

MINISTRY OF NATIONAL DEFENCE
GENERAL STAFF
MILITARY TECHNICAL ACADEMY

*Report on
International Congress
Laser Bucharest 2010
- First Edition -*



<http://www.laserbucharest.org>
National Military Palace
Bucharest, November 11th – 13th, 2010



Our partners



Lumina University
64b Colentina Blvd.
021187, sector 2
Bucharest, ROMANIA



Optoelectronica 2001
409 Atomistilor Street
Magurele-Ilfov, ROMANIA

Our sponsors



Our congress location



National Military Palace Bucharest

INTRODUCTION

The International Congress *Laser Bucharest 2010* was held in the period November 11-13 at the National Military Palace, under the scientific supervision of *European Medical Laser Association* (EMLA). The congress was attended by over 200 experts from 70 civilian and military institutions of higher education and scientific research. Sixty foreign participants came from 27 countries on 6 continents: America, Europe, Asia, Australia/Oceania and Africa. The congress was characterized through the highlighting of the laser's applications in different domains which are now of great interest: Science, Biology, Medicine, Technology, Optical Imaging, Laser Safety, and Military Applications.

The congress has provided a rare opportunity for scientists from all over the world to meet – physicists, physicians, biologists, resident physicians, students, teachers, young or senior researchers, engineers, medical nurses and others. The presentations, discussions, meetings, have shown that in the areas addressed at this congress, Romania is at a similar level with other more economically developed countries.

The massive participation of some of the top specialists from all over the world allows us to sustain that this scientific manifestation was a worldwide one. A short form of this report was already published in the Journal of *Laser Therapy* Vol. 19 - No. 4 (December 2010 issue).

THE ACTIVITY

The timing of the congress coincides with the 50th anniversary of the first laser built by humans in 1960 at Hughes Research Laboratories USA, based on a synthetic ruby crystal.

The sections expanded according to the program were:

- Two plenary sessions;
- Six profile sections (Basic Sciences; Phototherapy, Laser Surgery and Aesthetics, Laser Dentistry and Medical Imaging, Laser Technology and Laser Safety, Laser Applications in Defense Systems);

- A poster session.

Within the plenary sections, Professor **David G. Baxter** from the Otago University of Dunedin, New Zealand, presented the new leading lines in what concerns the laser therapy elaborated at the International Medical and Surgery Lasers Academy of Florence. The president of EMLA, Madam **Anu Makela**, made a short history of lasers' applications in medicine. Romanian academician Sorin Comoroşan presented a work of great scientific interest, regarding the interaction between the green light and the living matter.

The congress has been accredited by the College of Physicians in Romania, and ranked with 12 points. Twelve courses for students and residents, accredited and listed with 12 points, and five workshops on current topics of interest were also organized. Four companies with exhibitions were present: Lchrea Medical Care (Bucharest, Romania), Apel Laser – Laser and Scientific Instrumentation (Bucharest, Romania), SC. Med.Co SRL (Medical Company) and Procardia (Tg. Mureş, Romania).

Eight sponsors have funded the development of congress, which allowed us to provide many free services for guests, and this way we want to show our gratitude to: **Lumina Educational Institution Foundation, Rompetrol, The Commercial Romanian Bank - BCR, BRD Groupe Société Générale, Romtehnica** (Romania), **Lchrea Medical Care** (Romania), **Apel Laser** – Laser and Scientific Instrumentation (Bucharest, Romania) and **SC. Med.Co SRL** (Medical Company). The partners were the **Lumina University** - the University of South-East Europe of Bucharest and the company **Optoelectronica 2001 S.A.** from Măgurele (Bucharest).

A series of visits to important cultural, scientific and historical objectives were scheduled, such as:

- the National Institute for Lasers, Plasma and Radiation Physics in Măgurele;
- Lumina University, the University of South-East Europe in Bucharest, and
- Royal Library (Central University Library) in Bucharest.

Participants have benefited also from a rich social program which also included visits to:

- the Cotroceni Palace and Museum (<http://wikimapia.org/16155724/Cotroceni-Palace-Garden>);
- the House of Parliament (<http://www.romania-central.com/travel-and-hotels-in-romania/cities-in-romania/bucharest-bucuresti/casa-poporului-in-bucharest/>);

- the Bran (Dracula) Castle (<http://www.draculacastle.com/>);
- the National Museum of Peleş, Sinaia (<http://www.peles.ro/>);
- *Curtea de Argeş* Monastery (<http://www.panoramio.com/photo/41142661>);
- Vidraru Dam on the Argeş River, Argeş county (http://en.wikipedia.org/wiki/Vidraru_Dam).

Ten participants coming from overseas, who have attended the conference *Laser Florence 2010* a week before *Laser Bucharest* congress, were accommodated for four days in a pension *Xandra*, located in Southern Carpathian Mountains, Corbi village, Argeş county. They enjoyed the beauty of the landscape, the Romanian hospitality, traditional dishes and customs, as well as hunting in the nearby wood.

In the opening speech of the congress there were highlighted some of the priorities that Romania has in the laser field:

- Construction of one of the first lasers in the world in 1962, in Măgurele, under supervision of Prof. Agârbiceanu;
- Romania's participation as a key actor in the Central and Eastern Europe project *Extreme Light Infrastructure*, funded by the European Union, where the world's most powerful laser will be built within the next three years;
- The important number of scientific publications by Romanian authors in journals which belong to the main stream of scientific publications (Thomson-Reuter).

Almost 120 works were presented in the sections.

The two plenary sections encompassed 7 presentations of **David Baxter** (the University of Otago, New Zealand), **Costinela Drăgan** (Rompetro), **Sorin Comoroşan** (Honorary member of the Romanian Academy, Bucharest, Romania), **Juanita Anders** (Uniformed Services University of the Health Sciences, Bethesda, USA), **Anu Makela** (Acupuncture and Bioenergy Research Institute, Helsinki, Finland), **Lutz Wilden** (Private Practice for hearing loss and inner ear diseases, Bad Füssing, Germany) and **Anne Harila** (Laserklinikken, Norway);

AWARDS

The best papers for the six profile sections and poster section were awarded with prizes, as follows:

Section	Name	Institution	Paper
Basic Sciences	Hans Romberg romberg@drromberg.de	International Institute for Interdisciplinary Medicine, Heidelberg, Germany	<i>Biphasic Dose-Effect Relationship; A Simple Mathematical Model in a Multidimensional Parameter Space. Is there Really a Threshold Observed?</i>
Poster Section	Ovidiu Theodor Toma and Iulian Ioniță thtoma72@yahoo.com iulian.ionita@g.unibuc.ro	Faculty of Physics, University of Bucharest, Romania	<i>The Influence of the Human Tissue State of Health on the Polarization Properties of Ultra-Short Laser Beam</i>
Phototherapy 1	Eniko Tunde Stoica¹, Corina Mărcăuțeanu¹, Cosmin Sinescu¹, Meda Negruțiu¹, Andrei Motoc¹, Rodica Lighezan¹, Liliana Vasile¹, Florin Topală¹, Adrian Bradu¹, Carmen Todea¹, Adrian Gh. Podoleanu² florin.topala@gmail.com	¹ Victor Babeș University of Medicine and Pharmacy of Timișoara, School of Dentistry, Timișoara, Romania, ² University of Kent, School of Physical Sciences, Applied Optics Group, Canterbury, CT2 7NH United Kingdom	<i>Optical Coherence Tomography Investigation of the Normal Temporo-Mandibular Joint Disc</i>
Phototherapy 2	Chung-Ku Rhee rheeck@dku.edu	Dankook University, College of Medicine, Department of Otolaryngology, Medical Laser Research Center, Cheonan, Korea	<i>Preventive and Therapeutic Effects of Low Level Laser Irradiation on Gentamicin Vestibulotoxicity in Rat Utricle</i>
Laser Surgery and Aesthetics	Gianfranco Semez gianfranco.semez@libero.it	Private Practice, Trieste, Italy, PhD Victor Babeș University of Medicine and Pharmacy of Timișoara, Student School of Dentistry Romania	<i>VSP Technology: A Clinical Point of View</i>

Laser Dentistry and Medical Imaging	the team led by Carmen Todea ¹ & Adrian Podoleanu ² carmenodea@yahoo.com	¹ Victor Babeş University of Medicine and Pharmacy of Timișoara, Student School of Dentistry, Romania, ² University of Kent, School of Physical Sciences, Applied Optics Group, Canterbury, UK	
Laser Technology and Safety	Ion Mihăilescu, Carmen Ristoscu, F. Sima, G. Socol ion.mihailescu@inflpr.ro carmen.ristoscu@inflpr.ro	NILPRP, Lasers Department, Măgurele, Romania	<i>Pulsed Laser Transfer of Organic/Hybrid Biomaterials Nanostructured Coatings for Biomimetic Implants, Drug Delivery Control and Biosensing</i>
Laser Applications in Defense Systems	Violeta Ciofu ciofu.violeta@gmail.com	Forensic Science Institute, General Inspectorate of the Romanian Police	<i>Scanning Electron Microscopy Analysis of Different Types of Evidence in Forensic Science—Casework</i>

CONCLUSIONS

Romanian traditional hospitality and location venue of a unique beauty have created a suitable atmosphere for scientific discussions, establishment of new relationships and strengthen of old friendships. At the closing ceremony participants spotlighted the good organizing of this event, the high scientific levels of the works presented, the special care worn to foreign participants by the cadets of the Military Technical Academy, the congress location, the traditional food and the social program.

At the press congress, taking as a landmark the Laser Florence 2010 congress, Professor **David Baxter** remarked that **Laser Bucharest 2010** congress has been similar. Mr. Teodor Necșoiu said that, in his opinion, the congress Laser Bucharest 2010 is one of the most important scientific events in Romania after the revolution of December 1989.

In our opinion this congress has achieved its main objectives:

- a strong presence of leading experts around the world;
- presentation of valuable works and discussion of important issues facing the scientific community nowadays;

- the increase of international visibility of Romanian research in the field of lasers;
- establishing direct contacts between foreign and Romanian specialists for better interconnection in the scientific field and increasing opportunities to approach joint works, publications or projects.

Shortly after closing the congress, some of the foreign participants shared with us, by letters of appreciation, their genuine thoughts about their stay in Romania. We display some of these letters.

Chung-Ku Rhee from Dankook University, College of Medicine, Department of Otolaryngology, Medical Laser Research Center, Cheonan, Korea, wrote us:

By now, you have rested well enough and are back to normal routine. I thank you again for inviting me to part of the meeting. The courtesy you and your students gave was fantastic. The Military Academy gave us a lot of services. The Laser Bucharest was a big success. I enjoyed every minute of it, met good friends, and learned a lot from the symposium. Sincerely, Chung-Ku Rhee.

Roberto Casale from the Scientific Institute of Montescano, Italy, wrote:

In that occasion I was really impressed by the quality of the various researches presented and especially those on nervous tissue regeneration presented by Juanita Anders.

He also pointed out that the organization of the congress was almost impeccable, and enforced his congratulations by indicating professor's Dan Siposan name as a potential reviewer for a research paper on Laser which Roberto Casale has to send to publication on the Archives of Physical Medicine and Rehabilitation Journal.

Professor **David Baxter**, Dean of School of Physiotherapy at the University of Otago New Zealand reviewed the wonderful hospitality that he was treated with during his visit to Romania, saying that it was a very special experience.

Juanita Anders, Professor of Anatomy, Physiology and Genetics at USUHS USA, send thanks on behalf of her family for the invitation to be part of the Laser Bucharest congress. She stated that Romania is a very beautiful country, with amazing people, so she enjoyed participating in this activity. She graded the organization of this event as being *amazing* and highlighted the combination of science and social program, the last one culminating with the time spent in Corbi at the pension *Xandra*.

Anne Harila, from the Laserklinikken Anne Harila UK LTD, Sandvika, Baerum, Norway, evaluated the Congress as being a high quality one, with great variations in the presentations. She enjoyed the care she was shown as a participant, saying even that nowhere in the world this would be possible, being sure that an enormous amount of time and energy was spent for this event to be done so well. She spoke in the name of her group, taking into consideration the appreciable experience that they have in this field, travelling to different medical congresses.

Lavinia Ciornei, from BRD, responsible for the Universal Counter Romania, congratulated the organizer for the event, for the effort and all the work. She also asked for a record of the event that would reflect the atmosphere and the activities.

Armen Abrahamyan from the Clinic of Laser Medicine, Yerevan, Armenia, and Albert Bohbot from Laboratoire de Recherche sur le Laseropuncture, La Chapelle Montlinard, France, appreciated *the perfect organization*.

Penny Smalley from TCI, Chicago, United States, thanked for the hospitality and the organization of the congress:

The staff was outstanding, and I cannot say enough about the way they all helped and managed everything - but special commendation goes to the cadet Gavrilă Răzvan. I hope that there is a way to inform his commanding officer that he always conducted himself at a professional level, with patience, strength, and good humor. He will not doubt make an excellent officer some day, judging from the way he was able to delegate, and manage the staff. Beyond all, I must say that I will never forget the days in Corbi. That experience was beyond all expectation, and a time that

brought me many emotions and feelings as well as the friendship and sense of community we shared. The family was like my own - and it was a blessing to be in their home and in their care. I hope that you will now enjoy some time to rest, knowing how well things have gone. Well Done and Congratulations!!!!

Dr. **Radmila Dimovska**, from Skopje – Macedonia, also sent congratulations on *the wonderful organization of the Laser Bucharest 2010* and expressed her wish for a chance to meet with the other participants in the years that follow.

Professor **Ion N. Mihăilescu** from the National Institute for Lasers, Plasma and Radiation Physics, Lasers Department, *Laser-Surface-Plasma Interactions Laboratory*, Magurele, Ilfov, appreciated the initiative for the congress and also the organization. He expressed his hope that the INFLPR visit was at least satisfactory for the participants and the wish for a long partnership in what concerns further projects.

REMARKS AND OBSERVATIONS

For the next edition it is strongly recommended that the dead-line for receiving abstracts to be compulsory and after this no more papers are allowed. Otherwise, the Proceeding cannot be done in due time. For this edition the Proceedings of the congress will be ready at the beginning of 2011 year, in the form of one volume, as well as the on-line version. The on-line version will be disseminated to the participants on the basis of password.

The hotel must be close to the venue of the congress, so the transfer from hotel to the congress venue is avoided.

The sessions have to end at 18³⁰ o'clock the latest and there have to be no more than three hours between the breaks.

Sponsors need to send the promoting materials within one week before the congress because they have to be introduced in the presentation folders and in the presentation movie.

Starting with the first months of 2011 we intend to publish a large number of papers presented at Laser Bucharest 2010 congress in the journal *Romanian Journal of Optoelectronics* (edited by OPTOELECTRONICA 2001 S.A.), which will become the official journal of the Congress. Works will be chosen on the basis of selection made by leading personalities from the Scientific Committee of the congress. The works of those participants who do not agree to leave their presentation on electronic storage means of organizers could not be considered for selection.

We highly appreciate if you will help us so that the journal *Romanian Journal of Optoelectronics* can be indexed in Thomson-Reuter system until the next edition of the congress in 2012, by the publication of outstanding papers in this journal. We mention that there is no charge for publication.

Papers must be sent for publishing to:

Romanian Journal of Optoelectronics at journal@optoel.ro

Instructions for writing the paper and a template can be downloaded from:

<http://www.optoel.ro/Documents/TemplateJournal.doc>

Assoc. Prof. Dan G. Sipoșan

Program Chairperson Laser Bucharest 2010 Congress