

VIRGIL-FLORIN DUMA

Curriculum Vitae

<http://www.researcherid.com/rid/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. V.I. Vlad (President of the Romanian Academy); Members, Prof. N. Puscas (UPB), Prof. J.P. Huignard (Institute Lavoisier, France), Dr. G. Perrone (Univ. of Turin, Italy);
- **Postdoctoral Fulbright Senior Stage** in Applied Physics (Optics), at *The Institute of Optics, Univ. of Rochester, NY, USA*; Supervisor, Prof. Jannick P. Rolland (USA); 2009-2010;
- **PhD** in Engineering Sciences, *cum laude* (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 (29 years of experience): Measuring Systems; Optomechatronics & Optical Systems; Biomedical Imaging; Mechanisms & Theory of Machines; Quality Engineering.

POSITIONS

- **Adjunct Professor (for Optics Master Courses-in English)**, 2016-Present, at the Faculty of Dental Medicine, *Victor Babes Univ. of Medicine and Pharmacy Timisoara* (Romania); [Emdola-european-master](#);
- **Adjunct Professor (PhD Advisor)**, 2014-Present, at the *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, at the Faculty of Physics, *West Univ. of Timisoara* (Romania);
- **Visiting Scientist**, March 1, 2013-Present, **Fulbright Senior Research Fellow**, Sept. 25, 2009-June 20, 2010 (sabbatical year), at [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 for scientific research**, 2012;
- **Honourary Professor** & member of the Elliot College, **2020-present, Visiting Senior Research Fellow**, 2009-2019, at the School of Physical Sciences ([Applied Optics Group](#)), [Univ. of Kent](#), Canterbury, Host: [Prof. Adrian Gh. Podoleanu](#) (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 at the *Aurel Vlaicu Univ. Arad*; <https://erris.gov.ro/3OMGroup>, 2008-present;

- **Professor**, 2006-present, Dept. of Product Design, Faculty of Engineering, *Aurel Vlaicu Univ. of Arad* (Romania);
- **Associate Professor**, 2002-2006, **Lecturer**, 1999-2002, Dept. of Product Design, 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

- **2020-2022, Guest Editor** of a Special Issue of *Medicina* (ISSN 1010-660X), MDPI, **ISI IF 1.205/2019**, [New Concepts for Dental Treatments and Evaluations](#);
- **2020-2022, Guest Editor** of a Special Issue of *Applied Sciences* (ISSN 2076-3417), MDPI, **ISI IF 2.474/2019**, [Progress in 3OM: Opto-Mechatronics, Opto-Mechanics, and Optical Metrology](#);
- **2020-2022, Guest Editor** of a Special Issue of *Applied Sciences* (ISSN 2076-3417), MDPI, **ISI IF 2.474/2019**, [Frontiers in Optomechanics](#);
- **2020-2021, Guest Editor** of a Special Issue of *Photonics* (ISSN 2304-6732), MDPI, **ISI IF 2.140/2019**, [Advances in 3OM: Opto-Mechatronics, Opto-Mechanics, and Optical Metrology](#);
- **2020-2022, Guest Editor** of a Special Issue of *Materials* (ISSN 1996-1944), MDPI, **ISI IF 3.057/2019**, [Materials Investigations in Mechanical Systems](#);
- Since **2020, Section Editorial Board Member** of the Section “[Optoelectronics and Optical Materials](#)” of *Photonics* (ISSN 2304-6732), MDPI, **ISI IF 2.140/2019**;
- **2019-2021, Guest Editor** of a Special Issue of *Materials* (ISSN 1996-1944), MDPI, **ISI IF 3.057/2019**, [Biocompatible Materials Investigated with Optical Methods](#);
- Since **2016, Member of Editorial Board**, *J. of Adhesion Science and Technology* (Taylor & Francis) **IF>1**;
- **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;
- Since **2019, OSA Visiting Lecturer** (Optical Society of America, USA), <https://www.osa.org/en-us/home/>;
- Since **2014, SPIE Visiting Lecturer** (Int. Soc. for Optics and Photonics, USA), <http://spie.org/x109325.xml>;
- **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/comisia-stiinte-ingineresti/> (http://www.cncs-nrc.ro/wp-content/uploads/2017/01/CV-CNCS_Duma_En.pdf);
- Since **2013, Director**, *Research Center in Mechanical Engineering, Aurel Vlaicu Univ. Arad*;
- **2008-2011, Vice Dean for Research**, Faculty of Engineering, *Aurel Vlaicu Univ. Arad*;
- **2004-2006: Scientific Secretary**, Dept. of Product Design, *Aurel Vlaicu Univ. of Arad*;
- Since **1999**, Head of the Mechanisms Laboratory at the *Aurel Vlaicu Univ. of Arad*;

SCIENTIFIC PAPERS (*h-index=20, ISI WoS*) https://www.researchgate.net/profile/Virgil-Florin_Duma

272 published papers (66 as sole author, 55 as first, and 151 as co-author) – 156 in ISI WoS:

43 in ISI peer-reviewed journals with impact factor (IF); 53 in other peer-reviewed journals;

113 proceedings papers indexed in ISI Web of Science; 63 in other conference proceedings.

1 Romanian patent awarded and 2 applications pending;

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

Scopus Author ID 9839230700 (*h-index=20, Scopus*)

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

<http://scholar.google.ro/citations> (*h-index=21, Google Scholar*)

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

45 Invited Lectures at conferences or universities

101 oral presentations or posters at conferences (without published proceedings).

CITATIONS (Oct. 2020): >345 in ISI Web of Science; >410 in Google Scholar (both excluding self-citations).

BOOKS & BOOKS CHAPTERS

2 chapters in internationally edited books (Springer);

2 scientific books / monographs (sole author);

7 books as editor (2 laboratory books, 3 ISI Proc., 2 Proc.);

2 university courses (co-author);

3 laboratory books (sole or co-author);

48 INVITED LECTURES & PRESENTATIONS

- Non-Destructive Testing (NDT) in Industry: Study of Metallic Fractures with Optical Coherence Tomography (OCT) versus Scanning Electron Microscopy (SEM), *Int. Conf. Advances in Engineering & Management (ADEM)*, Drobeta-Turnu Severin (Romania), Dec. 10-11, **2020** (Plenary Paper);
- 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** (Invited Paper, <https://www.sofa-org.eu/2020/prof-virgil-florin-duma/>);
- 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/>;
- 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 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 (RIO-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);
- 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 Presentation);
- 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);
- 2 SPIE Invited Lectures: 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**;
- 2 Tutorials and Workshops (3h each): 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**;
- Applications of Optical Coherence Tomography in non-destructive testing, *Biommedd 2018*, Cluj-Napoca (Romania), Sept. 27-29, **2018** (Invited Presentation);
- 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);
- Scanning patterns in imaging, at the School of Physical Sciences (Applied Optics Group), *Univ. of Kent, Canterbury* (UK), Aug. 10, **2018** (Invited Seminar), <https://research.kent.ac.uk/applied-optics/aog-seminars/>;
- 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);
- Laser scanners for high-end biomedical imaging, *City Univ. of New York, NY* (USA), Oct. 13, **2017** (Invited Seminar – Dept. of Mechanical Engineering);
- Biomedical imaging with Optical Coherence Tomography. Systems and applications, *2nd Int. Seminar on Biomaterials and Regenerative Medicine (BioRemed)*, Timisoara (Romania), Oct. 5, **2017** (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);
- Laser scanners with oscillatory mirrors for high-end applications, *TIM Physics Conf.* [ISI], Timisoara (Romania), May 25-27, **2017** (Keynote Lecture);
- Optical Coherence Tomography in Metallic Materials Characterization, *RoMAT2016*, Bucharest (Romania), Nov. 10, **2016** (Invited Presentation);
- Optical Coherence Tomography: Handheld scanning probes with galvanometer scanners, *TIM 15-16 Physics Conf.* [ISI], Timisoara (Romania), May 28, **2016** (Invited Presentation);
- Optimization of biomedical systems for OCT with applications in Dental Medicine, *21th Congress of Dental Medicine*, Timisoara (Romania), May 21, **2016** (Invited Presentation);
- Biomedical imaging using Optical Coherence Tomography. Devices, systems, and applications, *BioRemed Int. Conf.*, Oradea (Romania), Sept. 19, **2015** (Invited Presentation);
- 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 Intl Conf. Lasers in Medicine* [ISI], Bucharest (Romania), May 8, **2015**, in *Proc. SPIE*, [doi](#) (Invited Presentation);

- 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);
- 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);
- 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);
- Renewable Energies—Two Projects and a Global Perspective, HURO/1101/175/2.1.1, *Romania-Hungary 2007-2013 Program of Trans-frontiers Cooperation* (www.huro-cbc.eu), Arad (Romania), Apr. 11, **2014** (Invited Presentation);
- 1D and 2D Scanning Systems in Biomedical Imaging, at the School of Physical Sciences (Applied Optics Group), *Univ. of Kent, Canterbury* (UK), Nov. 7, **2013** (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);
- Galvanometer-based Scanners in Optical Coherence Tomography (OCT), *City Univ. of New York* (USA), Febr. 14, **2013** (Invited Presentation);
- 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, Fulbright Occasional Lecturer Program - OLP);
- Optical scanners, *The Inst. of Optics, Univ. of Rochester* (NY, 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**);
- 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);
- 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 Lecture);
- Contributions on the Design of the Optical Systems (Laser Scanning Devices), Dept. of Physics, *Jacobs Univ. of Bremen*, Bremen (Germany), Oct. **2004** (Invited Presentation).

SCHOLARSHIPS & FELLOWSHIPS

- **Visiting Senior Research Fellowship**, at the [Univ. of Kent](http://www.kent.ac.uk), Canterbury (UK); Host: [Prof. Adrian Gh. Podoleanu](mailto:adrian.g.podoleanu@kent.ac.uk) (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](http://www.io.rochester.edu) (#1 in Optics and #4 in Applied Physics in the US), [Univ. of Rochester, NY](http://www.rochester.edu) (USA); Host: [Prof. Jannick P. Rolland](mailto:jannick.p.rolland@rochester.edu) (Brian J. Thomson Chair in Optical Engineering), [ODALab](http://www.odalab.org), 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](http://www.kent.ac.uk) (UK): Aug. **2018**; Aug. **2016**; July-Aug. **2015**; Aug. **2013**; July-Aug. **2011**;
[Univ. of Rochester, NY](http://www.rochester.edu) (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](http://www.kent.ac.uk) (UK): Feb. 13-22, **2015**; Feb. 07-21, Aug. 2-20 **2014**; Oct. 27-Nov. 09, **2013**;

[Univ. of Rochester, NY](http://www.rochester.edu) (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

[Univ. of Kent](#), Canterbury (UK): Feb. 24-29, **2020**;

AWARDS

- **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 Award** PN-III-P1-1.1-PRECISI-201939511 for *APM* **67**(3), 456-476 (**2019**); [doi](#); [link](#) (1,250€);
- **ANCS Award** PN-III-P1-1.1-PRECISI-2019-334883 for *Materials* **12**(6), 947 (**2019**); [link](#) (200€);
- **ANCS Award** PN-III-P1-1.1-PRECISI-2018-24971 for *Proc. Rom. Acad. A* **19**, 53-60 (**2018**); [link](#) (500€);
- **ANCS Award** PN-III-P1-1.1-PRECISI-2018-24968 for *Metals* **8**(2), 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 Award** [PN-III-P1-1.1-PRECISI-2017-15869](#) for *Proc. Rom. Acad. Series A* **18**, 25 (**2017**) [link](#) (500€);
- **ANCS Award** [PN-III-P1-1.1-PRECISI-2017-19701](#) for *Opt. Express* **25**(19), 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 Award** [PN-III-P1-1.1-PRECISI-2016-12189](#) for *Opt. Express* **24**(12), 13365-13374 (**2016**) (1,300€);
- **ANCS Award** PN-III-P1-1.1-PRECISI-2016-11474 for *R. R. Physics* **67**(4), 1346-1358 (**2015**), [link](#) (500€);
- **ANCS Award** PN-II-RU-PRECISI-2015-9-8637 for *Applied Optics* **54**(17), 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 Award** 1257/2011 for *Applied Optics* **50**(29), 5735-5749, **2011**, [link](#) (500€);
- **ANCS Award** 1390/2010, for *Applied Optics* **48**(32), 6355-6364, **2009**, [link](#) (500€);
- **ANCS Award** 1391/2010, for *Applied Optics* **48**(14), 2678-2685, **2009**, [link](#) (500€);
- **ANCS Award** 87/2008, for *J. of Optics A: Pure and Applied Optics* **10**(6), 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. **Principal Investigator (PI), Project for Experimental Demonstration (PED) Grant** PN-III-P2-2.1-PED-2020-4423 (Contract 418PED/2020), [Romanian National Authority for Scientific Research \(ANCS-UEFISCDI\)](#): *Optical Coherence Tomography for Non-Destructive Testing in Industry (OCT4NDT)*, in partnership with [SC Inteliform SRL Timisoara](#) (145k€); Oct. **2020**-Oct **2022**; 15 researchers. *Publications (on-going)*: **1 journal paper in ISI Web of Science (WoS), Σ IF 3.057**;

2. **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 (2M€), Aug. **2016** - Aug. **2020**; **3 journal papers in ISI WoS-from WP1, ΣIF 8.005**;
3. **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 Inteliform SRL Timisoara](#) (133k€); Jan. **2017**-July **2018**; 14 researchers. *Publications*: 6 Invited Presentations, 9 ISI Proc., 15 other conf. presentations; **9 journal papers in ISI WoS, ΣIF 21.041**; <http://3om-group-optomechatronics.ro/pedp1937/>
4. **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)* (102k€), Oct. **2016**-Oct. **2018**; 8 researchers. *Publications*: 5 Invited Presentations, 12 ISI Proc., 13 other conf. presentations; **4 journal papers in ISI WoS, ΣIF 9.225**; <http://3om-group-optomechatronics.ro/bg297/>
5. **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 Inteliform SRL Timisoara](#) (435k€), Oct. **2016**-Oct. **2018**; 2 institutions, 12 researchers. *Publications*: 1 book, 18 Invited Presentations, 6 ISI Proc., 19 other conf. presentations; **11 journal papers in ISI WoS, ΣIF 26.942**; <http://3om-group-optomechatronics.ro/ptep181/>
6. **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 Thesis, 13 Invited Presentations, 47 ISI Proc., 28 other conf. presentations; **17 journal papers in ISI WoS, ΣIF=31.633**. <http://3om-group-optomechatronics.ro/pp1682/>
7. **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 in the USA), [Univ. of Rochester, NY](#) (USA); Host: [Prof. J. P. Rolland](#), [ODAlab](#), Sept. **2009**-June **2010** (\$26,450). *Publications*: 2 ISI Proc., **1 journal paper in ISI WoS, IF=1.748**;
8. **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** (support of \$6k);
9. **PI, IDEAS Grant** 1896/2008, [ANCS-UEFISCDI](#): *Analysis and design of some polygonal and galvanometer-based, 1D and 2D scanners*, **2009-2011** (101k€); 7 researchers. *Publications*: 5 book chapters, 1 patent, 10 ISI Proc., 12 other journal and conf. papers; **5 journal papers in ISI WoS, ΣIF=9.931**; [ideas-project-1896/](#)
10. **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, **2007-2010** (600k€);
11. **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€);
12. **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** (60k€);
13. **PI, 3 Research Contracts** (Romanian companies), through Aurel Vlaicu Univ., **2004-2005** (2k€);
14. **PI, Young Researchers (AT) Grant**, ANCS code 385: *Development of Some New Scanning Equipments*, **2003-2004** (3.5k€); **2 books (monographs)** [B5, B6];
15. **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** (225k€);
16. **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

17. **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);

18. **Co-PI, Erasmus+**, Univ. of Kent, School of Physical Sciences (UK)-Aurel Vlaicu Univ. of Arad, **2018-2021**;
19. **Member, COST Action CA17126** ‘Towards understanding and modelling intense electronic excitation’ (TUMIEE), http://www.cost.eu/COST_Actions/ca/CA17126, **2018-2021**;
20. **Member, COST Action CMI405**, ‘Molecules in Motion’, <https://www.molim2018.ethz.ch/2018/>, **2015-2019**;
21. **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**;
22. **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**;
23. **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**;
24. **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);
25. **Co-PI, Erasmus**, RWTH Aachen (IGM) - Aurel Vlaicu Univ. of Arad, **2007-2013**;

TRAVEL GRANTS

26. **PI**, Support from EU ERASMUS+, to lecture at the Univ. of Kent (UK), 1 week, Feb. **2020** (>1100€);
27. **PI**, Support from the Hungarian Acad. of Sciences, to participate at the <https://worldscienceforum.org/>, as representative of Romania in the Fulbright delegation, Budapest (Hungary), Nov. **2019** (>300€);
28. **PI, SPIE Lecturer Program Grant** from [SPIE](http://www.spie.org/) (The Int. Society for Optics & Photonics, USA) and the Univ. for lecturing at the *Universidad de Guadalajara* (Mexico), Nov. 26-30, **2018** (~\$2k);
29. **PI, Grant** PN-III-P1-1.1-MCD-2018-0230, [ANCS-UEFISCDI](http://www.uefiscdi.ro/) to support the visit of Dr. G. Dobre ([Univ. of Kent](http://www.kent.ac.uk/), Canterbury, UK) to UAV Arad (~1k€), [link](http://www.kent.ac.uk/), Nov. **2018**;
30. **PI, SPIE Lecturer Program Grant** from [SPIE](http://www.spie.org/) for lecturing at the *9th Int. Physics Conf. ICPYS-LTP*, Kharkov (Ukraine), June 4-8, **2018** (~1k€);
31. **PI, SPIE Grant** to support with a booth the participation at the *SPIE Photonics Europe ‘Innovation Village’*, Strasbourg (France), Apr. 22-23, **2018**;
32. **PI**, Support from the Royal Society of Jordan, to participate at the [World Science Forum](http://www.worldscienceforum.org/), as representative of Romania in the Fulbright delegation, Jordan, Nov. 7-11, **2017** (>1k€);
33. **PI, Grant** PN-III-P1-1.1-MCD-2016-0077, [ANCS-UEFISCDI](http://www.uefiscdi.ro/) to support the visit of Dr. G. Dobre ([Univ. of Kent](http://www.kent.ac.uk/), Canterbury, UK) to UAV Arad (~1.3k€), [link](http://www.kent.ac.uk/), Nov. **2016**;
34. **PI**, Full support from ANCS to participate at the Int. Conference *Diaspora in Scientific Research and Higher Education in Romania*, Timisoara **2016**;
35. **PI**, Support from the Hungarian Acad. of Sciences, to participate at the [Word Science Forum](http://www.worldscienceforum.org/), as representative of Romania in the Fulbright delegation, Budapest (Hungary), Nov. **2015** (>300€);
36. **PI, SPIE Lecturer Program Grant**, from [SPIE](http://www.spie.org/) and support from the Univ. of Guanajuato for lecturing at this university (Mexico), Sept. **2015** (~\$1.8k);
37. **PI, SPIE Lecturer Program Grant**, from [SPIE](http://www.spie.org/) for lecturing at the *National Univ. of Ireland (NUI)* at Galway, Nov. **2014** (600€);
38. **PI**, Support from the Brazilian Acad. of Sc. and from the Fulbright Assoc., to participate at the [Word Science Forum](http://www.worldscienceforum.org/), as representative of Romania in the Fulbright delegation, Rio de Janeiro (Brazil), Nov. **2013** (~4k€);
39. **PI**, Support from Fulbright Acad. of Sc. & Tech. and from Hungarian Acad., to participate at the [Word Science Forum](http://www.worldscienceforum.org/), as representative of Romania in the Fulbright delegation, Budapest (Hungary), Nov. **2011** (~1.5k€);
40. **PI, Fulbright Occasional Lecturer Program Grant**–from the US Department of State, for lecturing in New York City (USA), April **2010** (\$250);
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** (~\$1k);
43. **PI, Fulbright Occasional Lecturer Program Grant** – from the US Dept. of State, for lecturing in San Juan (Puerto Rico, USA), March **2010** (\$750);
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](http://www.kent.ac.uk/) (800€);
46. **PI, MC ANCS Grant 140/2007**, for *DAAAM Symposium [ISI]*, Zadar (Croatia), [link](http://www.kent.ac.uk/) (800€);
47. **PI, IEEE & FEDROM** (FEDeration of ROManians in Spain) Support for participation at *IEEE/LEOS ODIMAP V* (2 papers), Oct. **2006**, Madrid (Spain) (total: ~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;
- **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** - representative of the Aurel Vlaicu University, vice-president of EUROP-RO (responsible for the South-West Axis) - since 2006;
- **IEEE** (Institute of Electrical and Electronics Engineers), 2006-2007;
- **IFTToMM** (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;

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

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

- **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](#): 5-8 reviews/year, 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>2.8), 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>2), [Materials](#) (IF>2.5), since 2017; [Remote Sensing](#) (IF>4), [Mathematics](#) (ISI), [Photonics](#) (ISI), since 2018; [Int. J. of Molecular Sciences](#) (IF>4), since 2019; [Int. J. of Environmental Research and Public Health](#) (IF>2), since 2019; [J. of Clinical Medicine](#) (IF>5.5), since 2020;
- Since **2020**, **Member of the Reviewer Board** of *Photonics* (ISSN 2304-6732)–a journal of MDPI, **ISI IF 2.140/2019**, https://www.mdpi.com/journal/photonics/submission_reviewers;
- **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://ancd.gov.md>);
- Since **2016:** **Reviewer** of Grants–Czech Science Foundation; 1 Proposal evaluated;
- Since **2013:** **Reviewer** of Grants - Foundation for Polish Science; 5 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); Proposals evaluated: 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; Proposals evaluated: 30 (2007), 13 (2008), 4 (2010), 8 (2011), 4 (2014), 15 (2015), 2 (2016) - **UEFISCDI ID (UEF-id): U-1700-029M-1912**

COMMITTEES, CHAIRMAN

- **General Chair, Member of the Scientific & Organizing Committee**, reviewer – 1st Int. Conf. [Advances in 3OM: Opto-Mechanics, Opto-Mechatronics, and Optical Metrology](#), Timisoara (Romania), **2020**;
- Since **2020, Member of Conference Board** of *Sensors* (ISSN 1424-8220) – a journal of MDPI, **ISI IF 3.275/2019**, <https://www.mdpi.com/journal/sensors/events>;
- **Chair, Member-Scientific & Organizing Committee**, reviewer, and **Chairman** of Session - SRLS 9th Int. Conf. Lasers in Medicine (<https://lasercongress-srls.com/>), Cluj-Napoca (Romania) **2020**;
- **Chairman**, 3OM Workshops in Optomechatronics and Biomedical Imaging, Arad (Romania) **2019, 2020**;
- **Chairman** 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**;
- **Chairman** 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];
- **Chairman** 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**;
- **Chairman** 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); at the *Aurel Vlaicu Univ. of Arad*-**Mechanisms** (1999-Present); Mechanical Systems (1999-2006); Mechanisms and Machine Parts (2001-2003); Elements of Mechanical Engineering (2001-2003); Equipments for Precision Mechanics (2002-2004); Tolerances and 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); Master Courses–Quality Systems (2015-2016); **Lasers Engineering and Applications** (2018-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-Present); **Optimizations** (2019-Present).

PhD THESIS SUPERVIZED, on-going

- **Carina Neagu, MD:** *Optimization of some properties of dental adhesives through the inclusion of magnetic nanoparticles* (in Romanian) at the *Victor Babes Univ. of Medicine and Pharmacy of Timisoara*, Romania, **2020–2024**. Main supervisor: Prof. Cosmin Sinescu, MD; Cotutelle supervisor: Prof. Virgil-Florin Duma.
- **Andrada Bocse, Eng.:** *Contributions to the study of some laser systems for handheld probes utilized in Optical Coherence Tomography (OCT)* (in Romanian) at the *Polytechnic Univ. of Timisoara*, Romania, **2019-2023**. Supervisor: Prof. Virgil-Florin 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* (in Romanian) at the Polytechnic Univ. of Timisoara, Romania, **2019-2023**. Supervisor: Prof. Virgil-Florin Duma.
- **Ralph-Alexandru Erdelyi, Phys.:** *Biomedical imaging in dentistry using a range of investigation techniques, with a focus on optical coherence tomography (OCT)* at the Polytechnic University of Timisoara, Romania, **2018-2022**. Supervisor: Prof. Virgil-Florin Duma.
- **Codruta Cojocariu, MD:** *Modern approaches in dental impression technique* (in Romanian) at the Victor Babes Univ. of Medicine and Pharmacy of Timisoara, Romania, **2018-2022**. Main supervisor: Prof. Cosmin Sinescu, MD; Cotutelle supervisor: Prof. Virgil-Florin Duma.
- **Alexandra Maroiu, MD:** *Study on the influence of a novel design of dental veneers on the longevity and predictability of modern prosthetic treatment* (in Romanian) at the Victor Babes Univ. of Medicine and Pharmacy of Timisoara, Romania, **2017-2021**. Main supervisor: Prof. Mihai Rominu, MD; Cotutelle supervisor: Prof. Virgil-Florin Duma.
- **Eduard-Sebastian Csukas, Eng.:** *Finite Element Analysis for optomechatronic devices and biomedical applications in Optical Coherence Tomography (OCT)* (in Romanian) at the Polytechnic Univ. of Timisoara, Romania, **2016-2022**. Supervisor: Prof. Virgil-Florin Duma.

Completed

- ✓ **Alin-Gabriel R. Gabor, MD:** *Contributions to methods of bone augmentation* (in Romanian) at the Victor Babes Univ. of Medicine and Pharmacy of Timisoara, Romania, **2015-2020**. Main supervisor: Prof. Cosmin Sinescu, MD; Cotutelle supervisor: Prof. Virgil-Florin Duma.

MENTORING OF STUDENTS WITH SIGNIFICANT PUBLICATIONS (Refs in List of Publications)

- **Polytechnic Univ. of Timisoara: PhD Students** – E. S. Csukas [ISI.C100, 103, 106, 108]; V. Pribac [ISI.C66]; R. Erdelyi [ISI.C104, 107]; A. Dimb [ISI.C88]; A.-G. Gabor [29, ISI.C70];
- **Univ. Aurel Vlaicu Arad: PG** – C. Mnerie [B15, B14, ISI.C38, ISI.C35, ISI.C32, ISI.C28-C25]; A. Luputi [ISI.C102]; **UG** - I. Schitea [B15, ISI.C35, ISI.C32, ISI.C26]; M. Tuef [B15, ISI.C35, ISI.C32, ISI.C26]; M. Kiss [ISI.C38]; V. Patrusel [J27, ISI.C39, C34]; R. Pelle [C35]; V. Molnar [C34]; T. Berar [J25, C34]; F. Andras [J49];
- **Univ. of Kent, UK: PG** - 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);
- **Member of MentorNet** – Since 2011 (<http://www.mentornet.net>).

MISCELLANEOUS

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, 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;
 2009, Nominated for the best university professor in Romania;
 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:

- 1st Int. Conf. [Advances in 3OM: Opto-Mechanics, Opto-Mechatronics, and Optical Metrology](#) [ISI], Timisoara (Romania), **2020**;
- SPIE Security & Defence and Remote Sensing [ISI], Berlin (Germany) **2018**, Strasbourg (France) **2019**;
- 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-Seoul (Korea) **2017**, Lisbon (Portugal) **2019**;
- SPIE Optifab [ISI], Rochester, NY (USA) **2015, 2017**;
- Optics & Photonics Applications (OPA) Conf., Univ. of Guanajuato, Salamanca (Mexico), **2015**;
- Intl. Seminar on Biomaterials and Regenerative Medicine ([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**;
- SRLS & SPIE Int. Conf. Lasers in Medicine [ISI], Timisoara **2013**, Bucharest **2015**, Timisoara **2017**, Constanta (Romania) **2018**;
- 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 ISPDI 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 (Intl. Symposium on Education in Mechanism & Machine Science) [ISI] Madrid (Spain) **2013**;
- MeTrApp: 1st Workshop on Mechanisms, Transmissions and Applications, Timisoara (Romania) **2011**;
- WSF - Word 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**;
- 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**;
- 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**;
- CARE (Coordinated Actions for Robotics in Europe) Consensus Meetings, Stuttgart (Germany) **2008**;
- SPIE Photonics Europe [ISI], Strasbourg (France) **2008**; Brussels (Belgium) **2012, 2014**; Strasbourg **2018, 2020**;
- DSTA Conf. (Dynamic Systems Theory & Applications) [ISI], Lodz (Poland) - every other year, since **2007**;
- Intl. DAAAM Symposia [ISI], Zadar (Croatia) **2007**, Vienna (Austria) **2009**;
- 2nd European Optical Society (EOS) Topical Meeting, Optical Micro-Systems (O μ S), Capri (Italy) **2007**;
- 12th IFToMM Word Congress (Int. Federation for the Promotion of the Theory of Mechanisms and Machines), Besancon (France) **2007**;
- IEEE ODIMAP V (5th Topical Meeting on Optoelectronic Distance/Displacement Measurements and Applications), Madrid (Spain) **2006**;
- SPIE ROMOPTO: Micro-to Nano-Photonics [ISI], Sibiu **2006, 2009**, Bucharest (Romania) **2015**;
- 1st IHW South-East European Welding Congress, Timisoara (Romania) **2006**;
- Int. Conference VSU, Sofia (Bulgaria) **2006, 2007**;
- LASER – Word of Photonics Congress (at different OSA & SPIE Conferences) [ISI], Munchen (Germany) **2005, 2009, 2011, 2013, 2017**;
- PAMM (Pannonian Appl. Math. Meetings), PC 149-150, Timisoara (Romania) **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 Mechanics, Optics & Mechatronics (COMEFIM), Bucharest **1994, 1998**, Cluj-Napoca (Romania) **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):

- [RoMAT2016](#), Bucharest (Romania), **2016**;
- Int. Conference *Advances in Engineering & Management* (ADEM), Severin (Romania) **2016**;
- 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 = 20 (ISI Web of Science)

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

Papers in Journals indexed in ISI Web of Science (Σ ISI Impact Factor (IF) > 73)¹

43. R.-A. Erdelyi, **V.-F. Duma***, C. Sinescu, G. Dobre, A. Bradu, A. Podoleanu, Dental Diagnosis and Treatment Assessments: Between X-rays Radiography and Optical Coherence Tomography, *Materials* **13**, 4825 (2020); EISSN 1996-1944; <https://doi.org/10.3390/ma13214825>; **ISI IF 3.057/2019**; OPEN ACCESS; **Q2**
42. N. Pop, R. Beiu, P. Svera, C. Mnerie, Gh. Hutiu, **V.-F. Duma***, Thermal degradation of photovoltaic panels: evaluations using a range of testing methods, *J. of Environmental Protection and Ecology (JEPE)* **21**(6), 3687 (2020); **ISI IF 0.692/2019**; OPEN ACCESS; **Q4**; in print;
41. C. Zaharia, **V.-F. Duma***, C. Sinescu*, V. Socoliuc, I. Craciunescu, R.P. Turcu, C.N. Marin, A. Tudor, M. Rominu, M.-L. Negrutiu, Dental adhesive interfaces reinforced with magnetic nanoparticles: Evaluation and modeling with micro-CT versus optical microscopy, *Materials* **13**(9), 3908 (2020); EISSN 1996-1944; <https://doi.org/10.3390/ma13183908>; **ISI IF 3.057/2019**; OPEN ACCESS; **Q2**
40. R. E. Luca, A. Giuliani*, A. Mănescu, R. Heredea, B. Hoinoiu, G. D. Constantin, **V.-F. Duma**, C. D. Todea, Osteogenic Potential of Bovine Bone Graft in Combination with Laser Photobiomodulation: An Ex Vivo Demonstrative Study in Wistar Rats by Cross-Linked Studies Based on Synchrotron Microtomography and Histology, *Int. J. of Molecular Sciences* **21**(3), 778 (2020); eISSN 1422-0067; pISSN 1661-6596; <https://doi.org/10.3390/ijms21030778>; **ISI IF 4.556/2019**; OPEN ACCESS; **Q1**
39. **V.-F. Duma**, Optical attenuators with Risley prisms and disk choppers, *Proceedings of the Romanian Academy Series A* **20**(2), 141-150 (2019); ISSN 1454-9069; <https://acad.ro/sectii2002/proceedings/doc2019-2/05-Duma.pdf>; **ISI IF 1.294**; OPEN ACCESS; **Q3**
38. R. Luca, C. D. Todea*, **V.-F. Duma***, A. Bradu, A. Podoleanu, Quantitative assessment of rat bone regeneration using complex master-slave optical coherence tomography, *Quantitative Imaging in Medicine and Surgery (QIMS)* **9**(5), 782-798 (2019); ISSN 2223-4292; <http://dx.doi.org/10.21037/qims.2019.05.03>; **ISI IF 3.226**; OPEN ACCESS; **Q2**
37. A.-C. Cojocariu, C.-S. Neagu, C. Serban, C. Modiga, M. M. Togoe, Jivanescu A.*, M. L. Negrutiu, **V.-F. Duma**, A. Podoleanu, C. Sinescu, Analysis of modern digital impression technologies: A review, *Romanian J. of Oral Rehabilitation* **11**(2) (2019), ISSN 2066-7000; OPEN ACCESS
36. M. M. Togoe, A.-C. Cojocariu, C. Sinescu*, **V.-F. Duma**, A. Podoleanu, M. L. Negrutiu, Analysis of endodontic lesions using endoscopy and optical coherence tomography: A review, *Romanian J. of Oral Rehabilitation* **11**(2), 38-51 (2019), ISSN 2066-7000; OPEN ACCESS; <http://www.rjor.ro/link>
35. **V.-F. Duma**, C. Sinescu, A. Bradu, A. Podoleanu, Optical Coherence Tomography Investigations and Modeling of the Sintering of Ceramic Crowns, *Materials* **12**(6), 947 (2019); EISSN 1996-1944; <https://doi.org/10.3390/ma12060947>; **ISI IF 3.059**; OPEN ACCESS; **Q2**
34. **V.-F. Duma**, Laser scanners with oscillatory elements: Design and optimization of 1D and 2D scanning functions, *Applied Mathematical Modelling* **67**(3), 456-476 (2019); ISSN 0307-904X; <https://doi.org/10.1016/j.apm.2018.11.001>; **ISI IF 3.633**; **Q1**
33. Golban D. M., R. Negru, C. Szuhaneck*, M. L. Negrutiu, L. Marsavina, **V.-F. Duma**, C. Sinescu, L. Porojan, Flash-Free Orthodontic Adhesive System Bonded on CAD/CAM Produced Resin Restorations, *Materiale Plastice* **55**(4), 606-608 (2018), ISSN 2537-5741; OPEN ACCESS; http://www.revmaterialeplastice.ro/pdf/GOLBAN_4_18.pdf; **ISI IF 1.393**; **Q4**
32. A. T. Stan[†], A. Vaduva, M. L. Negrutiu, C. Sinescu[†], C. Szuhaneck*, A. Rogobete, D. Muntean, S. Talpos, **V.-F. Duma[†]**, L. Idorasi, T. Hajaj, M. Rominu, Evaluation of dental composite resin interface and adhesion using laser scanning confocal microscopy, *Materiale Plastice* **55**(4), 541-544 (2018), ISSN 2537-5741; OPEN ACCESS; ([†]equal contributions); http://www.revmaterialeplastice.ro/pdf/STAN_A_418.pdf; **ISI IF 1.393**; **Q4**
31. C. Szuhaneck, D. M. Golban*, R. Negru, M. L. Negrutiu, L. Marsavina, **V.-F. Duma**, C. Sinescu*, L. Porojan, Flash-Free Orthodontic Adhesive System Compared with the Conventional Direct Bonding Method, *Revista de Chimie* **68**(11), 4093-4095 (2018), ISSN 0034-7752; OPEN ACCESS; http://www.revistadechimie.ro/article_eng.asp_ID=6709; **ISI IF 1.605**; **Q3**

¹ The corresponding author of the papers with multiple authors is indicated by the sign *

30. D. A. Pop, R. Mălăescu, L. Marsavina, T. Hosszu*, R. Rotar, L. Goguță, **V.-F. Duma**, M. L. Negrutiu, C. Sinescu, A. Jivănescu, Fracture resistance of CAD/CAM versus traditional interim fixed dental prostheses, *Materiale Plastice* **55**(3), 361-363 (2018), ISSN 0025-5289; OPEN ACCESS; http://www.revmaterialeplastice.ro/article_eng.asp?ID=5030; **ISI IF 1.393; Q4**
29. A. Gabor†, C. Zaharia, V. Todericiu, C. Szuhaneck*†, A. C. Cojocariu, **V.-F. Duma**†, C. Sticlaru, M. L. Negrutiu, I. V. Antoniac, C. Sinescu†, Adhesion of scaffolds with implants to the mandibular bone with a defect: A Finite Element Analysis, *Materiale Plastice* **55**(3), 394-397 (2018), ISSN 0025-5289; OPEN ACCESS; (†equal contributions); http://www.revmaterialeplastice.ro/article_ID=5036; **ISI IF 1.393; Q4**
28. C. Sinescu, **V.-F. Duma**, D. Dodenciu, S. Stratul, M. Manole, Gh. E. Draganescu, Mechanical properties of the periodontal system and of dental constructs deduced from the free response of the tooth, *J. of Healthcare Engineering*, ID 4609264 (2018); ISSN 2040-2295; OPEN ACCESS; <https://doi.org/10.1155/2018/4609264>; **ISI IF 1.295; Q4**
27. Gh. Hutiu, **V.-F. Duma***, D. Demian, A. Bradu, A. Podoleanu, Assessment of ductile, brittle, and fatigue fractures of metals using optical coherence tomography, *Metals* **8**(2), 117 (2018); ISSN 2075-4701; OPEN ACCESS; doi: [10.3390/met8020117](https://doi.org/10.3390/met8020117); **ISI IF 2.259; Q1**
26. R. Nagib, C. Szuhaneck, B. Moldoveanu, M. L. Negrutiu, **V.-F. Duma**, C. Sinescu, S. Brad, Dimensional study of impacted maxillary canine replicas printed 3D by using two types of resin materials, *Materiale Plastice* **55**(2), 190-191 (2018); ISSN 0025-5289; OPEN ACCESS; <http://www.revmaterialeplastice.ro/NAGIB2018.pdf>; **ISI IF 1.393; Q4**
25. S. Canjau, D. C. M. Todea*, C. Sinescu, M. O. Pricop, **V.-F. Duma**, Fluorescence Influence on Screening Decisions for Oral Malignant Lesions, *Romanian J. of Morphology and Embryology* **59**(1), 203-209 (2018); ISSN 1220-0522; OPEN ACCESS; <http://www.rjme.ro/RJME/590118203209.pdf>; **ISI IF 1.5; Q4**
24. **V.-F. Duma*** and A. Schitea, Laser scanners with rotational Risley prisms: Exact scan patterns, *Proceedings of the Romanian Academy Series A* **19**(1), 53-60 (2018); ISSN 1454-9069; OPEN ACCESS; <http://www.acad.ro/sectii2002/proceedings/doc2018-1/08.pdf>; **ISI IF 1.402; Q3**
23. A.-C. Măroiu†, C. Sinescu†, M.-L. Negrutiu, R. Negru†, L. Marsavina, I.-D. Bretean, **V.-F. Duma**†, M. Romînu, C. M., M. L. Negrutiu*, Evaluation of the adhesion of a novel design of veneers to dental materials, *Revista de Chimie* **68**(9), 2125-2128 (2017), ISSN 0034-7752; OPEN ACCESS; (†equal contributions); http://www.revistadechimie.ro/MAROIU_2017.pdf; **ISI IF 1.412; Q3**
22. R.-M. Beiu*, V. Beiu, **V.-F. Duma***, Fiber optic mechanical deformation sensors employing perpendicular photonic crystals, *Optics Express* **25**(19), 23388-23398 (2017); ISSN 1094-4087; OPEN ACCESS; <https://doi.org/10.1364/OE.25.023388>; **ISI IF 3.356; Q1**
21. S. Baciuc, C. Berece, A. Florea, V. A. Burde, M. L. Negrutiu, C. Szuhaneck*, C. Sinescu, **V.-F. Duma**, M. Manole, A Comparative Three- and Bi-dimensional Research of the Marginal Fit of Pressed Lithium Disilicate Inlays, *Revista de Chimie* **68**(6), 1316-1329 (2017), ISSN 0034-7752; OPEN ACCESS; http://www.revistadechimie.ro/BACIU_2017.pdf; **ISI IF 1.412; Q3**
20. C. Sinescu, A. Bradu, V.-F. Duma, F. Topala, M. L. Negrutiu, A. Podoleanu, Effects of the temperature variations in the technology of metal ceramic dental prostheses: Non-destructive detection using optical coherence tomography, *Applied Sciences-Basel* **7**(6), 552 (2017); ISSN 2076-3417; [10.3390/app7060552](https://doi.org/10.3390/app7060552); **ISI IF 1.689; Q3**
19. C. Mnerie*, S. Preitl, and **V.-F. Duma***, Galvanometer-based scanners: Mathematical model and alternative control structures for improved dynamics and immunity to disturbances, *International J. of Structural Stability and Dynamics* **17**(5), 1740006 (2017); ISSN 0219-4554; doi: [10.1142/S0219455417400065](https://doi.org/10.1142/S0219455417400065); **ISI IF 2.082; Q2**
18. **V.-F. Duma**, Polygonal mirror laser scanning heads: Characteristic functions, *Proceedings of the Romanian Academy Series A* **18**(1), 25-33 (2017); ISSN 1454-9069; OPEN ACCESS; <http://www.acad.ro/proceedings/doc2017-1/04Duma.pdf>; **ISI IF 1.752; Q2**
17. A. Cogliati, C. Canavesi*, A. Hayes, P. Tankam, **V.-F. Duma**, A. Santhanam, K. P. Thompson, and J. P. Rolland, MEMS-based handheld scanning probe with pre-shaped input signals for distortion-free images in Gabor-Domain Optical Coherence Microscopy, *Optics Express* **24**(12), 13365-13374 (2016); ISSN 1094-4087; **ISI IF 3.307**; [http://dx.doi.org/10.1364/OE.24.013365](https://doi.org/10.1364/OE.24.013365) - also selected & published in *Virtual J. for Biomedical Optics* **11**(7), ISSN 1931-1532 (2016); OPEN ACCESS; **Q1**
16. E. Craciunescu, C. Sinescu*, M. L. Negrutiu, D. M. Pop, H.-C. Lauer, M. Rominu, Gh. Hutiu, M. Bunoiu, **V.-F. Duma***, and Antoniac I., Shear Bond Strength Tests of Zirconia Veneering Ceramics after Chipping Repair, *J. of Adhesion Science and Technology* **30**(6), 666-676 (2016); ISSN 0169-4243; [http://dx.doi.org/10.1080/01694243.2015.1117304](https://doi.org/10.1080/01694243.2015.1117304); **ISI IF 1.073; Q4**

15. **V.-F. Duma***, G. Dobre, D. Demian, R. Cernat, C. Sinescu, F. I. Topala, M. L. Negrutiu, Gh. Hutiu, A. Bradu, and A. Podoleanu, Handheld scanning probes for optical coherence tomography, *Romanian Reports in Physics* **67**(4), 1346-1358 (2015); ISSN 1221-1451; OPEN ACCESS; http://www.rrp.infim.ro/2015_67_4/A14.pdf; **ISI IF 1.367**; **Q2**
14. **V.-F. Duma***, P. Tankam, J. Huang, J. J. Won, and J. P. Rolland, Optimization of galvanometer scanning for Optical Coherence Tomography, *Applied Optics* **54**(17), 5495-5507 (2015), ISSN 1559-128X; **ISI IF 1.598**; doi: [10.1364/AO.54.005495](https://doi.org/10.1364/AO.54.005495) - also selected & published in *Virtual J. for Biomedical Optics* **10**(6) (2015); ISSN 1931-1532; OPEN ACCESS; **Q2**
13. S. Canjau, C. Todea, M. L. Negrutiu, C. Sinescu, F. I. Topala, C. Marcauteanu, A. Manescu, **V.-F. Duma**, A. Bradu, and A. Podoleanu, Optical Coherence Tomography for Non-Invasive ex vivo Investigations in Dental Medicine - a Joint Group Experience (Review), *Sovrem. Technol. Med./Modern Technologies in Medicine* **7**(1), 97-115 (2015); ISSN 2076-4243; OPEN ACCESS; <http://dx.doi.org/10.17691/stm2015.7.1.13>; **Q4**
12. C. Sinescu, M. L. Negrutiu, A. Bradu, **V.-F. Duma***, and A. Podoleanu, Noninvasive quantitative evaluation of the dentin layer during dental procedures using Optical Coherence Tomography, *Computational and Mathematical Methods in Medicine*, Paper ID 709076 (2015); ISSN 1748-670X; OPEN ACCESS; <http://dx.doi.org/10.1155/2015/709076>; **ISI IF 0.887**; **Q3**
11. R. Oancea, A. Bradu, C. Sinescu*, R. M. Negru, M. L. Negrutiu, I. Antoniac, **V.-F. Duma**, and A. Podoleanu, Assessment of the sealant/tooth interface using optical coherence tomography, *J. of Adhesion Science and Technology* **29**(1), 49-58 (2015); ISSN 0169-4243; all authors had equal contributions. <http://dx.doi.org/10.1080/01694243.2014.974879>; **ISI IF 0.863**; **Q3**
10. Gh. Hutiu, **V.-F. Duma***, D. Demian, A. Bradu, and A. Podoleanu, Surface imaging of metallic material fractures using optical coherence tomography, *Applied Optics* **53**(26), 5912-5916 (2014); ISSN 1559-128X; **ISI IF 1.784**; <http://dx.doi.org/10.1364/AO.53.005912> - also selected & published in *Virtual J. for Biomedical Optics* **9**(11), ISSN 1931-1532 (2014); OPEN ACCESS; **Q2**
9. O.-A. Velea, C. Sinescu*, C. Zeicu, P. C. Freiman, P. I. Velea, D. Onisei, **V.-F. Duma**, Evaluation of periodontal pockets using different biomaterials: a preliminary study, *Revista de Chimie* **65**(9), 1063-1066 (2014), ISSN 0034-7752; all authors had equal contributions. OPEN ACCESS; http://www.revistadechimie.ro/VELEA_2014.pdf; **ISI IF 0.810**; **Q4**
8. D. Demian, **V.-F. Duma***, C. Sinescu, M. L. Negrutiu, R. Cernat, F. I. Topala, Gh. Hutiu, A. Bradu, and A. Podoleanu, Design and testing of prototype handheld scanning probes for optical coherence tomography, *Proc. of the Institution of Mechanical Engineers, Part H: J. of Engineering in Medicine* **228**(8), 743-753 (2014); ISSN 0954-4119; OPEN ACCESS; <http://dx.doi.org/10.1177/0954411914543963>; ² **ISI IF 1.329**; **Q3**
7. **V.-F. Duma**, Prototypes and modulation functions of classical and novel configurations of optical chopper wheels, *Latin American J. of Solids and Structures* **10**(1), 5-18 (2013), ISSN 1679-7825; OPEN ACCESS; <http://www.lajss.org/index.php/LAJSS/article/view/510>; **ISI IF 1.254**; **Q3**
6. **V.-F. Duma***, K.-S. Lee, P. Meemon, and J. P. Rolland, Experimental investigations of the scanning functions of galvanometer-based scanners with applications in OCT, *Applied Optics* **50**(29), 5735-5749 (2011), ISSN 1559-128X; <http://dx.doi.org/10.1364/AO.50.005735>, **ISI IF 1.748** - also selected & published in *Virtual J. for Biomedical Optics* **6**(11), ISSN 1931-1532 (2011); **Q2**
5. **V.-F. Duma**, Optical choppers with circular-shaped windows: Modulation functions, *Communications in Nonlinear Science and Numerical Simulation* **16**(5), 2218-2224 (2011); ISSN 1007-5704; <http://dx.doi.org/10.1016/j.cnsns.2010.04.043>; **ISI IF 2.806**; **Q1**
4. **V.-F. Duma**, Optimal scanning function of a galvanometer scanner for an increased duty cycle, *Optical Engineering* **49**(10), 103001 (2010); ISSN 0091-3286; <http://dx.doi.org/10.1117/1.3497570>, **ISI IF 0.822**; **Q3**
3. **V.-F. Duma**, Radiometric versus geometric, linear and non-linear vignetting coefficient, *Applied Optics* **48**(32), 6355-6364 (2009); ISSN 1559-128X, <http://dx.doi.org/10.1364/AO.48.006355>; **ISI IF 1.41**; **Q2**
2. **V.-F. Duma*** and M. Nicolov, Neutral density filters with Risley prisms: analysis and design, *Applied Optics* **48**(14), 2678-2685 (2009); ISSN 1559-128X, <http://dx.doi.org/doi:10.1364/AO.48.002678>, **ISI IF 1.41**; **Q2**
1. **V.-F. Duma**, Theoretical approach on optical choppers for top-hat light beam distributions, *Journal of Optics A: Pure and Applied Optics* **10**(6), 064008 (2008); <http://iopscience.iop.org/article/10.1088/1464-4258/10/6/064008>; ISSN 2040-8978; **ISI IF 1.742**; **Q2**

² 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/>

Theses

T3. **V.-F. Duma**, *Optomechatronic Modulators: Choppers, Attenuators and Scanners. Analysis and Design*, **Habilitation Thesis**, defended Oct. **2013**, at the *Polytechnic Univ. of Bucharest (UPB)*, Romania. Commission: President - Prof. V.I. Vlad (President of the Romanian Academy); Members - Prof. N. Puscas (UPB), Prof. J.P. Huignard (Institute Lavoisier, France), Dr. G. Perrone (Univ. Torino, Italy).

T2. **V.-F. Duma**, *Contributions to the analysis and design of scanning systems* (in Romanian), **PhD Thesis**, degree: *cum laude*, Sept. **2001**. Supervisor: Prof. Dan Perju, *Polytechnic Univ. of Timisoara*, Romania;

T1. **V.-F. Duma**, *Tri-chromatic colorimeter with mix synthesis* (in Romanian), **Diploma Thesis** (equivalent to a M.Sc. Dissertation), degree: *valedictorian*, July **1991**. Supervisor: Prof. Ioan Mihalca, *Polytechnic Univ. of Timisoara*, Romania.

Patents – Invention Disclosure Forms

P3. **V.-F. Duma**, D. Demian, Optical modulator, has solid rotating shaft with some through slots of well-defined profiles, Romanian Patent No. RO129610-A0, Derwent Nr. **2014-P50842** (pending);

P2. **V.-F. Duma**, D. Demian, Optical modulator with a rotational disk, Romanian Patent Request, OSIM, A01083/28.10.2011 (pending);

P1. **V.-F. Duma**, M. F. Nicolov, C. Mnerie, L. Szantho, Optical modulator with rotating element, has role to generate light pulses of certain profile, Derwent No. 2011-J76364; [Romanian Patent RO 126505/2016](#);

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