Academy)

19³⁰-20⁰⁰ Closing Remarks

20⁰⁰- 24⁰⁰ Gala Dinner with music, dancing and awards (National Military Palace, Byzantine Hall)