

Instituția unde este titular: **Universitatea „Aurel Vlaicu” din Arad**
Facultatea de Inginerie
Departamentul de Automatică, Inginerie Industrială, Textile și Transporturi (AIITT)
Șl.dr.ing. MNERIE CORINA ANCA

LISTA LUCRĂRILOR ȘTIINȚIFICE
în domeniul disciplinelor din postul didactic
<http://www.researcherid.com/rid/J-2933-2012>

A. Teza de doctorat

[1]. “Soluții pentru conducerea unor procese optomecatronice cu aplicații în domeniul biomedical”, Universitatea Politehnica Timișoara, Conducător Științific Prof.dr.ing. Ștefan Preitl, în domeniul **AUTOMATICĂ (AUTOMATIC CONTROL)**, susținută în 24.04.2015 la Universitatea Politehnica Timișoara, Diplomă de Doctor seria I, nr. 0004181/ 2061 din 15.06.2015 în baza Ordinului Ministrului Educației Naționale 3869 din 19.05.2015, publicată în Teze de doctorat ale UPT, Seria 1, Nr. 19, Editura Politehnica, **2015**, 151 pagini, 62 figuri, 22 tabele, ISSN:1842-5208, ISBN: 978-606-554-941-8

B. Cărți și capitole în cărți

C. Lucrări indexate ISI/BDI

Articole ISI

[1]. **Corina Mnerie**, Ștefan Preitl, and Virgil-Florin Duma, *Galvanometer-Based Scanners: Mathematical Model and Alternative Control Structures for Improved Dynamics and Immunity to Disturbances*, International Journal of Structural Stability and Dynamics, 1740006 (2017) [15 pages] DOI: <http://dx.doi.org/10.1142/S0219455417400065>, Print ISSN: 0219-4554, Online ISSN: 1793-6764, IF 1,617 / (2016), **IF 2,082 / (2017) Q2**.

[2]. 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*, Journal of Environmental Protection and Ecology (JEPE) **21**(6), 2083-2092 (2020); ISSN 1311-5065; **IF 0.577; Q4**

[3]. P. Naga Srinivasu, T. Srinivasa Rao, A.M. Dicu, C.A. Mnerie, I. Olariu, *A comparative review of optimisation techniques in segmentation of brain MR images*, Journal of Intelligent & Fuzzy Systems, 1-12, Volume: 38 Issue: 5 Pages: 6031-6043, (2020), DOI: [10.3233/JIFS-179688](https://doi.org/10.3233/JIFS-179688), ISSN 1064-1246 (P), ISSN 1875-8967 (E), **IF 1.851/2020**

[4]. A. Cioabla, V.-F. Duma*, **C. Mnerie**, R.-A. Erdelyi, G. Dobre, A. Bradu, A. Podoleanu, *Effect of an Anaerobic Fermentation Process on 3D-printed PLA Materials of a Biogas-generating Reactor*, *Materials* **15**(23), 8571 (2022); EISSN 1996-1944; IF 3.748/2021; <https://doi.org/10.3390/ma15238571>, **IF 3.4, Q2**

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[5] R. Beiu, V.-F. Duma*, **C. Mnerie**, A.-C. Beiu, M. Dochia, L. Copolovici, G. Dobre, A. Bradu, A. Podoleanu, *Optical coherence tomography versus microscopy for the study of Aloe Vera leaves*, Proc. SPIE, Vol. 12138, 121380A, P. Schelkens, T. Kozacki, Eds., SPIE Photonics Europe (Optics, Photonics and Digital Technologies for Imaging Applications VII), Strasbourg (France), Apr. 3-7, **2022**; <https://doi.org/10.1117/12.2620766>

- [6]. A. Luputi, **C. A. Mnerie**, V.-F. Duma*, Experimental setup for an optical micrometer with a polygonal mirror-based laser scanner, *IEEE Int'l Symposium 12th Applied Computational Intelligence and Informatics (SACI)*, 589-592, ISBN 978-1-5386-4640-3/18, May 17-19, **2018**; doi: [10.1109/SACI.2018.8440980](https://doi.org/10.1109/SACI.2018.8440980).
- [7]. Beiu R.*, **Mnerie C. A.**, Duma V.-F., Analysis of Curved Shape Micro-mirrors For On-Chip Communication, *Proc. SPIE*, Vol. 10010, 100101Y, *SPIE 8th Intl' Conference Advanced Topics in Optoelectronics, Microelectronics and Nanotechnologies (ATOM-N)*, Constanta (Romania), Aug. 25-28, **2016**; <http://dx.doi.org/10.1117/12.2246019>, *Excellent Paper Award*
- [8]. Cheriguene, S., Azizi, N., Dey, N., Ashour, A., Mnerie, C., Olariu, T., Shi, F. (**2018**) Classifier Ensemble Selection Based on mRMR Algorithm and Diversity Measures: An Application of Medical Data Classification. In: Balas V., Jain L., Balas M. (eds) *Soft Computing Applications. SOFA 2016. Advances in Intelligent Systems and Computing*, vol 633. Springer, Cham, https://doi.org/10.1007/978-3-319-62521-8_32
- [9]. **Mnerie C. A.**, Preitl S., Duma V.-F., Classical PID versus predictive control solutions for a galvanometer-based scanner, *IEEE Applied Computational Intelligence and Informatics (SACI)*, 349-353, May 21-23, **2015** doi: [10.1109/SACI.2015.7208227](https://doi.org/10.1109/SACI.2015.7208227);
- [10] Alina Barbulescu, Sanda V. Balas, Ioan E. Koles, **Corina A. Mnerie**, *On the Long Range Dependence Property of the Electrical Signals Collected in Cavitation Field*, In volume *Advances in Intelligent and Soft Computing*, Series Ed.: Kacprzyk, Janusz, *Proceedings of the 6th International Workshop on Soft Computing Applications SOFA 2014*, July 22-24, 2014, Timisoara, Romania, Guest Editors: Valentina E. Balas, Lakhmi C. Jain, Branko Kovačević, **Springer Verlag**, **2015**, AISC, , http://link.springer.com/chapter/10.1007/978-3-319-18416-6_61
- [11]. Duma V. F.*, Schitea A., Tuef M., Cira O., Hutiu Gh., Demian D., **Mnerie C.**, Kaposta I., Optomechatronics applications of the theory of mechanisms with active student involvement in research, in *New Trends in Educational Activity in the Field of Mechanism and Machine Theory*, Mechanisms and Machine Science (Book Series), vol. 19, 111-119, García-Prada J. C. and Castejon C., Eds., Springer **2014**, ISSN: 2211-0984 (Print) 2211-0992 (Online), http://dx.doi.org/10.1007/978-3-319-01836-2_12;
- [12]. **Mnerie C.**, Duma V. F.*, Control architectures of galvanometer-based scanners for an increased precision and a faster response, *Proc. SPIE*, Vol. 8925, Todea C., Podoleanu A., Duma V.F., Eds., *5th Intl Conference Lasers in Medicine*, Timisoara (Romania), Sept. 19-21, 2013 (**2014**); <http://dx.doi.org/10.1117/12.2043034>;
- [13]. **Mnerie C.***, Preitl S., Duma V. F.*, Mathematical model of a galvanometer-based scanner: simulations and experiments, *Proc. SPIE*, Vol. 8789, 8789-43, Bodermann B., Frenner K., Silver R. M., Eds., *Modeling Aspects in Optical Metrology IV (LASER Congress)*, Munchen, May 13-16, **2013**, ISSN 0277-786X; <http://dx.doi.org/10.1117/12.2020462>;
- [14]. Duma V. F.*, Negrutiu M. L.*, Sinescu C., Miutescu E.*, Burlea A., Vlascici M.*, Gheorghiu N.*, Demian D., Hutiu G., **Mnerie C.**, Marcautuanu C., Topala F., Rolland J. P., Voiculescu I., Podoleanu A. Gh.*, Towards a Research Pole in Photonics in Western Romania, *Proc. SPIE*, Manuel Filipe P. C. Martins Costa, Mourad Zghal, Eds., *12th Education and Training in Optics and Photonics (ETOP)*, Portugal, July 22-26, **2013**, <http://dx.doi.org/10.1117/12.2070787>
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Optical Metrology (LASER Congress), Munchen, May 23-26, **2011**, ISSN 0277-786X, <http://dx.doi.org/10.1117/12.889566>;

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[20] A.T. Teodorovits, C. Mnerie, V.-F. Duma*, Analysis of measuring methods of optical micrometers with polygonal mirror-based laser scanners, **Proc. SPIE**, Vol. 12618, 126181W, SPIE Optical Metrology – LASER Congress, Munchen (Germany), **2023**; <http://dx.doi.org/10.1117/12.2665239>; **scopus**

[21] S. Coroban, C. Mnerie, V.-F. Duma*, OCT versus X-ray imaging in the inspection of Ball Grid Arrays (BGAs), **Proc. SPIE**, Vol. 12618, 1261825, Optical Measurement Systems for Industrial Inspection XIII (SPIE Optical Metrology – LASER Congress), Munchen, **2023**; <https://doi.org/10.1117/12.2673194>; **scopus**

[22] S. Coroban, C. A. Mnerie, Virgil-Florin Duma, "Comparison of two technologies for the automated optical inspection (AOI) of PCBs," **Proc. SPIE** 13567, Optical Measurement Systems for Industrial Inspection XIV, 1356724 (**2025**); <https://doi.org/10.1117/12.3059665>; **scopus**

D. Lucrări publicate în reviste și volume de conferințe cu referenți (neindexate)

Reviste de specialitate recunoscute de CNCSIS

[1]. **Mnerie C.**, Kiss M., Ilca T., Szantho L., Falcán O., Nicolov M. F., Demian D., Voiculescu I., Duma V.F.*, Study of optical modulators with rotating wheels: The experimental setup, *Sc. Bulletin of the Politehnica Univ. of Timisoara, Transactions on Mathematics-Physics* **56(70)**, **2011**, ISSN 1224-6069, pp. 73-80;

[2]. Szantho L., **Mnerie C.**, Ilca T., Falcán O., Nicolov M. F., Demian D., Duma V.F.*, Radiometric scanning with applications in the lighting technology, *Sc. Bulletin of the Politehnica Univ. of Timisoara, Transactions on Mathematics-Physics* **56(70)**, **2011**, ISSN 1224-6069, pp. 89-97;

[3]. Nicolov M. F.*, Duma V.F., **Mnerie C.**, Szantho L., Falcán O., New approaches in simulations, *Sc. Bulletin of the Politehnica Univ. of Timisoara, Transactions on Mathematics-Physics* **56(70)**, **2011**, ISSN 1224-6069, pp. 81-88;

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[4]. Dicu A.M., Balas M.M., Sîrghie C., Radu D., Mnerie C. (2021) Assessing the Quality of Bread by Fuzzy Weights of Sensory Attributes. In: Balas V., Jain L., Balas M., Shahbazova S. (eds) *Soft Computing Applications. SOFA 2018. Advances in Intelligent Systems and Computing*, vol 1221. Springer, Cham. https://doi.org/10.1007/978-3-030-51992-6_32

[5]. Luputi A., Mnerie C., Duma V.-F.*, Polygon mirror-based optical micrometers: Programming aspects, *6th ISREIE, Series Engineering*, Arad, May 17-19, **2019** (Oral Presentation);

[6] Beiu R. M., **Mnerie C.**, Pop N., Duma V.-F.*, SEM, AFM, and OCT investigations of photovoltaic cells, *5th ISREIE, Series: Engineering*, Arad (Romania), May 17-19, **2018** (Oral Presentation).

[7]. Luputi A., **Mnerie C.**, Duma V.-F.*, Robotic arm controlled by Arduino, *5th ISREIE, Series: Engineering*, Arad (Romania), May 17-19, **2018**; (Oral Presentation);

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- [9]. **Mnerie C.**, Preitl S., Duma V.-F., Advanced control structures for galvanometer scanners for improved parameters in biomedical imaging, *Dynamical Systems. Nonlinear Dynamics and Control (13th DSTA)*, pp. 175-183, Awrejcewicz J., M. Kazmierczak, P. Olejnik, J. Mrozowski, Eds., Łódź (Poland), Dec. 7-11, **2015 (BDI)**
- [10]. **Mnerie C.**, Preitl St., Duma V.-F.*, Control structures of galvanometer-based laser scanners, *5th ISREIE, Series: Engineering*, Arad (Romania), May 17-19, **2018**; (Oral Presentation);
- [11]. Beiu R., Corina Mnerie C., Pop N., Duma V.-F.*, Dobre G. M., Bradu A., Podoleanu A., Study of thermal degradation of photovoltaic panels: Optical non-destructive versus mechanical destructive methods, *Central and Eastern European Conference for Thermal Analysis and Calorimetry (CEEC-TAC4)*, Book of Abstracts, **ISBN 978-3-940237-47-7**, Chisinau (Republic of Moldova), Aug. 28-31, **2017**;
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E. BREVETE DE INVENTIE

- [1]. Duma V.F., Nicolov M. F., **Mnerie C.**, Szantho L., Modulator optic cu miscare de rotatie, OSIM, nr. RO 126505-B1/29.07.2016, <http://www.osim.ro/publicatii/brevete/bopi-2016-inv.htm>, [Romanian Patent RO 126505-B1/2016](http://www.osim.ro/publicatii/brevete/bopi-2016-inv.htm)

F. PROIECTE DE CERCETARE

Membru în 8 proiecte de cercetare desfășurate în UAV

- P1. PN-IV-P10-SS-SC-2024-0128, Explorarea Lumii prin STEAM pentru un Viitor Sustenabil, finanțare UEFISCDI (ELSTEAMSUST), (50 k€); sept. 2025-Aug. 2026; responsabil Facultatea de Inginerie Mnerie Corina Anca, director proiect Prof.habil.dr.ing Dana-Maria Copolovici
- P2. 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; director proiect Prof.habil.dr.ing Virgil Duma

- P3. 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 Inteliform SRL (145 k€); Oct. 2020-Oct 2022; director proiect Prof.habil.dr.ing Virgil Duma
- P4. 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 (133 k€); Jan. 2017-July 2018; director proiect Prof.habil.dr.ing Virgil Duma
- P5. 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; director proiect Prof.habil.dr.ing Virgil Duma
- P6. 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 galvoscanners for biomedical and industrial investigations using Optical Coherence Tomography (OCT) (1D2D-GS-OCT), PI: M. Vlasici – SC Inteliform SRL Timisoara (435 k€), Oct. 2016-Oct. 2018; responsabil proiect Prof.habil.dr.ing Virgil Duma
- P7. 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€). director proiect Prof.habil.dr.ing Virgil Duma
- P8. IDEAS Grant 1896/2008, ANCS-UEFISCDI: *Analysis and design of some polygonal and galvanometer-based, 1D and 2D scanners*, **2009-2011** (101 k€); director proiect Prof.habil.dr.ing Virgil Duma

Lucrări prezentate la conf non ISI

- C5. Mnerie C., Duma V.-F.*, Control structures for galvanometer-based laser scanners: A black-box approach with applications in biomedical imaging, [1st Int. Conf. Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology](#), Timisoara (Romania), Dec. 13-16, 2021 (Oral Presentation)., Book of Abstract
- C6. Beiu R., Mnerie C., Duma V.-F.*, Dobre G., Bradu A., Podoleanu A., When Biology meets Optical Coherence Tomography, [1st Int. Conf. Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology, Timisoara \(Romania\)](#), Dec. 13-16, 2021 (Oral Presentation).
- C4. N. Pop, C. Mnerie, R. Beiu, V.-F. Duma*, Investigation of photovoltaic cells using imaging methods and mechanical testing, *1st Int. Conf. [Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology](#)*, Timisoara (Romania), Dec. 13-16, **2021** (Poster).
- C6. A. Teodorovits, C. Mnerie, V.-F. Duma*, Optical micrometer with polygon scanners, *1st Int. Conf. [Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology](#)*, Timisoara (Romania), Dec. 13-16, **2021** (Poster).

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Semnătura:

