

Facultatea: *Design de Produs și Mediu*

Departament: *Design de Produs, Mecatronica și Mediu*

Candidat: Coșniță Mihaela Codruța

Lista de lucrări

I. Teza de doctorat:

Domeniul: Ingineria materialelor

Titlul programului de doctorat: Materiale compozite cu proprietăți controlate din cauciuc, PET și lemn reciclabile

Conducător de doctorat: Prof. Dr. Ing. Anca DUȚĂ;

II. Capitole publicate în edituri internaționale

- **Cosnita M.**, Cazan C., Duta A., Visa I. (2017) *Recycling Silicon-PV Modules in Composites with PVC, HDPE and Rubber Wastes*. In: Visa I., Duta A. (eds) *Nearly Zero Energy Communities*. Springer Proceedings in Energy. Springer, Cham;
- Cazan C., **Cosnita M.**, Visa M., Duta A. (2014) *Novel Rubber—Plastics Composites Fully Based on Recycled Materials*. In: Visa I. (eds) *Sustainable Energy in the Built Environment - Steps Towards nZEB*. Springer Proceedings in Energy. Springer, Cham;
- Vișa, M. Comsit, A. Duță, M. Neagoe, M. Moldovan, B. Burduhos, D. Perniu, Al. Enesca, L. Isac, **Cosnita M.**, I. Totu, A. Savvides, C. Vassiliades. *Novel Solar-Thermal Collectors/Array with Increased Architectural Acceptance for Building Integration*. COST Action TU1205 BISTS – Design and Applications Handbook ISBN: 978-9963-697-22-9 Publication date: March 2017.

III. Studii publicate în reviste de specialitate de circulație internațională recunoscute sau în reviste din țară recunoscute de către CNCSIS

1. **Cosnita M.**, Cazan C, Manciulea I. *All-Waste Hybrid Composites with Waste Silicon Photovoltaic Module*. *Polymers* *Polymers*2020, 12(1), 53. (FI=3.16) – Q1

2. Croitoru, C.; Pop, M.A.; Bedo, T.; **Cosnita, M.**; Roata, I.C.; Hulka, I. Physically Crosslinked Poly(VinylAlcohol)/Kappa–Carrageenan Hydrogels: Structure and Applications. *Polymers* 2020, 12, 560. **(FI=3.16) – Q1**
3. D.Feldiore, D.Cristea, M.Tierean, C.Croitoru, C.Gabor, L.Jakab-Farkas, L.Cunha, E.Alves, V.Craciun, A.Marin, C.Moura, J.Leme, D.Craciun, **M.Cosnita**, D.Munteanu. Deposition temperature influence on the wear behavior of carbon-based coatings deposited on hardened steel. *Applied Surface Science*, Vol. 475, 1 May 2019, Pages 762-773. **(FI=5.15) – Q1**
4. Cazan C, **Cosnita M.**, Isac L. *The influence of temperature on the performance of rubber-PET-HDPE waste based composites with different inorganic fillers*. *Journal of Cleaner Production*. Volume 208, 20 January 2019, Pages 1030-1040. **(IF = 6.39)– Q1**
5. Fazakas E, Varga B, Geantă V, Berecz T, Jenei P, Voiculescu I, **Cosnita M**, Ștefănoiu R. *Microstructure, Thermal, and Corrosion Behavior of the Al-Ag-Cu-Ni-Sn-Ti Equiatomic Multicomponent Alloy*. *Materials* (Basel). 2019 Mar 20;12(6):926. doi: 10.3390/ma12060926. PMID: 30897766; PMCID: PMC6471484. **(IF = 2.97) – Q2**
6. Bedo, T., Varga, B., Cristea, D., Nitoi, A., Gatto, A., Bassoli, E., Bulai, G., Velicu, I.L., Ghiuta, I., Munteanu, S., Pop, A.M., Gabor, C., **Cosnita, M.**, Pârv, L., Munteanu, D. (2019). *Metastable Al-Si-Ni alloys for additive manufacturing: structural stability and energy release during heating*. *Metals* 9(5):483.**(IF = 2.26)**
7. Pop M.; Croitoru C; Bedő T.; Geamăn V.; Radomir I; **Cosnita M.**; Zaharia S.; Chicoș L.; Miloșan I., *Structural changes during 3D-printing of bio-derived and synthetic thermoplastic materials*, *Journal of Applied Polymer Science*, December 2018, DOI: 10.1002/app.47382. **(IF=2.19) – Q2**
8. **Cosnita M.**, Cristina Cazan, Anca Duta. *The influence of inorganic additive on the water stability and mechanical properties of recycled rubber, polyethylene terephthalate, high density polyethylene and wood composites*, *Journal of Cleaner Production*, Vol. 165, 1 Nov. 2017, pg. 630-636. **(FI=6.39). – Q1**
9. Bogatu C., Perniu D., Sau C., Iorga O., **Cosnita M.**, Duta A., Ultrasound assisted sol-gel TiO₂ powders and thin films for photocatalytic removal of toxic pollutants, *Ceramics International*, Vol 43, Aug. 2017, Nr. 11, pg. 7963-69. **(FI=3.45) – Q1**
10. **Cosnita M.**, Cazan C., Duta A., Effect of waste polyethylene terephthalate content on the durability and mechanical properties of composites with tire rubber matrix, *Journal of Composite Materials* 0021998316645850, first published on April 26, 2016. **(IF=1.75) – Q3**

11. Cazan, C., **Cosnita, M.**, Duta, A., Effect of PET functionalization in composites of rubber-PET-HDPE type, Arabian Journal of Chemistry, Available online 20 October 2015, <http://dx.doi.org/10.1016/j.arabjc.2015.10.005>. (**IF= 3.29**) - **Q2**
12. **Cosnita M.**, Cazan C., Duta A., *Interfaces and mechanical properties of recycled rubber–polyethylene terephthalate–wood composites*, Journal of Composite Materials, 48(6), (2013),pp.683-694.(**IF= 1.75**)
13. Cazan, C., Perniu, D., **Cosnita, M.**, Duta, A., Polymeric wastes from automotives as second raw materials for large scale products, Environmental Engineering and Management Journal 12 (2013) 1649-1655. (**IF = 1.26**)
14. **M. Cosnita**, Cristina Cazan, M. Visa, A. Duta, *Product, plastics and rubber*, publicat in: Proceedings of the 1st International Conference on Quality and Innovation in Engineering and Management, QIEM Proceedings (2011), 253-256.(**ISI indexed**).

IV. Brevete de invenție

- Duta A., Moldovan M., Bogatu C., Covei M., Visa I., Perniu D., Neagoe M., **Cosnita M.** Thin film photoreactor or advanced wastewater treatment using photocatalysis and adsorption, patent proposal submitted to OSIM, no. A 2018 00376/29.05.2018.

V. Proiecte de cercetare-dezvoltare-inovare pe bază de contract/ grant

V.1 Director:

- PN-III-P1-1.1- PD-2016-0286. Novel all wastes composites PV based for indoor or outdoor applications, **buget –55.555 euro**

V.2 Membru:

- PED 124 PhotoCatFlow, 2017-2018;
- PNII-PCCA SimPhotoAd 217/2014;
- PN III- Bridge ELDON;
- CB PhotoDeg, ctr. 128/2014;
- PNII Parteneriate EST IN URBA, ctr. Nr. 28/2012;
- PNII ctr. Nr. 162/2012, Nanovismat, PNII ctr. Nr. 162/2012, Nanovismat;
- IDEI 753- Obținerea caracterizarea, modelarea și optimizarea filmelor nano și mezo-structurate de fotocatalizatori pe bază de SnO₂ cu morfologie controlată;
- IDEI 840- Modelarea conducției electrice în absorber și în interfața absorber/strat tampon pentru creșterea eficienței celulelor PV în stare solidă;

- M-ERANET, ctr. 39/2016;
- H2020 project 656760-BioEnergyTrain.

VI. Citări

<p>Cosnita M., Cristina Cazan, Anca Duta. The influence of inorganic additive on the water stability and mechanical properties of recycled rubber, polyethylene terephthalate, high density polyethylene and wood composites, Journal of Cleaner Production, Vol. 165, 1 Nov. 2017, pg. 630-636</p>			
Revista	Nr. Crt.	Articolul care citează	Factor de impact
ISI	1	Sound absorbing properties of perforated composite panels of recycled rubber, fiberboard sawdust, and high density polyethylene, By: Xu, Xinwu; Wang, Huixiang; Sun, Yan; et al. Journal o Cleaner Production, 187 (2018) 215-221	6.39
	2	Zhou, Yonghui; Wang, Yuxuan; Fan, Mizi. Incorporation of tyre rubber into wood plastic composites to develop novel multifunctional composites: Interface and bonding mechanisms . Industrial Crops and Products, (141), Published: DEC 1 2019.	4.19
	3	Sustaita-Rodriguez, Jose M.; Medellin-Rodriguez, Francisco J.; Olvera-Mendez, Diana C.; et al. Thermal Stability and Early Degradation Mechanisms of High-Density Polyethylene, Polyamide 6 (Nylon 6), and Polyethylene Terephthalate. Polymer Engineering and Science, 2019, (59) 10, Pages: 2016-2023.	1.92
	4	Raheem, Ademola Bolanle; Noor, Zainura Zainon; Hassan, Azman; et al. Current developments in chemical recycling of post-consumer polyethylene terephthalate wastes for new materials production: A review. Journal of Cleaner Production, 2019, (255), 1052-1064.	6.39
	5	Chinchillas-Chinchillas, Manuel J.; Orozco-Carmona, Victor M.; Alvarado-Beltran, Clemente G.; et al. Synthesis of Recycled Poly(ethylene terephthalate)/Polyacrylonitrile/Styrene Composite Nanofibers by Electrospinning and Their Mechanical Properties Evaluation. JOURNAL OF POLYMERS AND THE ENVIRONMENT, 2019, (27)3, 659-669.	2.76
	6	Liu, Ru; Yin, Xiaoqian; Huang, Anmin; et al. Preparation of Organo-Montmorillonite Modified Poly(lactic acid) and Properties of Its Blends with Wood Flour. Polymers, 2019, (11) 2.	3.16
BDI	7	Georgescu, SV; Cosoreanu, C. Comparative analysis of thermal and acoustic performance of composites made from wood fibres, recycled rubber and Abs. 3rd China-Romania Science and Technology Seminar (Crsts 2018), Edited by: Abrudan, IV; Shi, T; Lache, S; Wu, Y; Muntean, R; Oancea, G, Book Series: IOP	-

		Conference Series-Materials Science and Engineering, Volume: 399, Document Type: Proceedings Paper.	
Cosnita M., Cazan C., Duta A., Effect of waste polyethylene terephthalate content on the durability and mechanical properties of composites with tire rubber matrix, Journal of Composite Materials, first published April 2016, vol 51 (3) 357-372			
ISI	1	Barreto Luna, Carlos Bruno; Araujo, Edcleide Maria; Siqueira, Danilo Diniz; et al. Incorporation of a recycled rubber compound from the shoe industry in polystyrene: Effect of SBS compatibilizer content. Journal of Elastomers and Plastics, 2020, (52) 1, Pages 3-28.	1.11
C. Cazan, Cosnita M., A. Duță, Effect of PET functionalization in composites of rubber-PET-HDPE type, Arabian Journal of Chemistry, (2017) 10 300-312			
ISI	1	Croitoru, Catalin; Spirchez, Cosmin; Cristea, Daniel; et al. Journal o Applied Polymer Science, (135)22, Art. no. 46317, Jun 10- 2018.	1.67
	2	Yang, YR; Niu, M; Li, JJ; Dai, JM, Synthesis of a novel microcapsule flame retardant and flame-retardant property of its composites with poly (ethylene terephthalate), Journal o Polymer Research (24) 11, 2017.	1.43
	3	Rahem, Zahir; Douibi, Abdelmalek; Lallam, Abdelaziz; et. all. Synergistic Combination of Crystallization and Addition of a Toughening Agent to Promote Recycled Poly(ethylene terephthalate) Performances. Polymer Science Series A, 2019 (61)5, Pages: 635-649.	0.98
	4	Cejudo Bastante, C.; Cran, M. J.; Casas Cardoso, L.; et al. Effect of supercritical CO2 and olive leaf extract on the structural, thermal and mechanical properties of an impregnated food packaging film. Journal of Structural Supercritical Fluids, 2019 (145) 181-191.	3.48
	5	A.A. Borzan , D. Gokdai, Effect of Organic Reinforcement Usage on Mica/Polyester Composite Material, Cumhuriyet Science Journal, Year 2017, Volume 38, Issue 4, Pages 603 – 610.	1.77
BDI	6	Baek, YM; Shin, PS; Kim, JH; Park, HS ; Kwon, DJ ; Park, JM, Comparison of Mechanical and Interfacial Properties of Carbon Fiber Reinforced Recycled PET Composites with Thermoforming Temperature and Time, Composite Research (30)3, 2017, 175-180.	-
	7	M. M.-López, G.M.-Barrera, J.J.Coiz-Díaz, Juan EnriqueMartínez-Martínez, OsmanGencel, Maria C.S.Ribeiro, VíctorVarela-Guerrero. Polymer waste materials as fillers in polymer mortars: experimental and finite elements simulation, Case Studies in Construction Materials, (9) 2018.	-
Cosnita M., Cazan C., Duta A., Interfaces and mechanical properties of recycled rubber–polyethylene terephthalate–wood composites, Journal of Composite Materials, 48 (6), (2014), pp.683-694			

ISI	1	M. D. Stanciu, V. Bucur, C. S. Vâlcea, A. Savin, R. Sturm. Oak particles size effects on viscous-elastic properties of wood polyester resin composite submitted to ultraviolet radiation. Wood Science and Technology, 2018, (52)2, Pages 365-382.	1.71
Cazan C, Cosnita M. , Isac L. <i>The influence of temperature on the performance of rubber - PET-HDPE waste based composites with different inorganic fillers</i> . Journal of Cleaner Production. Volume 208, 20 January 2019, Pages 1030-1040			
ISI	1	Zhou, YH; Wang, YX; Fan, MZ. Incorporation of tyre rubber into wood plastic composites to develop novel multifunctional composites: Interface and bonding mechanisms. Industrial Crops and Products, 2019 (141)111788.	4.19
	2	Gargol, Mateusz; Podkoscielna, Beata. The use of waste materials as fillers in polymer composites - synthesis and thermal properties . Physicochemical Problems of Mineral Processing, 2019, (55), 6, 1549-1556	1.24
C. Cazan, Cosnita M. , D. Perniu, A. Duță, Polymeric wastes from automotives as second raw materials for large scale products. Environmental Engineering and Management Journal, 12, (8), p. 1649-1655, aug. 2013. ISSN 1843-3707			
ISI	1	L. Costiuc, M. Tiorean , L. Baltes , S. Patachia. Experimental investigation on the heat o combustion or solid plastic waste mixtures. Environmental Engineering and Management Journal, 2015, (14), 6, 1295-1302.	1.33
	2	Ta-Tung Wei; Yueh-Hui Lin. Environmental Engineering & Management Journal (EEMJ) . 2015, (14) 9, p2127-2138.	
Duță, C. Cazan, Cosnita M. , Fly ash in optimized composites based on recycled plastics and rubber, World of Coal Ash (WOCA), conference may 9-12, 2011, in Denver, CO, USA, http://www.flyash.info/ .			
ISI	1	Z. Ge, D. Huang, R. Sun, Z. Gao. Properties of plastic mortar made with recycled polyethylene terephthalate. Construction and Building Materials, 2014 (73), Pages 682-687	3.49
	2	T. Lee, K. Jeong, D. Kim. Development of a lightweight BMC material using fly ash. Advanced Composite Materials, 2017, (26) 1.	1.12
	3	A. Gulati, S. Varshney, N. Agarwal, and S. K. Dhawan. Designing of LDPE/fly ash/expanded graphite sheet for electrostatic charge dissipation application. Adv. Mater. Lett. 2016, 7(5), 100-105.	1.46
C. Bogatu, D. Perniu, C. Sau, O. Iorga, Cosnita M. , A. Duta, Ultrasound assisted sol-gel TiO2 powders and thin films for photocatalytic removal of toxic pollutants, Ceramics International, (43), 11, pg. 7963-69, published 1 Aug. 2017			
ISI	1	A. Apostolopoulou, S. Mahajan, R. Sharma, E. Stathatos. Novel development of nanocrystalline kesterite Cu ₂ ZnSnS ₄ thin film with high photocatalytic activity under visible light illumination. Journal of Physics and Chemistry of Solids, 2018 (112), Pages 37-42.	2.21

	2	M. BaiR. Khammas, L. Guan, J.W. Murray, T. Hussain. Suspension high velocity oxy-fuel spraying of a rutile TiO ₂ feedstock: Microstructure, phase evolution and photocatalytic behaviour. <i>Ceramics International</i> 2017, (43)17, Pages 15288-15295.	3.06
	3	G.Chehade, M.E.Demir, I.Dincer, B.Yuzer, H.Selcuk. Experimental investigation and analysis of a new photo electrochemical reactor for hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2018, (43) 27, Pages 12049-12058.	4.23
	4	M. A. Awad, M. Raaif. The disclosed transformation of pre-sputtered Ti films into nanoparticles via controlled thermal oxidation. <i>Applied Physics A</i> (2018) 124:388 https://doi.org/10.1007/s00339-018-1807-y .	1.42
	5	A. Sobczyk-Guzenda, S. Owczarek, M. Fijalkowski, D. Batory, M. Gazicki-Lipman. Morphology, structure and photo wettability of TiO ₂ coatings doped with copper and fluorine. <i>Ceramics International</i> , 2018, (44)5, Pages 5076-508.	3.45
	6	Kukleva, Ekaterina; Suchankova, Petra; Stamberg, Karel; et al. Surface protolytic property characterization of hydroxyapatite and titanium dioxide nanoparticles. <i>RSC Advances</i> 2019, (9) 38, Pages: 21989-21995.	3.05
	7	Li, Lu; Jiang, Liyan; Yang, Liu; et al. Optimization of Degradation Kinetics towards O-CP in H3PW12O40/TiO ₂ Photo electrocatalytic System. <i>Sustainability</i> , 2019, (11)13.	2.59
	8	Zhai, Shimin; Li, Min; Wang, Dong; et al. In situ loading metal oxide particles on bio-chars: Reusable materials for efficient removal of methylene blue from wastewater. <i>Journal of Cleaner Production</i> , 2019 (220), Pages: 460-474.	6.39
	9	Zhang, Zhihao; Wang, Xuejiang; Zhao, Jianfu. Phosphate recovery from wastewater using calcium silicate hydrate (C-S-H): sonochemical synthesis and properties. <i>Environmental Science-Water Research & Technology</i> , 2019 (5)1, Pages: 131-139.	4.19
BDI	10	Dagoberto dos Santos Araújo, Verônica Cristina de Souza Diniz, Ramon Alves Torquato, Ana Cristina Figueiredo de Melo Costa. Evaluation of the optical gap of TiO ₂ Obtained by Pechini method: influence of the variation of the anatase-rutile phases. <i>Matéria (Rio J.)</i> vol.23 no.1 Rio de Janeiro, 2018.	0.28
	11	S. Tsoumachidou, M. Valari, I.Poulios. Photocatalytic oxidation of psychoactive drug Duloxetine: Degradation kinetics, inorganic ions and phytotoxicity evaluation. <i>Applied Chemical Engineering</i> (2018) Volume 2 doi: 10.63019/ace.v1i2.509.	3
Numar de citari indeplinite 34 din care 29 in reviste ISI si 5 in BDI			

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