

VIRGIL-FLORIN DUMA

Curriculum Vitae

<https://www.webofscience.com/wos/author/record/B-3031-2010>

https://www.researchgate.net/profile/Virgil-Florin_Duma



EDUCATION

- **Habilitation** in Mechanical Engineering, Mechatronics and Robotics (Ministry Order 166/07.04.2014). Thesis: Optomechatronic Modulators: Choppers, Attenuators and Scanners. Analysis and Design-defended Oct. 2013 (following the original LEN 1/2011 standards) at the *Polytechnic Univ. of Bucharest (UPB)*, Romania. Commission: President, Prof. Valentin I. Vlad (President of the Romanian Academy); Members, Prof. Nicolae Puscas (UPB), Prof. Jean-Pierre Huignard (Institute Lavoisier, France), Dr. Giuliano Perrone (Univ. of Turin, Italy);
- **Postdoctoral Fulbright Senior Stage** in Optics (Applied Physics), at *The Institute of Optics, Univ. of Rochester, NY, USA*; Supervisor, Prof. Jannick P. Rolland (USA); 2009-2010;
- **PhD** in Engineering Sciences, *cum laude* (Ministry Order 5285/28.12.2001), *Polytechnic Univ. of Timisoara* (Romania). Thesis: Contributions to the Analysis and Design of Scanning Systems; Supervisor, Prof. Dan Perju; 1994-2001;
- **Diploma Engineer** (equivalent to **M.Sc.**) in Mechanical Engineering (Fine Mechanics & Optics), *valedictorian* (admitted & graduated top of the class - approx. 140 students), major in Measuring and Control Apparatuses (30.07.1991), *Polytechnic Univ. of Timisoara* (Romania), GPA **9.84/10**, with 10/10 for the Diploma thesis: Three-chromatic Colorimeter with Mix Synthesis; Supervisor, Prof. Ioan Mihalca; 1986-1991;
- Military Service: Sept. 1985-June 1986;
- *Moise Nicoara National College for Mathematics and Physics, Arad* (Romania), graduated with the first GPA at the maturity exam per college: **9.66/10**, 1981-1985.

SOCIAL STATUS

Born: July 4, 1967 in Arad, Arad County, Romania;

Nationality and citizenship: Romanian. Religion: Christian Ortodox;

Married: since 1999; two children.

LANGUAGES

- **English:** fluent; 1994 TOEFL Exam Score **627/640**;
- **Romanian:** native; **French:** very good; **Italian:** beginner.

TEACHING & RESEARCH (35 years of experience): Measuring Systems; Optomechatronics & Optical Systems; Biomedical Imaging; Quality Engineering; Mechanisms & Theory of Machines.

POSITIONS

- **Professor**, 2025-Present, [Dept. of Measurements and Optical Electronics](#), [Faculty of Electronics, Telecommunications, and Information Technologies](#), *Polytechnic Univ. of Timisoara* (Romania);
- **Researcher**, 2024-Present, Center of Research and Development for Mechatronics, *National University of Science and Technology POLITEHNICA Bucharest* (Romania);
- **Adjunct Professor (for Optics Master Courses-in English)**, 2016-Present, Faculty of Dental Medicine, *Victor Babes Univ. of Medicine and Pharmacy Timisoara* (Romania); [Emdola Master](#);
- **Researcher**, 2015-Present, Research Center in Dental Medicine Using Conventional and Alternative Technologies, Department of Prostheses Technology and Dental Materials, Faculty of Dental Medicine, "*Victor Babes*" *University of Medicine and Pharmacy of Timisoara* (Romania);
- **Adjunct Professor (PhD Advisor)**, 2014-Present, *Polytechnic Univ. of Timisoara* (Romania); http://www.upt.ro/2018-2019/admitere/doctorat/2019_Duma_Virgil_Florin.pdf;
- **Adjunct Professor (for Master Courses-in English)**, 2014-2015, Faculty of Physics, *West Univ. of Timisoara* (Romania);
- **Visiting Scientist**, March 1, 2013-Present, **Fulbright Senior Research Fellow**, Sept. 2009-June 2010 (sabbatical year), [ODALab](#), [The Institute of Optics](#) (#1 in Optics and #4 in Applied Physics in the USA), [Univ. of Rochester, NY](#) ([ODALab](#)), Host: [Prof. Jannick P. Rolland](#) (USA);

- **Ministry Counselor**, March-May 2012;
- **Honorary Professor** & member of the Elliot College, 2020-2024, **Visiting Senior Research Fellow**, 2009-2019, at the School of Physical Sciences (Applied Optics Group), [Univ. of Kent](#), Canterbury (UK);
- **Head and founder of the 3OM Research Group** (in *Opto-Mechatronics, Opto-Mechanics and Optical Metrology*), <http://3om-group-optomechatronics.ro/> and of the Laboratories of Optomechatronics and Biomedical Photonics; <https://erris.gov.ro/3OMGroup>, 2008-Present;
- **Adjunct Professor**, 2025-Present; **Professor**, 2006-2025; **Associate Professor**, 2002-2006; **Lecturer**, 1999-2002, Faculty of Engineering, *Aurel Vlaicu Univ. of Arad* (Romania);
- **Lecturer**, 1997-2001; **Teaching & Research Assistant**, 1991-1997, Dept. of Mechatronics (Chair of Fine Mechanics & Optics), Faculty of Mechanical Engineering, *Polytechnic Univ. of Timisoara* (Romania);

OTHER POSITIONS

- 2026-Present, **Guest Editor** of a Topic: [Optical and Laser Scanning: Systems and Applications](#) - in [Applied Sciences](#) (IF 2.5/2024, Q2), [Materials](#) (IF 3.2/2024, Q2), [Medicina](#) (IF 2.4/2024, Q1), [Micromachines](#) (IF 3.0/2024, Q2), [Optics](#) (IF 1.6/2024, Q3), [Photonics](#) (IF 1.9/2024, Q3), [Sci.](#) (IF 2.5/2024, Q2), [Sensors](#) (IF 3.5/2024, Q2);
- 2024-Present, **Editorial Board Member** of *Sensors & Transducers*, IFSA, ISSN: 2306-8515, e-ISSN 1726-5479 (https://sensorsportal.com/st_editorial_board.html);
- 2024-2025, **Guest Editor** of a Special Issue (SI) of *J. of Clinical Medicine* (eISSN 2077-0383), **IF 3/2023, Q1**, [Interdisciplinary Approach on the Oral Cavity Management Due to Musculoskeletal Conditions](#);
- 2023-2024, **Guest Editor** of a SI of *Sensors* (ISSN 1424-8220), **IF 3.4/2023, Q2**, [Laser Scanning and Applications](#);
- 2021-Present, **Editorial Board Member** (<https://www.mdpi.com/materials/editorialboard>) of *Materials* (ISSN 1996-1944), **IF 3.2/2024, Q1**;
- 2021-Present, **Editorial Board Member** (<https://www.mdpi.com/photonics/editorialboard>) of *Photonics* (ISSN 2304-6732), **IF 1.9/2024, Q2**; 2020, **Section Board Member** of [Optoelectronics and Optical Materials](#);
- 2021-Present, **Topical Advisory Panel Member** of *Sensors* (ISSN 1424-8220), **IF 3.5/2024, Q2**;
- 2021, **Editorial Board Member** of [Frontiers in Bioscience-Landmark](#) (imrpess.com) (ISSN 1093-4715), **IF 3.1, Q2**, <https://www.fbscience.com/Landmark/editorial-board>;
- 2020-Present, **Guest Editor** of a Topical Collection of *Medicina-Lithuania* (ISSN 1648-9144), **IF 2.4/2024, Q1**, [New Concepts for Dental Treatments and Evaluations](#);
- 2020-2024, **Guest Editor** of SIs of *Applied Sciences* (ISSN 2076-3417), **IF 2.5/2024, Q1**, [Recent Advances in Optomechatronics](#); [Progress in 3OM: Opto-Mechatronics, Opto-Mechanics, and Optical Metrology](#);
- 2020-Present, **Guest Editor** of SIs of *Photonics* (ISSN 2304-6732), **IF 1.9/2024, Q2**, [Advances in 3OM: Opto-Mechatronics, Opto-Mechanics, and Optical Metrology](#); [Recent Advances in Optical Coherence Tomography](#); [Advances in 3OM: Opto-Mechatronics, Opto-Mechanics, and Optical Metrology, 2nd Edition](#);
- 2019-Present, **Guest Editor** of a Topical Collection of *Materials* (ISSN 1996-1944), **IF 3.2/2024, Q2**: [Materials Investigations in Mechanical Systems](#);
- 2019-2024, **Guest Editor** of SIs of *Materials* (ISSN 1996-1944), **IF 3.2/2024, Q1**: [Biocompatible Materials Investigated with Optical Methods](#); [Advanced Optical Methods for Materials Sciences](#); [Biomedical Materials Investigated with Optical Methods](#);
- 2016-2025, **Editorial Board Member** of *J of Adhesion Sci and Technology* (Taylor & Francis), **IF 3.7, Q1**;
- 2019-Present, **OPTICA Visiting Lecturer** (Optical Society of America, USA, <https://www.optica.org/>);
- 2014-Present, **SPIE Visiting Lecturer** (Int. Soc. for Optics and Photonics, USA, <https://spie.org/>);
- 2016-2018, 2020-2024, **Member of CNATDCU** (Romanian National Council for the Validation of University Titles, Diplomas, and Certificates)-[Commission of Mechanical Engineering, Mechatronics, and Robotics](#);
- 2016-2017, **Member of CNCS** (National Research Council)-<http://www.cncs-nrc.ro/stiinte-ingineresti/>;
- 2013-Present, **Director**, *Research Center in Mechanical Engineering*, *Aurel Vlaicu Univ. Arad*;
- 2008-2011, **Vice Dean for Research**, Faculty of Engineering, *Aurel Vlaicu Univ. Arad*;
- 2005-2009, **Editor-in-Chief** (and founder), *Sc. and Tech. Bull. of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, www.uavsb.xhost.ro, recognized by the Romanian National University Research Council since 2006;
- 2004-2006: **Scientific Secretary**, Dept. of Product Design, *Aurel Vlaicu Univ. of Arad*;
- 1999-Present, **Head of the Mechanisms Laboratory** at the *Aurel Vlaicu Univ. of Arad*;

SCIENTIFIC PAPERS (*h-index=27, ISI WoS*) https://www.researchgate.net/profile/Virgil-Florin_Duma

343 published papers (67 as sole author, 60 as first, and 216 as co-author) - from which 210 in WoS:

75 in WoS peer-reviewed journals with impact factor (ΣIF) > 146; 55 in other peer-reviewed journals;
133 proceedings papers indexed in ISI Web of Science; 77 in other conference proceedings.

3 Romanian (OSIM) patents awarded + 1 patent application under review

<https://www.webofscience.com/wos/author/record/B-3031-2010>

<https://www.scopus.com/authid/detail.uri?authorId=9839230700> (h-index=28, Scopus)

<https://orcid.org/0000-0001-5558-4777>

<https://scholar.google.com/citations?user=gBRLlfcAAAAJ&hl=en> (h-index=32, GS)

<https://www.brainmap.ro/virgil-florin-duma>

> 45 Invited Lectures at conferences or universities

+ 110 oral presentations or posters at conferences without published proceedings.

CITATIONS (July 2026): >969 in ISI Web of Science; >1020 in Google Scholar (both excluding self-citations).

BOOKS & BOOKS CHAPTERS

2 scientific books / monographs (sole author);

2 university courses (co-author);

10 books as editor (1 scientific book, 2 lab. books, 5 ISI Proc., 2 Proc.);

3 lab. books (sole or co-author);

3 Books of Abstracts

INVITED LECTURES & PRESENTATIONS (21 at Int. Conf., 14 at Int. Universities, and 16 at Nat. Conf.)

➤ At International Conferences

- Laser scanning for optimizing optical coherence tomography-based imaging, *Int. Conf. on Lasers, Plasma, and Radiation – Science and Technology* (<https://iclpr-st.inflpr.ro/program/>), Brasov (Romania), June 29-July 3, **2026**; (Invited Lecture);
- Optical Coherence Tomography versus Scanning Electron Microscopy for Investigations of Metallic Fractures, *6th Int. Adv. Conf. on Condensed Matter & Low Temp. Phys.* (<https://www.ilt.kharkov.ua/cmltp2026/>), Kharkiv (Ukraine), June 1-5, **2026** (Plenary);
- Optical Coherence Tomography (OCT) for Low-Level Laser Therapy (LLLT), *COST CA21159 PhoBioS WG3 Seminar on-line*, June 5, **2026**; (On-line Presentation);
- Optimization of laser scanning with applications in optical coherence tomography, *Invited Seminar – Univ. Radboud* (The Netherlands), June 4, **2026**;
- Advanced Laser Scanning, Markus Pessa International Summer School “New Frontiers in Optical Technologies” <https://events.tuni.fi/pessasummerschool/>, Tampere University (Finland), Aug. 10–15, **2025**; (Invited Lecture);
- A novel method for the analysis of polygon mirror-based laser scanners, *Proc. SPIE, Infrared Remote Sensing and Instrumentation XXXIII (SPIE Optics and Photonics)* [ISI], San Diego, CA (USA), Aug. 3-7, **2025**; (Invited Paper);
- OCT versus (and in Complementarity with) X-ray Biomedical Imaging, *5th Int. Adv. Conf. on Condensed Matter & Low Temp. Phys.* (<https://www.ilt.kharkov.ua/cmltp2025/>) [ISI], Kharkiv (Ukraine), June 2-6, **2025** (Plenary);
- OCT-based Complementarity and Optimization for X-ray Imaging in Dental Medicine, *9th Congress of the European Division of the World Federation for Laser Dentistry & 10th SRLS Int. Conf. on Lasers in Dental Medicine* (<https://sites.google.com/umft.ro/internationalallasercongress/speakers>), Timisoara (Romania), May 29-31, **2025** (Invited Presentation);
- OCT vs. other imaging techniques for investigations of surface topography of metallic materials and for in-depth biomedical investigations, *COST CA21159 PhoBioS Training school Spitsbergen 2025 – lightbiosurface.com - on Photonic structure in Arctic environment*, University Centre in Svalbard (UNIS), Denmark, April 8-10, **2025**; (Invited Lecture, on-line);
- Optical Coherence Tomography (OCT)-based beneath-the-surface investigations in ceramics sintering: modeling for the most relevant characteristic parameter, *COST CA21159 PhoBioS WG3 Seminar on-line*, March 7, **2025**; (Invited Presentation);
- A Decade of Laser Galvoscaning Optimization for Optical Coherence Tomography, *16th Int. Symposium on Electronics and Telecommunications* (<https://isetc.upt.ro/>), Timisoara (Romania), Nov. 8-9, **2024**; (Keynote);
- Study of symmetries of scan patterns generated by laser scanners with a pair of rotational Risley prisms, *Proc. SPIE, Vol. 13144, 131440P, Infrared Remote Sensing and Instrumentation XXXII (SPIE Optics and Photonics)* [ISI], San Diego, CA (USA), Aug. 18-22, **2024**; <https://doi.org/10.1117/12.3029947>; (Invited Paper);
- Optimization of X-ray radiography (i.e., the gold standard of investigations in Dental Medicine) by using Optical Coherence Tomography (OCT), *COST CA21159 PhoBioS Workshop on-line*, July 5, **2024**; (Invited Presentation);
- Optical Coherence Tomography vs. X-ray imaging for biomedical applications, *10th Int. Conf. on Antennas and Electromagnetic Systems (AES 2024)*, Rome (Italy), June 25-28, **2024**; (Invited Paper, [link](#));

- Analysis, design, and applications of polygon mirror-based laser scanners, *4th Int. Adv. Conf. on Condensed Matter & Low Temp. Phys. (CMLTP 2024)* [ISI], Kharkiv (Ukraine), June 3-7, **2024**; (Plenary, on-line);
- Optical Coherence Tomography (OCT)-seeing beneath the (sample) surface, *COST CA21159 PhoBioS Workshop on Photonic structure in Arctic environment (Training school Spitsbergen – lightbiosurface.com)*, University Centre in Svalbard (UNIS), Denmark, April 23-25, **2024**; (Invited Lecture, on-line);
- Theory, simulations and experiments of laser scanning with rotational Risley prisms, *3rd Int. Adv. Conf. on Condensed Matter & Low Temp. Phys. (CMLTP)* [ISI], Kharkiv (Ukraine), June 5-11, **2023**; (Keynote);
- Symmetry aspects of patterns produced by optical scanners with Risley prisms, *9th Int. Conf. on Antennas and Electromagnetic Systems (AES)*, Torremolinos (Spain), June 5-8, **2023**; (Invited Paper);
- Investigations and Modeling of the Sintering of Ceramic Dental Crowns, *9th Int. Conf. on Lasers in Medicine & 3rd Int. Congress Lasers in Dentistry*, Oradea (Romania), May 25-27, **2023**; (Invited Presentation);
- 1D and 2D galvanometer scanning: Multi-parameter analysis and optimization, *Proc. SPIE 12233, 122330H, Infrared Remote Sensing and Instrumentation XXX (SPIE Optics and Photonics)* [ISI], San Diego, CA (USA), Aug. 21–26, **2022**, <https://doi.org/10.1117/12.2634221>; (Invited Presentation);
- Laser scanners with rotational Risley prisms: A graphical method to determine and study exact scan patterns, *8th Int. Conf. on Antennas and Electromagnetic Systems (AES)*, Marrakesh (Morocco), May 24-27, **2022**, (Invited Paper); https://aes22.aesconference.org/files/aes22_proceedings.pdf;
- Optical Coherence Tomography versus Scanning Electron Microscopy in the Assessment of Metallic Fractures, *Mexican Optics and Photonics Meeting*, on-line, Nov. 18-20, **2021**; (Invited Paper);
- A novel, graphical method to analyze optical scanners with Risley prisms, *Infrared Remote Sensing and Instrumentation XXIX (SPIE Optics + Photonics)* [ISI], San Diego, USA, Aug. 1–5, **2021**; (Invited Paper); [doi](#)
- Optical choppers with disks, with an insight in biomedical applications, *2nd Int. Advanced Conf. on Condensed Matter & Low Temp. Physics (CMLTP-Speakers)* [ISI], Kharkiv (Ukraine), June 6-12, **2021**; (Plenary Lecture);
- Advances in laser scanning technology for optical coherence tomography, *X Iberoamerican Optics Meeting/XIII Latinamerican Meeting on Optics, Lasers and Applications/Mexican Optics and Photonics Meeting (RIAO-OPTILAS)*, [link](#), Cancun (México), Sept. 22-27, **2019**; (Invited Paper);
- Optical Choppers: Classical, Eclipse, and with Rotational Shafts, *6th Advanced Electromagnetics Symposium (AES)*, <https://AES19/invited>, Lisbon (Portugal), July 24-26, **2019**; (Invited Paper);
- Scanning systems: from industrial to high-end biomedical applications using OCT, *IX Int. Conf. for Professionals & Young Scientists ICPYS-LTP*, Kharkiv (Ukraine), June 4-8, **2018**; (SPIE Invited Lecture);
- Theoretical and experimental approaches on galvanometer scanners for high-end biomedical imaging applications, *5th Adv. Electromagnetics Symp.*, Incheon (South Korea), July 27, **2017** (Invited Presentation);
- Laser scanning optimization for high-end applications in biomedical imaging, *SPIE-SRLS 7th Int. Conf. on Lasers in Medicine* [ISI], Timisoara (Romania), July 14, **2017**; (Invited Paper);
- Scanning systems: from industrial to high-end biomedical applications (SPIE Invited Lecture – at *Optics & Photonics Applications (OPA) Conf.*), Univ. of Guanajuato, Salamanca (Mexico), Sept. 2, **2015**;
- Handheld scanning probes for OCT: Developments, applications and perspectives, *World Federation of Lasers in Dentistry–European Division 5th Congress & SRLS 6th Int. Conf. Lasers in Medicine* [ISI], Bucharest (Romania), May 8, **2015**, in *Proc. SPIE*, [doi](#); (Invited Presentation);
- Scanning in biomedical imaging: from classical devices to handheld heads and micro-systems, *SRLS-SPIE 5th Int. Conf. Lasers in Medicine* [ISI], Timisoara (Romania), Sept. 21, **2013**, [DOI](#); (Invited Paper);
- Laser scanning: from industrial to biomedical applications, *RIAO-OPTILAS (VIII Iberomamerican Opticas Meeting & XI Latinamerican Meeting on Optics, Lasers and Applications)*, Porto (Portugal), July 23, **2013** - *Proc. SPIE*, <http://dx.doi.org/10.1117/12.2025220>; (Invited Paper);
- Mathematical functions of a 2-D scanner with oscillating elements, *9th Conf. on Dynamic Systems Theory and Applications*, Łódź (Poland), Dec. 18, **2007**; [10.1007/978-1-4020-8778-3_22](https://doi.org/10.1007/978-1-4020-8778-3_22); (Invited Paper);
- **At International Universities**
- Optical Coherence Tomography Investigations in Dental Medicine, *Applied Optics Group, Univ. of Kent, Canterbury* (UK), Feb. 26, **2020**; (Invited Seminar), <https://research.kent.ac.uk/applied-optics/aog-seminars/>;
- Devices and Systems for Biomedical and Industrial Applications of OCT, *Universidad de Guadalajara* (<http://www.cucei.udg.mx/>), Jalisco (México), Nov. 28, **2018**; (Magistral Conference);
- Dental Medicine Applications of Optical Coherence Tomography (OCT); OCT versus SEM in the study of metallic fractures for forensic investigations, *Universidad de Guadalajara* (<http://www.cucei.udg.mx/>), Jalisco (México), Nov. 29-30, **2018**; (Two SPIE Invited Lectures);
- 1D and 2D Galvanometer Scanning and Handheld Probes in OCT; Risley Prisms, Polygon Scanners, and Other Devices for OCT - and More..., *Universidad de Guadalajara* (<http://www.cucei.udg.mx/>), Jalisco (México), Nov. 28-29, **2018**; (Two Tutorials and Workshops, 3h each);

- Scanning patterns in imaging, *Applied Optics Group (School of Physical Sciences), Univ. of Kent, Canterbury (UK)*, Aug. 10, **2018**; (Invited Seminar), <https://research.kent.ac.uk/applied-optics/aog-seminars/>;
- Laser scanners for high-end biomedical imaging, *City Univ. of New York, NY (USA)*, Oct. 13, **2017**; (Invited Seminar – Dept. of Mechanical Engineering);
- Handheld Probes and Galvoscaning in OCT. On-going Industrial and Biomedical Applications, Applied Optics Group, *Univ. of Kent, Canterbury (UK)*, Feb. 20, **2015**; (Invited Seminar);
- Scanning in Optical Coherence Tomography, *National Univ. of Ireland (NUI), Galway*, Nov. 25, **2014**; http://tomi.nuigalway.ie/SPIE_NUIG_UL/spie_events.html (SPIE Invited Lecture);
- 1D and 2D Scanning Systems in Biomedical Imaging, School of Physical Sciences (Applied Optics Group), *Univ. of Kent, Canterbury (UK)*, Nov. 7, **2013**; (Invited);
- Galvanometer-based Scanners in Optical Coherence Tomography (OCT), *City Univ. of New York (USA)*, Febr. 14, **2013**; (Invited Seminar-Dept. of Mechanical Engineering);
- Optical Engineering: Scanners, Choppers, Lenses, and Much More. A Mathematical Approach, *Ana G. Mendez Univ. System (AGMUS): Univ. Metropolitana, Univ. del Este, Univ. Turabo*, San Juan (Puerto Rico, USA), March 19-22, **2010**; (3 Invited Lectures, Fulbright OLP);
- Optical Scanners in Medical Imaging. An Optomechanical Perspective, *City Univ. of New York (USA)*, Apr. 15, **2010** (Invited Lecture - Dept. of Mechanical Engineering, Fulbright Occasional Lecturer Program - OLP);
- Laser scanners, *Inst. of Optics, Univ. of Rochester (USA)*, Mar. 03, **2010**; (Invited Lecture for PhD Students);
- Tutorials, *Hopkins Center for Opt. Metrology, Univ. of Rochester (NY, USA)*: 1) Applications & types of scanners (Nov. 03, **2009**); 2) Scanners-fundamentals (Nov. 17, **2009**); 3) Constructive characteristics of scanners (Dec 01, **2009**); 4) Perspectives of opt. scanning in OCT (Jan 20, **2010**);
- Contributions on the Design of the Optical Systems (Laser Scanning Devices), Dept. of Physics, *Jacobs Univ. of Bremen*, Bremen (Germany), Oct. **2004** (Invited Presentation).
 - **At National Conferences and Universities**
- Laser Scanners with Industrial and Biomedical Applications, *Maritime University of Constanta (Romania)*, July 30, **2024**; (Invited Seminar);
- Optical Coherence Tomography in Dentistry, *Workshop Advanced Research Webinar of the Doctoral Schools of the “Victor Babes” University of Medicine and Pharmacy Timisoara*, May 5–6, **2022**; (Invited);
- Non-Destructive Testing (NDT) in Industry: Study of Metallic Fractures with Optical Coherence Tomography (OCT) versus Scanning Electron Microscopy (SEM), *6th Int. Conf. Advances in Engineering & Management (ADEM)*, Drobeta-Turnu Severin (Romania), Dec. 10-11, **2020**; (Keynote, [Program 2020.pdf](#));
- Multi-parameter Analysis and Optimization of 1D Galvanometer-based Laser Scanning with Applications in Optical Coherence Tomography, *IEEE 9th Int. Workshop on Soft Computing Applications (SOFA)*, Arad (Romania), Nov. 27-29, **2020**; (Keynote, <https://www.sofa-org.eu/2020/prof-virgil-florin-duma/>);
- Biomedical Imaging using Optical Coherence Tomography (OCT). An Insight into Technology, Devices, and Applications, *The 6th Euro-China Conf. on Intelligent Data Analysis and Applications*, <https://www.ecc2019.ro/invited-speaker/>, Arad (Romania), Oct. 15-18, **2019**; (Keynote);
- Optomechatronics and Biomedical Imaging. Projects at UAV Arad, *21th Int. Students Sc. Comm. Session of the Fac. of Eng. of the Aurel Vlaicu Univ. of Arad*, June 14-15, **2019**; (Keynote);
- Applications of Optical Coherence Tomography in non-destructive testing, *Biommedd 2018*, Cluj-Napoca (Romania), Sept. 27-29, **2018**; (Invited);
- 2D scanning systems, patterns, and handheld probes for biomedical imaging, *2nd Int. Congress on Lasers in Dentistry* (<http://lasercongress-srls.com/>), Mamaia (Romania), Sept. 5-7, **2018**; (Plenary);
- Biomedical imaging with Optical Coherence Tomography. Systems and applications, *2nd Int. Seminar on Biomaterials and Regenerative Medicine (BioRemed)*, Timisoara (Romania), Oct. 5, **2017**; (Invited);
- Laser scanners with oscillatory mirrors for high-end applications, *TIM Physics Conf.* [ISI], Timisoara (Romania), May 25-27, **2017**; (Keynote);
- Optical Coherence Tomography in Metallic Materials Characterization, *RoMAT2016*, Bucharest (Romania), Nov. 10, **2016**; (Invited);
- Optical Coherence Tomography: Handheld scanning probes with galvanometer scanners, *TIM 15-16 Physics Conf.* [ISI], Timisoara (Romania), May 28, **2016**; (Invited);
- Optimization of biomedical systems for OCT with applications in Dental Medicine, *21th Congress of Dental Medicine*, Timisoara (Romania), May 21, **2016**; (Invited);
- Biomedical imaging using Optical Coherence Tomography. Devices, systems, and applications, *BioRemed Int. Conf.*, Oradea (Romania), Sept. 19, **2015**; (Invited);
- Biomedical Imaging and Optical Coherence Tomography: Scanning Systems and Applications, *Academic Days of the Victor Babes Univ. of Medicine and Pharmacy of Timisoara* (Romania), Dec. 12, **2014**; (Invited Lecture);

- Renewable Energies—Two Projects and a Global Perspective, HURO/1101/175/2.1.1 (www.huro-cbc.eu), Romania-Hungary Program of Trans-frontiers Cooperation, Arad, Apr. 11, **2014**; (Invited);
- Achievement of the South-West Axis in Industrial Robots of the EUROP-RO Technological Platform, 2nd EUROP-RO Symp., Bucharest (Romania), Apr. 26, **2007**; (Keynote).

SCHOLARSHIPS & FELLOWSHIPS

- **Visiting Senior Research Fellowship**, at the [Univ. of Kent](#), Canterbury (UK); Host: [Prof. Adrian Gh. Podoleanu](#) (Head of the *Applied Optics Group* - [AOG](#)), July **2009**-Present;
- **Fulbright Senior Research Fellowship**, awarded by the US Dept. of State, at [The Institute of Optics](#) (#1 in Optics and #4 in Applied Physics in the US), [Univ. of Rochester, NY](#) (USA); Host: [Prof. Jannick P. Rolland](#) (Brian J. Thomson Chair in Optical Engineering), [ODA lab](#), Sept. **2009**-June **2010**;
- **BEST** (Board of European Students of Technology) **Scholarship**, Summer School, *Eindhoven Univ. of Technology*, The Netherlands: Energy in Its Various Aspects; concluded with the team project: Nuclear Plant – Design and Ecological Aspects, July **1991**;
- **Republican Merit Scholarship** for outstanding results, highest student award in Romania, from the Romanian state (**1990-1991**).

RESEARCH STAGES

1 month research stages:

[Univ. of Kent](#), Canterbury (UK): Aug. **2018**; Aug. **2016**; July-Aug. **2015**; Aug. **2013**; July-Aug. **2011**;
[Univ. of Rochester, NY](#) (USA): Oct. **2016**; Oct. **2015**; June **2010**;

1-2 weeks (Visiting Professor):

Universidad de Guadalajara - <http://www.cucei.udg.mx/> (Mexico), Nov. 26-Dec. 1, **2018**;
[Univ. of Kent](#), Canterbury (UK): Feb. 13-22, **2015**; Feb. 07-21, Aug. 2-20 **2014**; Oct. 27-Nov. 09, **2013**;
[Univ. of Rochester, NY](#) (USA): Oct. 16-23, **2017**; July 17-30, **2014**; Feb. 15-28, **2013**;
Univ. of Guanajuato, Salamanca (Mexico), Aug. 31-Sept. 05, **2015**;
National Univ. of Ireland (NUI) at Galway (Ireland), Nov. 24-27, **2014**;
City Univ. of New York—Nanofabrication Facility (USA): Oct. 11-15, **2017**; Feb. 8-15, **2013**; Apr. 14-20, **2010**;
Ana G. Mendez Univ. System, San Juan (Puerto Rico, USA): Mar. 18-22, **2010**;
RWTH Aachen (Germany): June 25-30, **2007**;
Jacobs Univ. of Bremen (Germany): Oct. 25-30, **2004**;

ERASMUS+ Teaching Stages

Brest National School of Engineering (ENIB), *Brest* (France): May 25-30, **2026**; [Univ. of Kent](#), Canterbury (UK): Feb. 24-29, **2020**;

AWARDS

- Top 2% scientists in the world "Updated science-wide author databases of standardized citation indicators", <https://doi.org/10.17632/btchxktzyw.3>;
- **ANCS Awards**: PN-III-P1-1.1-PRECIBVT-2021-3330 for *OSIM Patent* RO129610 (**2021**); [link](#); (1000€); PN-III-P1-1.1-PRECISI-2021-65757 for *Medicina-Lithuania* **57**, 901 (**2021**); [doi](#); (400€); PN-III-P1-1.1-PRECISI-2021-65233 for *Appl. Sci.* **11**, 8451 (**2021**); [doi](#); (400€); PN-III-P1-1.1-PRECISI-2021-63465 for *Medicina-Lithuania* **57**, 772 (**2021**); [doi](#); (400€); PN-III-P1-1.1-PRECISI-2021-64972 for *Medicina-Lithuania* **57**, 145 (**2021**); [doi](#); (400€); PN-III-P1-1.1-PRECISI-2021-64708 for *Appl. Sci.* **11**, 7224 (**2021**); [doi](#); (400€); PN-III-P1-1.1-PRECISI-2021-64704 for *Materials* **13**, 3908 (**2020**); [doi](#); (400€); PN-III-P1-1.1-PRECISI-2021-59149 for *Materials* **13**, 4825 (**2020**); [doi](#); (400€); PN-III-P1-1.1-PRECISI-2021-57882 for *Sensors* **21**(13), 4554 (**2021**); [doi](#); (1200€); PN-III-P1-1.1-PRECISI-2020-50044 for *QIMS* **9**(5), 782-798 (**2019**); [doi](#); [link](#) (400€); PN-III-P1-1.1-PRECISI-2020-49768 for *IJMS* **21**(3), 778 (**2020**); [doi](#); [link](#) (400€);
- **1st Best Oral Presenter Award**-for Luca R.E., Todea C.D., Duma V.-F., *et al.*, Enhancements of Bone Regeneration Techniques using Laser Photobiomodulation: An Ex-vivo Study on Wistar Rats based on OCT and Histology, 24th UAE Int. Dental Conf. & Arab Dental Exhibition, Dubai **2020**; <https://aeedc.com/>;
- **ANCS Awards**: PN-III-P1-1.1-PRECISI-201939511 for *APM* **67**, 456-476 (**2019**); [doi](#); [link](#) (1,250€); PN-III-P1-1.1-PRECISI-2019-334883 for *Materials* **12**(6), 947 (**2019**); [link](#) (200€); PN-III-P1-1.1-PRECISI-2018-24971 for *Proc. Rom. Acad. A* **19**, 53-60 (**2018**); [link](#) (500€); PN-III-P1-1.1-PRECISI-2018-24968 for *Metals* **8**, 117 (**2018**); [doi](#) (500€);
- **Top 1% reviewers** in the Field of Physics, **2018** ([link](#)) – <https://publons.com/awards/>;
- **ANCS Award** [PN-III-P1-1.1-PRECISI-2018-22154](#) for *IJSSD* **17**(5), 1740006 (**2017**); [doi](#) (500€);
- **IOP (Inst. of Physics, UK) Award**: Outstanding reviewer for *Measurement Science and Technology*, **2017**;

- **ANCS Awards:** [PN-III-P1-1.1-PRECISI-2017-15869](#) for *Proc. Rom. Acad. Series A* **18**, 25 (2017) [link](#) (500€); [PN-III-P1-1.1-PRECISI-2017-19701](#) for *Opt. Express* **25**, 23388 (2017); [doi](#) (500€);
- **Top 1% reviewers** in the Field of Physics and Astronomy, **2016** – <https://publons.com/awards/>;
- **2nd Prize for Poster Presentation:** Mitroi F. E., Sinescu C., Negrutiu M. L., Stoica E. T., Duma V.-F., Bradu A., Podoleanu A., Confocal laser scanning microscopy versus digital microscopy in the analysis of the marginal adaptation of Tizian overlays, *7th Int. Conf. Lasers in Medicine (ICLM)*, Timisoara, July 15, **2017**;
- **Excellent Paper Award** - Oral Presentation: Beiu R.*, Mnerie C.A., Duma V.-F., Analysis of Curved Shape Micro-mirrors For On-Chip Communication, *SPIE ATOM-N*, Constanta (Romania), [doi](#), **2016**;
- **ANCS Awards:** [PN-III-P1-1.1-PRECISI-2016-12189](#) for *Opt. Express* **24**, 13365-13374 (**2016**) (1,300€); [PN-III-P1-1.1-PRECISI-2016-11474](#) for *R. R. Physics* **67**, 1346-1358 (**2015**), [link](#) (500€); [PN-II-RU-PRECISI-2015-9-8637](#) for *Appl. Optics* **54**, 5495-5507 (**2015**), [link](#) (500€);
- **ANCS (Romanian Authority for Scientific Research) Habilitation Award** 3863/2014 (1,200€);
- **1st Award - Implant Poster Competition**, for M.L. Negrutiu, C. Sinescu, V.-F. Duma, A. Manescu, MicroCT Investigation of Bone Graft Biomaterials, *New York Great Dental Meeting*, USA, **2014**;
- **ANCS Award** 6510/2014, for *Applied Optics* **53**(26), 5912-5916 (**2014**) [link](#) (500€);
- **SPIE Senior Membership** (Int. Society for Optics and Photonics, Bellingham, WA, USA) since 2011 ([link](#));
- **Merit Gradation**, granted for 3, respectively for 5 years, on a competitive basis, highest professional recognition and salary bonus (+25%) in a Romanian University, **2008-2010**, **2012-2016**, and **2017-2021**;
- **ANCS Awards:** 1257/2011 for *Appl. Opt.* **50**, 5735-5749, **2011**, [link](#) (500€); 1390/2010, for *Appl. Opt.* **48**, 6355-6364, **2009**, [link](#) (500€); 1391/2010, for *Appl. Opt.* **48**, 2678-2685, **2009**, [link](#) (500€); 87/2008, for *J. of Opt. A: Pure and Appl. Opt.* **10**, 064008, **2008**, [link](#) (1 k€);
- **Merit Salary**, granted annually, on a competitive basis (15% salary bonus), by the Univ., **2004-2006**;
- **University**, ‘Traian Lalescu’ National Students’ Olympiads:
 - **1989** (3rd year) **National: special award in Mechanics of Fluids**; *local*: 1st award in Mechanics of Fluids, 1st award in Electrotechnics;
 - **1988** (2nd year) **National: 1st award in Physics (Electromagnetism, Optics & Quantum Mech.), special award in Mathematics**; *local*: 1st award for Mathematics, 1st award in Physics;
 - **1987** (1st year) **National: 3rd award in Physics (Mechanics & Thermodynamics)**; *local (Timisoara County Universities Center)*: 1st award in Physics, special award in English; special award for scientific communications in Mathematics;
 - **High School**: 2nd award in Physics, Arad County, 1982.

RESEARCH GRANTS & CONTRACTS (UEFISCDI ID (UEF-iD): U-1700-029M-1912)¹

1. **Member (Head of the WP/Laboratory of Optics & Photonics)**, Project ASSET-IxC – UPT: *Automotive systems smart energy-efficient transducers–innovation across the value chain* (20M€), with Polytechnic University of Timisoara (UPT) in cooperation with AUMOVIO Romania – part of the *Romanian IPCEI (Important Project of Common European Interest)* on microelectronics (440M€); **2026-2028**. For the **Laboratory of Optics & Photonics** (1.6M€): 8 researchers; 4 Guest Edited Special Issues/Topics of ISI Web of Science (WoS) journals; Chaired 2 ISI Conferences ([PhoBioS 2025](#), [3OM 2025](#)). *Publications*: 3 Invited Presentations; 4 other conf. presentations; **2 WoS journal papers, $\Sigma IF=4.2$; on-going**
2. **Member**, COST Action CA24135 “European Atmospheric Research Lidar COoperation on Science and Technology” (EARLICOST), WGs 1 and 4; <https://www.cost.eu/actions/CA24135/>, **2025-2029**; **on-going**
3. **Member**, COST Action 21155 “Advanced Composites under High STRAin raTEs loading: a route to certification-by-analysis” (HISTRATE), WGs 5, 6, and 9; <https://www.cost.eu/actions/CA21155/>, **2024-2028**; **on-going**
4. **Member** (Expert in OCT imaging), Interreg IPA Romania-Serbia Project (co-funded by the EU) ORALERT: *Equal access to innovative screening solutions for oral HPV* (code JEMS ROS00267), **2024-2026**; (1.94 M€); **on-going**
5. **Member**, COST Action 21159 “Understanding interaction light - biological surfaces: possibility for new electronic materials and devices” (PhoBios), <https://www.cost.eu/actions/CA21159/>, **2022-2026**; (6 events participation, 4 support grants ~9 k€; chair, [COST PhoBioS Special Session: Nano-/Micro-structured Surfaces](https://lightbiosurface.com/training-school-timisoara-2025/), <https://lightbiosurface.com/training-school-timisoara-2025/>); **on-going**
6. **Principal Investigator (PI)**, IDEAS Project PN-III-P4-ID-PCE-2020-2600 (Contract 55PCE/2021), [Romanian National Authority for Scientific Research \(ANCS-UEFISCDI\)](#): *Laser scanning systems with Risley prisms, with applications in biomedical and industrial imaging using Optical Coherence Tomography (OCT) (RISLEY4OCT)*, (250 k€); Jan. **2021-Dec. 2023**; 13 researchers. 7 Guest Edited Special Issues of ISI

¹ Each journal paper, when not specified otherwise, is funded by only one of the grants in the list.

- Web of Science (WoS) journals; Chaired 2 ISI Conferences (2021; 2023), 2 Workshops (2021; 2023). Publications: 16 Invited Presentations; 18 ISI Proc.; 33 other conf. presentations; 1 patent; 4 books; 3 PhD Theses; 1 Dissertation; 14 WoS journal papers, $\Sigma IF=50.52$; <http://3om-group-optomechatronics.ro/pce2600/>
7. **PI, Project for Experimental Demonstration (PED)** PN-III-P2-2.1-PED-2020-4423 (Contract 418PED/2020), [ANCS-UEFISCDI](#): *Optical Coherence Tomography for Non-Destructive Testing in Industry (OCT4NDT)*, in partnership with [SC Inteliinform SRL](#) (145 k€); Oct. 2020-Oct 2022; 15 researchers. 4 Guest Edited Special Issues of ISI WoS journals; Publications: 4 Invited Presentations, 12 conf. presentations; 1 patent; 2 books; 8 ISI WoS journal papers, $\Sigma IF=25.811$; <http://3om-group-optomechatronics.ro/ped4423/>
 8. **Responsible for the Physics Work Package (1/4), Grant POC-A1-A1.1.3-E-2015**, funded by the European Union (through European Regional Development Funds Structural Operational Program “Competitiveness” Priority axis 1, Operation 1.1.4. Contract Number 30/2016): *New nano-ARCHITECTURES OF BIOLOGICAL INSPIRATION OF CELULAR TYPE (NanoArt Bio Cell)*, PI: Prof. V. Beiu (2 M€), Aug. 2016 - Aug. 2020; 3 journal papers in ISI WoS-from WP1, $\Sigma IF=8.005$ (also funded by other grants);
 9. **PI, Project for Experimental Demonstration (PED) Grant** PN-III-P2-2.1-PED-2016-1937 (Contract 44PED/2017), [ANCS-UEFISCDI](#): *Micro-Electro-Mechanical Systems (MEMS)-based handheld scanning probes for distortion-free biomedical imaging with Optical Coherence Tomography (OCT) (MEMS-HH-OCT)*, in partnership with [SC Inteliinform SRL Timisoara](#) (133 k€); Jan. 2017-July 2018; 14 researchers. Publications: 6 Invited Presentations, 9 ISI Proc., 15 other conf. presentations; 9 ISI WoS journal papers, $\Sigma IF=21.041$; <http://3om-group-optomechatronics.ro/pedp1937/>
 10. **PI, Bridge Grant** PN-III-P2-2.1-BG-2016-0297 (Contract 48BG/2016), [ANCS-UEFISCDI](#): *Optomechatronic choppers with rotational discs and shafts for metrological, biomedical, and laser manufacturing applications (OP-CHOP)* (102 k€), Oct. 2016-Oct. 2018; 8 researchers. Publications: 5 Invited Presentations, 12 ISI Proc., 13 other conf. presentations; 4 ISI WoS journal papers, $\Sigma IF=9.225$; <http://3om-group-optomechatronics.ro/bg297/>
 11. **Responsible for Partner, Transfer to Industry (PTE) Grant** PN-III-P2-2.1-PTE-2016-0181 (Contract 24PTE/2016), [ANCS-UEFISCDI](#): *Handheld scanning probes with 1D and 2D galvoscaners for biomedical and industrial investigations using Optical Coherence Tomography (OCT) (1D2D-GS-OCT)*, PI: M. Vlasici – [SC Inteliinform SRL Timisoara](#) (435 k€), Oct. 2016-Oct. 2018; 2 institutions, 12 researchers. Publications: 1 book, 18 Invited Presentations, 6 ISI Proc., 19 other conf. presentations; 11 ISI WoS journal papers, $\Sigma IF=26.942$; <http://3om-group-optomechatronics.ro/ptep181/>
 12. **PI, PARTNERSHIP Grant** PN-II-PT-PCCA-2011-3.2-1682 (Contract 22/2012) [ANCS-UEFISCDI](#): *Optical Coherence Tomography (OCT) systems with handheld and endoscope probes for real-time investigations in material studies and for in vivo medical imaging* (5 institutions, 36 researchers), July 2012-Dec. 2016 (950k€). Publications: 2 books, 1 patent, 1 Habilitation, 1 PhD thesis, 13 Invited Presentations, 47 ISI Proc., 28 other conf. presentations; 17 ISI WoS journal papers, $\Sigma IF=31.633$. <http://3om-group-optomechatronics.ro/pp1682/>
 13. **PI, Fulbright Senior Research Grant** 474/July 1, 2009, in Optical Engineering (from the US Department of State): *Scanning in Swept Source Optical Coherence Tomography (OCT)*, at [The Institute of Optics](#) (#1 in Optics and #4 in Applied Physics in the USA), [Univ. of Rochester, NY](#) (USA); Host: [Prof. J. P. Rolland, ODAlab](#), Sept. 2009-June 2010 (\$26,450). Publications: 2 ISI Proc., 3 other conf. presentations; 1 ISI WoS journal paper, $IF=1.748$ (also funded by IDEAS Grant 1896);
 14. **Researcher, NYSTAR** (New York Science and Technology Association for Research) Award 054048-002, PI [Prof. J. P. Rolland](#), [The Institute of Optics](#), [Univ. of Rochester, NY](#) (USA), 2010 (\$1.2 M; support of \$6k);
 15. **PI, IDEAS Grant** 1896/2008, [ANCS-UEFISCDI](#): *Analysis and design of some polygonal and galvanometer-based, 1D and 2D scanners*, 2009-2011 (101 k€); 7 researchers. Publications: 5 book chapters, 1 patent, 10 ISI Proc., 11 other journal and conf. papers; 6 ISI WoS journal papers, $\Sigma IF=9.931$; [ideas-project-1896/](#)
 16. **Researcher, PN II PARTNERSHIPS Grant** 41-084/2007, Romanian Education and Research Ministry - ANCS: *Use of genetic markers for establishing optimal therapies for laryngeal and oropharyngeal human cancer*, Univ. of Bucharest, PI Dr. L. Ghetea, 2007–2010 (600 k€);
 17. **Researcher, Balkan Environmental Association (BENA)–COSMOTE Grant** 1428/2007, *Remote, computer assisted command and optimize of the use of a solar installation for greenhouses and small consumers*, PI Dr. D. Silaghi, 2007 (750 €);
 18. **Researcher, CEEEX Grant**, ANCS code 126/2006, Romanian Education and Research Ministry-ANCS: *EUROP_RO Technology Platform (European Robotics Platform, Romanian branch)*, PI Prof. Adrian Nicolescu, Polytechnic Univ. of Bucharest, 2006–2008 (60 k€);
 19. **PI, 3 Research Contracts** (Romanian companies), through Aurel Vlaicu Univ., 2004–2005 (2 k€);
 20. **PI, Young Researchers (AT) Grant**, ANCS code 385: *Development of Some New Scanning Equipments*, 2003–2004 (3.5 k€); 2 books (monographs) [B5, B6];

21. **Researcher, Leonardo da Vinci Program** of the European Union, **Timkars Project**, for conceiving the courses in Precision Mechanics & Optics (simultaneously published in Germany and in Romania); **co-author of the book**: *Measuring and Control Apparatuses. Metrology* [B4], **1999–2001** (225 k€);
22. **Researcher, Program Ro-4096** with Word Bank, **Doctoral Grant**, ANCS code 57: *Methods and means for improvement performances of the equipments for precision mechanics and quality control*, PI Prof. Dan Perju, Polytechnic Univ. Timisoara, **1998–2002** [RO4096](#) (\$30k); **PhD Thesis defended Sept. 2001**.

STRATEGIC & COOPERATION GRANTS

23. **PI, OSA Global Meeting Grant**, to organize the 1st Int. Conf. [Advances in 3OM: Opto-Mechanics, Opto-Mechatronics, and Optical Metrology](#), Timisoara (Romania), **2020** (\$3k);
24. **Co-PI, Erasmus+**, Univ. of Kent, School of Physical Sciences (UK)-Aurel Vlaicu Univ. of Arad, **2018–2021**;
25. **Member, COST Action CA17126** “Towards understanding and modelling intense electronic excitation” (TUMIEE), http://www.cost.eu/COST_Actions/ca/CA17126, **2018–2023**;
26. **Member, COST Action CMI405**, ‘Molecules in Motion’, <https://www.molim2018.ethz.ch/2018/>, **2015–2019**;
27. **Consultant** (Expert-Coordinator of the Mechatronics and Mechanical Engineering Domain of the Univ.), **POSDRU/5/1.5/S/2** (EU funding)-UEFISCDI Project: *Doctorate in Schools of Excellence – Evaluation of the Quality in Universities and the Increase of Visibility by Scientific Publishing*, **2009–2011**;
28. **Consultant** (Expert in Education), **POSDRU 2/1.2/S/3** (EU Funding)-UEFISCDI Project code 2684: *Quality and Leadership for Romanian High Education System (QLHE)* (www.edu2025.ro), **2009–2011**;
29. **Consultant** (Expert in Mechatronics & Robotics), **POSDRU 2/1.2/S/2** UEFISCDI: *Development of an operational system of professional qualifications in Romania (DOCIS)*, **2009–2011**;
30. **Consultant** (Expert in Robotics), **CARE** (Coordinated Action for Robotics in Europe), **FP 6** Program of the European Commission, EU (participation at CARE Consensus Meetings: Stuttgart, May 2008; Pisa, Oct. **2008**, for elaboration of SRA 2008–2020 – Strategic Research Agenda for Robotics in Europe);
31. **Co-PI, Erasmus**, RWTH Aachen (IGM) - Aurel Vlaicu Univ. of Arad, **2007–2013**;

TRAVEL GRANTS

32. **PI**, Support from MDPI to participate at the 10th Int. Conf. on Antennas and Electromagnetic Systems ([AES 2024](#)), Rome (Italy), June 25–28, **2024**, (400€); at three conferences, **2026**, (500€);
33. **PI**, Support from COST Action CA21159 (PhoBioS) to participate at: *SPIE Photonics Europe*, Strasbourg (France), Apr. 7–11, **2024** (1k€); PhoBioS Meeting, Linares (Spain), Feb. 17–21, **2025** (1.5k€); *SPIE Optics + Optoelectronics*, Prague (Czech Republic), Apr. 7–11, **2025** (2k€); *SPIE Optical Metrology*, Munich (Germany), June 22–26, **2025** (1.5k€);
34. **PI**, Support from EU ERASMUS+, to lecture at the Univ. of Kent (UK), 1 week, Feb. **2020**, (>1.1k€);
35. **PI, SPIE Grant** to support with a booth the participation at the *SPIE Photonics Europe ‘Innovation Village’*, Strasbourg (France), Apr. 22–23, **2018**;
36. **PI**, Support from the Royal Society of Jordan, to participate at the [World Science Forum](#), as representative of Romania in the Fulbright delegation, Jordan, Nov. 7–11, **2017**, (>1k€);
37. **PI, ANCS-UEFISCDI Grants** for visits from the [Univ. of Kent](#), Canterbury (UK) to UAV Arad: PN-III-P1-1.1-MCD-2016-0077, [link](#), Nov. **2016**, (~1.3k€); PN-III-P1-1.1-MCD-2018-0230, [link](#), Nov. **2018**, (~1k€); Nov. **2021**, (1.2k€);
38. **PI, SPIE Lecturer Program Grant** from [SPIE](#) and support for lecturing: at the *Univ. of Guanajuato* (Mexico), Sept. **2015**, (~\$1.8k); at the *National Univ. of Ireland (NUI)* at Galway, Nov. **2014**, (600€); at the *Universidad de Guadalajara* (Mexico), Nov. 26–30, **2018**, (~\$2k); at the *9th Int. Physics Conf. ICPYS-LTP*, Kharkov (Ukraine), June 4–8, **2018**, (~1k€);
39. **PI**, Support from the Brazilian Acad. of Sc. and from the Fulbright Assoc., to participate at the [Word Science Forum](#), as representative of Romania in the Fulbright delegation, Rio de Janeiro (Brazil), Nov. **2013**, (~4k€);
40. **PI**, Support from Fulbright Acad. of Sc. & Tech. and from Hungarian Acad., to participate at the [Word Science Forum](#), as representative of Romania in the Fulbright delegation, Budapest (Hungary), Nov. **2011**, (~1.5k€); Nov. **2015**, (>300€); Nov. **2019**, (>300€); Nov. **2024**, (>300€);
41. **PI, Research Foundation** of City Univ. of New York, for Invited Seminar, April **2010**, (\$350);
42. **PI, Fulbright Conference** Support-from the US Dept. of State, for participating at the *Fulbright Conference: Linking Campus to Community*, at Georgetown Univ., Washington DC (USA), April **2010**, (~\$2k);
43. **PI, Fulbright Occasional Lecturer Program** Grant – from the US Dept. of State, for lecturing in San Juan (Puerto Rico, USA), March **2010** (\$750); in New York City (USA), April **2010**, (\$250);
44. **PI**, Ratiu Family Charitable Foundation (UK) Grant, for participating at the *SPIE 1st Canterbury Workshop on Adaptive Optics and OCT* [ISI], Sept. **2008**, Kent (UK) , (335£);

45. **PI, MC** ANCS Grant 237/2007, for participating at *DSTA Conference*, Lodz (Poland), [link](#), (800€); ANCS Grant 140/2007, for *DAAAM Symposium*, Zadar (Croatia), [link](#), (800€); at the Int. Conference *Diaspora in Scientific Research and Higher Education in Romania*, Timisoara 2016;
46. **PI, IEEE & FEDROM** (FEDeration of ROManians in Spain) Support for participation at *IEEE/LEOS ODIMAP V* (2 papers), Oct. 2006, Madrid (Spain), (~900€).

AFFILIATIONS

- **SPIE – Senior Member** since 2011 ([The Int. Society for Optics and Photonics](#)), member since 2005;
- **Fulbright Association** (<http://fulbright.org/>) – **Life Member** since 2011;
- **OPTICA/OSA** ([Optical Society of America](#)), member since 2007 – **Life Member** since 2014;
- **European Technology Platform Photonics21** (<http://www.photonics21.org/>) - since 2006;
- **EPIC** ([European Photonics Industry Consortium](#)) - since 2014;
- **EUROP-RO**, branch of the **European Robotics Platform EUROP**, vice-president of EUROP-RO (responsible for the South-West Axis), 2006-2010;
- **IEEE** (Institute of Electrical and Electronics Engineers), 2006-2007;
- **IFTOMM** (International Federation for the Theory of Mechanisms and Machines), 1998-2002;
- **SRR** (Romanian Robotics Society), since 2010; President of the Arad County branch, 2010-2015;
- **SRLS** ([Romanian Society for Lasers in Dentistry](#)) - since 2016;
- **INSTICC** (Institute for Systems and Technologies of Information, Control and Communication) – since 2021;

COMMITTEES, PEER-REVIEWER, EVALUATOR - publons.com/a/1280971/

REVIEWER OF PEER-REVIEWED JOURNALS (of different Publishing Houses):

- **OPTICA (former OSA - Optical Society of America)**: [Optics Express](#) (IF>3.5), [Biomedical Optics Express](#) (IF>3.5), [Optics Letters](#) (IF>3.5), [J. Opt. Soc. Am. A](#) (IF>1.5), [Applied Optics](#) (IF>1.5), [Photonics Research](#) (IF>5.5), [OSA Continuum](#), [Optica](#) (IF>7), since 2007;
- **SpringerNature**: [Acta Mechanica Sinica](#) (IF≈0.7), since 2010; [Differential Eqs. and Dynamic Systems](#), since 2012; [J. of Zhejiang University SCIENCE A](#) (IF≈0.5), since 2012; [Meccanica](#) (IF>2), since 2020; [Scientific Reports](#) (IF≈4), since 2020;
- **Elsevier**: [Optics Communications](#) (IF≈1.5), since 2015; [Mechatronics](#) (IF≈1.8), since 2015; [Control Eng. Practice](#) (IF>3), since 2015; [Applied Mathematical Modelling](#) (IF>2), since 2016; [Diabetes Research and Clinical Practice](#) (IF>3.5), since 2018; [Optik](#) (IF≈2); [Optical Fiber Technology](#) (IF≈2), since 2019; [Precision Engineering](#) (IF>2.5); [Saudi Dental Journal](#), since 2020;
- **Wiley**: [Lasers in Surgery & Medicine](#) (IF>2.5), since 2015;
- **IEEE**: [IEEE Access](#) (IF>3), since 2017; [IEEE Transactions on Industrial Electronics](#) (IF>7), since 2015; [IEEE/ASME Transactions on Mechatronics](#) (IF≈3.5), since 2015;
- **ASME**: [J. of Medical Devices](#) (IF>0.5), since 2015;
- **IOP (UK)**: [J. of Optics](#) (IF>2), since 2015; [Measurement Science and Technology](#) (IF>1.4), since 2015; [J. of Physics D: Applied Physics](#) (IF>3), since 2018; [Biomed. Phys. & Eng. Express](#) (IF>1), since 2020;
- **SPIE**: [Optical Engineering](#) (IF>1), since 2019;
- **AIP**: [Theoretical & Applied Mechanics Letters](#), since 2012;
- **SAGE**: [J. of Engineering in Medicine](#) (IF>1), since 2014;
- **Taylor & Francis**: [J. of Adhesion Sc. and Tech.](#) (IF>1), since 2015; [Phase Transitions](#) (IF≈1), since 2015;
- **MDPI**: [Applied Sciences](#) (IF>1.7), since 2016; [Sensors](#) (IF>3), [Materials](#) (IF>2.5), since 2017; [Remote Sensing](#) (IF>4), [Mathematics](#) (ISI), [Photonics](#) (IF>2.5), since 2018; [Int. J. of Molecular Sciences](#) (IF>4), since 2019; [J. of Clinical Medicine](#) (IF>5.5), since 2020; [Pharmaceuticals](#) (IF>5.8), since 2021; [Biomedicines](#) (IF>4.5), since 2023; [Bioengineering](#) (IF>5), since 2023;
- **AME**: [Quantitative Imaging in Medicine and Surgery](#) (IF>3), since 2019;
- **Romanian Academy**: [Romanian Reports in Physics](#) (IF>1.5), since 2018;
- [Latin American Journal of Solids and Structures](#) (IF>1), since 2012;
- **Hindawi**: [Advances in Optical Technologies](#), since 2011; [J. of Ophthalmology](#) (IF>1.7), since 2018;
- [J. of Visualized Experiments](#) (JOVE), (IF>1.5), since 2016;
- [Optica Applicata](#) (IF>0.5), since 2016;
- **L&P**, [Discontinuity, Nonlinearity, and Complexity](#), since 2016;

REVIEWER OF GRANTS

- Since 2019: **Reviewer** of Grants–National R&D Agency of Moldova (<https://anecd.gov.md>);
- Since 2016: **Reviewer** of Grants-Czech Science Foundation; 1 Proposal evaluated;
- Since 2013: **Reviewer** of Grants - Foundation for Polish Science; 6 Proposals evaluated;
- Since 2010: **Reviewer** of Fulbright Grants of the US Department of State; 10 Proposals evaluated;

- Since **2008: Reviewer** of Grants with European Union Funding (POS): 16 (2009), 6 (2010), 9 (2011), 8 (2012), 5 (2013), 5 (2015), 3 (2016);
- Since **2007: Reviewer** of Grants of the Romanian R&D Plan: 30 (2007), 13 (2008), 4 (2010), 8 (2011), 4 (2014), 15 (2015), 2 (2016), 1 (2017), 17 (2020), 5 (2022), 18 (2024); **UEFISCDI ID: U-1700-029M-1912**

COMMITTEES, CHAIRMAN

- Technical Committee Member, *4th Int. Conf. on Intelligent Transportation and Smart Cities* (<https://www.icitsc.org/>), Chengdu (China), March 5-7, **2027**;
- Technical Committee Member (Section of Optoelectronics and Optical Materials), *The 2nd Int. Online Conf. on Photonics* (<https://sciforum.net/event/iocp2026>), Dec. 14–16, **2026**;
- Member of the Scientific Committee, *4th Int'l Conf. on Big Data, Computational Intelligence and Applications* (<http://www.bdcia.org/>), Huanggang (China), Nov. 6–8, **2026**;
- **Chair** of “**PhoBioS Workshop on Biomedical Imaging and Sensing - Systems and Applications**” (<https://lightbiosurface.com/training-school-timisoara-2025/>), in the 3rd SPIE-affiliated Int. Conf. **Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology**, Timisoara (Romania), 8-10 Dec. **2025**;
- **Co-Chair** of “**COST Action Special Session: Properties, Design, Fabrication, Optical Metrology, and Applications of Nano-/Micro-structured Surfaces**” (26 June) and of “**Joint Session: COST Action, Understanding Interaction Light-Biological Surfaces**” (<https://spie.org/EOM25/conferencedetails/optical-methods-inspection>), (25 June), parts of *SPIE Optical Metrology (LASER Congress)* [ISI], Munich (Germany), June 22-26, **2025** (<https://lightbiosurface.com/cost-special-session-in-munich/>);
- Member of the Scientific Committee, 9th WFLD Congress & 10th SRLS-ICLM Int. Conference (<https://sites.google.com/umft.ro/internationallasercongress/scientific-schedule-committees>), Timisoara **2025**;
- Member of the Scientific Committee, 3rd *Int. Academic Conf. on Optics and Photonics (IACOP 2025)*, (<https://www.iacop.cn/>), Nanchang (China), Oct. 31-Nov. 2, **2025**;
- **Chair** of Session 1 “Calibration and Simulation of Remote, in Time and Distance, Processes”, *Conference 12686 “Infrared Remote Sensing and Instrumentation XXXI”, SPIE Optics + Photonics* [ISI], San Diego, CA, USA **2023**; <https://spie.org/conferences-and-exhibitions/optics-and-photonics>
- **Chair** of Session “Optoelectronics, Photonic Materials and Devices”, 9th *Int. Conf. on Antennas and Electromagnetic Systems (AES)*, Torremolinos (Spain), **2023**;
- **General Chair, Member of Scientific & Organizing Committees**, SPIE-affiliated [ISI] Int. Conf. **Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology**, Timisoara (Romania), **2021, 2023, 2025**;
- **Conference Board Member**, Int. Conf. on Materials: Advanced and Emerging Materials - Shenzhen Institute of Adv. Tech. Chinese Academy of Science (<https://2021icm-cn.sciforum.net/#ac>), Nov. 21-24, **2021**;
- **Chair**, 3OM Workshop in Optomechatronics and Biomedical Imaging, Arad (Romania) **2019, 2021, 2023**;
- **Chair** of Session, SRLS 8th Int. Conf. Lasers in Medicine, Constanta (Romania) **2018**;
- **Chair, Editor-SPIE Proc.** [ISI], **Member-Scientific & Organizing Committee**, reviewer, and **Chairman** of Session - SRLS 7th Int. Conf. Lasers in Medicine (**ICLM**), Timisoara (Romania) **2017**;
- **Member of the Scientific Committee** and reviewer, 2nd Int. Seminar on Biomaterials and Regenerative Medicine (**BioReMed**), Timisoara (Romania) **2017**;
- **Chair, Editor-SPIE Proc.** [ISI], **Member-Scientific Committee**, Organizing Committee, reviewer, and **Chairman** of Session - SRLS 6th Congress of the World Federation of Lasers in Dentistry-EU Division (WFLD-ED) & 6th Int. Conf. Lasers in Medicine (ICLM) (**wfld**), Bucharest (Romania) **2015**;
- **Chair, Editor-SPIE Proc.** [ISI], **Member-Scientific & Organizing Committee**, **Chairman** of Session-SRLS 5th Int. Conf. Lasers in Medicine (ICLM), Timisoara (Romania) **2013**;
- **Chair** of Session “Applications in high-tech products,” 11th IFToMM Int. Symposium on the Theory of Machines and Mechanisms – SYROM (<http://arotmm.ro/syrom2013/>), Brasov (Romania) **2013** [ISI];
- **Chair** of Session XXIX (BIO): RIAO-OPTILAS (VIII Iberoamerican Conf. Opt. & XI Latinamerican Meeting on Opt., Lasers and Applications) – SPIE [ISI], <http://riao.samura.pt/>, Porto (Portugal) **2013**;
- **Member of the Scientific Committee**, **Chairman** of Session, and reviewer, Int. Conf. on Dynamic Systems Theory and Applications (**DSTA**), Lodz (Poland), **2007; 2011; 2013; 2015; 2017; 2019; 2021**;
- **Chair** of Session: Optics in Precision Mechanics and Mechatronics, 8th Int. Conf. on Mechatronics and Fine Mechanics (COMEFIM), Cluj-Napoca (Romania), June 8-10, **2006**;
- **Member, Organizing Committees & reviewer** of the Proc. of ISREIE (Aurel Vlaicu Univ.), Arad (Romania), **2000, 2002, 2004, 2006, 2008, 2010, 2019**; **Editor** of the Engineering Proceedings, **2008, 2010**;

TEACHING ACTIVITY (current topics are bolded)

- **Lectures:** at the *Polytechnic Univ. of Timisoara*-Measuring and Control Apparatuses (1997-2001); Robots for Medical Assistance (2024-Present); Master Courses & Labs-Biomedical Technologies (2025-Present); Medical

Electronics (2025-Present); at the *Aurel Vlaicu Univ. of Arad-Mechanisms* (1999-Present); Mechanical Systems (1999-2006); Mechanisms & Machine Parts (2001-2003); Elements of Mechanical Engineering (2001-2003); Equipments for Precision Mechanics (2002-2004); Tolerances & dimensional control (2004-2006); **Quality Engineering** (2008-Present); Peripheral Equipments of Computers (2010-2019); Instrumentation [Optoelectronics] (2010-2013); Management in Industrial Engineering (2010-Present); **Biomedical Engineering** (2013-Present); **3D Scanning** (2019-Present); **Optimizations** (2019-Present); **Metodology of Scientific Research** (2018-2023); Master Courses–Quality Systems (2015-2016); **Lasers Engineering & Applications** (2018-Present); **Management of Research Projects** (2019-Present); at *School of Physics, West Univ. of Timisoara*-Master Course, Technical and biomedical applications of lasers (in English) (2013-2015); at *School of Dental Medicine, Victor Babes Univ. of Medicine and Pharmacy of Timisoara*-Master Course EMDOLA, **Optics** (in English), (2016-Present);

- **Seminars:** Technical Optics (1991-1993); **Mechanisms** (1999-Present); **Quality Engineering** (2008-Present);
- **Laboratories:** Measuring and Control Apparatuses (1991-2001); Technical Optics (1991-1993); Spectral Apparatuses (1991-1994); Calculus and Construction of Optical Apparatuses (1991-1997); **Mechanisms** (1999-Present); Mechanical Systems (1999-2006); Mechanisms and Machine Parts (2001-2003); Equipments for Precision Mechanics (2002-2004); Tolerances and dimensional control (2004-2006); Peripheral Equipments of Computers (2010-2019); Instrumentation [Opto-electronics] (2010-2013); Technical and biomedical applications of lasers (in English) (2013-Present); Quality Systems (2015-2016); **Lasers Engineering and Applications** (2018-Present); **3D Scanning** (2019-2023); **Optimizations** (2019-2023).

PhD THESES supervised (in English or Romanian), on-going:

- **Claudiu Godinel, Eng.:** *Contributions to the development of the systems and processes of laser cutting in the manufacturing of automobiles airbags*, at the Polytechnic Univ. of Timisoara (UPT), **2025–2029**. Supervisor: Prof. V.-F. Duma.
- **Mihai-Alexandru Batrina, Eng.:** *Contributions to the photometric and colorimetric studies, with industrial and biomedical applications*, at the Polytechnic Univ. of Timisoara (UPT), **2025–2029**. Supervisor: Prof. V.-F. Duma.
- **Andra Ardelean, MD:** *Utilizing PRF for regenerating soft and hard tissue* (in Romanian) at the “Victor Babes” Univ. of Medicine and Pharmacy of Timisoara (UMFVBT), **2024–2028**. Supervisor: Prof. C. Sinescu, MD; Cotutelle: Prof. V.-F. Duma.
- **Atilla Tiberiu Teodorovits, Eng.:** *Contributions to the development of laser scanning systems with applications in Optical Coherence Tomography (OCT) for industrial metrology and biomedical studies*, at the Polytechnic Univ. of Timisoara (UPT), **2024–2028**. Supervisor: Prof. V.-F. Duma.
- **Atilla Csillag, Eng.:** *Modeling, design and control of laser scanning systems for obtaining different scan patterns, for industrial and biomedical applications* at UPT, **2024–2028**. Supervisor: Prof. V.-F. Duma.
- **Eduard-Sebastian Csukas, Eng.:** *Applications of the Finite Element Analysis (FEA) for the study of optomechatronic modulators*, at UPT, **2024–2028**. Supervisor: Prof. V.-F. Duma.
- **Sorina Coroban, Eng.:** *Non-destructive techniques for defect analysis in automotive industry*, at UPT, **2023–2027**. Supervisor: Prof. V.-F. Duma.
- **Nicolae Dogaru, Eng.:** *Contributions to the improvement of the manufacturing processes of airbags for automotive using aspects of quality engineering*, at UPT, **2023–2027**. Supervisor: Prof. V.-F. Duma.
- **Bogdan-Pavel Negrei, Eng.:** *Machine learning and AI algorithms for inspection of airbags manufacturing processes*, at UPT, **2023–2027**. Supervisor: Prof. V.-F. Duma.
- **Yosef Quitt, Eng.:** *Device for measuring the level of water correlated to the ascertainment of the relative levels of characteristic points in the shore areas*, at UPT, **2023–2027**. Supervisor: Prof. V.-F. Duma.
- **Andrei Maldar, Eng.:** *Optimal programming and use of galvanometer- and Micro-Electro-Mechanical Systems (MEMS)-based laser scanners with oscillatory mirrors*, at UPT, **2022–2026**. Supervisor: Prof. V.-F. Duma.
- **Carina Neagu, MD:** *Optimization of some properties of dental adhesives through the inclusion of magnetic nanoparticles*, at UMFVBT, **2020–2024**. Supervisor: Prof. C. Sinescu, MD; Cotutelle: Prof. V.-F. Duma.

Completed:

- ✓ **Codruta Andreea Cojocariu (Novac), MD:** *Modern approaches in dental impression technique*, at UMFVBT, **2018–2024**. Supervisor: Prof. C. Sinescu, MD; Cotutelle: Prof. V.-F. Duma.
- ✓ **Alexandru-Lucian Dimb, Eng.:** *Contributions to the study of laser scanners with Risley prisms for Optical Coherence Tomography (OCT), with applications in industrial measurements*, at UPT, **2019-2023**. Supervisor: Prof. V.-F. Duma.
- ✓ **Ralph-Alexandru Erdelyi, Phys.:** *Biomedical imaging in dentistry using a range of investigation techniques, with a focus on optical coherence tomography (OCT)*, at UPT, **2018–2023**. Supervisor: Prof. V.-F. Duma.

- ✓ **Alexandra Maroiu, MD:** *Study on the influence of a novel design of dental veneers on the longevity and predictability of modern prosthetic treatment*, at UMFVBT, **2017–2023**. Supervisor: Prof. M. Rominu, MD; Cotutelle: Prof. V.-F. Duma.
- ✓ **Alin-Gabriel R. Gabor, MD:** *Contributions to methods of bone augmentation*, at UMFVBT, **2015–2020**. Supervisor: Prof. C. Sinescu, MD; Cotutelle: Prof. V.-F. Duma.

PostDoc Reseachers supervized

- **Dr. Alexandru-Lucian Dimb, Eng.:** at the Polytechnic University of Timisoara (UPT), **2024–Present**.
- **Dr. Ralph-Alexandru Erdelyi, Phys.:** at UPT, **2024–Present**.
- **Dr. Alexandra Maroiu, MD:** at the “Victor Babes” University of Medicine and Pharmacy of Timisoara (UMFVBT), **2024–Present**.
- **Dr. Roxana Mariana Beiu, Eng.:** at the “Aurel Vlaicu” University of Arad (UAVA), **2016–2021**.
- **Dr. Corina Anca Mnerie, Eng.:** at UAVA, **2012–2023**.

Master Dissertations supervized

- **“Aurel Vlaicu” Univ. Arad:** Andrei Maldar (2022); Atilla Csillag (2023); Atilla Teodorovits (2024).
- **Univ. of Kent, UK:** Philippa Law (co-supervision of Master Thesis, 2014 – 1st award in the year).
- **West Univ. of Timisoara -** co-supervision of Master Thesis: T. Nicola (2015); C. Untea-Mare (2016); R.-A. Erdelyi (2019).

MISCELLANEOUS

2021, Expert in the panel of the domain *Digitalization, Industry and Space*, within Romania’s *Strategic Research Agenda* for 2021-2027, organized by UEFISCDI;

2015-2018, Awards for results in research—from the Polytechnic Univ. of Timisoara (total: 1.8 k€);

2014, Article <http://dx.doi.org/10.1177/0954411914543963> highlighted in OCT News-Feature of the Week 10/5/14: <http://www.octnews.org/articles/5612435/feature-of-the-week-10-5-14-design-and-testing-of/>

2013, Responsible for the *Thank You Fulbright* Program (launched by the Fulbright Association) in Romania;

2010, June, attend Summer Courses (49th Annual Series), [The Institute of Optics](#), Univ. of Rochester, NY (USA);

2009-2010, Participation at weekly Optics Colloquia, The Institute of Optics, Univ. of Rochester, NY (USA);

2010, Optical Instrumentation (PhD Course attended, 1 sem.), Univ. of Rochester (USA), Prof. J.P. Rolland;

2010, March, COMSOL Multiphysics Modeling Training, Rochester (USA);

2010, April, Visit and Seminars-for Fulbright Fellows, attended at the UN Headquarters, NY;

President of Maturity Exam Commissions (in Romanian High Schools): Drobeta Turnu-Severin 2003, Craiova 2008, Satu Mare 2009, Cugir 2011 (3 weeks, in June-July);

SYMPOSIA PARTICIPATION

International:

- [The 4th International Online Conference on Materials](#), **2025**;
- 10th IEEE Electronics System-Integration Technology Conference (ESTC), Berlin (Germany) **2024**;
- The 1st Int’l Online Conference on Photonics, <https://sciforum.net/event/IOCP2024>
- 25th Congress of the Int. Commission for Optics (ICO), <https://www.ico25.org/>, Dresden (Germany) **2022**;
- Int. Conf. [Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology](#), SPIE-affiliated [ISI], Timisoara (Romania), **2021, 2023, 2025**;
- [Mexican Optics and Photonics Meeting](#) (MOPM), Mexico **2021**;
- [SPIE Optics + Photonics](#), [ISI], San Diego (USA) **2021, 2022, 2023, 2024**;
- SPIE Security + Defence and Remote Sensing [ISI], Berlin (Germany) **2018**, Strasbourg (France) **2019**, Amsterdam (Netherlands) **2023**, Edinburgh (UK) **2024**, Madrid (Spain) **2025**;
- SPIE Nuclear Photonics [ISI], Brasov (Romania) **2018**;
- Annual Conf. of European Prosthodontic Association ([EPA](#)), Bucharest (Romania), **2017**;
- Annual Meeting of the European Society for Biomaterials (ESB), Athens (Greece) **2017**;
- Central & East. European Conf. for Thermal Analysis & Calorimetry (CEEC), Chisinau (Moldova) **2017**;
- SPIE Applied Optics and Photonics (AOP) [ISI], Faro (Portugal) **2017**;
- OSA Frontiers in Optics, Rochester, NY (USA) **2016**;
- Biommedd, Constanta **2016**, Cluj-Napoca (Romania) **2018**;
- SPIE ATOM-N [ISI], Constanta (Romania) **2016**;

- Advanced Electromagnetics Symposium (AES), Malaga (Spain) **2016**, Incheon (Korea) **2017**, Lisbon (Portugal) **2019**, Marrakesh (Morocco) **2022**, Torremolinos (Spain) **2023**, Rome (Italy) **2022**, Tangier (Morocco) **2025**;
- SPIE Optifab [ISI], Rochester, NY (USA) **2015, 2017**;
- Optics & Photonics Applications (OPA) Conf., Univ. of Guanajuato, Salamanca (Mexico), **2015**;
- Int. Seminar on Biomat. and Regenerative Med. ([BioRemed](#)), Oradea **2015**, Timisoara (Romania) **2017**;
- Balkan Stomatological Society (BASS) Congress, Bucharest (Romania) **2015**;
- SPIE Medical Imaging [ISI], Orlando (USA) **2015**;
- SPIE Optics + Optoelectronics [ISI], Prague (Czech Republic) **2015, 2017, 2019, 2023, 2025**;
- SRLS & SPIE Int. Conf. Lasers in Medicine [ISI], Timisoara **2013**, Bucharest **2015**, Timisoara **2017**, Constanta **2018**, Oradea (Romania) **2023**, Timisoara **2025**;
- New York Great Dental Meeting, NY (USA) **2014**;
- SPIE RIAO-OPTILAS (VIII Iberoamerican Conf. on Optics & XI Latinamerican Meeting on Optics, Lasers and Applications) [ISI], Porto (Portugal) **2013**;
- SPIE ISPD 5th Int. Symposium on Photoelectronic Detection and Imaging [ISI], Beijing (China) **2013**;
- SPIE ETOP (Education and Training in Optics and Photonics) [ISI], Porto (Portugal) **2013**;
- ISEMMS (Int. Symposium on Education in Mechanism & Machine Science) [ISI] Madrid (Spain) **2013**;
- MeTrApp: 1st Workshop on Mechanisms, Transmissions and Applications, Timisoara (Romania) **2011**;
- WSF-World Science Forum (Member of the Fulbright Alumni delegation), Budapest (Hungary) **2011**, Rio de Janeiro (Brasil) **2013**, Budapest **2015**, Dead Sea Resort (Jordan) **2017**, Budapest **2019, 2024**;
- EUCOMES - European Conf. on Mechanism Science, Cluj-Napoca (Romania) **2010**, Nantes (France) **2016**;
- Fulbright Conf. (CIES): Linking Campus to Community (Georgetown Univ.), Washington DC (USA) **2010**;
- SPIE Photonics West (BIOS, OPTO) [ISI], San Francisco (USA) **2010, 2013-2015, 2017, 2018**;
- IA-Industrial Assoc. Meeting, The Institute of Optics, Univ. of Rochester, NY (USA) **2009, 2010**;
- IBWAP: Int. Balkan Workshop in Applied Physics, Constanta (Romania) **2009, 2014, 2018**;
- ROCAM: Romanian Conf. on Advanced Materials, Brasov (Romania) **2009**;
- SPIE Canterbury OCT and AO Workshop [ISI], Kent (UK) **2008, 2017**;
- SPIE Optical Systems Design [ISI], Glasgow (UK) **2008**, Jena **2015**, Frankfurt (Germany) **2018**, Madrid (Spain) **2021**, Strasbourg (France) **2024**;
- CARE (Coordinated Actions for Robotics in Europe) Consensus Meetings, Stuttgart (Germany) **2008**;
- SPIE Photonics Europe [ISI], Brussels (Belgium) **2012, 2014**; Strasbourg (France) **2008, 2018, 2020, 2022, 2024**;
- DSTA Conf. (Dynamic Systems Theory & Applications) [ISI], Lodz (Poland) - every other year, **2007-2020**;
- Intl. DAAAM Symposia [ISI], Zadar (Croatia) **2007**, Vienna (Austria) **2009**;
- 2nd European Optical Society (EOS) Topical Meeting, Optical Micro-Systems (OμS), Capri (Italy) **2007**;
- 12th IFToMM Word Congress (Int. Federation for the Promotion of the Theory of Mechanisms and Machines), Besancon (France) **2007**;
- IEEE ODIMAP (5th Topical Meeting on Optoelectronic Dist./Displ. Meas. & Appl.), Madrid (Spain) **2006**;
- SPIE ROMOPTO: Micro-to Nano-Photonics [ISI], Sibiu **2006, 2009**, Bucharest (Romania) **2015**;
- 1st IIV South-East European Welding Congress, Timisoara (Romania) **2006**;
- Int. Conf. VSU, Sofia (Bulgaria) **2006, 2007**;
- LASER-Word of Photonics Congress (at different OSA & SPIE Conferences) [ISI], Munchen (Germany) **2005, 2009, 2011, 2013, 2017, 2023, 2025**;
- PAMM (Pannonian Appl. Math. Meetings), PC 149-150 Timisoara **2004**, PC 154 Ballaton (Hungary) **2007**;
- 5th Int. Conf. of Metrology, Bucharest (Romania) **2001**;
- 1st Int. Symposium of Complementary Medicine of 3rd Millenium, Oradea (Romania) **2000**;
- ETC-Int. Electronics and Communications Symposium, Timisoara (Romania) **1998**;
- Mess Comp.'95 (9 Kongreßmesse für Industrielle Meßtechnik), Wiesbaden (Germany) **1995**;
- Conf. on Fine Mech., Opt. & Mechatronics (COMEFIM), Bucharest **1994, 1998**, Cluj-Napoca **2006**;
- SIOEL-Optoelectronics Int. Conf., Bucharest (Romania) **1993, 2004**;
- IFToMM Int. Symposium on the Theory of Machines and Mechanisms – SYROM, Bucharest **1993, 2001, 2005**, Brasov (Romania) **2009** [ISI], **2013**;
- I Congreso Iberoamericano de Ingenieria Mecanica, Madrid (Spain) **1993**.

National (Romania):

- 3OM Workshop in Optomechatronics and Biomedical Imaging, Arad (Romania) **2019, 2021, 2023**;
- [RoMAT2016](#), Bucharest (Romania), **2016**;
- Int. Conf. *Advances in Engineering & Management* (ADEM), Severin (Romania) **2016, 2020**;

- Diaspora in Scientific Research and Higher Education in Romania, Timisoara **2016**;
- National Seminar on Mechanisms, Craiova **2008**, Timisoara **2009**, Tg. Mures **2010**;
- EUROP-RO Symposia, Bucharest April **2007**, Sept. **2007**;
- Universitaria Simpro, Petrosani **2006**;
- Modeling and Optimization in the Machine Building Field - MOCM 11, Bacau (Romania) **2005**;
- ISREIE (Aurel Vlaicu Univ. of Arad Symposia) - every two years, since **1996**;
- National Industrial Robots Symposia, Timisoara **1992, 1996**, Oradea **2000**;
- Mechanisms and Mechanical Transmissions Symposia (MTM), Timisoara **1992, 1996, 2000**;
- 17th Symposium of the Military Technical Academy, Bucharest **1997**;
- *Nature and Man* Life Science Museum Symposia, Ploiesti **1994, 1995, 1997**;
- *Man and Mountain* Symposia, Voineasa **1993**, Ramnicu Valcea **1994**;
- Univ. of Oradea Symposium, Oradea **1994, 2007**.

List of Publications

<http://www.researcherid.com/rid/B-3031-2010>

h-index = 27 (*ISI Web of Science*)

https://www.researchgate.net/profile/Virgil-Florin_Duma

Papers in Journals indexed in ISI Web of Science (**ISI Impact Factor (IF) = 162.587**)²

75. C.-S. Neagu, R.-A. Tuce, R. Turcu, I. Craciunescu, V.M. Socoliuc, R.-M. Talpos-Niculescu, L.-M. Nica, V.-F. Duma, C. Sinescu, Color Mapping of Teeth Restored Using Dental Adhesives Loaded with Magnetic Nanoparticles. *Dentistry Journal* 14, 333 (2026). <https://doi.org/10.3390/dj14060333>; EISSN 2304-6767; **IF 3.4/2025; Q1**;
74. D.F. Nica, S. Dinu*, D. Chioran, A. Nicoara, M. Rivis, **V.-F. Duma***, C. Sinescu, M.L. Negrutiu, C. Langa, C. Zaharia, Biomechanical Evaluation of the Second Molar Uprighting with Retromolar Mini-Implants in the Presence and Absence of the Third Molar, *Oral* 6(2), 47 (2026). <https://doi.org/10.3390/oral6020047>; EISSN 2673-6373; **IF 1.5/2025; Q3**;
73. C.A. Ratiu, C. Sinescu, D. Dejeu, O. Tica, C. Moisa, C.A. Croitoru, I.A. Ratiu*, **V.-F. Duma***, A. Todor, V. Miclaus, V. Rus, Participation of the Periosteum, Endosteum, and Hematogenous Marrow in the Early Osseointegration of a Titanium Implant Inserted in Contact with the Hematogenous Marrow, *Medicina-Lithuania* 61(10), 1841 (2025). <https://doi.org/10.3390/medicina61101841>; ISSN 1648-9144; **IF 2.9; Q1**
72. C.S. Neagu, A.C. Novac, C. Zaharia, M.-L. Negrutiu, I. Craciunescu, V.M. Socoliuc, C.N. Marin, I.-A. Bradu, L.M. Nica, M. Stef, **V.-F. Duma***, M. Romînu, C. Sinescu, The Impact of Nanoparticle Coatings on the Color of Teeth Restored Using Dental Adhesives Augmented with Magnetic Nanoparticles, *Medicina-Lithuania* 61(7), 1289 (2025); ISSN 1648-9144; <https://doi.org/10.3390/medicina61071289>; **IF 2.9; Q1**
71. **V.-F. Duma***, G. Garcia-Torales, T. Hayakawa, Introduction to Special Issue on “Advances in 3OM: Opto-Mechatronics, Opto-Mechanics, and Optical Metrology”, *Photonics* 12, 557 (2025); ISSN 2304-6732; **IF 2.1**; <https://doi.org/10.3390/photonics12060557>; **Q3**
70. E.I. Niță, D.C. Comeagă, D.A. Apostol, **V.-F. Duma***, Development of a Laser Surgical Device with Vibration Compensation: Mechanical Design and Validation of Its Compliant Mechanism, *Applied Sciences-Basel* 15(7), 3686 (2025). <https://doi.org/10.3390/app15073686>; ISSN 2076-3417; **IF 2.7; Q2**
69. M.C. Langă, D.F. Nica*, **V.-F. Duma***, R.E. Heredea, C. Sinescu, Dentigerous Cysts in Children: Clinical, Radiological, and Healing Aspects, *Medicina-Lithuania* 60(7), 1133 (2024); ISSN 1648-9144; <https://doi.org/10.3390/medicina60071133>; **IF 2.4; Q1**
68. I.-R. Munteanu, R.-E. Luca*, E. Hoge, R.-A. Erdelyi, **V.-F. Duma***, L. Marsavina, A.-L. Globasu, G.-D. Constantin, D.C. Todea, Microbiological and Imaging-Based Evaluations of Photodynamic Therapy Combined with Er:YAG Laser Therapy in the In Vitro Decontamination of Titanium and Zirconia Surfaces, *Microorganisms* 12(7), 1345 (2024); eISSN 2076-2607; <https://doi.org/10.3390/microorganisms12071345>; **IF 4.2; Q2**
67. L. Popescu, E.L. Crăciunescu*, A.C. Novac, M.L. Negruțiu, **V.-F. Duma**, A Tudor, A. Mostovei, D. Jumanca, C. Sinescu, Nutritional profiling and sensory evaluation of novel hot chocolate recipes: a comparative study with a commercial brand, *Romanian J. of Oral Rehabilitation* 16(2), 197-203 (2024); ISSN 2066-7000; **IF 1.1**; DOI: 10.6261/RJOR.2024.2.16.19; **Q3**
66. A.C. Novac, A. Tudor*, D.M. Pop, C.S. Neagu, E.L. Craciunescu, M. Rominu, M.L. Negrutiu, **V.-F. Duma***, C. Sinescu, Conventional dental impressions vs. impressions reinforced with rigid mouthguards, *Polymers* 16(7), 994 (2024); ISSN 2073-4360; <https://doi.org/10.3390/polym16070994>; **IF 4.9; Q1**
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