


PERSONAL INFORMATION

Dumitraș Dan Constantin



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Sex M | Date of birth 21/05/1947 | Nationality Romanian

POSITION

Senior Scientific Researcher First Degree

 WORK
 EXPERIENCE

- | | |
|----------------|---|
| 1996 – present | National Institute for Laser, Plasma and Radiation Physics; Senior Scientific Researcher First Degree |
| 1993 – 1996 | Institute of Atomic Physics; Senior Scientific Researcher First Degree |
| 1990 – 1993 | Institute of Atomic Physics; Senior Scientific Researcher Second Degree |
| 1979 – 1990 | Institute of Atomic Physics; Senior Scientific Researcher Third Degree |
| 1977 – 1979 | Institute of Atomic Physics; Scientific Researcher |
| 1974 – 1978 | Institute of Atomic Physics PhD |
| 1970 – 1977 | Institute of Atomic Physics; Engineer |
- National Institute for Laser, Plasma and Radiation Physics, 409 Atomistilor St., PO Box MG-36, 077125 Bucharest, Romania
- (i) main field: physics and technology of lasers
 - (ii) other fields: electronics; computing; biophotonics
 - (iii) current research interests:
 - photoacoustics
 - laser-matter interactions
 - medical applications of lasers
 - laser material processing
 - ultra-intense lasers
 - Responsibilities: team leader, project director, professor, PhD supervisor
- Business or sector** Scientific research

 EDUCATION
 AND TRAINING

- | | |
|-----------|--|
| 1974-1978 | PhD |
| 1965-1970 | Politehnica University of Bucharest, Faculty of Electronics and Telecommunications, Engineer |
| 1961-1965 | "Unirea" High School Brașov |
| 1954-1961 | Elementary School Bran |

Mathematics, Physics, Engineering, Lasers

PERSONAL SKILLS

1. Management of research organizations – Head of Laser Department (16 years, 1991-2007)
2. University Professor – University of Bucharest and Polytechnic University of Bucharest (1997-present)

3. PhD Supervisor - Polytechnic University of Bucharest (2010-present)
4. Coordinator of a research team – National Institute for Laser, Plasma and Radiation Physics (1990-present)
5. Organizer of numerous national and international conferences (e.g. ROMOPTO 1997, Advanced Laser Technologies 2001 and 2006, Light at Extreme Intensities 2009, ICUIL 2012)
6. Author of 141 scientific papers published in refereed journals (Ex.: C. Popa, A. M. Bratu, C. Matei, R. Cernat, A. Popescu and D. C. Dumitraş, “Qualitative and quantitative determination of human biomarkers by laser photoacoustic spectroscopy methods”, Laser Physics, Vol. 21, No. 7, pp. 1336-1342 (2011); C. Popa, D. C. A. Duţu, R. Cernat, C. Matei, A. M. Bratu, Ş. Băniţă, D. C. Dumitraş, “Ethylene and ammonia traces measurements from the patients’ breath with renal failure via LPAS method”, Appl. Phys. B, Vol. 105, No. 3, pp. 669-674 (2011) D. C. Dumitraş, A. M. Bratu, C. Popa, “CO2 laser photoacoustic spectroscopy: I. Principles”, pp. 1-42, in “CO2 Laser – Optimisation and Application”, Editor Dan C. Dumitraş, Intech (Croatia), 2012, ISBN 978-953-51-0351-6; D. C. Dumitraş, A. M. Bratu, C. Popa, “CO2 laser photoacoustic spectroscopy: II. Instrumentation and applications”, pp. 43-102, in “CO2 Laser – Optimisation and Application”, Editor Dan C. Dumitraş, Intech (Croatia), 2012, ISBN 978-953-51-0351-6)
7. Author and editor of 15 books (Ex.: D. C. Dumitraş, “Laserei cu gaz”, Editura Academiei Române, Bucureşti, 1982 (270 pag.) C.Z. 621.375.9.533; D. C. Dumitraş, “Biofonică. Bazele fizice ale aplicaţiilor laserilor în medicină şi biologie”, Editura All Educaţional, Bucureşti, 1999 (780 pag.) ISBN 973-684-118-9; 621.375.826:61; D. C. Dumitraş, “Ingineria fasciculelor laser”, Editura All, Bucureşti, 2004 (500 pag.) ISBN 973-571-522-8; D. C. Dumitraş, “Tehnici laser şi aplicaţii”, Editura Universităţii din Bucureşti, 2006 (300 pag.) ISBN (10) 973-737-173-9; ISBN (13) 978-973-737-173-7; 621.375.826(075.8); D. C. Dumitraş, Ed., “Light at Extreme Intensities”, American Institute of Physics Proceedings Vol. 1228, 500 p., 2010 (USA), ISSN 0094-243X; ISBN 978-0-7354-0771-8; D. C. Dumitraş, Ed., “Nd:YAG Laser”, 318 p., Intech, 2012 (Croatia), ISBN 978-953-51-0105-5; D. C. Dumitraş, Ed., “CO2 Laser – Optimisation and Application”, 436 p., Intech, 2012 (Croatia), ISBN 978-953-51-0351-6)
8. Author of 255 communications at international and national conferences (35 invited lectures)
9. Invited seminars abroad: 7
10. Author of 7 patents
11. Citations: 350 (without self citations)

Mother tongue(s) Romanian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	C2	C2	B2	B2	B2
Italian	C1	C1	B2	B2	B2
Russian	B1	B1	A2	A2	A2

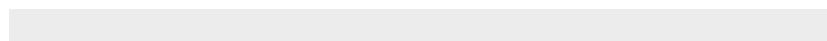
- Communication skills**
- Good communication skills gained through my experience as scientific research manager (department, laboratory, team)
- Organisational / managerial skills**
- Management of research organizations – Head of Laser Department (16 years, 1991-2007; manager for 130 researchers and technicians)
 - Director/Responsible/Mentor for 24 national and international projects (after 2000): Ex.; Project RELANSIN 1540 “Educational services package on electronic support” 2001-2004; Project CEEX 05-D11-05 “Innovative therapeutic approaches for intervention with laser from IR field in hematology, ophthalmology and dermatology” 2005-2008; Project CEEX CX-9 “Researches on preventive diagnosis and ways to cut down ionizing effects on healthy tissue” 2005-2008; Project CEEX CX-4 “Laser, optical and spectral methods for early detection of pathological changes in bio-tissues” 2005-2008; Project CEEX 06-D11-16 “Near infrared (NIR) diffuse optical tomography for breast specific diseases” 2006-2008; Project PC7 Grant Agreement Number 212105 “ELI – Extreme Light Infrastructure” 2007-2010; Project PNCD II Partnership 31-020 “Advanced research for determination of thermal, spectral and chemical parameters of minerals, rocks and industrial wastes for developing geo-referenced data and meta-data bases for environmental problems monitoring” 2007-2010; Project PNCD II Partnership 11-031 “Studies for clear up the interaction mechanisms between laser and radiofrequency radiations with the tissues of upper aerodigestive tract and elaboration of therapeutical protocols” 2007-2010; Project PNCD II Capacities 3EU “Infrastructure for extreme light – preparatory phase” 2008-2010; Project PNCD II Partnership 32-148 “Assessment of impact of petrol related pollutants and hydrocarbons natural degradation on aquatic ecosystems” 2008-2011; Project PNCD II Partnership 184 “Multimodal optical imaging system for intraoperative detection of tumor positive (MOIST)” 2012-2016; Project PN II Human Resources PD 51 “Accurate air quality measurement in polluted environmental sites” 2013-2015; Project RO-CERN E12 “Preliminary studies for bio-medical experiments implementation at ELI-NP” 2014-2016; Project PN II Partnership 200 “Imaging system for differentiation of malign and benign tumoral lesions based on the duality of hyperspectral fluorescence and diffuse optical tomography” 2014-2017
 - Leader of a research team
 - University Professor – University of Bucharest and Polytechnic University of Bucharest
 - PhD Supervisor - Polytechnic University of Bucharest
 - Organizer of national (6) and international conferences (5) (ROMOPTO 1997, Advanced Laser Technologies 2001 and 2007, Light at Extreme Intensities 2009, ICUIL 2012)

- Job-related skills**
- Good command of research steps
 - Security to laser radiation (I was the leader of a team who elaborated the National Standard for Security to Laser Radiation: 60.825-1 + A11 Security for use of laser products. Part 1: equipment classification, prescriptions and user guide – July 1999)

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Independent user	Independent user

- good command of office suite (word processor, spread sheet, presentation software, dedicated software for data acquisition and processing)
- good command of photo editing software gained as an amateur photographer



Other skills ▪ Specialist in Laser History

Driving licence B

ADDITIONAL INFORMATION

- Publications ▪ 141 in refereed scientific journals
- Presentations ▪ Laser History in Romania and worldwide, ELI project, laser applications in medicine, high intensity lasers – Universities (Bucharest, Iași, Craiova, Timișoara), Romanian Academy of Sciences, research institutes
- Projects ▪ Director/responsible/mentor for 24 national and international research projects (after 2000)
- Conferences ▪ 255 conference presentations at national and international conferences (35 invited lectures)
- Seminars ▪ 7 invited seminars abroad
- Honours and awards ▪ 1976: Main Award at the National Youth Colloquium
▪ 1977: “Dragomir Hurmuzescu” Romanian Academy of Sciences Award for Physics
▪ 1979: Main Award at the National Fair for Invention
- Memberships ▪ Member of the Romanian Physics Society
▪ Member of the International Society for Optical Engineering (SPIE) - USA (President 1997-1999 SPIE - RO)
▪ Member of the European Optical Society (EOS)
▪ Member of the Romanian Society for Lasers in Medicine and Biology (BIOPHOTONICS)
▪ Member of the Romanian Electrotechnical Committee (CER - CT76)
▪ Fellow of the European Medical Laser Association (EMLA)
- Citations ▪ 350 (without self citations)

ACTIVITIES RELATED TO ELI PROJECT

1. I initiated participation of Romania in ELI project (Palaiseau, France, Feb. 2007)
2. I was Director for Romania in the project ELI-PP (2007-2010)
3. As a chairman I organized international conferences with topics related to ELI: ALT '06: Advanced Laser Technologies Conference, Brașov, Romania, 8-12 September 2006; LEI 2009: Light at Extreme Intensities, Brașov, Romania, 16-21 October 2009; ICUIL 2012: International Conference on Ultra Intense Lasers, Mamaia, Romania, 16-21 September 2012
4. I was editor of the book: D. C. Dumitraș, Ed., “Light at Extreme Intensities”, American Institute of Physics Proceedings Vol. 1228, 500 pp., 2010 (USA), ISSN 0094-243X; ISBN 978-0-7354-0771-8
5. I was chairman at international workshops PWSC (Petawatt Scientific Committee) 2010 (San Francisco); PWSC 2011 (München); PWSC 2012 (Mamaia)
6. I presented at international conferences (România, Rusia, Bulgaria, SUA, Czech Republic, Muntenegru) topics, challenges and applications of ELI project:
 - a) D. C. Dumitraș, “Contribution of Romania to ELI project”, Topical Problems of Nonlinear Wave Physics NWP-2008, Topical Conference NWP-2: Physics of Extreme Light, Nizhny Novgorod, Russia, July 20-26, 2008 (Oral presentation)

- b) D. C. Dumitraş, R. Dabu, D. C. A. Duţu, C. Matei, C. Achim, M. Paţachia, M. Petruş, A. M. Bratu, Ş. Băniţă, „Extreme Light Infrastructure (ELI) and hadron therapy”, First International Workshop on Radiotherapy with Neutrons, Protons and Carbon Ions Beams RNPB '09, Predeal, România, 27 February-1 March 2009 (Invited lecture)
 - c) D. Ursescu, R. Banici, C. Blănaru, R. Dabu, D. Dumitraş, C. Fenic, L. Ionel, F. Jipa, L. Rusen, S. Simion, A. Stratan, M. Ulmeanu, M. Zamfirescu, „TEWALAS, 20-TW femtosecond laser facility”, International Conference on Ultrafast and Nonlinear Optics UFNO'2009, Burgas, Bulgaria, 14-18 September 2009 (Oral presentation)
 - d) D. C. Dumitraş, R. Dabu, „Ultrashort pulse, high intensity lasers”, Second ELI Nuclear Physics Workshop, Bucharest – Magurele, 1-2 February 2010 (Invited lecture)
 - e) D. C. Dumitraş, R. Dabu, D. Ursescu, M. Zamfirescu, „Development of high intensity lasers and ELI – Nuclear Physics pillar”, 4th International Conference “Frontiers of Nonlinear Physics FNP-2010”, Nizhny Novgorod, Russia, 13-20 July 2010 (Invited lecture)
 - f) C. E. Matei, D. C. Dumitraş, R. Dabu, D. Ursescu, M. Zamfirescu, C. Blănaru, C. Fenic, A. Stratan, M. Ulmeanu, S. Simion, L. Ionel, F. Jipa, L. Rusen, R. Banici “High power laser facilities in Romania”, ICONO/LAT 2010 International Conference on Coherent and Nonlinear Optics (ICONO 2010) and International Conference on Lasers, Applications, and Technologies (Lat 2010), Kazan, Russia, 23-27 August 2010 (Oral presentation)
 - g) D. C. Dumitraş, R. Dabu, D. Ursescu, M. Zamfirescu, “Parameter control of high intensity lasers and ELI – Nuclear Physics pillar”, 2010 ICUIL Conference (The International Committee on Ultra-High Intensity Lasers), Watkins Glen, New York, USA, 26 September-1 October 2010 (Poster)
 - h) D. C. Dumitraş, C. E. Matei, „Extreme Light Infrastructure (ELI) and hadrontherapy”, II-nd International Workshop of the Romanian Society of Hadrontherapy, Knowledge and Evidences, Paltiniş Sibiu, Romania, 12-14 November 2010 (Oral presentation)
 - i) D. C. Dumitraş, “Laser 50: From the first laser to ELI – unfolding history”, International Student Workshop on Laser Applications, Bran, Romania, 31 May-4 June, 2011 (Invited lecture)
 - j) D. C. Dumitraş, “50 years of laser research in Romania (Department of Lasers)”, ICUIL 2012 Conference, Mamaia, Romania, 16-21 September, 2012 (Invited)
 - k) D. C. Dumitraş, “Laser protontherapy. A dream or reality?”, 1st Annual Conference of the Romanian Society of Hadrontherapy (ICRSH 2013), Predeal, Romania, 21-24 February, 2013 (Invited lecture)
 - l) C. Matei, C. Achim, A. M. Bratu, M. Paţachia, Ş. Băniţă, M. Bercu, I. Ivaşcu, D. C. Dumitraş, “Feasibility of radiobiological studies at Romanian TEWALAS and CETAL laser facilities”, 22nd International Laser Physics Workshop LPHYS13, Prague, Czech Republic, 15-19 July 2013 (Oral presentation)
 - m) C. Matei, C. Popa, A.M. Bratu, M. Petruş, M. Paţachia, Ş. Băniţă, I. Ivaşcu, D. C. Dumitraş, “Initialization of radiobiological studies at Romanian high power laser facilities”, ALT '13 (Advanced Laser Technologies Conference), Budva, Montenegro, 16-20 September 2013 (Poster)
7. I was Director of the project RO-CERN E12 “Preliminary studies for bio-medical experiments implementation at ELI-NP” (2014-2016), whose results were evaluated by International Scientific Advisory Board – ISAB ELI-RO with 100 points of 100 possible (December 2015)
8. Currently I am Director of the project 20-ELI”Development of a Novel 2D Array Detector for Dosimetric Characterisation of ELI Laser Accelerated Charged Particle Beams - ELIDOSE” (PNCDI II 5/5.1/ELI-RO)