Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Daniela Dragoman**
E-mail	daniela@solid.fizica.unibuc.ro
Nationality	Romanian

Occupational field

University Professor

Work experience

Dates	Feb. 2001–present
Occupation or position held	University Professor From 2004: Doctoral Supervisor From 2011: Director of the Doctoral School of Physics
Main activities and responsibilities	Teaching, Supervising, Research Courses at MSc level (in different years): Integrated Optoelectronics, Physical Principles of Nanostructures, Quantum Computing, Microstructures for Optical Transmission of Information, Materials and Devices for Solar Energy Conversion, Condensed State Physics (in English), Nonlinear Optics Courses at BSc level: Solid State Physics (in English)
Name and address of employer	University of Bucharest, Romania
Type of business or sector	Higher Education

Dates	Oct. 1990–Ian. 2001
Occupation or position held	Assistant Lecturer, Lecturer
Main activities and responsibilities	Teaching, Supervising, Research Courses at MSc level (in different years): Propagation of Electromagnetic Radiation in inhomogeneous media, Applications of Optoelectronic Devices, Interaction of Electromagnetic Radiation with solid state matter, Advanced Optoelectronic Devices Courses at BSc level: Solid State Optoelectronics
Name and address of employer	University of Bucharest, Romania
Type of business or sector	Higher Education

Dates	Oct. 1989–Sept. 1990
Occupation or position held	Physics Eng.
Main activities and responsibilities	Research in pyroelectric devices
Name and address of employer	IRNE, Piteşti, Romania
Type of business or sector	Scientific research

Dates	Feb.–April 1997; June–July 2000
Occupation or position held	Visiting professor
Main activities and responsibilities	Research in optics
Name and address of employer	CNRS/Laboratoire TSI, Univ. Saint-Etienne, France
Type of business or sector	Scientific research

Dates	Feb. 1998–June 1999; Sept. 2001-March 2002
Occupation or position held	Alex. von Humboldt Fellow
Main activities and responsibilities	Research in optoelectronics
Name and address of employer	Optoelectronics Dept., Univ. Mannheim, Germany
Type of business or sector	Scientific Research
Dates	July–September 2008; July–September 2009; July–September 2010
Occupation or position held	Directeur de Recherche
Main activities and responsibilities	Research in nanostructures
Name and address of employer	LAAS-CNRS, Toulouse, France
Type of business or sector	Scientific Research

Education and training

Dates	Sept. 1984–-June 1989
Title of qualification awarded	Dipl. Physics Eng.
Principal subjects/occupational skills	General physics; semiconductors; optics
Name and type of organisation providing education and training	Univ. Bucharest, Romania, Physics Faculty
Level in national or international classification	MSc
Dates	Sept. 1991–June 1993
Title of qualification awarded	Doctor of Philosophy (Physics)
Principal subjects/occupational skills	Guided wave optics; modelling of fiber couplers
Name and type of organisation providing education and training	Univ. Limerick, Ireland, Electrical and Computer Engineering Dept.
Level in national or international classification	PhD

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s) **English, German, French**

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
German	B1	Independent user	B1	Independent user	A2	Independent user	A2	Independent user	A2	Independent user
French	B1	Independent user	B1	Independent user	A2	Independent user	A2	Independent user	A1	Independent user

(*) Common European Framework of Reference for Languages

Social skills and competences	Good communication skills gained through my experience as professor and PhD thesis supervisor; good ability to adapt to multicultural environments, gained through my work experience abroad
Organisational skills and competences	Good experience in team management gained through teaching/training activities, as director of research and POSDRU projects, and as Director of the Doctoral School of Physics of the University of Bucharest
Computer skills and competences	Good command of Microsoft Office tools, graphic design applications (Origin), and basic computational programs (Mathematica, Mathcad, MathLab, SciLab)

Additional information

- Author/coauthor of 8 books in prestigious international publishing houses (Springer, Artech), **13 book chapters, over 250 scientific papers** in ISI-ranked journals, and **over 100 contributions to international conferences**

- Project Director of PN-II-ID-PCE-2011-3-0224/Analogies between electron transport in nanostructures and light propagation – 1.500.000 lei (353.000 Euro) – http://www.mdeo.eu/MDEO/Proiecte/ID0224/Main.php and PN-III-P4-ID-PCE-2016-0122/Nanostructures for quantum and plasmonic computing – 850.000 lei (186.000 Euro) – http://www.mdeo.eu/MDEO/Proiecte/ID35/Main.php; **Project Coordinator for the University of Bucharest (UB)** for PN-III-P4-ID-PCCF-2016-0033/Advanced nanoelectronic devices based on graphene/ferroelectric heterostructures (GRAPHENEFERRO) – 2.000.000 lei (429.000 Euro) for UB – https://www.imt.ro/grapheneferro/ and EEA-RO-NO-2018-0438/Elastomeric tuneable metasurfaces for efficient spectroscopic sensors for plastic detection – 120.000 Euro for UB – https://elastometa.ro/

- Reviewer at numerous ISI journals, published by AIP, Elsevier, Springer, Wiley, IOP, IEEE and Optica publishing houses, and book reviewer at Optics and Photonics News

- Reviewer for international research grants financed by DOE (Department of Energy, US) – 2013; l'Agence Nationale de la Recherche (ANR), France – programme CE26, 2014; FLAG-ERA (Flagship ERANET) Joint Transnational Call in the Domain of the Graphene Flagship – 2015; Research Foundation Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO) – 2018; ESF (European Science Foundation) – EUROCORES Scheme 2009, Science Connect 2021; EU Marie Skłodowska-Curie COFUND Programme – 'LEaDing Fellows' for Delft University of Technology 2019

- Reviewer for national research grants financed by UEFISCDI in the following competitions: PCCDI (Proiecte Complexe realizate în consorţii CDI) – 2017; Joint Research Projects – 2012, 2013

- Member of the selection committees for the Adolph Lomb Medal awarded by the Optical Society of America (2020, 2021) and for the Goodman Book Writing Award conferred by Optica (2024)

- International member of the examination board of the PhD thesis submitted by Farhat Majeed, Griffith School of Engineering, Griffith University, Australia (2018)

- **Individual Member** of the Optical Society of America (now Optica) from 2012; from 2022 – Senior member

- **Member of the Papers Review Board** and multiple-time chairman of the section Nanoscience and Nanoengineering of CAS (International Semiconductor Conference, held at Sinaia, Romania; annual event) - 2017–2021

- **Member of the International Advisory Committee** for the IEEE 13th Nanotechnology Materials and Devices Conference (14-17 October 2018, Portland, Oregon)

- **Member of the Reviewer Board and Topical Advisory Panel** of the Nanomaterials journal (2020–present)

- Former editor of the book series *The Frontiers Collection* published by Springer (until 2006)

- Recipient of the "Gheorghe Cartianu" award of the Romanian Academy, in 1999, for the book *Advanced Optoelectronic Devices* published at Springer

Bucharest, 9 May 2025

PUBLICATION LIST – D. Dragoman

MONOGRAPHS AND BOOK CHAPTERS

1. M. Dragoman, **D. Dragoman** – An overview of microwave and millimeter nonlinear wave propagation in magnetic, acoustic and electromagnetic distributed nonlinear physical systems, in Nonlinear Microwave Signal Processing: Towards a New Range of Devices, R. Marcelli and S. Nikitov (Eds.), Kluwer Academic, Dordrecht, The Netherlands, pp.13-43, 1996, ISBN 0-7923-4358-1
2. **D. Dragoman**, M. Dragoman – Advanced Optoelectronic Devices, Springer, Heidelberg, Germany, 1999, 424 pp., ISBN 978-3-642-08435-5
3. **D. Dragoman**, M. Dragoman – Optical Characterization of Solids, Springer, Heidelberg, Germany, 2002, 450 pp., ISBN 978-3-642-07521-6
4. **D. Dragoman** – Optoelectronica Integrata, Editura Univ. Bucuresti, 2003, ISBN 973-575-764-8 (in Romanian)
5. **D. Dragoman**, M. Dragoman – Quantum-Classical Analogies, Springer, Heidelberg, Germany, 2004, 344 pp., ISBN 978-3-642-05766-3
6. **D. Dragoman**, M. Dragoman – Ballistic transport, in Encyclopedia of Condensed Matter Physics, G. Bassani, G. Liedl, P. Wyder (Eds.), Elsevier, Amsterdam, The Netherlands, 2005, pp. 77-85, ISBN 978-0-122-27810-1
7. M. Dragoman, **D. Dragoman** – Microelectromechanical systems, in Encyclopedia of Condensed Matter Physics, G. Bassani, G. Liedl, P. Wyder (Eds.), Elsevier, Amsterdam, The Netherlands, 2005, pp. 415-423, ISBN 978-0-122-27810-1
8. **D. Dragoman**, M. Dragoman – Tunneling devices, in Encyclopedia of Condensed Matter Physics, G. Bassani, G. Liedl, P. Wyder (Eds.), Elsevier, Amsterdam, The Netherlands, 2005, pp. 269-277, ISBN 978-0-122-27810-1
9. M. Dragoman, **D. Dragoman** – Carbon nanotube-based oscillators and amplifiers for terahertz signals, in Advanced MEMS for RF and millimeter wave communications, A. Müller, A. Rydberg, R. Plana (Eds.), Editura Academiei Romane, Bucuresti, 2005, pp. 206-213, ISBN 973-27-1110-8
10. M. Dragoman, **D. Dragoman** – Nanoelectronics. Principles and Devices, Artech House, Boston, U.S.A., 2006, 426 pp., ISBN 978-1-580-53694-3
11. M. Dragoman, **D. Dragoman** – Nanoelectronics. Principles and Devices, Artech House, 2nd edition, Boston, U.S.A., 2009, 496 pp., ISBN 978-1-596-93368-2
12. **D. Dragoman**, M. Dragoman – Bionanoelectronics. Bioinquiring and Bioinspired Devices, Springer, Heidelberg, Germany, 2012, 400 pp., ISBN 978-3-642-25571-7
13. **D. Dragoman** – Phase-Space Processing of Terahertz Radiation, in Terahertz Spectroscopy and Imaging, K.-E. Peiponen, J.A. Zeitler, Makoto Kuwata-Gonokami (Eds.), Springer, Heidelberg, Germany, 2012, pp. 117-149, ISBN 978-3-642-29563-8
14. **D. Dragoman**, M. Dragoman – Transport properties of carbon nanotubes and graphene, in Carbon Nanotubes and Graphene, 2nd edition, K. Tanaka, S. Iijima (Eds.), Elsevier, Amsterdam, The Netherlands, 2014, pp. 151-164, ISBN 978-0-08-098232-8
15. M. Dragoman, A. Dinescu, **D. Dragoman**, A. Cismaru, M. Aldrigo, A. Radoi – Nanoelectronic devices based on atomically thin materials, in Nanomaterials, Nanoparticles, Nanodevices, M. Zaharescu, H. Chiriac, D. Dascalu (Eds.), Editura Academiei Romane, Bucuresti, 2016, pp. 113-126, ISBN 978-973-27-2643-3
16. **D. Dragoman**, M. Dragoman – Electronic Structure. Ballistic Transport, in Reference Module in Materials Science and Materials Engineering, Saleem Hashmi (Ed.), Elsevier, Oxford, 2016, pp. 77-85, ISBN 978-0-12-803581-8
17. **D. Dragoman**, M. Dragoman – Instruments/Devices. Tunneling devices, in Reference Module in Materials Science and Materials Engineering, Saleem Hashmi (Ed.), Elsevier, Oxford, 2016, pp. 269-277, ISBN 978-0-12-803581-8
18. M. Dragoman, **D. Dragoman** – Instruments/Devices. Microelectromechanical Systems, in Reference Module in Materials Science and Materials Engineering, Saleem Hashmi (Ed.), Elsevier, Oxford, 2016, pp. 415-423, ISBN 978-0-12-803581-8
19. M. Dragoman, **D. Dragoman** – THz devices based on carbon nanomaterials, in Nanostructures and Thin Films for Multifunctional Applications. Technology, Properties and Devices, I. Tiginyanu, P. Topala, V. Ursaki (Eds.), Springer International, Cham, Switzerland, 2016, pp. 533-549, ISBN 978-3-319-30197-6
20. M. Dragoman, **D. Dragoman** – 2D Nanoelectronics. Physics and Devices of Atomically Thin Materials, Springer International, Cham, Switzerland, 2017, 199 pp., ISBN 978-3-319-48437-2
21. M. Dragoman, M. Modreanu, S. Iordanescu, M. Aldrigo, A. Dinescu, **D. Dragoman** – Nanoelectronic devices based on CMOS-compatible ferroelectrics, in Advances in Micro and Nanoelectronics, S. Cristoloveanu, A. Wild, D. Dascalu (Eds.), Editura Academiei Romane, Bucuresti, 2018, pp. 154-172, ISBN 978-973-27-2982-3
22. M. Dragoman, **D. Dragoman** – Atomic-scale electronics beyond CMOS, Springer Nature Switzerland, Cham, Switzerland, 2021, 221 pp., ISBN 978-3-030-60562-9, 978-3-030-60563-6
23. **D. Dragoman**, I. Gruia – Optică neliniară, Editura Univ. Bucuresti, 2022, 238 pp., ISBN 978-606-16-1330-4 (in Romanian)

PAPERS IN SCIENTIFIC JOURNALS

1. G. Nemes, **D. Onciul** – The prism as a phase-space transformer, J. Optics 21, 203-210, 1990
2. D. E. Brancus, **D. Onciul** – Conduction electron scattering on piezoacoustic phonons, Rev. Roum. Phys. 36, 893-901, 1991
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4. **D. Onciul**, C. D. Hussey – Analysis of two-dimensional fibre grating, Opt. Commun. 100, 93-98, 1993
5. **D. Onciul** – Characterization of the propagation of light beams through misaligned linear optical systems, Optik 93, 23-26, 1993
6. **D. Onciul** – Invariance properties of general astigmatic beams through first-order systems, J. Opt. Soc. Am. A 10, 295-298, 1993
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9. **D. Dragoman** – Higher-order moments of the Wigner distribution function in first-order optical systems, J. Opt. Soc. Am. A 11, 2643-2646, 1994
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22. **D. Dragoman**, M. Dragoman – Tunneling time properties in type II quantum resonant structures, IEEE J. Quantum Electron. 32, 1932-1936, 1996
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24. **D. Dragoman** – The Wigner distribution function of self-Fourier functions, J. Mod. Opt. 43, 1933-1938, 1996
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36. **D. Dragoman**, M. Dragoman, J. P. Meunier – Recovery of the refractive index profile from the Wigner distribution of an optical waveguide, Appl. Opt. 37, 2357-2360, 1998
37. **D. Dragoman**, M. Dragoman – Optical modeling of quantum dots, Opt. Commun. 150, 331-338, 1998
38. **D. Dragoman** – The relation between the light diffraction and the fractional Fourier transform, J. Mod. Opt. 45, 2117-2124, 1998
39. **D. Dragoman**, J. P. Meunier – Recovery of longitudinally variant refractive index profile from the measurement of the Wigner transform, Opt. Commun. 153, 360-367, 1998
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41. **D. Dragoman**, M. Dragoman – Band-engineered semiconductor optical waveguides for integral transform implementation, J. Appl. Phys. 85, 3409-3412, 1999
42. **D. Dragoman**, M. Dragoman, J. P. Meunier – Implementation of the spatial and temporal cross ambiguity function for waveguide fields and optical pulses, Appl. Opt. 38, 822-827, 1999
43. **D. Dragoman**, M. Dragoman – Optical analogue structures to mesoscopic devices, Progress in Quantum Electronics 23, 131-188, 1999
44. **D. Dragoman**, M. Dragoman, K.-H. Brenner – Variant fractional Fourier transformer for optical pulses, Opt. Lett. 24, 933-935, 1999
45. **D. Dragoman**, M. Dragoman, K.-H. Brenner – Experimental demonstration of a continuously variant fractional Fourier transformer, Appl. Opt. 38, 4985-4989, 1999
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49. **D. Dragoman** – Tunneling time asymmetry in semiconductor heterostructures, IEEE J. Quantum Electron. 35, 1887-1893,1999
50. **D. Dragoman**, M. Dragoman, A. R. Trasca – The Wigner transform of solitons solutions in $\chi^{(2)}$ media, Optik 111, 20-24, 2000
51. **D. Dragoman** – Can the Wigner transform of a 2D rotationally symmetric beam be fully recovered from the Wigner transform of its 1D approximation, Optics Letters 25, 281-283, 2000
52. **D. Dragoman** – The origin of negative values of the Wigner distribution function, Optik 111, 179-183, 2000
53. **D. Dragoman** – Optical analogue of a type II semiconductor heterostructure, J. Appl. Phys. 88, 1-6, 2000
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62. **D. Dragoman** – The interference term in the Wigner distribution function and the Aharonov-Bohm effect, Phys. Lett. A 285, 109-114, 2001
63. **D. Dragoman**, M. Dragoman – Terahertz field characterization using Fabry-Perot-like cantilevers, Appl. Phys. Lett. 79, 581-583, 2001
64. **D. Dragoman**, J.-P. Meunier – One-step measurement of optical fields in multimode circular fibers, Appl. Opt. 40, 4655-4660, 2001
65. **D. Dragoman** – Proposal for a three-qubit teleportation experiment, Phys. Lett. A 288, 121-124, 2001
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67. **D. Dragoman**, M. Dragoman – On the similarities between the Wigner distribution function in classical and quantum optics, Optik 112, 497-501, 2001
68. P. Ghenuche, C. Ionescu, **D. Dragoman** – A new interpretation of light interference, Romanian Reports in Physics 53, 461-468, 2001
69. **D. Dragoman** – Phase space correspondence between classical optics and quantum mechanics, Progress in Optics 42, 433-496, 2002

70. **D. Dragoman**, M. Dragoman, K.-H. Brenner – Tomographic amplitude and phase recovery of vertical-cavity surface-emitting lasers using the ambiguity function, Opt. Lett. 27, 1519-1521, 2002

71. **D. Dragoman**, M. Dragoman, K.-H. Brenner **–** Amplitude and phase recovery of rotationally symmetric beams, Appl. Opt. 41, 5512-5518, 2002

72. M. Barbu, **D. Dragoman** – The asymmetry of the tunneling time in type II semiconductor structures, Opt. Quantum Electron. 34, 1097-1109, 2002

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