Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	Liviu NEAGU
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E-mail	liviu.neagu@inflpr.ro, liviu.neagu@eli-np.ro
Nationality	Romanian
Date of birth	27.06.1978
Gender	male

Work experience

Dates	**November 2013- present**
Occupation or position held	Research Scientist
Main activities and responsibilities	Scientific research: - High intensity and ultrafast lasers design (PW class) and laser driven experiments in nuclear physics
Name and address of employer	Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH), Extreme Light Infrastructure Nuclear Physics (ELI-NP), Reactorului no.30, P.O.BOX MG-6, Bucharest - Magurele, Romania
Type of business or sector	Scientific Research
Dates	**November 2010- present**
Occupation or position held	Research Scientist
Main activities and responsibilities	Scientific research: - High intensity and ultrafast lasers design, micromachining and microprocessing using ultrafast lasers, and optical coherence tomography - Optical surface characterization (damage threshold) and laser beam diagnosis according with ISO standards
Name and address of employer	National Institute for Laser, Plasma and Radiation Physics, Atomistilor 409, Magurele, Romania
Type of business or sector	Scientific Research
Dates	**2006-2010**
Occupation or position held	Researcher (PhD Student)
Main activities and responsibilities	- Optical coherence tomography fiber based systems with direct application in ophthalmology. - Broadband fiber optics sources (including swept sources (SS)) dedicated to optical coherence tomography.
Name and address of employer	School of Physical Sciences, University of Kent, UK Applied Optics Group lead by Prof Dr. Adrian Podoleanu
Type of business or sector	Scientific Research
Dates	**2002-2006**
Occupation or position held	2002-2006 Research Scientist Junior since 2006 - Research Scientist

Main activities and responsibilities	Scientific research: - Solid State lasers like micro-laser, lasers physics and nonlinear optics (optical harmonic generation and OPO/OPA in nonlinear media). - Optical Coherence Tomography
Name and address of employer	National Institute for Laser, Plasma and Radiation Physics, Atomistilor 409, Magurele, Romania
Type of business or sector	Scientific Research

Education and training

Dates	**2006 - 2011**
Title of qualification awarded	Doctor of Science
Principal subjects/occupational skills covered	"Multiple path configurations for optical coherence tomography at 1050 nm" - Theoretical and experimental study of OCT and application in ophthalmology. - Development of broadband fibre optics light sources for OCT.
Name and type of organisation providing education and training	School of Physical Sciences, University of Kent, UK
Dates	**2001-2003**
Title of qualification awarded	Master of Science
Principal subjects/occupational skills covered	Nd -YAG micro-laser with microchip resonator.
Name and type of organisation providing education and training	University of Bucharest, Faculty of Physics
Dates	**1997-2001**
Title of qualification awarded	Physicist
Principal subjects/occupational skills covered	Electronic Physics.
Name and type of organisation providing education and training	University of Bucharest, Faculty of Physics

Short-term Fellowships

Dates	**September- December 2010**
Occupation or position held	Invited Researcher
Main activities and responsibilities	-Testing of the damage threshold of the diffraction gratings - High intensity and ultra-short pulsed lasers
Name and address of employer	Laboratoire d'Optique Apliquée, Paris, France
Type of business or sector	Scientific Research
Dates	**October- December 2004/ October –December 2005**
Occupation or position held	Young Researcher
Main activities and responsibilities	Optical coherent tomography for biological applications
Name and address of employer	Yamagata University, Yonezawa, Japan
Type of business or sector	Scientific Research

Courses and summer schools

- Participant at “54th Course Atoms and Plasmas in Super Intense Laser Fields” supported by: Italian Ministry of Education, University and Scientific Research, Sicilian Regional Government, University of Rome “Tor Vergata”, European Science Foundation "SILMI" Programme, hosted by Erice – Sicily, 21-31 July 2013.

- Trained by THALES OPTRONICS to become specialist for the CPA ultrafast and ultra intense laser system (1- PW CETAL laser system) 5 weeks during the years 2011-2013.

- Participant at “68th Scottish Universities Summer School in Physics (SUSSP68)” hosted by University of Strathclyde din Glasgow, Scotland. The Topics of this school were the High Intensity and Ultrafast Laser Design and Laser Plasma Interactions and Applications. 13 – 27 August 2010

- Graduate of DAAD Summer School "Trends in Contemporary Optics" - Sinaia Romania, 25 September - 8 October 2005

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	B2	Proficient user	C1	Proficient user	B1	Proficient user	B2	Proficient user	C1	Proficient user
French	C1	Independent user	C1	Independent user	B2	Independent user	B2	Independent user	C1	Independent user

(*) Common European Framework of Reference for Languages

Social skills and competences: Communication and teaching skills, team spirit.

Organisational skills and competences: Responsible person for “Optics Laboratory” at ELI-NP for few years, where I propose and I was involved in the acquisition of various equipment’s.

Technical skills and competences:
- Design and construction of set-ups for optics and laser experiments;
- Design and construction of various types of solid-state laser systems;
- Design and construction of optical coherence tomography system for ophthalmology;
- Experimental setups for broadband fiber sources applicable in OCT.

Computer skills and competences: Programming: Mathematica, Matlab,
Office applications.

Additional information

ISI publication: 30 scientific papers. Out of these, 16 are ISI indexed publications with 183 citations.

Co-author of the **Patent:** A.B. Lobo Ribeiro, I. Trifanov, and **L. Neagu**, "Swept Fiber Laser Source for Optical Coherence Tomography", US Patent Application 2011/069722A1, Multiwave Photonics SA (Mar.24, 2011).

Participated in the elaboration of the laser architecture of the Romanian ELI pillar, Nuclear Physics (ELI-NP), and of the ELI-NP White Book (http://www.eli-np.ro/documents/ELI-NP-WhiteBook.pdf).

Annexes

Selective list of publications

Selective list of publications

ISI scientific papers:

1 Nishiyama, Toshiyuki; Kumagai, Yoshiaki; Niozu, Akinobu; Fukuzawa, Hironobu; Motomura, Koji; Bucher, Maximilian; Ito, Yuta; Takanashi, Tsukasa; Asa, Kazuki; Sato, Yuhiro; You, Daehyun; Li, Yiwen; Ono, Taishi; Kukk, Edwin; Miron, Catalin; **Neagu, Liviu**; Callegari, Carlo; Di Fraia, Michele; Rossi, Giorgio; Galli, Davide E.; Pincelli, Tommaso; Colombo, Alessandro; Kameshima, Takashi; Joti, Yasumasa; Hatsui, Takaki; Owada, Shigeki; Katayama, Tetsuo; Togashi, Tadashi; Tono, Kensuke; Yabashi, Makina; Matsuda, Kazuhiro; Bostedt, Christoph; Nagaya, Kiyonobu; Ueda, Kiyoshi, "Ultrafast Structural Dynamics of Nanoparticles in Intense Laser Fields", Volume: 123 Issue: 12 PHYSICAL REVIEW LETTERS September 2019

2 Ong, J. F.; Seto, K.; Berceanu, A. C.; Aogaki, S.; **Neagu, L.** "Feasibility studies of an all-optical and compact gamma-ray blaster using a 1PW laser pulse" (vol 61, 084009, 2019) PLASMA PHYSICS AND CONTROLLED FUSION, August 2019

3 Fukuzawa, Hironobu; Takanashi, Tsukasa; Kukk, Edwin; Motomura, Koji; Wada, Shin-ilchi; Nagaya, Kiyonobu; Ito, Yuta; Nishiyama, Toshiyuki; Nicolas, Christophe; Kumagai, Yoshiaki; Iablonskyi, Denys; Mondal, Subhendu; Tachibana, Tetsuya; You, Daehyun; Yamada, Syuhei; Sakakibara, Yuta; Asa, Kazuki; Sato, Yuhiro; Sakai, Tsukasa; Matsunami, Kenji; Umemoto, Takayuki; Kariyazono, Kango; Kajimoto, Shinji; Sotome, Hikaru; Johnsson, Per; Schoffler, Markus S.; Kastirke, Gregor; Kooser, Kuno; Liu, Xiao-Ding; Asavei, Theodor; **Neagu, Liviu**; Molodtsov, Serguei; Ochiai, Kohei; Kanno, Manabu; Yamazaki, Kaoru; Owada, Shigeki; Ogawa, Kanade; Katayama, Tetsuo; Togashi, Tadashi; Tono, Kensuke; Yabashi, Makina; Ghosh, Aryya; Gokhberg, Kirill; Cederbaum, Lorenz S.; Kuleff, Alexander, I; Fukumura, Hiroshi; Kishimoto, Naoki; Rudenko, Artem; Miron, Catalin; Kono, Hirohiko; Ueda, Kiyoshi "Real-time observation of X-ray-induced intramolecular and interatomic electronic decay in CH2I2", Volume: 10 Article Number: 2186, NATURE COMMUNICATIONS, May 2019

4 Kumagai, Yoshiaki; Fukuzawa, Hironobu; Motomura, Koji; Iablonskyi, Denys; Nagaya, Kiyonobu; Wada, Shin-ichi; Ito, Yuta; Takanashi, Tsukasa; Sakakibara, Yuta; You, Daehyun; Nishiyama, Toshiyuki; Asa, Kazuki; Sato, Yuhiro; Umemoto, Takayuki; Kariyazono, Kango; Kukk, Edwin; Kooser, Kuno; Nicolas, Christophe; Miron, Catalin; Asavei, Theodor; **Neagu, Liviu**; Schoeffler, Markus S.; Kastirke, Gregor; Liu, Xiao-jing; Owada, Shigeki; Katayama, Tetsuo; Togashi, Tadashi; Tono, Kensuke; Yabashi, Makina; Golubev, Nikolay V.; Gokhberg, Kirill; Cederbaum, Lorenz S.; Kuleff, Alexander I.; Ueda, Kiyoshi "Following the Birth of a Nanoplasma Produced by an Ultrashort Hard-X-Ray Laser in Xenon Clusters" Volume: 8, Issue: 3 PHYSICAL REVIEW X, August 2018

5 Takanashi, Tsukasa; Nakamura, Kosuke; Kukk, Edwin; Motomura, Koji; Fukuzawa, Hironobu; Nagaya, Kiyonobu; Wada, Shin-ichi; Kumagai, Yoshiaki; Iablonskyi, Denys; Ito, Yuta; Sakakibara, Yuta; You, Daehyun; Nishiyama, Toshiyuki; Asa, Kazuki; Sato, Yuhiro; Umemoto, Takayuki; Kariyazono, Kango; Ochiai, Kohei; Kanno, Manabu; Yamazaki, Kaoru; Kooser, Kuno; Nicolas, Christophe; Miron, Catalin; Asavei, Theodor; **Neagu, Liviu**; Schoeffler, Markus; Kastirke, Gregor; Liu, Xiao-Jing; Rudenko, Artem; Owada, Shigeki; Katayama, Tetsuo; Togashi, Tadashi; Tono, Kensuke; Yabashi, Makina; Kono, Hirohiko; Ueda, Kiyoshi, "Ultrafast Coulomb explosion of a diiodomethane molecule induced by an X-ray free-electron laser pulse", Volume: 19, Issue: 30, Pages: 19707-19721 PHYSICAL CHEMISTRY CHEMICAL PHYSICS, August 2017

6 Asavei, T.; Tomut, M.; Bobeica, M.; Aogaki, S.; Cernaianu, M. O.; Ganciu, M.; Kar, S.; Manda, G.; Mocanu, N.; **Neagu, L**.; Postolache, C.; Savu, D.; Stutman, D.; Vizman, D.; Ursescu, D.; Gales, S.; Zamfir, N. V., "MATERIALS IN EXTREME ENVIRONMENTS FOR ENERGY, ACCELERATORS AND SPACE APPLICATIONS AT ELI-NP ROMANIAN REPORTS IN PHYSICS", Volume: 68 Pages: S275-S347 Supplement: 1 2016

7 Negoita, F; Roth, M; Thirolf, PG; Tudisco, S; Hannachi, F; Moustaizis, S; Pomerantz, I; Mckenna, P; Fuchs, J; Sphor, K; Acbas, G; Anzalone, A; Audebert, P; Balascuta, S; Cappuzzello, F; Cernaianu, MO; Chen, S; Dancus, I; Freeman, R; Geissel, H; Ghenuche, P; Gizzi, L; Gobet, F; Gosselin, G; Gugiu, M; Higginson, D; D'Humieres, E; Ivan, C; Jaroszynski, D; Kar, S; Lamia, L; Leca, V; **Neagu, L**; Lanzalone, G; Meot, V; Mirfayzi, SR; Mitu, IO; Morel, P; Murphy, C; Petcu, C; Petrascu, H; Petrone, C; Raczka, P; Risca, M; Rotaru, F; Santos, JJ; Schumacher, D; Stutman, D; Tarisien, M; Tataru, M; Tatulea, B; Turcu, ICE; Versteegen, M; Ursescu, D; Gales, S; Zamfir, NV , "LASER DRIVEN NUCLEAR PHYSICS AT ELI-NP", Volume: 68, Pages: S37-S144, Supplement: 1 ROMANIAN REPORTS IN PHYSICS, 2016

8 Ursescu, D; Cheriaux, G; Audebert, P; Kalashnikov, M; Toncian, T; Cerchez, M; Kaluza, M; Paulus, G; Priebe, G; Dabu, R; Cernaianu, MO; Dinescu, M; Asavei, T; Dancus, I; **Neagu, L**; Boianu, A; Hooker, C; Barty, C; Haefner, C Ursescu, D.; Cheriaux, G.; Audebert, P.; Kalashnikov, M.; Toncian, T.; Cerchez, M.; Kaluza, M.; Paulus, G.; Priebe, G.; Dabu, R.; Cernaianu, M. O.; Dinescu, M.; Asavei, T.; Dancus, I.; Neagu, L.; Boianu, A.; Hooker, C.; Barty, C.; Haefner, C. "LASER BEAM DELIVERY AT ELI-NP", Volume: 68, Pages: S11-S36, Supplement: 1 ROMANIAN REPORTS IN PHYSICS

9 Ionel, L.; Ursescu, D.; **Neagu, L.;** Zamfirescu, M. "On-site holographic interference method for fast surface topology measurements and reconstruction" Volume: 90 Issue: 6 Article Number: 065502 , PHYSICA SCRIPTA, June, 2015

10 Trifanov, I.; Bradu, A.; **Neagu, L**.; Guerreiro, P.; Lobo Ribeiro, A. B.; Podoleanu, A. Gh., "Experimental Method to Find the Optimum Excitation Waveform to Quench Mechanical Resonances of Fabry-Perot Tunable Filters Used in Swept Sources", Volume: 23 Issue: 12 Pages: 825-827, IEEE PHOTONICS TECHNOLOGY LETTERS, June 2011

11 Trifanov, I.; Caldas, P.; **Neagu, L**.; Romero, R.; Berendt, M. O.; Salcedo, J. A. R.; Podoleanu, A. Gh.; Lobo Ribeiro, Antonio B., "Combined Neodymium-Ytterbium-Doped ASE Fiber-Optic Source for Optical Coherence Tomography Applications", Volume: 23 Issue: 1 Pages: 21-23, IEEE PHOTONICS TECHNOLOGY LETTERS, January 2011

12 Bradu, Adrian; **Neagu, Liviu**; Podolcanu, Adrian, "Extra long imaging range swept source optical coherence tomography using re-circulation loops", Volume: 18 Issue: 24 Pages: 25361-25370, OPTICS EXPRESS, November 2010

13 **Neagu, Liviu**; Bradu, Adrian; Ma, Lisha; Bloor, James W.; Podoleanu, Adrian Gh., "Multiple-depth en face optical coherence tomography using active recirculation loops", Volume: 35 Issue: 13 Pages: 2296-2298 OPTICS LETTERS, July 2010

14 **Neagu, Liviu**; Ungureanu, Constantin; Dabu, Razvan; Stratan, Aurel; Fenic, Constantin; Rusen, Laurentiu, "Compact eye-safe laser sources based on OPOs with KTP or PPKTP crystals", Volume: 39 Issue: 5 Pages: 973-979 OPTICS AND LASER TECHNOLOGY, July 2007

15 Sato, Manabu; Nagata, Tetsuo; Niizuma, Takuya; **Neagu, Liviu**; Dabu, Razvan; Watanabe, Yuuki, "Quadrature fringes wide-field optical coherence tomography and its applications to biological tissues", Volume: 271 Issue: 2 Pages: 573-580, OPTICS COMMUNICATIONS, March 2007

16 **Neagu, Liviu,** "Second harmonic generation in periodically poled nonlinear crystals with 1064nm gaussian laser pulses", Volume: 52 Issue: 3-4 Pages: 409-417, ROMANIAN JOURNAL OF PHYSICS, 2007