

SCIENTIFIC REPORT

1. The scientific content of the event:

Exploratory workshop, “EXTREME LIGHT INFRASTRUCTURE – a new impetus for multidisciplinary scientific research”.

This workshop was organized in the frame of the Conference “Diaspora in the Romanian Scientific Research” as a consequence of the recent involvement of the INFLPR in research projects aiming the "extreme light", which suggests overcoming the barriers related to the intensity or duration of light emission. We talk here about the durations of femto- or ato-seconds, or powers that exceed the PW. Focused near the diffraction limit, the extreme light radiation can overcome power densities of 10^{25} W/cm².

After the conduct of the 3 days of meetings, presentations and discussions we found that the idea of facilitating a meeting with our former colleagues, now integrated personalities in the worldwide scientific research community, initiated by *The National Authority for Scientific Research (ANCS)*, with the help of National University Research Council (CNCSIS), was prolific.

The interest for this research field has been continuously growing in our Institute (National Institute for Laser, Plasma and Radiation Physics – INFLPR) during the last years and, it should be noted, due to the intense cooperation activity promoted by a personality of our scientific Diaspora: Professor Cristian Florea from the University of Paris-Est and Laboratoire d’Optique Applique (LOA) - Palaiseau.

The constant support received from the ANCS and the mentioned initiatives led to the integration of Romania into one of the most ambitious European scientific projects: Extreme Light Infrastructure (ELI), that is the most intense laser source built by now in the world. To this project, initiated and coordinated by the famous Professor Gerard Mourou from LOA – Palaiseau, joined by now 13 European countries. The Romanian coordinator for the preparatory phase of the project is Prof. Dan Dumitras from the Lasers Department of INFLPR.

For the correct understanding of the dimensions of this pan-European investment we will mention only some figures:

- the structure includes 10 laser sections, each providing laser pulses of over 10 PW / pulse for pulse durations between 10-20 fs; the result is a laser energy per pulse of (100-200) J;
- synchronization of the 10 sections on a common target at a repetition frequency of several Hz;
- maximum power to the target is over 100 PW, with an energy-per-pulse between (1000 – 2000) J.

- for the moment, estimated costs are more than 500 million Euro.

May we mention only that Romania has been nominated as a potential host for the ELI infrastructure, along with other 3 candidate countries. But regardless of the location, Romania will participate in the construction, operation and use of this infrastructure, as it did with the occasion of construction for other international fundamental research infrastructures.

During the 2 days of the workshop, there were 12 presentations, 4 of which sustained by colleagues from Diaspora. An apart presentation belonged to a collaborator from *Universitatea Politehnica* – Madrid, who kept to attend our meetings.

The other presentations belonged to some scientific personalities from our institute or University Media. Most of the speakers were young graduate students or PhD's, with qualifications obtained in the country as well as in prestigious academic centers abroad. Details of the content of these presentations are placed on the event site http://ssl.inflpr.ro/WE10_ELI/index.htm. We want to emphasize in particular the participation of Professor Mihai Gavrilă, an outstanding personality of Romanian scientific Diaspora, professor at FOM - Institute for Atomic and Molecular Physics (AMOLF), Amsterdam and recently invited professor at the Institute for Theoretical Atomic, Molecular and Optical Physics (ITAMP) by the Harvard University. Professor Gavrilă had a very interesting presentation titled " Relativistic interaction of super-intense lasers with the atom", which unfortunately was made on transparent sheets and could not be placed in time on the site event. We have the promise of Professor Gavrilă to receive his presentation in the ppt-slide format. We will do the same with other presentations made on transparent sheets, which will be promptly posted on the event site in ppt-format.

Outstanding was the character of free-talks all the presentations have had during the workshop. Both during the presentations and afterwards, interventions took place in the room, especially from the young participants, asking questions or making proposals for cooperation on specific topics.

The second day of the workshop ended with a round table dedicated to "*Participation of the Romanian Diaspora to the development and exploitation of the research Infrastructure in the field of extreme light in Romania*", held in a relaxed ambiance in the seminar room of the Lasers Department - INFLPR. Not by chance this theme of discussion has been proposed: INFLPR is the recent beneficiary of large investment projects in research infrastructure, as a result of competitions in the frame of programs IMPACT and CAPABILITIES. Completion of these investments will take place step-by-step, an important part of them being devoted to the extreme light. Thus, starting in 2009 and ending by 2012, in INFLPR will be installed a fs laser facility that will evolve from 1TW in 2009 to 1PW in 2012. The discussions were coordinated by Dr. Razvan Dabu, head of the "Solid State Lasers Laboratory", Lasers Department - INFLPR.

The main raised issues were:

- Personnel preparation for the ELI infrastructure and INFLPR infrastructure;
- Proposals for joint research projects;

- Possible exploitations of infrastructure for the science, economy, society.

The proposal to prepare a database of potential scientific personalities of the Romanian Diaspora, but not only, willing to offer their expertise in the organization and operation of the new infrastructure going to be put into operation at INFLPR in the near future has occurred. Personally, Mr. Professor Gavrila has assumed the task of contributing to the achievement of this database and, moreover, to contact such personalities or young researchers and to recommend their engaging in future actions implying the INFLPR. The problem of recruitment and training the staff able to capitalize the potential of the new laser facilities has been thoroughly analyzed and it was decided to approach it in a pretty aggressive manner by popular demonstrations in institutes and universities. The target (all participants agreed) should be transforming this facility into a capability included in the LASERLAB European network, where INFLPR has been recently included. Thus it will give this investment the status of an European facility, with open access for the research activities in the mentioned area, both regionally and internationally.

2. Information on the event

Organizing the event involved several steps or activities:

- Contacting and inviting foreign participants
- Contacting and inviting participants from the country
- Configuration and finalizing the program, permanently in touch with the suggestions of participants
- In-time operation of updates as a result of changes in the list of participants or the structure of the program
- Workshop activities correlation with the general program of the Conference "Diaspora in the Romanian Scientific Research"
- Participation in training activities organized by CNCSIS, where issues regarding organizational and logistical assets for a useful action work were discussed
- Dissemination of the event in academia and research media through posting or electronic mailing, to get a broader participation
- Preparation of promo materials for the event dissemination among invited participants or those freely enrolled during the workshop
- Discussions with media representatives to facilitate the takeover of interviews or images
- Coordination of activities regarding transport, registration, proper conditions for the works (means of projection, sound, access to information materials) and the auxiliary program (coffee break, lunch, etc.).

3. The final workshop program is presented below, as it was posted and inserted on the site event. The program also contains the name and affiliation of the Conference guests and key-speakers.



INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU
FIZICA LASERILOR, PLASMEI SI RADIATIEI

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Program Workshop WE-10

Extreme Light Infrastructure,
a new impetus for multidisciplinary scientific research

September. 17-th

Amphitheater no. 3, Faculty of Physics, Platforma Magurele
Chair Dr. Rareş Medianu

9,00 – 9,30 Registration

9,30 Welcome reception

Dr. Rareş Medianu

General Director, INFLPR

10,00 – 10,30

Prof. José Luis Ocaña Moreno

Director of the ETSII Department of Applied Physics and the UPM Laser Centre of the Polytechnic University of Madrid

"Scientific and Technological Issues of the Application of High Intensity Lasers to Material Properties Modification: The Case of Laser Shock Processing of Metallic Alloys"

10,30 – 11,00

Prof. Dănuț Iordăchescu

ETSII Department of Applied Physics and researcher UPM Laser Centre of the Polytechnic University of Madrid

"Application of high intensity short pulse lasers to precision micro-manufacturing"

Coffee break

11,30 – 12,00

Prof. Mihai Gavrilă

FOM-Institute for Atomic and Molecular Physics, Amsterdam

The Institute for Theoretical Atomic, Molecular and Optical Physics (ITAMP) de pe langa Univ Harvard

"Relativistic interaction of super-intense lasers with the atom"

12,00 – 12,30

Dr. Adela Marian (absent for medical reasons)

Postdoctoral Fellow. Fritz-Haber-Institut der Max-Planck-Gesellschaft, Departmentul de Fizica Moleculara

"AC electric trapping of neutral atoms".

12,30 – 13,00

Dr. Alexandru Popa

Senior researcher, lasers Department of INFLPR

“Calculation of the energies of hard X-rays generated by the interaction between relativistic electrons and very intense laser beams”

Lunch

14,30 – 15,00

Prof. George Nemeş

Adjunct Professor of Optics School of Engineering, EE Department, Santa Clara University, President, ASTiGMAT, Santa Clara, www.astigmat-us.com

“The quest to understand and control very short laser light disc-pulses”

15,00 – 15,30

Cosmin Blaga

Research assistant in the Louis F. DiMauro - Pierre Agostini group, Ohio State University, USA

“The Dawn of Attophysics: First Steps Towards A Tabletop Attosecond X-Ray Source”

September. 18-th

Amphitheater no. 3, Platforma Magurele

Chair Prof. George Nemes

9,30 – 10,00

Dr. Mihai Dondera

Assistant Professor, Faculty of Physics, University of Bucharest

“Atomic ionization by intense XUV laser pulses of short duration”

10,00 – 10,30

Dr. Şerban Georgescu

Senior researcher, Solid State Quantum Electronics Laboratory, INFLPR

“3-micron YAG:Er Lasers; performances and limits”

10,30 – 11,00

Dr. Ciprian Chirila

Research assistant, “Quantum Dynamics and Attosecond Physics” group (Prof. Dr. Manfred Lein), Theoretical Physics Dept., Kassel University

Theoretical aspects and applications of the high harmonics generation process in molecular systems. The influence of molecular vibration and “laserdressing” process.

Coffee break

11,30 – 12,00

Dr. Răzvan Dabu

Senior researcher, head of the Solid State Lasers Laboratory, Lasers Dept., INFLPR

“Development in INFLPR of the research infrastructure with high-power fs lasers”

12,00 – 12,30

Dr. Daniel Ursescu

Senior researcher, Lasers Dept., INFLPR

“Multi-pulses generation in ultra-fast laser systems and X-ray laser applications”

12,30 – 13,00

Dr. Marian Zamfirescu

Senior researcher, Lasers Dept., INFLPR

"Pico- and femto-seconds pulsed laser systems for nanotechnological applications"

Lunch

15,00 – 17,30

Round table, **Ion Agarbiceanu** seminar room, Lasers Dept., INFLPR, Platforma Magurele

Chair Dr. Razvan Dabu

"Participation of the Romanian Diaspora to the development and exploitation of the research Infrastructure in the field of extreme light in Romania":

- Personnel preparation for the ELI infrastructure and INFLPR infrastructure;
- Proposals for joint research projects;
- Possible exploitations of infrastructure for the science, economy, society.

In connection with this above program, it must be reported the single absence of Dr. Adela Marian from the Fritz-Haber-Institut der Max-Planck-Gesellschaft, Department of Molecular Physics, Germany, whose participation was last minute cancelled on medical grounds.

4. Key-speakers final list

Below is the list of guests at the conference, according to the final registration, at the time the workshop started:

National Plan for Research, Development and Innovation

“IDEAS” Programme

EXPLORATORY WORKSHOP WE-10

Workshop theme: "EXTREME LIGHT INFRASTRUCTURE" - a new impetus for multidisciplinary scientific research

Name and full coordinates of applicants (CHAIR):

Dr. Eng. Rares Medianu.

National Institute for Lasers, Plasmas and Radiation Physics (INFLPR)

077 125 București-Măgurele, str. Atomistilor 409, C.P. MG-36

Telefon: 4574489; Mobile: 0743147444 Fax: 4574243

E-mail: rares.medianu@inflpr.ro

List of invited participants:

Invited lecturers (keyspeakers)

1. Prof. Dr. Eng. José L. Ocaña

Polytechnic University of Madrid. CENTRO LASER.

Edificio “La Arboleda”; Campus Sur UPM; 28031 Madrid / Spania

Tel: +34913324280; Fax: +34913316906; e-mail: jlocana@etsii.upm.es

Professor at the Polytechnic University of Madrid. Director of the Department of Applied Physics of the Polytechnic University of Madrid. Expert in laser and ion beams applications at the extreme compression of matter, a laser-plasma interaction at high intensity levels, target analysis for inertial fusion confinement. Leading projects in the field of scientific and industrial applications of high power lasers, especially in the sub-fields of laser plasma interaction, laser welding, laser surface treatments, laser ablation and laser micromanufacturing. Author / co-author of numerous papers and communications and and reviewer of scientific journals.

2. Prof. Dr. Eng. Dănuț Iordăchescu

Polytechnic University of Madrid. CENTRO LASER.

Edificio “La Arboleda”; Campus Sur UPM; 28031 Madrid / Spania

Tel: +34913365539; Fax: +34913316906;

mob: +34626193415; e-mail: danut.iordachescu@upm.es

Professor at the Polytechnic University of Madrid and researcher in the Laser Center of the University. Expert in special processing of materials including laser processing. Director of research projects in materials processing. Author / co-author of numerous scientific papers and communications. Referee in many journals.

3. Dr. Ciprian Chirilă

Physics Institute, University of Kassel, Heinrich Plett Strasse 40, 34132 Kassel, Germany

TEL: +49 561 804 4574

FAX: +49 561 804 4006

EMAIL: chirila@physik.uni-kassel.de

Research Assistent in “Quantum Dynamics and Attosecond Physics” group. (Prof. Dr. Manfred Lein), Theoretical Physics Dept.. University of Kassel

Theoretical and numerical study of atomoc/molecular systems under high intensity laser radiation.

4. Prof. Dr. Mihai Gavrilă

FOM-Institute for Atomic and Molecular Physics (AMOLF), Amsterdam

The Institute for Theoretical Atomic, Molecular and Optical Physics (ITAMP), Harvard University.

e-mail: gavrilam@comcast.net

Specialist in the study of interaction of laser field – mater in relativistic regijm.

5. Cosmin Blaga

The Ohio State University | Enarson Hall 154 W 12th Avenue | Columbus, Ohio 43210.

Tel: +01 614-688-5817

E-mail: cblaga@mps.ohio-state.edu

Graduate of Absolvent Atomic Molecular and Optical Physics faculty of Ohio State

University

Specialist in intense fields Physics, Ato-physics, X ray physics, ultrafast lasers technology.

6. Prof. Dr. George Nemes

Associate Professor of Optics, School of Engineering, EE Department, Santa Clara University, 500 El Camino Real, Santa Clara, CA 95053, USA;

President, ASTiGMAT 1457 Santa Clara St. Ste. 6, Santa Clara, CA 95050, USA

Tel/fax: +1-408-244-5710; E-mail: gnemes@astigmat-us.com

www.astigmat-us.com

Specialist in laser optics, spatial and temporal properties of laser beams, characterization propagation of laser beams.

Participans:

1. Dr. Constantin Fenic

National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Lasers Department

Atomistilor 40; P.O. Box: MG-36; 077125 Bucuresti; Romania

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Mobil: +4 0743147417; e-mail: constantin.fenic@inflpr.ro

Senior Researcher 1-st degree in INFLPR, Department of lasers. Expert in solid state lasers and applications, short pulsed lasers, non-linear optics and laser protection. Director of several European and C-D national projects in the field of solid state lasers and their applications in materials processing. Over 80 works and scientific communications. Member SPIE, EOS.

2. Dr. Daniel Ursescu (speaker)

National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Lasers Department Atomistilor 40; P.O. Box: MG-36; 077125 Bucuresti; Romania

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Senior Researcher 3-rd degree of INFLPR, Lasers Dept. Doctor of Johannes Gutenberg University of Mainz, Germany. Expert in the ring laser spectroscopy, laser development with X-rays, experiments with the ion trap with electron beam; synchronization of accelerator - laser. Collaborator in several projects FP5, FP6 and FP7. Author / co-author of numerous scientific papers.

3. Dr. Marian Zamfirescu (speaker)

National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Lasers Department Atomistilor 40; P.O. Box: MG-36; 077125 Bucuresti; Romania

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Senior Researcher 3-rd degree of INFLPR, Lasers Dept. Doctor of Univ. Blaise Pascal, Clermont-Ferrand, France. Post doctorate from Dep Physics of the Univ.

Florence, Italy. Specialist in ultrafast lasers and laser writing of micro-and nano-structures. Director of national and European projects. Author of numerous scientific

papers.

4. Prof. Dr. Viorica Florescu

University of Bucuresti. Physics Faculty.

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Professor at Physics Faculty, Statistical Physics and Quantum Mechanics Dept. Specialist in quantum mechanics, application of quantum theory in radiative processes with electrons in Coulombian field (Rayleigh and Compton scattering, bremsstrahlung, two photon transitions and laser induced processes.

5. Dr. Rareş Medianu

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Senior Researcher 1-st degree of INFLPR, Lasers Dept. Director of INFLPR. Specialist in thin layers. Author / co-author of numerous publications.

6. Dr. Ion Morjan

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Senior Researcher 1 degree of INFLPR, Lasers Dept. Scientific Director of INFLPR, chief of the laser-induced photochemistry laboratory. Specialist in IR laser photochemistry: synthesis of nanopowders and nanocomposites (SiC, Si₃N₄, Si / C / N) from gaseous precursors. Laser Thermochemistry of inorganic salts, laser induced deposition of thin layers of chemical vapour. Author of numerous papers and communications.

7. Dr. Răzvan Dabu (speaker)

National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Lasers Department Atomistilor 40; P.O. Box: MG-36; 077125 Bucuresti; Romania

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Senior Researcher 1 degree of INFLPR, Lasers Dept. The head of the solid state lasers group. Specialist in Non-linear optics, laser systems with ultrashort pulses; pulsed laser ablation; lased diodes pumped solid state lasers, laser applications in optical tomografie; development of microchip laser systems, laser radiation protection. Associate Professor at the Faculty of Physics of the University of Bucharest. Director of European and national projects. Author of numerous scientific papers and communications. Member SPIE, OSA.

8. Dr. Viorica Stăncălie

National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Lasers

Department

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Senior Researcher 1-st degree of INFLPR, Lasers Dept. Head of Lasers Department. Specialist in laser induced processes. Interaction of very intense laser field with matter. Appreciated scientific works published in journals with high impact index.

9. Dr. Alexandru Popa (speaker)

National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Lasers Department Atomistilor 40; P.O. Box: MG-36; 077125 Bucuresti; Romania

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e-mail: alexandru.popa@inflpr.ro

Senior Researcher 1-st degree of INFLPR, Lasers Dept. Contributions at atomic and molecular scale modeling. He elaborated a nonlinear model of interaction between the electromagnetic wave and the Polar semiconductors and the interaction between the very intense laser beams and matter. Results published in prestigious journals like J. of Appl. Phys., Appl. Phys. Lett., Appl. Phys. A, Opt. Eng., IEEE J. of Q. Electr.

10. Dr. Șerban Georgescu (speaker)

National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Laboratory of Solid-State Quantum Electronics

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Senior Researcher 1-st degree of INFLPR, **Laboratory of Solid-State Quantum Electronics. Specialist in** Spectroscopy of rare-earth ions in laser crystals and luminescent materials; Modeling of laser emission processes; Luminescence processes in nanocrystalline materials doped with rare earth ions. Author / co-author of over 70 articles with impact ISI.

11. Dr. Traian Dascălu

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traian.dascalu@inflpr.ro

Senior Researcher 1-st degree of INFLPR, head of **Laboratory of Solid-State Quantum Electronics.**

Specialist in solid state lasers physics, laser diodes pumped solid state lasers, Non-linear optics, applications of solid state lasers in industry and medicine. Researcher invited to Fukui Association of Industrial Technology, Fukui, Japan and the Optical Research Center, Leon, Mexico. Member SPIE, OSA. Author / co-author of over 50 scientific published papers.

12. Dr. Mihai Dondera (speaker)

University of Bucuresti. Physics Faculty. Str. Atomistilor 405, Po Box MG-11, 077125 Bucuresti – Magurele

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E-mail: don@barutu.fizica.unibuc.ro

Lecturer at Physics faculty of University of Bucharest. Expert in interaction between atomic systems and electromagnetic radiation. Studies of induced processes (ionization in intense laser field) and assisted processes (laser bremsstrahlung). Development of numerical code for TDSE solving (time Dependent Schrödinger Equation), elaboration of auxiliary codes and harmonics generation.

13. Dr. Mircea Udrea

National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Lasers Department

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Senior Researcher 2-nd degree of INFLPR, Lasers Dept. Specialist in high power gas lasers. Materials processing.

14. Dr. Magdalena Ulmeanu

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e-mail: magdalena.ulmeanu@inflpr.ro

Senior Researcher 3-rd degree of INFLPR, Lasers Dept. Specialist in thin dielectric layers deposition, nano-structures, nano-technologies, laser written nano-structures.

15. Dr. Mădălina Boca

University of Bucuresti. Physics Faculty, Str. Atomistilor 405, Po Box MG-11, 077125 Bucuresti - Magurele

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Assistant at Physics faculty, Statistical Physics and Quantum Mechanics Dept.

Recent studies of the relativistic effect in laser-atom interaction and of laser induced Compton effect.

16. Constantin Blănaru

National Institute for Lasers, Plasma and Radiation Physics (INFLPR), Lasers Department

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Senior Researcher 2-nd degree of INFLPR, Lasers Dept. Specialist in HeNe lasers applications in dimensional measurements; processing of materials with gas lasers, development and applications of Nd:YAG lasers diodes and flash pumped. Over 30 scientific papers published.

5. The final list of the workshop participants:

Besides the guests list presented above, we have continued to register free participants at the workshop works, where the entry was conditioned only by this record. New participants have received registration, identification badge and documentary material related to the event, grouped in a map.



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Workshop WE-10
Extreme Light Infrastructure,
a new impetus for multidisciplinary scientific research
Bucuresti-Magurele, 17-18.09.2008

No.	Name, first name	Affiliation	Tel., e-mail
1	Clementina TIMUS	INFLPR	clementina.timus@inflpr.ro
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3	Laura IONEL	INFLPR	laura.ionel@inflpr.ro
4	Maria BRANESCU	IFTM	maria_branescu@yahoo.com
5	Marian TUDOR	Fac. Fizica, U. B.	marian@barutu.fizica.unibuc.ro
6	Madalina DICU	INFLPR	madalina.dicu@inflpr.ro
7	Viorel NASTASE	INFLPR	viorel.nastase@inflpr.ro
8	Catalina NICOLAE	Ziarul GANDUL	catinicolae@yahoo.com
9	Valeriu TANASOFF	Ziarul GANDUL	alina.badalan@gandul.info
10	Florin GAROI	INFLPR	florin.garoi@inflpr.ro
11	Petronela GAROI	INFLPR	petronela.garoi@inflpr.ro
12	Ioan FARCAS	INFLPR	ioan.farcas@inflpr.ro
13	Liliana PREDA	Univ. POLITEHNICA, Buc.	lilianapreda@yahoo.com
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17	Florin JIPA	INFLPR	florin.jipa@inflpr.ro
18	Dan APOSTOL	INFLPR	dan.apostol@inflpr.ro
19	Ciprian ACATRINEI	IFIN-HH	acatrine@theory.nipne.ro
20	Mircea TUGULEA	Fac. Fizica, U. B.	tugulea@fizica.fizica.unibuc.ro
21	Stefan GEORGESCU	NSF	?
22	Tatiana BAZARU	INFLPR	tatiana.bazaru@inflpr.ro

23	Iulia GHIU	Fac. Fizica, U. B.	iughiu@barutu.fizica.unibuc.ro
24	Laurentiu RUSEN	INFLPR	laurentiu.rusen@inflpr.ro
25	Ion GRUIA	Fac. Fizica, U. B.	gruia_ion@yahoo.com
26	Marius BADULESCU	INFLPR	marius.badulescu@inflpr.ro
27	Vasile BUZULOIU	Univ. POLITEHNICA, Buc	buzuloiu@alpha.imag.pub.ro
28	Serban OPRISESCU	Univ. POLITEHNICA, Buc	soprisescu@alpha.imag.pub.ro
29	Ionut NICOLAE	INFLPR	ionut.nicolae.inflpr.ro
30	Gabriela BUICA	ISS	Gabriela.buica@inflpr.ro
31	Victor DAMIAN	INFLPR	victor.damian@inflpr.ro
32	Laura MIHAI	INFLPR	laura.paduraru@inflpr.ro
33.	Dan SPOREA	INFLPR	dan.sporea@inflpr.ro
34.	Igor NAZARENCO	INCDFM	igor.nazarenco@yahoo.com

6. Statistical information on participants (age, geographical distribution, etc.);

From the information informally collected about participants, it results that, from a total of 56 participants at the workshop, 31 were under 40 years. In connection with abroad invited speakers, 3 of them come from Europe and 3 from the United States.

7. Materials presented at the workshop, the website of the event (print), posters, pictures, any other material provided for the event (a CD report will be presented):

These materials can be seen on the event website http://www.inflpr.ro/module_Events/action_showEvents or link http://sll.inflpr.ro/WE10_ELI/index.htm

Project Director,
Prof. Dr. Dan Dumitraş