Curriculum vitae

PERSONAL INFORMATION	
Family name(s) / First name(s	**DONTU Ionela Simona**
Address	Strada Spicului, nr. 20B, Magurele, Ilfov
Phone	0745387264,031.405.07.96
E-mail(uri)	simona.dontu@inoe.ro
Nationality	romanian
WORK EXPERIENCE	
	2026 - President of the IINOE 2000 Scientific Council
Dates	**2015- present**
Occupation or position held	Senior scientific researcher 2rd degree,
Main activities and responsibilities	Investigations by optical and complementary methods of the degree of pollution of the systems water; Development and characterization of optoelectronic devices with applications in environmental science, telecommunications and medicine; Investigations through optical and complementary methods of the anthropogenic effect on environment changes; Light-matter interaction; Light propagation in fiber and optical waveguides; Making equipment with applications in materials science and medical; Simulations and analytical solutions for photonic structures; Materials science - Nanostructures; Photonic materials; Data processing; Editing scientific articles.
Name and address of employer	National Institute of R&D for Optoelectronics INOE 2000, Atomistilor 409, Magurele, Ilfov county – Romania, https://inoe.ro/ro/
Type of business or sector	Research activity
Dates	**2004- 2015**
Occupation or position held	Senior scientific researcher 3rd degree
Main activities and responsibilities	Investigations by optical and complementary methods of the degree of pollution of the systems water; Development and characterization of optoelectronic devices with applications in environment science, telecommunications and medicine; Investigations through optical and complementary methods of the anthropogenic effect on environment changes; Light-matter interaction; Light propagation in fiber and optical waveguides; Making equipment with applications in materials science and medical; Simulations and analytical solutions for photonic structures; Materials science - Nanostructures; Photonic materials; Data processing; Editing scientific articles.
Name and address of employer	National Institute of R&D for Optoelectronics INOE 2000, Atomistilor 409, Magurele, Ilfov county – Romania, https://inoe.ro/ro/

Type of business or sector	Research activity
EDUCATION	
Dates	**2006- 2011**
Title of qualification awarded	**PhD in physics**
Principal subjects/ occupational skills covered	Mathematics, physics, nonlinear optics, lasers. **PhD thesis**: "*Theoretical and experimental characterization of optoelectronic devices with applications in telecommunications and medicine*"
Name and type of organisation providing education and training	Polytechnic University of Bucharest, Physics Department
Dates	**2016 –2018**
Title of qualification awarded	**Master Degree,** Maintenance Engineering for ELI-NP - IMent-ELI
Principal subjects/ occupational skills covered	Mathematics, physics, optics, lasers, energy and the environment
Name and type of organisation providing education and training	Polytechnic University of Bucharest, Faculty of Mechanical and Mechatronics Engineering
Dates	**2004 –2006**
Title of qualification awarded	**Master Degree,** Optics, spectoscopy, plasma and lasers specialization
Principal subjects/ occupational skills covered	Mathematics, physics, optics, lasers
Name and type of organisation providing education and training	University of Bucharest, Faculty of Physics
Dates	**2003**
Title of qualification awarded	**Socrates – Erasmus Grant**
Principal subjects/ occupational skills covered	Solid physics, molecular biology and elements of genetics, biophysics, optics, lasers - medical use
Name and type of organisation providing education and training	Hanover Universiy Germany
Dates	**2000 - 2004**
Title of qualification awarded	**Bachelor's degree in Physics - Medical Physics Specialization**
Principal subjects/ occupational skills covered	Mathematics, physics, biology, biophysics, optics, lasers

Name and type of organisation providing education and training	University of Bucharest, Faculty of Physics

TRAINING

Dates/ Name and type of organisation/ Principal subject	**30 Iunie – 11 Iulie 2005- Summer school**, Joint Institute for Nuclear Research University Center, Dubna, Rusia, *Nuclear Physics Methods and Accelerators in Biology and Medicine*, **August 2005 Summer school**, Scottish Universities St. Andrews, Scotland; *Laser Plasma Interactions* **25 Septembrie- 8 Octombrie 2005 Summer school,** German Academic (DAAD), Bonn, *Trends in Contemporary Optics* **Aprilie 2006** Manager proiect, Centrul pentru Implementarea Managementului Performant, Bucuresti , *Management proiecte* **13 – 18 August 2006 Summer school**, International Institute of Biophysics, Neuss, Germany, *Biophotonics and Applications of Biophotons* **Septembrie 2006 Summer school**, University of Ottawa, Gatineau, Canada, *Optical Waveguide Sensing & Imaging in Medicine, Environment, Security & Defence* **9 – 16 Iunie 2007- Summer school**, Lunds Universitet, Suedia, 3rd International Graduate Summer School – Biophotonics '07" **Decembrie 2007-** Moller – Wedel Optical GmbH, Germany **Training Certificate** - *Measurement of form accuracy of flat and spherical optical surfaces and of radii of spherical lenses*; **Training Certificate** - Measurement of prism angle and refractive index; of focal lenght, back focal lenght of lenses and optical systems and of radii of lenses

PERSONAL SKILLS AND COMPETENCES

Mother tongue(s): Romanian

Other language(s): English

Self assesment

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	Reading
C1	C1	C1	C1	C1

Readin

Nivel european (*)

English

(*)Common European Framework of Reference for Languages

ADDITIONAL INFORMATION

Communication skills	Team working
Computer skils	Office, Origins and graphical applications Corel, MATLAB
Driving licence	**B**
Principal investigator	**5 reserch projects**

Book	**2 Books and book chapters**
Scientific papers	**36**

More details

Research projects

Principal Investigator: Dr. Simona Dontu

1. PN-III-P1-1.1-TE-2019-0789 – "Empowering communities in monitoring, reporting and generating new data on water ecosystems quality - ECOMORE'**', Person incharge from Coordonator**
2. HyperDOT, PN II – Partnerships, Imaging system for differentiation between malignant and benign tumor lesions based on the duality between hyperspectral fluorescence and diffusion optical tomography, PN-II-200/2014, Partner, 2014 – 2017, **Person incharge from Partner 1 (P1)**
3. **PN-II-RU-TE-2011-3-0077 –** Human resources – Youngh researches team, Fundamental and holistic investigation of aquatic organic matter fractions for an innovative early warning method to improve ecosystem functioning 28/2011, 2011-2014, **Coordinator**
4. Scholarship for research/artistic creation for young PhD - BD type financed by CNCSIS, period 2007 – 2009, Principal Investigator: Dr. Simona Dontu, http://uefiscdi.gov.ro/userfiles/file/BURSE%20BD/Rez_BD_2007_NOI.pdf
5. Research projects for young PhD - TD - Studies on fiber lasers doped with Er – applicationson telecommunications, gyroscope, optical information storage and medicine, financed by CNCSIS, period 2007 – 2010,187.000 euro, Principal Investigator: Dr. Simona Dontu, http://uefiscdi.gov.ro/UserFiles/File/TD_2007_SEPTEMBRIE/LISTA_PROPUNERI_PROIECTE_PRIMITE_Tip_TD.htm

Participant:

1. SENSASSIST, Intelligent system for network health monitoring, 98/2019 MANUNET, MANUNET Program, 2019 – 2021
2. ECOLISENS, Long Period Grating Fibre Sensor Device for E. Coli Detection, 31/2018 MANUNET , MANUNET Program, 2018 – 2020
3. ELMINA, National public budget, TE, Elucidation of the behavior of micro and nanoplastics in drinking and domestic waters, 85/2018 TE, Coordinator, 2018 – 2020
4. MEMOPLAS, Plasmonic 2D optical memory with active chalcogenide glass layer 2012-2016
5. MOIST, Multymodality Optical Imaging System for Intraoperative Detection of Tumor Positive Margins, 2012-2016
6. DYNAHU, Dynamic interaction between the natural and human components based on the synergy of ecological and socio-economic factors in the rapidly urbanizing landscapes, 2012-2016
7. ISPLASM, Method and innovative system for the detection of trace amounts of drugs through mass spectroscopy plasma- laser assisted, 2012 -2015
8. TERLAS - Innovative therapy approaches for interventions with lasers from IR domain in hematology, ophthalmology and dermatology, 1-CEx05-D11-05/ 2005-2008 CEEX Programm

9. BIOT - Optical tomography in near infra-red for the breast lesions detection, 2-CEx06-D11-16/ 2006-2008 CEEX
10. Programm Infrastructure for characterization and diagnosis by optical and complementary methods, INDICO 152/ 2006-2007, INFRAS Programm – CEEX
11. Environment management in urban residential areas in the frame of current climate changes, ECOLOC 92-104/ 2008 - 2011 Partnership CNMP
12. Research regarding the determination of the processes and optimal parameters in order to improve the degree of remediation of soil contaminated with hydrocarbons, TERESOL 32-102/ 2008 -2011 Partnership CNMP
13. E-health platform for monitoring, positioning and processing in real time for patients with cardiovascular risk, ERISC 12-123/ 2008-2011 Partnership CNMP
14. Bioremediation of soils contaminated with petroleum products for their reintegration in the socio-economical circuit, SOLPETRO 31-080/ 2007-2010 Partnership CNMP
15. Integrated assessment of human impact on the water quality in the lower Arges Basin for ecological reconstruction, EVA 628/ 2005-2008 CEEX Programm
16. Adapted laser system for ophthalmic bio-microscope, OFTALAS 180/ 2008-2010 Innovation Programm

Books and book chapters

1. *Citizen science for the Danube River - knowledge transfer challenges and perspectives*, Elfrida Carstea, Cristina Popa, **Simona Dontu**, In: The Lower Danube River Hydro-environmental Issues and Sustainability, Ed. A. Negm, L. Zaharia, G.I. Toroimac, Springer Nature, https://doi.org/10.1007/978-3-031-03865-5, ISSN 2730-6674, ISBN 978-3-031-03864-8, 2022
2. **I.S. Donțu,** Ghiduri optice de unda si aplicatiile lor, *Editura Tehnopress*, 2015, ISBN 978-606-687-202-7

ISI Articles

1. „*Seasonal abundance and characteristics of microplastics in a peri urban river determined by optoelectronic methods*",S.E. Butaru, E.M. Carstea , **I.S. Dontu**, C.L. Popa , D. Savastru, Optoelectronics and Advanced Materials-Rapid Communications, Vol. 20, nr. 3, pg. 185-192, 2026
2. "*Changes in Fluorescence of Aquatic Dissolved Organic Matter Induced by Plastic Debris"*, Cristina L. Popa, **Simona I. Dontu**, Dan Savastru, Elfrida M. Carstea, Materials 2025, 18, 1602, https://doi.org/10.3390/ma18071602
3. "*Simulation of a graphene-based long period grating fiber sensor operation as detector of metallic impurities in composite material*", **S. Dontu**, V. Savu, D. Savastru, D. Tenciu, Al. Stanciu - Journal of Optoelectronics and Advanced Materials, Vol. 27, Iss. 3-4, March-April 2025, p. 113-120
4. „*Envisioning enhanced composite structures using graphene coated fibre optical senso*r", D. Savastru, **I. S. Dontu**, V. Savu, D. Tenciu, A. Stanciu, Optoelectron. Adv. Mat. vol. 19, iss. 3-4/2025.
5. „*An overview of the current trends in marine plastic litter management for a sustainable development – review*", Maria Râpă, Elfrida M. Cârstea, Anca A. Săulean, Cristina L. Popa, Ecaterina Matei, Andra M. Predescu, Cristian Predescu, **Simona I. Dontu**, Alexandra G. Dincă, Recycling 2024, 9, 30. https://doi.org/10.3390/recycling9020030

6. „*Optical properties of riverine dissolved organic matter and influence of precipitation – a case study*", **I. S. Dontu**, C. L. Popa*, D. Savastru, E. M. Carstea, Optoelectronics And Advanced Materials – Rapid Communications, Vol. 18, No. 3-4, March-April 2024, p. 169 - 177
7. „*Land use impact on the levels of fluorescent dissolved organic matter, phytoplankton and zooplankton in urban lakes*", Popa C.L.; **Dontu, S.I**.; Carstea E.M.; Ioja I.C.; Florescu L.I.; Dumitrache A.C.; Vanau G.; Moldoveanu M., Limnologica, Vol. 99, DOI10.1016/j.limno.2023.126062 Article Number: 126062
8. „*Preliminary water quality characterization of urban lakes using a state of the art optoelectronic technique*", C.L. Popa, I. S. Dontu, Ioja, I. C. Ioja, Vanau, G. O. Vanau, Popa, A. M. Popa, C. H. Gandescu, A. Stan, D. M. Cotorobai, D. Savastru, E.M. Carstea, Journal of Optoelectronics And Advanced Materials, Vol. 25, Iss. 11-12, Pag. 554-562, NOV-DEC 2023
9. "*Role of Citizen Scientists in Environmental Plastic Litter Research-A Systematic Review*", C.L. Popa, **S.I. Dontu**, D. Savastru, E.M. Carstea, Sustainability, Vol. 14, Iss. 20, Article Number 13265, DOI10.3390/su142013265, OCT 2022
10. "*Optoelectronic investigation for determination of plastics polymers behavior in surface water"*, **I.S. Dontu**, C.L. Popa, E.M. Carstea, D. Tenciu, Journal of Optoelectronics and Advanced Materials, Vol. 23, Iss. 11-12, Pag. 624-629, NOV-DEC 2021
11. *„Organochlorine pesticides and dissolved organic matter within a system of urban exorheic lakes, Environmental Monitoring and Assessment"*, C.L. Popa, **S.I. Dontu**, E.M. Carstea, E.A. Levei, C.I. Ioja, A.M. Popa, M. Miclean, M.A. Hoaghia, O. Cadar, , Vol: 192, Iss: 1, Article Number: 59, DOI: 10.1007/s10661-019-8003-1, JAN 2020, (FI: 1.903)
12. *„Spatial variation of organochlorine pesticides and dissolved organic matter in urban closed lakes"*, C.L. Popa, **S.I. Dontu**, E.A. Levei, C.I. Ioja, A.M. Popa, M. Miclean, M.A. Hoaghia, O. Cadar, E.M. Carstea, , Journal of Environmental Science and Health Part B-Pesticides Food Contaminants and Agricultural Wastes, Vol: 55, Iss: 4, Pag: 329-341, DOI: 10.1080/03601234.2019.1697141, 2020, (FI: 1.697)
13. *„Spatial distribution of groundwater quality in connection with the surrounding land use and anthropogenic activity in rural areas"*C.L. Popa, P. Bretcan, C. Radulescu, E.M. Carstea, D. Tanislav, S.I. Dontu, , Acta Montanistica Slovaca, Vol: 24, Iss: 2, Pag: 73-87, 2019, (FI: 1.181)
14. *„Combined spectral-domain optical coherence tomography and hyperspectral imaging applied for tissue analysis: Preliminary results",* **Dontu S**, Miclos S., Savastru D., Tautan M., Applied Surface Science*,* Vol: 417, Pag: 119-123, DOI: 10.1016/j.apsusc.2017.03.175*,* 2017, (FI: 4.439)
15. „*Dual mode SDOCT-HSI approach for cancer surgery guidance"*, D. Savastru, S. Miclos, N. Iftimia, M.A. Calin, R. Savastru, D. Manea, **S. Dontu,** J. Optoelectron. Adv. Mat, Vol: 18, No: 11-12 pp.: 993-999, 2016, (FI: 0.383)
16. „*Conceptual multimodal optical approach for diagnosis of foot ulcers in diabetic patients",* Optoelectron. Adv. Mat.- Rapid Comm., D. Savastru, S. Miclos, **S. Dontu,** G, Inceu, C. Bondor, Vol: 10, No: 11-12, pp: 893-898*,* 2016, (FI: 0.412)
17. *„Characterization of Human Skin by Fluorescence, Exemplified by Dermatofibroma, Keratoacanthoma, and Seborrheic Keratosis",* L. Ghervase, D. Savastru, **S. Dontu**, A.M. Forsea, E. Borisova, Anal. Lett.*,* Vol: 49, No: 3, pp: 342-349, 2016, (FI: 1.099)
18. *„Transversal rffect in stimulated brillouin scattering used orthonormale modes development"*, D**.** Savastru, **S. Dontu,** R. Savastru, M.I. Rusu, J. Comput. Theor. Nanos, Vol. 11, No. 10, pp. 2141-2149, 2014 (FI: 1,032),
19. *„Fluorescence Fingerprints of Lake and River Aquatic Systems using Parafac Analysis"*, E. M. Carstea, D. Savastru, **S. Dontu**, Environ. Eng. Manag. J., Vol. 13, No. 9, pp. 2187-2191, SEP 2014 (FI: 1,258),
20. *„Wavelet spectrogram - based DNA analysis for the assessment of Cryptosporidium spp. Gp60 subgenotypes variation"*, I. M. Neagoe, S. Miclos, D. Popescu, D.Savastru, V. I.

R.Niculescu, M.Damian, L. Lazar, **S. Dontu**, M.Tautan, Optoelectron. Adv. Mat.-Rapid.Comm., Vol. 8, No. 7-8, pp. 814-819, 2014 (FI: 0,449),

21. *„DNA structural information from Giardia intestinalis tpi gene assemblages using the wavelet spectrogram analysis"*, I.M. Neagoe, S. Miclos, D. Popescu, D. Savastru, D. Steriu, **S. Dontu**, V.I.R. Niculescu, M. Tautan, J. Optoelectron. Adv. Mat., Vol. 8, No. 3, pp. 408-413, 2014 (FI: 0,563),

22. *„Band gaps of a triangular lattice of air holes in dielectric medium"*, M. Tautan, M. Ciobanu, L. Preda, D. Savastru, **S. Dontu**, J. Comput. Theor. Nanos., Vol. 10, No. 9, pp. 1972-1974, doi: 10.1166/jctn. 2013.3157, 2013, (FI: 1,032),

23. *"Optical techniques for the non-invasive diagnosis of skin cancer"*, M.A. Calin, S.V. Parasca, R. Savastru, M.R. Calin, **S. Dontu**, J. Cancer Res. Clin., Vol. 139, No. 7, pp. 1083-1104, doi:10.1007/s00432-013-1423-3, 2013, **(**FI: 3,009, 20 citari**)**,

12. „*Modelling the 2D plasmonic structures with active chalcogenide glass layers"*, G. Vasile, R. Savastru, A. Popescu, M. Stafe, D. Savastru, **S. Dontu**, L. Baschir, V. Sava, B. Chiricuta, M. Mihailescu, C. Negutu, N. Puscas, Rom. Rep. Phys., Vol. 65, No. 3, pp. 1012-1018, 2013, (FI: 1,137),

13. „*Plasmonic waveguidesfeatures correlated with surface plasmon resonance performed with a low reflective index prism"*, G. Vasile, A. Popescu, M. Stafe, S.A. Koziukhi, D. Savastru, **S. Dontu**, L. Baschir, V. Sava, B. Chiricuta, M. Mihailescu, C. Negutu, N. Puscas, U.P.B Sci. Bull. Ser. A, Vol. 75, No. 4, pp. 311-325, 1223-7027, 2013, (FI: 0.280),

14. „*Spectral fingerprints of groundwater organic matter in rural areas"*, G. Pavelescu, L. Ghervase, C. Ioja, **S. Dontu**, R. Spiridon, Rom. Rep. Phys., Vol. 65, No. 3, pp. 1105-1113, 2013, (FI: 1,137),

15. „*Classic (non-quantic)-Algorithm for observations and measurements based on statistical strategies of optical field"* , D. Savastru, **S. Dontu**, R. Savastru, A.R. Sterian, Adv. High Energy Phys., Vol. 2013, No. 2013, pp. 1-11, 2013, (FI: 3,5),

16. „*Advanced methods of characterisation of the thin chalcogenide films, passive and active optical waveguides"*, **S. Dontu,** A. Popescu, D. Savastru, V. Sava, B. Chiricuta, M. Mihailescu, C. Negutu, G. Vasile, N.N. Puscas, U.P.B. Sci Bull. Ser. A, Vol. 75, No. 1, pp. 163-180, 2013, (FI: 0,280),

17. „*Electric field in SOI Structures - Numerical Simulations for two Wavelenghts"*, M. Ciobanu, L. Preda, D. Savastru, **S. Dontu**, J. Comput. Theor. Nanos., 9(7), pp. 989-992, doi:10.1166/jtcn.2012.2130, 2012, (FI: 1,032),

18. „*Stable one-dimensional periodic wave in Kerr Type and quadratic nonlinear media"*, R. Savastru, **S. Dontu**, D. Savastru, M. Tautan, V. Babin, Math. Probl. Eng., 2012, pp. 1-6, doi: 10:1155/2012/532610 **(**FI: 1.383),

19. „*Numerical computations of the electric field density in SOI structures",* Optoelectron. Adv. Mat. –Rapid Comm., M. Ciobanu, L. Preda, D. Savastru, **S. Dontu**, Vol. 5, No. 7, 715-717, 2011 **(**FI: 0,449),

20. „*Modelling of output statistics of* Er^{3+}*:Ti:*$LiNbO_3$ *waveguide amplifiers"*, N. N. Puşcaş, **S. Donţu**, D. Dinu, Rom. Rep. Phys.**,** Vol. 62, No. 3, 506-518, 2010 (FI: 1,137),

21. „*Chaotic behavior of ideal four-level laser with periodic pump modulation: II",* M. Ciobanu, D. Savastru, S. Miclos, M. Tautan, M. Rusu, **S. Dontu**, U.P.B Sci. Bull. Ser. A**,** Vol. 72, No. 2, 179-184, 2010, (FI: 0, 2801),

22. „*Ring laser resonator with stimulated brillouin scattering mirror",* **S. Dontu**, N. N. Puscas, V. Babin, U.P.B Sci. Bull. Ser. A**,** Vol. 71, No. 1, 43-50, 2009, (FI: 0,280).

Proceedings ISI

1. *"Spectral fingerprints in environmental quality assessment",* **S. Dontu,** G. Pavelescu, L. Ghervase, D. Savastru, Proc. International Multidisciplinary Scientific GeoConference-SGEM, Vol. 1, Ecology, economics, education and Legislation, pp: 809-814, 2015,
2. *"Evaluation of some optical parameters which characterize the* $Er^{3+}:LiNbO_3$ *optical waveguides",* D. Dinu, **S. Dontu**, L. A. Puscas, N. N. Puscas,Proc. of SPIE, Int. Conf. Advanced Topics in Optoelectronics, Microelectronics and Nanotechnologies*,* ATOM-N 2010., 78210I-1 - 78210I-6, Vol. 7821, doi:10.1117/12.881684
3. **"***Modeling of laser light transport in tissue"*, L. Baschir, **S. Dontu**, S. Miclos, D. Savastru, M. Tautan, D. Tenciu, C. Ciucu, Proc. of SPIE, 15th International School on Quantum Electronics: Laser Physics and Applications, Vol. 7027, Article Number: 702718, doi:10.1117/12.822520
4. **"***Propagation of optical field in nonlinear photonic crystals"*, **S. Dontu,** V. Babin, Cristiana Grigorescu, D. Savastru, M. Miclos, M. I. Rusu, D. Tenciu, Proc. of 9th International Conference on Transparent Optical Networks – ICTON, Vol. 4, 287-289, 2007, ISBN: 1-4244-1249-8
5. *"Spatial optical solitons in fotonic crystals (1D) with cubic nonlinerity"*, **S. Dontu**, V. Babin, D. Savastru, S. Miclos, E. Ristici, C. Radu, M.I. Rusu,Proc. of SPIE, Advanced Laser Technologies*,* Vol. 6606, pp. E6060-E6060, Article Number: 66060E, 2007, doi:10.1117/12.729**)**

BDI Articles:

1. *"Developing Edges in Veterinary Oncology",* R. Negreanu, D. Crînganu, R. Constantinescu, D. Mirea, **S. Dontu**, R. Negreanu, Journal of Biotechnology, Vol: 208, Supplement, Pages S40–S41, 2015, DOI: 10.1016/j.jbiotec.2015.06.114
2. *"Unconventional water monitoring and early warning system"*, L.Ghervase, **S.Dontu**, Nonconventional Technologies Review, Vol. XVIII, No. 4, p: 57-60, 2014
3. *"Polarization changes on Transmitted Laser Light by a Polyethylene Film"***, S. Dontu**, T.Brezeanu, E.Ristici, C. Cotirlan, Dan Savastru, M. Ristici, E.Nemes, E.Grosu, C. Opran - Romanian J. Biophys., ISSN: 1220-515X, Vol. 16, Nr. 1, pp. 63÷67, 2006
4. *"A data acquisition, processing and storage system for an ophthalmic stereomicroscope'*, Dan Savastru, S. Miclos, C. Cotirlan, M. Mustata, E. Ristici, M. Rusu, T. Brezeanu, S**. Dontu**, V. Savu, A. Stefanescu-Dima - - Romanian J. Biophys., ISSN: 1220- 515X, Vol. 16, Nr. 1, pp. 31÷37, 2006
5. *"A surgical laser for ophtalmologic stereomicroscope"*, D.Savastru, S.Micloş, C.Cotîrlan, M.Mustaţă, E.Ristici, T.Brezeanu, **S. Donţu**, M.Rusu, V.Savu, Nonconvetional Technologies Review, nr.2/2005, p. 101-140, ISSN- 1454-3087

Patent

1. *"Photoselective layered polymeric foil for covering solariums and tunnels"***,** Opran Constantin Gheorghe, Grosu Elena, Ristici Esofina, Iliescu Mihaela, Nemeş Eleonora, **Donţu Ionela Simona,** Spanu Paulina, Petrescu Teodor, Cioufu Ruxandra. *Patent Number(s): 122665*
2. *"Photovoltaic cell contains substrate, poly(3,4-ethylenedioxythiophene) polystyrene sulfonate polymer layer, and poly(3-hexylthiophene) and phenyl-C61-butyric acid methyl ester polymer layer",* Baschir L., Miclos S., Savastru D., Savastru R., Tautan M., Dontu S., Patent Number(s): RO133371-A2

Conferences:

1. *MOCA-Laboratory for Optospectral Methods for Water Quality Assessment, CEO-Terra workshop, Magurele, Ilfov, 21 April 2021*
2. *Surface water quality monitoring -a citizen science perspective,* Elfrida Mihaela Carstea (Pfeiffer), **Ionela Simona Dontu**, Cristina Liana Popa, International Conference - Optoelectronics into a Powerful Economy, Bucuresti, 2020
3. *Preliminary study of micro- and nano-plastics behavior in drinking and waste water*, **Ionela Simona Dontu**, Cristina Liana Popa, Elfrida Mihaela Carstea, Dan Savastru, Daniel Tenciu, 10rd International Conference on Environmental Engineering and Management (ICEEM), Iasi, 2019
4. *Self-purification process in urban lakes*, Cristina Liana Popa, **Ionela Simona Dontu**, Elfrida Mihaela Carstea, Dan Savastru, Daniel Tenciu, Erika Levei, Cristian Ioja, Ana Maria Popa, Mirela Miclean, Oana Cadar, Alexandra Hoaghia, 10rd International Conference on Environmental Engineering and Management (ICEEM), Iasi, 2019
5. *Evaluation of micro- and nano-plastics from tap water*, Cristina Liana Popa, **Ionela Simona Dontu**, Elfrida Mihaela Carstea, Daniel Tenciu, International Workshop on SUSTAINABLE WATER ECOSYSTEMS MANAGEMENT- SWEM 2019
6. *Fluorescence and microscopy measurements of micro- and nano- particles in drinking water,* **Ionela Simona Dontu**, Cristina Liana Popa, Elfrida Mihaela Carstea, Dan Savastru, International Workshop on SUSTAINABLE WATER ECOSYSTEMS MANAGEMENT- SWEM 2019
7. *Preliminary study of temporal evolution of micro- and nano-plastics in urban lake waters,* C. L. Popa, E.M. Carstea, **I.S. Dontu**, ECOSMART, 5-8 September 2019, Bucharest
8. *Preliminary study on monitoring micro- and nano-plastics in urban rivers using fluorescence spectroscopy,* **Simona I. Dontu**, Elfrida M. Carstea, Cristina L. Popa, Dan Savastru, ECOSMART, 5-8 September 2019, Bucharest
9. *Evaluation of the self-purification processes in the Arges River Basin using laser induced fluorescence,* C. L. Popa, **S. I. Dontu**, E.M. Carstea, D. Savastru, ISCP-INDLAS 2018, Alba Iulia
10. *Storage influence of the fluorescence of aquatic organic matter,* C. L. Popa, E. M. Carstea, S. I. Dontu, ISCP-INDLAS 2018, Alba Iulia
11. *Assessment of underground water quality in a peri-rural area,* Cristina L. Popa, Petre Bretcan, **Simona Dontu**, Elfrida M. Carstea - Water Resources and Wetlands, Tulcea , 2018
12. *Spatial and temporal variability of organic matter from an urban lake,* **Simona I. Dontu**, Cristina L. Popa, Cristian I. Ioja, Marina Tautan, Elfrida M. Carstea, Water Resources and Wetlands, Tulcea , 2018
13. *Combined spectral - domain optical coherence tomography and hyperspectral imaging for tissue analysis: preliminary results*, **S. Dontu**, S. Miclos, D. Savastru, M. Tautan, 10th International Conference on Photoexcited Processes and Applications, Brasov, 2016
14. *Evaluation of the anthropogenic impact on the water quality of Dambovita River,* Gabriela Adina Morosanu, **Simona Dontu**, Olimpia Copacenaru, Viorel Gavril, Florin-Alexandru Zaharia, Elfrida Mihaela Carstea, 3rd International Conference "Water Resources and Wetlands, Tulcea, 2016
15. *Spectral fingerprints in environmental quality assessment*, **S. Dontu**, G. Pavelescu, L. Ghervase, D. Savastru, , 15th International Multidisciplinary Scientific GeoConference SGEM 2015, www.sgem.org, SGEM2015 Conference Proceedings, ISBN 978-619-7105-36-0 / ISSN 1314-2704, June 18-24, 2015, Book 5 Vol. 1, 809-814 pp, doi: 10.5593/SGEM2015/B51/S20.107.
16. *Application of Hyperspectral Imaging Method for Skin Lesions Diagnosis,* M. Tautan, **S. Dontu,** Dan Savastru, M. A. Calin, S. Miclos, M.I. Rusu, C. Matei, M. Patachia -The Third

International Conference on "Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences"- IC-ANMBES 2014, June 13th – 15th, 2014, Brasov, Romania

17. *Hybrid Imaging Systems for Tumor Detection*, C. Matei, M. Patachia, M. Petrus, C. Achim, A.M. Bratu, S. Banita, S. Miclos, **S. Dontu**, Dan Savastru, M.A. Calin, N. Verga, D. Mirea, D.C. Dumitras, 5th International Student Conference on Photonics (ISCP'14), Orastie, Romania, septembrie, 2014
18. *Dual Imaging System for Intraoperative Assessment of Positive Tumor Margins*, C. Matei, M.Patachia, S. Miclos, **S. Dontu**, Dan Savastru, C. Achim, A.M. Bratu, M. Petrus, S. Banita, M.A. Calin, D.C. Dumitras - International Conference on Advanced Laser Applications - ALT'14, Cassis, Franta, octombrie, 2014
19. *Biomedical Applications of Light Induced Fluorescence Spectroscopy and Optical Coherence Tomography*, L. Ghervase, Dan Savastru, **S. Dontu**, A.M. Forsea, E. Borisova, , prezentata la The Third International Conference on Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences, "IC-ANMBES 2014", Brasov, Romania, iunie, 2014
20. *Dual OCT - Hyperspectral Imaging System for Intraoperative Assessment of Tumor Spreading*, C. Matei, M. Patachia, S. Miclos, **S. Dontu**, Dan Savastru, C. Achim, A. M. Bratu, M. Petrus, S. Banita, M. Calin, D.C. Dumitras - International Conference on Laser Applications in Life Science (LALS-2014), from June 29th - July 2nd in Ulm, Germany
21. *Evaluation of thermal treatement in decontaminating soil polluted with crude oil,* L. Ghervase, **S. Dontu**, Dan Savastru - 14th International Multidisciplinary Scientific Geoconference & Expo - SGEM2014, 17.06.2014 - 25.06.2014, Albena, Bulgaria, SGEM2014 Conference Proceedings, ISBN 978-619-7105-14-8 / ISSN 1314-2704, June 19-25, 2014, Vol. 2, pp 123-130 DOI: 10.5593/sgem2014B32 - Proc ISI DOI: 10.5593/SGEM2014/B32/S13.017
22. *High sensitive change of reflection in plasmonic structures with an As2S3 layer which support photoinduced absorption*, A. Popescu, S. Koziukhin, Dan Savastru, **S. Dontu**, L. Baschir - - 6th International Conference:Amorphous and Nanostructured Chalcogenides (ANC-6), Brasov, Romania, June 24-28, 2013
23. *Investigation of surface plasmon and bound plasmon-waveguide resonances with As2S3 light sensitive films* A.A. Popescu, Dan Savastru, S. Miclos, **S. Dontu** - META'13, the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics, University of Sharjah, Sharjah - March 18-22, 2013, UAE
24. *Optical memory element with As2S3 films in surface plasmon resonance configuration,* A.A. Popescu, D. Savastru, S. Miclos, **S. Dontu** - 5 th International Conference on Amorphous and Nanostructured Chalcogenides -Fundamentals and Applications-ANC–5, June 26-July 1, 2011- Bucharest-Magurele, Romania
25. *Combined spectral - domain optical coherence tomography and hyperspectral imaging for tissue analysis: preliminary results*, **S. Dontu**, S. Miclos, Dan Savastru, M. Tautan - ICPEPA 10
26. *Use of remote sensing imagery for characterization of urban heat radiation flux",* M.Zoran, R.Savastru, D.Savastru, M.Ciobanu, S.Micloş, M.N.Tăutan, **S.I.Donţu**, Geophysical Research Abstracts, Vol.10, EGU2008-A-11007, 2008, Sref-ID:1607-7962/gra/EGU2008-A-11007, EGU General Assembly 2008
27. *Desing and implementation of two frequency near-infrared diffuse optical tomography system,* S. Micloş, D. Savastru, M.I. Rusu, V. Savu, **S. Donţu,** Proceedings of Topical Meeting on Optoinformatics 2008, 15-18 September 2008, St. Petersburg, Russia
28. *Predictability estimates of foehnal events in Romania,* **S. Donţu**, D. Savastru, M.Ciobanu, Proceedings of Chaotic Modeling and Simulation International Conference, 3-6 June 2008, Creta, Grecia
29. *Chaos and predictability; applications,* **S. Donţu**, D. Savastru, M.Ciobanu, Proceedings of Chaotic Modeling and Simulation International Conference, 3-6 June 2008, Creta, Grecia
30. *A Diffuse Optical Tomography System For Investigation Of Different Breast Tissue* M.Tăutan, D.Savastru, S.Micloş, **S.Donţu**, M.Rusu, V.Savu, D.Duţu, D.Dumitraş, 9th International Balkan Workshop on Applied Physics, 7-9 July, Constanta, Romania, 2008

31. *Analysis of forest vegetation climate and anthropogenic impacts derived from satellite data*, M.Zoran, R.Savastru, D.Savastru, M.Ciobanu, S.Micloş, M.Tăutan, **S.Donţu**, 9th International Balkan Workshop on Applied Physics, 7-9 July, Constanta, Romania, 2008

32. *Analysis and treatment of dental caries using optical methods*, **S.Donţu**, E.Pfeiffer, D.Savastru, S.Micloş, M.Rusu, M.Tăutan, 9th International Balkan Workshop on Applied Physics, 7-9 July, Constanta, Romania, 2008

33. *Near Infrared Optical Tomography For Detection Of Some Breast Specific Aflections* M.Tăutan, D.Savastru, S.Milcoş, **S.Donţu**, D.Duţu, D.Dumitraş, 2th International Conference on Industrial Application of Lasers - INDLAS, 20 – 23 May, Bran, Romania, 2008

34. *Refractive Index Profile Determination Of Optical Fibre From Near Field Measurements* **I.S.Donţu**, N.N.Puşcaş, D.Savastru, M.Tăutan, 2th International Conference on Industrial Application of Lasers - INDLAS, 20 – 23 May, Bran, Romania, 2008

35. *Modeling Of Laser Light In Tissue*, L.Başchir, **S.Donţu**, S.Micloş, D.Savastru, M.Tăutan, Fifteenth International School on Quantum Electronics, 15-19 September, Bourgas, Bulgaria, 2008

36. *Spatial optical solitons in photonic crystals (1D) with cubic nonlinearity*, **S. Donţu**, V. Babin, Cristiana Grigorescu, D. Savastru, M. Micloş, M. I. Rusu, D. Tenciu, COST P11 – Advanced in physics and technologie of photonic crystals, 18 – 20 April, Praga, Cehia, 2007

37. *Near infrared optical tomography for detection of some breast specific afflections*, Sorin Milcoş, **S. Donţu**, Dan Savastru, Mădălin Rusu, Daniel Tenciu, 3th International Garduate Summer School – Biophotonics 07, 9 – 16 June, Ven, Suedia, 2007

38. *Modeling of Laser Light Transport in Tissue,* **S.Donţu**, S.Micloş, D.Savastru, M.Mustaţă, D.Tenciu, 9th International Conference on Laser Ablation – COLA 2007, 24 – 28 September, Tenerife, Spania, 2007

39. *The detection of some breast specific affections by near infrared optical tomography,* M. I. Rusu, D. Savastru, S. Micloş, **S. Donţu**, D. Tenciu, L. Başchir, 15th International Conference on Advanced Laser Technologies ALT 07, September 3 – 7, Levi, Finland, 2007

40. *Ophthalmologic Nd:Yag laser for stereoscopic examination and microsurgical procedures*, M.I.Rusu, D.Savastru, S. Micloş, **S.Donţu**, M.Mustaţă, V.Savu, L.Başchir, D.Tenciu, Laser Florence 2007, 8 -10. November, Firenze, Italia, 2007

41. *Tissue Optics for Biomedical Use*, **S. Donţu**, D. Savastru, Gabriela Pavelescu, S. Micloş, V. Babin, 1th International Conference on Industrial Application of Lasers, , INDLAS, 23 – 25 May, Bran, Romania, 2007

42. *A Monte Carlo model of light propagation in tissue*, S. Donţu, Sorin Micloş, Dan Savastru, Vasile Babin, Proceedings of LPM20007-the 8th International Symposium on Laser Precision Microfabrication, 24 – 28 April, Viena, Austria, 2007

43. *An Er:YAG Laser System for a Small Cavity Formation in the Skin,* D.Savastru, E.Ristici, M.I.Rusu, S.Micloş, M.Mustaţă, **S.Donţu**, D.Dumitraş, 7th International Balkan Workshop on Applied Physic, 5-7 iulie, Constanta, Romania, 2006

44. *Near Infrared Optical Tomography for Detection of Some Breast Specific Afflections,* Sorin Milcoş, Dan Dumitraş, Ramona Cernat, Esofina Ristici, Dan Savastru, **S. Donţu**, Mădălin Rusu, Cristian Radu, International Conference Advanced Laser Technologies, ALT'06, 8-12 sep.2006, Brasov, Romania

45. *Spatial optical solitons in fotonic crystals (1D) with cubic nonlinearity*, **S. Donţu**, Vasile Babin, Dan Savastru, Sorin Micloş, Esofina Ristici, Cristian Radu, Mădălin I. Rusu, International Conference Advanced Laser Technologies, ALT'06, 8-12 sep. 2006, Brasov, Romania

46. *The investigation of the stability of the output energy for a free generation Er:YAG laser*, C.Cotîrlan, E. Ristici, M.Rusu, T.Brezeanu, **S.Donţu**, M.Mustaţă, V.Savu, C.Radu, 6th Balkan Workshop on Applied Physics, 5-7 July, Constanta, Romania, 2005

47. *Structural changes of austenitic steel obtained by 532nm and 1064nm Nd:Yag laser radiation,* E.Ristici, M.I.Rusu, T.Brezeanu, **S.Donţu,** M.Mustaţă, S.Zamfir, 6th Balkan Workshop on Applied Physics, 5-7 July, Constanta, Romania, 2005

48. *A Nd:YAG Surgical Laser for Ophthalmologic Stereomicroscope,* D. Savastru, S. Micloş, C. Cotîrlan, M. Mustaţă, E. Ristici, T. Brezeanu, **S. Donţu**, M. Rusu, V. Savu, A. Ştefănescu, IV[th] Confer. Internat. "Optics 2005" – Topical Meeting on Optoinformatics, 17-21 oct. Sankt-Petersburg, Rusia, 2005

49. *A surgical laser for ophthalmologic stereomicroscope,* D. Savastru, S. Micloş, C. Cotîrlan, M. Mustaţă, E. Ristici, T. Brezeanu, **S. Donţu**, M. Rusu, V. Savu , Intern. Conf. ICAMaT 2005, 3-4 nov., Bucharest, Romania

50. *Er: YAG laser skin perforator,* D. Savastru, S. Micloş, C. Cotîrlan, M. Mustaţă, E. Ristici, T. Brezeanu, **S. Donţu**, M. Rusu, V. Savu, Intern. Conf. ICAMaT 2005, 3-4 nov., Bucharest, Romania

51. *Influence of the polyethylene on the polarisation properties of monocromatic laser light,* **S. Donţu**, E. Ristici, D. Savastru, C. Cotîrlan, T. Brezeanu, M. Ristici[*], E. Nemeş[**], E. Grosu[**], Intern. Conf. ICAMaT 2005, 3-4 nov., Bucharest, Romania

52. *A Nd:YAG Laser for Microsurgical Procedures in Ophthalmology*, D.Savastru, S.Micloş, C.Cotîrlan, M.Mustaţă, E.Ristici, T.Brezeanu, **S.Donţu**, M.Rusu, V.Savu, A.Ştefănescu-Dima, 8[th] National Biophysics Conference – Advanced Biomaterials and Biophysical Techniques", 26-28 May, Iasi, Romania, 2005

53. *Polarization changes on Transmitted Laser Light by a Polyethylene Film,* **S. Donţu**, Teodora Brezeanu, Esofina Ristici, C. Cotîrlan, D. Savastru, M. Ristici,Eleonora Nemeş, Elena Grosu, C. Opran, 8[th] National Biophysics Conference – Advanced Biomaterials and Biophysical Techniques", 26-28 May, Iasi, Romania, 2005

54. *Microrsurgical Nd:YAG laser used in ophthalmology*, D.Savastru, S.Micloş, C.Cotîrlan, M.Mustaţă, E.Ristici, T.Brezeanu, **S.Donţu**, M. Rusu, V. Savu, A. Ştefănescu-Dima, Conferinta Nationala de Fizica, 13-16 sept., Bucuresti, Romania, 2005

55. *Polarisation changes on laser emerging light transmitted by a polyethylene film,* **S. Donţu,** Teodora Brezeanu, Esofina Ristici, C. Cotîrlan, D. Savastru, M. Ristici, Eleonora Nemeş, Elena Grosu, C. Opran, Conferinţa Naţională de Fizică, 13-16 sept., Bucharest, Romania, 2005.

Date: Septembrie 2026

