

## LISTA DE LUCRĂRI PUBLICATE

### 1. Lista celor maximum 10 lucrări considerate a fi cele mai relevante pentru realizările profesionale proprii

1. **Croitoru, C.**; Roata, I.C. Alkylimidazolium Ionic Liquids Absorption and Diffusion in Wood. *Applied Sciences*, (2021) 11(16): 7640; (FI: 2,679, SRI: 0,923), WOS:000688576400001.
2. **Croitoru, C.**, Pop, M.A., Bedo, T., Cosnita, M., Roata, I.C., Hulka, I. Physically crosslinked poly (vinyl alcohol)/kappa-carrageenan hydrogels: Structure and applications. *Polymers (Basel)* (2020), 12(3). (FI: 4,329, SRI: 2,037) WOS: 000525952000059.
3. Pop, M.A., **Croitoru, C.**, Bedo, T., Geamăn, V., Radomir, I., Zaharia, S.M., Chicos, L. Influence of internal innovative architecture on the mechanical properties of 3D polymer printed parts. *Polymers (Basel)*, (2020), 12(5). (FI: 4,329, SRI: 2,037) WOS:000541431100134.
4. **Croitoru C**, Roata IC, Pascu A, Stanciu EM, Hulka I, Stoian G, Lupu N. Photocatalytic surfaces obtained through one-step thermal spraying of titanium. *Applied Surface Science* (2020), 504:144173. (FI: 6,707, SRI: 2,163) WOS: 000502040600179.
5. **C. Croitoru**; C. Spirchez; D. Cristea; A. Lunguleasa; M.A. Pop; T. Bedo; I.C. Roata; M.A. Luca. Calcium carbonate and wood reinforced hybrid PVC composites. *Journal of Applied Polymer Science* (2018) 135(22): 46317 (FI=1,901; SRI= 1,040) WOS: 000426508700017
6. Cristea D, Cunha L, Gabor C, Ghiuta I, **Croitoru C**, Marin A, Velicu L, Besleaga A, Vasile B. Tantalum oxynitride thin films: Assessment of the photocatalytic efficiency and antimicrobial capacity. *Nanomaterials* (2019) 9(3). (FI: 5,076, SRI: 1,687) WOS: 000464450100003.
7. **C. Croitoru**; C. Spirchez; A. Lunguleasa; D. Cristea; I.C. Roata; M.A. Pop; T. Bedo; E.M. Stanciu; A. Pascu. Surface properties of thermally treated composite wood panels. *Applied Surface Science* (2018) 438: 114-126 (FI=4,439; SRI= 1,713) WOS: 000425731200013
8. **C. Croitoru**; A.M. Varodi; M.C. Timar; I.C. Roata; E.M. Stanciu; A. Pascu. Wood-plastic composites based on HDPE and ionic liquid additives. *Journal of Materials Science* (2018) 53(6): 4132-4143 (FI=2,993; SRI= 1,256) WOS: 000418294200017
9. **C. Croitoru**; S. Patachia; A. Papancea; L. Baltes; M. Tiorean. Glass fibres reinforced polyester composites degradation monitoring by surface analysis. *Applied Surface Science* (2015) 358 B: 518-524 (FI= 3,150; SRI= 1,476) WOS:000366220500003

10. **C. Croitoru**, S. Patachia, A. Porzsolt, C. Friedrich. Effect of alkylimidazolium based ionic liquids on the structure of UV-irradiated cellulose. *Cellulose* (2011) 18:1469–1479 (**FI= 3,60; SRI= 5,217**) **WOS: 000298994200009**

## 2. Teza de doctorat

**Titlu:** Studii de imprimare moleculară a polimerilor vinilici

**Domeniul fundamental:** Științe Inginerești;

**Domeniul:** Ingineria Materialelor

**Conducător științific:** Prof. Dr. Chim. Silvia Pațachia

**Susținere publică** 20.11.2009, Universitatea Transilvania din Brașov, Facultatea de Știința și Ingineria Materialelor;

**Diplomă de doctor**, Seria G Nr. 0001912, în baza Ordinului MECT nr.3492/23.03.2010.

## 3. Brevete invenție

1. **Croitoru C**, Patachia S, Lunguleasa A. Solutions for wood impregnation, based on natural polymers, method of preparation and process for application. RO126930-A0. *Derwent Primary Accession Number: 2012-D25293*
2. Patachia S, **Croitoru C**, Lunguleasa A. Dispersions for wood impregnation based on inorganic compounds and ionic liquids, method of preparation and process of application. RO126929-A0. *Derwent Primary Accession Number: 2012-D25294*

## 4. Cărți și capitole în cărți

(fără cursuri și îndrumare didactice)

1. **C. Croitoru**; I.C. Roata. Alteration and enhancing the properties of natural fibres. În: Fundamentals of Natural Fibres and Textiles, Editor: Md. Ibrahim H. Mondal, Woodhead Publishing, Elsevier, 2021, Pag. 367-405
2. S. Pațachia; **C. Croitoru**. Biopolymers for wood preservation. În: Biopolymers and Biotech Admixtures for Eco-Efficient Construction Materials, Editori: F.Pacheco-Torgal, V. Ivanov, N. Karak, H. Jonkers, Woodhead Publishing, Elsevier, 2016, Pag. 305–332
3. **C. Croitoru**; S. Pațachia. Materiale polimerice imprimare moleculară. Editura LuxLibris, Brașov, 2014, ISBN: 978-973-131-276-7
4. **C. Croitoru**; I.C. Roată. Tehnologii avansate de procesare a materialelor celulozice. Editura: Lux Libris, Brașov, 2017, ISBN: 978-973-131-396-2



## 5. Articole/ studii in extenso, publicate în reviste din fluxul științific internațional principal

### 5.1. Articole ISI

1. **Croitoru, C.**; Roata, I.C. Alkylimidazolium Ionic Liquids Absorption and Diffusion in Wood. *Applied Sciences*, (2021) 11(16): 7640; (**FI: 2,679, SRI: 0,923**), WOS:000688576400001.
2. Tiss, B.; Benfraj, M.; Bouguila, N.; Kraini, M.; Alaya, S.; Cristea, D.; **Croitoru, C.**; Craciun, V.; Craciun, D.; Prepelita, P. The effect of vacuum and air annealing in the physical characteristics and photocatalytic efficiency of  $\text{In}_2\text{S}_3\text{:Ag}$  thin films produced by spray pyrolysis. *Materials Chemistry and Physics* (2021) 270: 124838. (**FI: 4,094, SRI: 0,871**) WOS:000671215400001.
3. Tiss, B.; Fradj, A. Ben; Bouguila, N.; Cristea, D.; **Croitoru, C.**; Kraini, M.; Vázquez-Vázquez, C.; Cunha, L.; Moura, C.; Alaya, S. Electrical Behavior and Photocatalytic Activity of Ag-Doped  $\text{In}_2\text{S}_3$  Thin Films. *Journal of Electronic Materials* (2021) 50: 3739–3747. (**FI: 1,938, SRI: 0,631**) WOS:000640473000008.
4. Tiss, B.; Moualhi, Y.; Bouguila, N.; Kraini, M.; Alaya, S.; **Croitoru, C.**; Ghiuta, I.; Cristea, D.; Patroi, D.; Moura, C.; Cunha, L. Influence of the physical properties on the antibacterial and photocatalytic behavior of Ag-doped indium sulfide film deposited by spray pyrolysis. *Coatings*, (2021) 11(4): 370. (**FI: 2,881, SRI: 1,000**) WOS:000642934600001.
5. Baltes, L.S.; Patachia, S.; Ekincioglu, O.; Ozkul, H.; **Croitoru, C.**; Munteanu, C.; Istrate, B.; Tiorean, M.H. Polymer-Cement Composites Glazing by Concentrated Solar Energy. *Coatings*, (2021) 11(3): 350. (**FI: 2,881, SRI: 1,000**) WOS:000633596300001.
6. Ghiuta, I.; **Croitoru, C.**; Kost, J.; Wenkert, R.; Munteanu, D. Bacteria-mediated synthesis of silver and silver chloride nanoparticles and their antimicrobial activity. *Applied Sciences-Basel* (2021) 11(7): 3134. (**FI: 2,679, SRI: 0,923**) WOS:000638317400001.
7. **Croitoru, C.**; Roata, I.C. Ionic Liquids as Antifungal Agents for Wood Preservation. *Molecules* (2020) 25(18): 4289. (**FI: 4,411, SRI: 1,314**) WOS:000580097000001.
8. Luca, M.A., Tiorean, M.H., Machedon-Pisu, T., Rodriguez, J., **Croitoru, C.** The influence of concentrated solar energy flux on the structure and properties of stainless steel brazed joints. *Journal of Thermal Analysis and Calorimetry* (2020), 141 (4): 1291–1304. (**FI: 4,626, SRI: 0,876**) WOS: 000500853500007.
9. **Croitoru, C.**, Pop, M.A., Bedo, T., Cosnita, M., Roata, I.C., Hulka, I. Physically crosslinked poly (vinyl alcohol)/kappa-carrageenan hydrogels: Structure and applications. *Polymers* (Basel) (2020), 12(3). (**FI: 4,329, SRI: 2,037**) WOS: 000525952000059.

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10. **Croitoru, C.**, Roata, I.C., Pascu, A., Stanciu, E.M. Diffusion and controlled release in physically crosslinked poly (vinyl alcohol)/iota-carrageenan hydrogel blends. *Polymers (Basel)* (2020), 12(7):1544. ). (**FI: 4,329, SRI: 2,037**) WOS: 000558033000001.
11. Pop, M.A., **Croitoru, C.**, Bedo, T., Geamăn, V., Radomir, I., Zaharia, S.M., Chicos, L. Influence of internal innovative architecture on the mechanical properties of 3D polymer printed parts. *Polymers (Basel)*, (2020), 12(5). (**FI: 4,329, SRI: 2,037**) WOS:000541431100134.
12. Roata IC, **Croitoru C**, Pascu A, Stanciu EM, Hulka I, Petre I, Gabor C, Patroi D, Sbarcea BG. Surface engineering of Ni-Al coatings through concentrated solar heat treatment. *Applied Surface Science* (2020) 506:144185. (**FI: 6,707, SRI: 2,163**) WOS: 000512983600137.
13. **Croitoru C**, Roata IC, Pascu A, Stanciu EM, Hulka I, Stoian G, Lupu N. Photocatalytic surfaces obtained through one-step thermal spraying of titanium. *Applied Surface Science* (2020), 504:144173. (**FI: 6,707, SRI: 2,163**) WOS: 000502040600179.
14. Pascu A, Stanciu EM, **Croitoru C**, Roată IC, Rosca JM, Nicanor C, Tierean MH, Bogatu C. Pulsed laser cladding of NiCrBSiFeC hardcoatings using single-walled carbon nanotube additives. *Journal of Nanomaterials* (2019), 2019: 2401295. (**FI: 2,986, SRI: 0,675**) WOS: 000487080800001.
15. Feldiorean D, Cristea D, Tierean M, **Croitoru C**, Gabor C, Jakab-Farkas L, Cunha L, Barradas NP, Alves E, Craciun V, Marin A, Moura C, Leme J, Socol M, Craciun D, Cosnita M, Munteanu D. Deposition temperature influence on the wear behaviour of carbon-based coatings deposited on hardened steel. *Applied Surface Science* (2019), 475:762-773. (**FI: 6,707, SRI: 2,163**) WOS: 000458482100090.
16. Pop MA, **Croitoru C**, Bedo T, Geaman V, Radomir I, Cosnita M, Zaharia SM, Chicos LA, Milosan I. Structural changes during 3D printing of bioderived and synthetic thermoplastic materials. *Journal of Applied Polymer Science* (2019), 136(17): 47382. (**FI: 3,125, SRI: 1,197**) WOS: 000456861100001.
17. Cristea D, Cunha L, Gabor C, Ghiuta I, **Croitoru C**, Marin A, Velicu L, Besleaga A, Vasile B. Tantalum oxynitride thin films: Assessment of the photocatalytic efficiency and antimicrobial capacity. *Nanomaterials* (2019) 9(3). (**FI: 5,076, SRI: 1,687**) WOS: 000464450100003.
18. Lunguleasa A, Ayrilmis N, Spirchez C, **Croitoru C**. Increasing the calorific properties of sawdust waste from pellets by torrefaction. *BioResources* (2019) 14:4. (**FI: 1,614, SRI: 1,472**) WOS: 000493997400017.





19. Roata IC, **Croitoru C**, Pascu A, Stanciu EM. Characterization of physically crosslinked ionic liquid-lignocellulose hydrogels. *BioResources*. (2018), 13(3): 6110-6121 . (**FI= 1,614, SRI= 1,472**) WOS: 000440506300095.
20. **C. Croitoru**; C. Spirchez; D. Cristea; A. Lunguleasa; M.A. Pop; T. Bedo; I.C. Roata; M.A. Luca. Calcium carbonate and wood reinforced hybrid PVC composites. *Journal of Applied Polymer Science* (2018) 135(22): 46317 (**FI=1,901; SRI= 1,040**) WOS: 000426508700017
21. I.C. Roata; **C. Croitoru**; A. Pascu; E.M. Stanciu. Photocatalytic performance of copper-based coatings deposited by thermal spraying. *Journal of Materials Science-Materials in Electronics* (2018) 29(13): 11345-11357 (**FI=2,324; SRI= 0,554**) WOS: 000435588600069
22. E.M. Stanciu; A. Pascu; R.I. Claudiu; **C. Croitoru**; M.H. Tiorean; J.M. Rosca; I. Hulka. Solar radiation synthesis of functional carbonaceous materials using Al<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub>-Cu-HA doped catalyst. *Applied Surface Science* (2018) 438: 33-40 (**FI=4,439; SRI= 1,713**) WOS: 000425731200005
23. A. Olah; **C. Croitoru**; M.H. Tiorean. Surface properties tuning of welding electrode-deposited hardfacings by laser heat treatment. *Applied Surface Science* (2018) 438: 41-50 (**FI=4,439; SRI= 1,713**) WOS: 000425731200006
24. I. Ghiuta; D. Cristea; **C. Croitoru**; J. Kost; R. Wenkert; I. Vyrides; A. Anayiotos; D. Munteanu. Characterization and antimicrobial activity of silver nanoparticles, biosynthesized using *Bacillus* species. *Applied Surface Science* (2018) 438: 66-73 (**FI=4,439; SRI= 1,713**) WOS: 000425731200009
25. **C. Croitoru**; C. Spirchez; A. Lunguleasa; D. Cristea; I.C. Roata; M.A. Pop; T. Bedo; E.M. Stanciu; A. Pascu. Surface properties of thermally treated composite wood panels. *Applied Surface Science* (2018) 438: 114-126 (**FI=4,439; SRI= 1,713**) WOS: 000425731200013
26. E.M. Stanciu; A. Pascu; M.H. Tiorean; I.C. Roata; I. Voiculescu; I. Hulka; **C. Croitoru**. Dissimilar Laser Welding of AISI 321 and AISI 1010. *Tehnicki Vjesnik-Technical Gazette* (2018) 25: 344-349 (**FI=0,686; SRI= 0,267**) WOS: 000430936800006
27. **C. Croitoru**; A.M. Varodi; M.C. Timar; I.C. Roata; E.M. Stanciu; A. Pascu. Wood-plastic composites based on HDPE and ionic liquid additives. *Journal of Materials Science* (2018) 53(6): 4132-4143 (**FI=2,993; SRI= 1,256**) WOS: 000418294200017
28. A. Pascu; E.M. Stanciu; **C. Croitoru**; I.C. Roată; M.H. Tiorean. Carbon Nanoparticle-Supported Pd Obtained by Solar Physical Vapor Deposition. *Advances in Materials Science and Engineering* (2018) 4730192 (**FI=1,372; SRI= 0,694**) WOS: 000426193300001
29. A. Pascu; E.M. Stanciu; D. Savastru; V. Geanta; **C. Croitoru**. Optical and microstructure characterisation of ceramic - Hydroxyapatite coating fabricated by laser cladding. *Journal of*



- Optoelectronics and Advanced Materials* (2017) 19: 66-72 (FI=0,39; SRI= 0,199) WOS: 000400880700010
30. **C. Croitoru**; S. Patachia; A. Papancea; L. Baltes; M. Tierean. Glass fibres reinforced polyester composites degradation monitoring by surface analysis. *Applied Surface Science* (2015) 358 B: 518-524 (FI= 3,150 ; SRI= 1,476). WOS:000366220500003
  31. **C. Croitoru**; S. Patachia. Long-Chain Alkylimidazolium Ionic Liquid Functionalization of Cellulose Nanofibers and Their Embedding in HDPE Matrix. *International Journal of Polymer Science* (2016) 2016:1-9 (FI= 1,000; SRI= 1,089). WOS:000379547000001
  32. E. M. Stanciu, A. Pascu, M. H. Tierean, I. Voiculescu, I. C. Roată, **C. Croitoru**, I. Hulka. Dual Coating Laser Cladding of NiCrBSi and Inconel 718. *Materials and Manufacturing Processes* (2016) 31: 1556-1564 (FI= 1,630 ; SRI= 0,748). WOS:000381388400003
  33. S. Patachia; **C. Croitoru**. Increasing the adsorption capacity and selectivity of poly(vinyl alcohol) hydrogels by an alternative imprinting technique. *Journal of Applied Polymer Science* (2015) 132: 42024-42033 (FI= 1,866; SRI= 1,000) WOS: 000351392700008
  34. **C. Croitoru**, S. Patachia, A. Porzsolt, C. Friedrich. Effect of alkylimidazolium based ionic liquids on the structure of UV-irradiated cellulose. *Cellulose* (2011) 18:1469–1479 (FI= 3,60; SRI= 5,217). WOS: 000298994200009
  35. **C. Croitoru**, S. Patachia, N. Cretu, A. Boer, Chr. Friedrich. Influence of ionic liquids on the surface properties of poplar veneers. *Applied Surface Science* (2011) 257: 6220–6225 (FI=2,103; SRI=1,379). WOS: 000288646900050
  36. **C. Croitoru**; S. Patachia; A. Lunguleasa. New Method of Wood Impregnation with Inorganic Compounds using Ethyl Methylimidazolium chloride as carrier. *Journal of Wood Chemistry and Technology* (2015) 35: 113-128 (FI= 1,83 ; SRI=2,489). WOS: 000345585100003
  37. **C. Croitoru**, S. Patachia, A. Lunguleasa. A mild method of wood impregnation with biopolymers and resins using 1-ethyl-3-methylimidazolium chloride as carrier. *Chemical Engineering Research and Design* (2015) 93: 257-268 (FI=2,525; SRI=1,655). WOS: 000348878600024
  38. **C. Croitoru**, Silvia Patachia, Florica Doroftei, Elena Paparita, Cornelia Vasile. Ionic liquids influence on the surface properties of electron beam irradiated wood. *Applied Surface Science* (2014) 314: 956–966 (FI= 2,538; SRI= 1,575). WOS: 000341464100130
  39. Silvia Patachia, Christian Friedrich, Claudia Florea, **C. Croitoru**. Study of the PVA behaviour in 1-butyl-3-methylimidazolium tetrafluoroborate ionic liquid. *eXpress Polymer Letters* (2011) 5:197-207 (FI= 2,953; SRI= 1,094). WOS: 000285847000009





40. Silvia Patachia, **C. Croitoru**, Christian Friedrich. Effect of UV exposure on the surface chemistry of wood veneers treated with ionic liquids. *Applied Surface Science* (2012) 258: 6723–6729 (**FI= 2,538; SRI= 1,361**). **WOS:** 000304004100002
41. S. Patachia, **C. Croitoru**. Imprinted poly (vinyl alcohol) as a promising tool for xanthine derivatives separation. *Journal of Applied Polymer Science* (2011) 122: 2081-2089 (**FI: 0,990; SRI: 0,990**) **WOS:**000293849200072
42. A. Tuduce Trăistaru, M.C. Timar, M. Câmpean, **C. Croitoru**, Ion Sandu. Paraloid B72 versus Paraloid B72 with nano-ZnO additive as consolidants for wooden artefacts. *Revista Materiale Plastice* (2012) 49 (**FI= 0,379; SRI= 0**). **WOS:**000313149100014
43. **C. Croitoru**, S. Patachia, A. Porzsolt, C. Friedrich. Ecologic modification of wood using alkylimidazolium-based ionic liquids. *Environmental Engineering and Management Journal* (2011) 10: 1149-1154 (**FI= 1,004; SRI= 0**). **WOS:** 000296758300022
44. S. Patachia, **C. Croitoru**, G. Moise, Molecularly imprinted poly (vinyl alcohol) films for the selective absorption of glycyrrhizinic acid from aqueous solutions, *Environmental Engineering and Management Journal* (2009) 8: 663-668 (**FI= 0,885; SRI= 0**) **WOS:** 000269811500006
45. S. Patachia, G. Moise, H. Ozkul, O. Ekincioglu, **C. Croitoru**. Ecological polymer used for Macro Defect Free Cements Production, *Environmental Engineering and Management Journal* (2009) 8:679-684 (**FI= 0,885; SRI= 0**). **WOS:** 000269811500008
46. S. Patachia; **C. Croitoru**; I. Scarneciu. Selectivity studies of caffeine molecularly imprinted poly (vinyl alcohol) hydrogels. *Environmental Engineering and Management Journal* (2011) 10: 175-179 (**FI= 1,004; SRI: 0**). **WOS:** 000289827100002.

## 5.2. Publicații în extenso apărute în volume ale principalelor conferințe internaționale de specialitate

1. Spirchez C, Lunguleasa A, **Croitoru C**. The importance of the wood biomass in environment protection. AIP Conference Proceedings, 2018, Vol. 1918, Nr. 1, Nr. art. 020007. **WOS:** 000426289700007
2. **Croitoru C**, Roata IC, Pascu A, Stanciu E. Ionic Liquid Surface Treatment of Calcite for Improved Compatibility with Polyolefin Matrix. IOP Conference Series-Materials Science and Engineering, 2017, Vol. 209, Nr. art. 012052. **WOS:** 000423732100052
3. **Croitoru C**, Pascu A, Roata IC, Stanciu EM. Obtaining and Characterization of Polyolefin-Filled Calcium Carbonate Composites Modified with Stearic Acid. IOP Conference Series-

- Materials Science and Engineering, 2017, Vol. 209, Nr. art. 012041. WOS: 000423732100041
4. Pascu A, Stanciu EM, **Croitoru C**, Roata IC, Tiorean MH. Pulsed Laser Cladding of Ni Based Powder. IOP Conference Series-Materials Science and Engineering, 2017, Vol. 209, Nr. art. 012058. WOS:000423732100058
  5. Roata IC, Pascu A, **Croitoru C**, Stanciu EM, Pop MA. Thermal Spraying of CuAlFe Powder on Cu5Sn Alloy. IOP Conference Series-Materials Science and Engineering, 2017, Vol. 209, Nr. art. 012042. WOS: 000423732100042
  6. Olah A, **Croitoru C**, Roata IC, Andreescu AB. Ignition behavior of insulative materials: A safety vision. Materials Today: Proceedings, 2019, Vol. 19, pag. 1003-1007. WOS: 000496428200014
  7. Stanciu EM, Pascu A, Roata IC, **Croitoru C**, Tiorean MH. Laser welding of dissimilar materials. Materials Today: Proceedings, 2019, Vol. 19, pag. 1066-1072. WOS: 000496428200023
  8. Roata IC, **Croitoru C**, Stanciu EM, Pascu A. Cladding under the spotlight: Between performance materials and occupational health hazards. In: Materials Today: Proceedings, 2019, Vol. 19, pag. 1051-1058. WOS: 000496428200021
  9. **Croitoru C**, Pascu A, Stanciu EM, Roata IC. Solar synthesis of carbon microparticles from polymer waste. Materials Today: Proceedings, 2019, Vol. 19, pag. 996-1002. WOS: 000496428200013
  10. Spirchez C, Lunguleasa A, Ionescu C, **Croitoru C**. Physical and calorific properties of wheat straw briquettes and pellets. MATEC Web Conf. 2019, Vol. 290. WOS: 000569367700128
  11. **Croitoru C**. 1000 at 1000: the lightest bakelite and beyond. Journal of Materials Science, 2020, Vol. 55, pag. 15637-42. WOS: 000546527900002

14.12.2021

Conf. Dr. Chim. Cătălin Croitoru