

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 12<sup>th</sup> 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).
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- [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](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](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](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., *5<sup>th</sup> Intl Conference Lasers in Medicine*, Timisoara (Romania), Sept. 19-21, 2013 (**2014**); <http://dx.doi.org/10.1117/12.2043034>;
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### **Lucrări în volumele conferintelor internaționale de specialitate indexate BDI**

[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., Falcan 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., Falcan 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., Falcan 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;

#### **Lucrări în volume de conferințe**

[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](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, *6<sup>th</sup> 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, *5<sup>th</sup> ISREIE, Series: Engineering*, Arad (Romania), May 17-19, **2018** (Oral Presentation).

[7]. Luputi A., **Mnerie C.**, Duma V.-F.\*, Robotic arm controlled by Arduino, *5<sup>th</sup> 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, *5<sup>th</sup> 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**;
- [12]. **Mnerie C.\*** and Duma V.-F.\*, Galvanometer scanners for Optical Coherence Tomography: Advanced control structures for increased precision and higher scanning speeds, *Proc. 6<sup>th</sup> ISREIE, Series: Engineering*, Arad (Romania), Dec. 8-10, **2016**; ISSN 2065-2569
- [13]. **Mnerie C.\***, Duma V.F.\*, Ascertainment of the transfer function of a galvoscaner, *Proc. 4<sup>th</sup> ISREIE (Aurel Vlaicu Univ. of Arad Symposium), Series: Engineering*, Nov. 8-9, **2012**, ISSN 2065-2569;
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- [15]. Duma V.F.\*, Nicolov M. F., Kiss M., Ilca T., **Mnerie C.**, Demian D. and Szantho L., Choppers: Optomechatronic Devices for the Controlled Modulation of Light, in *Mechanisms, Transmissions and Applications*, Mechanisms and Machine Science, Vol. 3, Lovasz E.C., Corves B., Eds., **2011**, Springer, ISSN 2211-0984, ISBN 978-94-007-2726-7, pp. 129-134, <http://dx.doi.org/10.1007/978-94-007-2727-4>;
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- [17]. Nicolov M. F.\*, Duma V.F., **Mnerie C.**, Szantho L., Falcan O., Ilca T., Fractional charges in advanced materials, *Proc. 3<sup>rd</sup> ISREIE (Aurel Vlaicu Univ. of Arad Symposium), Series: Engineering*, Oct. 10-12, **2010**, ISSN 2065-2569, pp. 105-110;

## 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

## 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 galvoscaners 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

- C1. 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
- C2. 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).
- C3. N. Pop, C. Mnerie, R. Beiu, V.-F. Duma\*, Investigation of photovoltaic cells using imaging methods and mechanical testing, *1<sup>st</sup> Int. Conf. [Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology](#)*, Timisoara (Romania), Dec. 13-16, **2021** (Poster).
- C4. A. Teodorovits, C. Mnerie, V.-F. Duma\*, Optical micrometer with polygon scanners, *1<sup>st</sup> Int. Conf. [Advances in 3OM: Opto-Mechatronics, Opto-Mechanics and Optical Metrology](#)*, Timisoara (Romania), Dec. 13-16, **2021** (Poster).

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**Semnătura:**

