

Europass Curriculum Vitae



Personal information

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Nationality Romanian
Date of birth 03.07.1968
Gender Male

Work experience

<p> Dates January 2007 onwards Occupation or position held Scientific Researcher grd. I Main activities and responsibilities Scientific research Project idea elaboration Modelling Project management Experimental research Mentoring </p>	<p> Name and address of employer National R&D Institute for Nonferrous and Rare Metals, Bucharest Type of business or sector Research and development in nonferrous and rare metals </p>
<p> Dates September 1995 – February 1997 Occupation or position held Teaching assistant Main activities and responsibilities Student advisor Tests and quizzes supervision and grading Materials and Science 2nd grade course </p>	<p> Name and address of employer University of Arizona, Tucson, Arizona S.U.A. Type of business or sector Education </p>
<p> Dates July 1992 – January 1993 Occupation or position held Research scientist grd III Main activities and responsibilities Scientific work in materials field Research idea elaboration Experiments supervision and coordination Computer programming and modelling in MatCad, MatCalc, Matlab </p>	<p> Name and address of employer Institute for Non-ferrous and Rare Metals, Bucharest Type of business or sector Research and development in nonferrous and rare metals </p>

Education and training

Dates	15.01.2014
Title of qualification awarded	PhD I Materials Engineering
Principal subjects/occupational skills covered	Title: Studies and researches regarding the obtaining of composite materials reinforced with silicon carbide particles, through insitu method
Name and type of organisation providing education and training	Faculty of Materials Science and Engineering, University „Politehnica” of Bucharest
Dates	16-20.01. 2012
Title of qualification awarded	Certificate
Principal subjects/occupational skills covered	Seminar: „Project Management”
Name and type of organisation providing education and training	Institute for Non-ferrous and Rare Metals / AVANMAT
Dates	22-24.02.2008
Title of qualification awarded	Certificate
Principal subjects/occupational skills covered	Course: „The Management of European Union financed Projects”
Name and type of organisation providing education and training	Module Quality Consulting, Romania
Dates	September 1995 – February 1997
Title of qualification awarded	Master studies
Principal subjects/occupational skills covered	Materials Science and Engineering
Name and type of organisation providing education and training	Faculty of Materials Science and Engineering, University of Arizona, USA
Dates	1992
Title of qualification awarded	Attendee
Principal subjects/occupational skills covered	Ten days seminar: „Social context of technological modernization”
Name and type of organisation providing education and training	SOROS Foundation
Dates	1989-1991
Title of qualification awarded	Teaching certificate
Principal subjects/occupational skills covered	Teaching course and practice
Name and type of organisation providing education and training	Faculty of Materials Science and Engineering, University „Politehnica” of Bucharest

Personal skills and competences

Mother tongue(s) **Specify mother tongue : Romanian**

Other language(s)

Self-assessment
European level ()*

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	

English	C2	Proficient User	C2	Proficient User	C2	Proficient user	C2	Proficient user	C2	Proficient user
Italian	A2	Basic user	A2	Basic user	B1	Independent user	A2	Basic user	A2	Basic user

(*) *Common European Framework of Reference for Languages*

Social skills and competences	Teamwork commitment and interpersonal relationship improvement.
Organisational skills and competences	Project Director, at international M-Era.Net project COMPTRANS Project Director at national complex project HEAPROTECT Project director „Nucleu” research programmes and PNIII complex projects Project proposal elaboration for international calls: FP7-2013, Bilaterals, M-eranet; and national calls: Research-Industry Partnerships, Innovation Program, Ideas program
Technical skills and competences	Research in the fields of: Nonferrous alloys preparation and processing. High entropy alloys. Composites. Rapid solidification and induction melting. Activities: Thermodynamic assessment, Modeling, Experimental process, Characterization.
Computer skills and competences	Competent with Word, Excel, PowerPoint, Adobe, MathCAD, HSC, Princeton Power Suite, MatCalc, Matlab
Additional information	Member of: <i>The European materials modelling concil (EMMC)</i> , European Materials Research Society (e-MRC), Federation of European Materials Societies (FEMS) 2 Program PNCDI3 -project nr 20PCCDI/2018 and program M-Era.net 2020 - COMPTRANS 3 European projects; 18 national projects; 7 Patents and 8 patent applications 42 papers in international and national journals: 33 (ISI) and 9 BDI 42 Presentations at conferences 10 awards with diploma (3 were gold medals)

List of papers and projects

Doctoral thesis:

D. Mitrica, „STUDII SI CERCETĂRI PRIVIND OBȚINEREA DE MATERIALE COMPOZITE ARMATE CU PARTICULE DE CARBURĂ DE SILICIU, PRIN METODĂ INSITU”, 2013, Universitatea Politehnica Bucuresti.

Articles ISI:

1. G. Popescu, L. Vladutiu, V. Soare, I. Surcel, **D. Mitrica**, I. Carcea, *Nanostructured aluminum alloys with high physical and mechanical properties*, Metalurgia International, 2009, 14(SPEC. ISS. 2), 35–38, FI 0.134.

2. M. Burada, V. Soare, **D. Mitrică**, C. Lungu, V. Ghenescu, L. Ion, *Growth of CIS thin films using one step electrodeposition process*, Metalurgia International, 2009, 14(SPEC. ISS. 3), 193–196, FI 0.134.

3.V. Soare, M. Burada, **D. Mitrica**, V. Badilita, F. Stoiciu, C. P. Lungu, S. Antohe, *Electrodeposition and characterization of CuInSe2/CdS multilayered thin films deposited on flexible substrate*, Optoelectronics and Advanced Materials-Rapid Communications, 2010, 4, 2018 2021, FI 0.556.

4. P. Moldovan, M. Butu, G. Popescu, M. Buzatu, E. Usurelu, V. Soare, **D. Mitrica**, *Thermodynamics of interactions in Al-K2TiF6-KBF4 system*, Revista de Chimie, 2010, 61(9), 828–832, IF 1.755.
5. M. Butu, P. Moldovan, E. Usurelu, **D. Mitrica**, *The mechanism and kinetics of TiB2 nanoparticles and microparticles formation via aluminothermic reaction*, Revista de Chimie, 2011, 62(7), 723–726, IF 1.755.
6. G. Popescu, L. M. Vladutiu, V. Soare, **D. Mitrica**, R. Trusca, E. Vasile, *Nanostructured Al-Mn master alloys obtained by mechanical alloying*, Metalurgia International, 2011, 16(4), 137–140, FI 0.134.
7. V. Soare, **D. Mitrica**, V. Badilita, I. Constantin, M. Tarcolea, G. Popescu, *Experimental models for processing of nanostructured aluminum master alloys*, Metalurgia International, 2011, 16(4), 161–164, FI 0.134.
8. G. Popescu, V. Soare, **D. Mitrica**, G. Iacob, *Obtaining and characterization of nanostructured Al-Sr master alloys*, TMS 2012 - 141ST Annual meeting & exhibition - supplemental proceedings, 2012, 2,43-50, FI 0.1.
9. A. Uşurelu-Cristea, G. Popescu, **D. Mitrica**, V. Soare, M. Buzatu, *Obtaining of AlMgMnCr wrought alloy by alloying with AlMn nanostructured master alloy*, Metalurgia International, 2013, 18(SPEC1), 100–103, FI 0.134.
10. R. M. Florea, I. Peter, M. Rosso, **D. Mitrica**, I. Carcea, *Microstructural evolution and mechanical properties of AlMg/AlN composite materials obtained “in-situ.”*, Journal of Optoelectronics and Advanced Materials, 2013, 15 (7-8), 833-840, FI 0.5.
11. V. Soare, **D. Mitrica**, I. Constantin, G. Popescu, I. Csaki, M. Tarcolea, I. Carcea, *AlMnCrCuFeNi multicomponent alloy with superior hardness and corrosion resistance*, TMS 2014 supplemental proceedings, 2014, 079-1086, DOI:10.1007/978-3-319-48237-8_128, FI 0.1.
12. V. Soare, **D. Mitrica**, I. Constantin, G. Popescu, I. Csaki, M. Tarcolea, I. Carcea, *The Mechanical and Corrosion Behaviors of As-cast and Re-melted AlCrCuFeMnNi Multi-Component High-Entropy Alloy*, Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46(4), 1468–1473, FI 2.726.
13. V. Soare, **D. Mitrica**, I. Constantin, V. Badilita, F. Stoiciu, A.M.J. Popescu, I. Carcea, *Influence of remelting on microstructure, hardness and corrosion behaviour of AlCoCrFeNiTi high entropy alloy*, Materials Science and Technology, 2015, 31(10), 1743284715Y.000, FI 2.06.
14. V. Soare, M. Burada, I. Constantin, **D. Mitrica**, V. Badilita, A. Caragea, M. Tarcolea, *Electrochemical deposition and microstructural characterization of AlCrFeMnNi and AlCrCuFeMnNi high entropy alloy thin films*, Applied Surface Science, 2015, 358, 533–539, FI 7.392.
15. G. Popescu, M. M. Adrian, I. Csaki, C. A. Popescu, **D. Mitrica**, S. Vasile, I. Carcea, *Mechanically alloyed high entropy composite*, In IOP Conference Series: Materials Science and Engineering, 2016, 145 (7), DOI:10.1088/1757-899X/145/7/072007, FI 0.1.
16. **D. Mitrica**, V. Soare, I. Constantin, M. Burada, M. Olaru, V. Badilita, V. Soare, F. Stoiciu, G. Popescu, I. Carcea, *Influence of the Heat Treatment Processes on the Properties of High Entropy Alloys Based on Al-Cr-Fe-Mn-Ni System*, Materials Performance and Characterization 6, 2017, 5, 823-836, FI 0.1.
17. **D. Mitrica**, A. Tudor, A. Rinaldi, V. Soare, C. Predescu, A. Berbecaru, F. Stoiciu, V. Badilita, *Structural transformations of heat treated Co-less high entropy alloys*, IOP Conference Series: Materials Science and Engineering, 2018, 329, 012011, FI 0.1.
18. A. M. J. Popescu, V. Soare, M. Burada, **D. Mitrica**, I. Constantin, V. Badilita, F. Miculescu, C. Cotrut, E. I. Neacsu, C. Donath, V. Constantin, *Electrochemical behaviour of ternary Ni-Zn-P thin films deposition on steel substrate*, Indian Journal of Chemical Technology, 2018, 25, 6, 572-577, FI 0.76.

19. D. V. Dumitrescu, V. Soare, I. Constantin, M. Burada, **D. Mitrica**, M. T. Olaru, B. A. Carlan, L. Milea, F. M. Dragoescu, D. Dumitru, I. Carcea, “*Waste electric and electronic equipment (WEEE) melting and resulting gases processing in microwave field*”, IOP Conference Series: Materials Science and Engineering, 2018, 400, 022023, FI 0.1.
20. I. Constantin, V. Soare, M. Burada, D. V. Dumitrescu, **D. Mitrica**, M. T. Olaru, B. A. Carlan, V. D. Dragut, *Methods for processing mining wastes from copper extraction for the recovery of precious metals*, UPB scientific bulletin series B-Chemistry and Materials Science, 2019, 81, 2, 207-214, FI 0.1.
21. M. T. Olaru, **D. Mitrica**, V. Soare, I. Constantin, M. Burada, D. Dumitrescu, A. Caragea, B. A. Carlan, C. I. Banica, F. Stoiciu, V. Badilita, V. Geanta, R. Stefanoiu, *Synthesis and characterization of high entropy alloys for high temperature applications*, U.P.B. Scientific Bulletin Series B, 2019, 81, 2, 249-256, FI 0.1.
22. L. C. Matache, T. Chereches, P. Lixandru, A. Mazuru, **D. Mitrica**, E. Trana, P. Somoia, A. N. Rotariu, *Determination of a methodology for formulating constituent models of high entropy alloys*, IOP Conference Series: Materials Science and Engineering, 2019, 591, 012058, FI 0.1.
23. **D. Mitrica**, M.T. Olaru, V. Dragut, C. Predescu, A. Berbecaru, M. Ghita, I. Carcea, M. Burada, D. Dumitrescu, B.A. Serban, I.C. Banica, *Influence of composition and as-cast structure on the mechanical properties of selected high entropy alloys*, Materials Chemistry and Physics, 2020, 242, 122555, FI 4.778.
24. M. T. Olaru, M. Tarcolea, **D. Mitrică**, M. Burada, D. Dumitrescu, C. I. Bănică, B. A. Serban (Cârlan), *Influence of heat treatment on Al_{0.5}Cr_{0.5}Ni_{0.5}TiZr_{1.5}Nb_{1.5}, high entropy alloy*, Buletin Științific UPB, Seria B, 2020, 82, 2, ISSN 1454 – 233, IF 0.1.
25. **D. Mitrică**, B. A. Șerban, M. T. Olaru, M. Burada, D. Dumitrescu, C. I. Bănică, *Modelling of the energy transfer during scrap melting in microwave furnace*, IOP Conference Series: Materials Science and Engineering, 2020, 916, 012068, FI 0.1.
26. **D. Mitrica**, I. C. Badea, M. T. Olaru, B. A. Serban, D. Vonica, M. Burada, V. Geanta, A. N. Rotariu, F. Stoiciu, V. Badilita, L. Licu, *Modeling and Experimental Results of Selected Lightweight Complex Concentrated Alloys, before and after Heat Treatment*, Materials 2020, 13, 4330, <https://doi.org/10.3390/ma13194330>, FI 3.748.
27. **D. Mitrica**, I. C. Badea, B. A. Serban, M. T. Olaru, D. Vonica, M. Burada, R. R. Piticescu, V. V. Popov, *Complex Concentrated Alloys for Substitution of Critical Raw Materials in Applications for Extreme Conditions*, Materials, 2021, 14, 1197, <https://doi.org/10.3390/ma14051197>, FI 3.748.
28. B. A. Serban; I. C. Badea; N. Constantin, **D. Mitrica**; M. T. Olaru; M. Burada; I. Anasiei; S. E. Bejan, A. N. Ghiță; A. M. J. Popescu, *Modeling and Characterization of Complex Concentrated Alloys with Reduced Content of Critical Raw Materials*. Materials (Basel). 2021, 14 (18), 1–22, FI 3.748.
29. A.-M.J. Popescu; F. Branzoi; I. Constantin; M. Anastasescu; M. Burada; **D. Mitrică**; I. Anasiei; M.-T. Olaru, V. Constantin, *Electrodeposition, Characterization, and Corrosion Behavior of CoCrFeMnNi High-Entropy Alloy Thin Films*. Coatings 2021, 11, 1367. FI 3.236
30. I. C. Badea, Ioana Csaki, B. A. Serban, N. Constantin, **D. Mitrica**, M. Burada, I. Anasiei, M. T. Olaru, A. N. Ghiță, A.M.J. Popescu, *Characterisation of a novel complex concentrated alloy for marine applications*, Materials 2022, 13, 4330, FI 3.748.
31. I. Voiculescu, V. Geanta, T. Chereches, P. Vizureanu, R. Stefanoiu, A. Rotariu, **D. Mitrica**, “*Impact Behavior of the Ballistic Targets Package Composed of Dyneema Polymer and High Entropy Alloy Structures*,” Arch. Metall. Mater., vol. 67, no. 2, pp. 569–576, 2022, <https://doi.org/10.24425/amm.2022.137792>, FI 0.633.

32. A.-M.J.Popescu; F. Branzoi, M. Burada, I. Atkinson, I. Constantin, J.C.Moreno, F. Miculescu, **D. Mitrica**; I.-C. Badea, M.T. Oлару, V. Constantin, *Influence of Heat Treatment on the Corrosion Behavior of Electrodeposited CoCrFeMnNi High-Entropy Alloy Thin Films*. Coatings 2022, 12, 1108.. FI 3.236
33. B.-A. Serban, M.-T.Olaru, I.-C. Badea, **D. Mitrica**, M. Burada, I. Anasiei, M. Ghita, A.-I. Tudor, C.-A. Matei, A.M.J. Popescu, V. Constantin, F. Branzoi, C. Dobrescu, N. Constantin, *Non-aqueous electrodeposition and characterization of AlCrCuFeNi high entropy alloy thin films*. Materials 2022, 15, 6007, FI 3.748.
34. I. Anasiei, D. Mitrica, I. C. Badea, B. A. Șerban, J. Trapp, A. Storz, I. Carcea, M.T. Oлару, M. Burada, N. Constantin, et al. *Characterization of Complex Concentrated Alloys and Their Potential in Car Brake Manufacturing*. Materials 2023, 16, 5067, FI 3.748. <https://doi.org/10.3390/ma16145067>

Articles BDI

1. **D. Mitrica**, V. Soare, F. Stoiciu, M. Burada, V. Soare, P. Moldovan, G. Popescu, M. Butu, *Magnesium influence to in-situ fabrication of Al-Si/AlN_p by RGI method*, Metallurgy and New Materials Researches, 2010, XVIII, 4, pp. 35-46, ISSN 1221-5503.
2. V. Soare, I. Surcel, **D. Mitrica**, F. Stoiciu, V. Badilita, M. Radu, P. Moldovan, *AlSiMg/SiC_p fabrication through RGI method*, Metallurgy and New Materials Researches, 2010, XVIII, 4, 23-34, ISSN 1221-5503.
3. M. Burada, **D. Mitrica**, I. Constantin, V. Badilita, F. Miculescu, C. Cotrut, V. Constantin, *Electrochemical process for Ni-Zn-P thin films deposition on steel substrate*, Metallurgical and New Materials Researches, 2011, Vol. XIX, No. 2, 23-31. ISSN 1221-5503.
4. V. Soare, I. Surcel, G. Popeneciu, V. Badilita, F. Stoiciu, V. Soare, **D. Mitrica**, M. Burada, *Physical – structural characteristics of Ti_{0,8}Zr_{0,2}Cr_{1,2}Mn_{0,8} hydrogen storage alloy*, Metallurgy and new materials researches, 2011, XIX, 1/2011, ISSN 1221-5503.
5. V. Soare, M. Burada, **D. Mitrica**, I. Constantin, F. Stoiciu, C. Cotrut, A. M. Popescu, *Electroless deposition process of NiZnP thin films for anticorrosive applications*, Metallurgy and new materials researches, 2011, XIX, 2/2011, ISSN 1221-5503.
6. **D. Mitrica**, V. Soare, M. Burada, V. Badilita, V. Soare, I. Constantin, P. Moldovan, G. Popescu, *Melt spinning process for nanostructured AlSr master alloy obtaining*, Metallurgy and new materials researches, 2011, XIX, 2/2011, ISSN 1221-5503.
7. V. Soare, M. Burada, I. Constantin, D. Dumitrescu, F. Stoiciu, V. Bădiliță, **D. Mitrică**, *The influence of the process control agent and dispersoid on the mechanical alloying of the A5083 alloy*, Metallurgy and new materials researches, 2013, 21, 4, 31-41.
8. V. Soare, I. Constantin, **D. Mitrica**, M. T. Oлару, V. Soare, M. Ghita, B. A. Carlan, G. Popescu, I. Carcea, *Influenta condițiilor de turnare asupra microstructurii și proprietăților aliajelor cu entropie înaltă din sistemul Al-Cr-Fe-Mn-Ni-Zr*, Revista Romana de Turnatorie, 2018, 4, CZU 621.74 (051).
9. D. V. Dumitrescu, M. Burada, I. Constantin, **D. Mitrica**, M.T. Oлару, B. A. Serban, S. A. Munteanu, F.M.Dragoescu, F. Cosmulescu, C. Pop, T. Cimpan, *White metal bearing waste melting and resulted noxious gases processing in microwave field*, International Journal of Modern Manufacturing Technologies, 2019, Special Issue, Vol. XI, No. 3, 44-49, ISSN 2067–3604.

Conferences

1. V. Soare, C. Gurgu, I. Surcel, M. Burada, **D. Mitrica**, M. Tarcolea, *Titanium alloy matrix composite materials with reinforcement ceramic particles, synthesized by an electrochemical method*, National conference on materials science and engineering - ROMAT, 25-26 September, 2008, Bucharest, Romania.
2. I. Surcel, M. Radu, F. Stoiciu, V. Bădiliță, **D. Mitrica**, *Physical – structural characteristics of some new soldering alloys without lead contents*, National conference on materials science and engineering - ROMAT, 25-26, September, 2008, Bucharest, Romania.
3. V. Soare, C. Gurgu, **D. Mitrica**, P. Moldovan, G. Popescu, *Lowcostmethod for AlMMCobtaining*, International Conference on Structural Analysis of Advanced Materials -ICSAAM, 7-10, September, 2009.
4. **D. Mitrica**, V. Soare, I. Surcel, M. Radu, M. Burada, I. Constantin, *Modeling of metal matrix composite synthesis from Al alloys/nitrides system*, Proceedings of International Workshop-Functional Nanomaterials, București, Romania, 01-02, Iulie, 2009, 10-18, ISSN 2066 – 8023.
5. **D. Mitrica**, V. Soare, I. Surcel, F. Stoiciu, M. Radu, M. Burada, I. Constantin, *Proces in-situ pentru sinteza compozitelor din sistemul Al-Si/SiC_p*, National symposium with international participation „Chemistry priorities for sustainable development” (PRIOCHEM) – V th Edition, ICECHIM-Bucharest, 29-30, October 2009 , Sinaia, Romania, ISBN 978-973-0-06996-9.
6. M. Burada, V. Soare, M. Radu, **D. Mitrica**, I. Constantin, P. L. Cristian, V. Ghenescu, S. Antohe, *CuInSe₂ thin films electrodeposition for photovoltaic applications*, National symposium with international participation „Chemistry priorities for sustainable development, (PRIOCHEM) – V th Edition, ICECHIM-Bucharest, 29-30 October 2009 , Sinaia,ISBN 978-973-0-06996-9
6. V. Soare, **D. Mitrica**, V. Badilita, I. Constantin, M. Tarcolea, G. Popescu, *Experimental models for processing of nanostructured aluminum master alloys*, 7th International Conference on Materials Science and Engineering-BRAMAT, 2011.
7. G. Popescu, L. M. Vladutiu, V. Soare, **D. Mitrica**, R. Trusca, E. Vasile, *Nanostructured Al-Mn master alloys obtained by Mechanical alloying*, 7th International Conference on Materials Science and Engineering-BRAMAT, 2011.
8. P. Gabriela, S. Vasile, **D. Mitrica**, I. Gheorghe, *Obtaining and Characterization of Nanostructured Al-Sr Master Alloys*, 2012 TMS Annual Meeting & Exhibition, Supplemental Proceedings: Materials properties, characterisation, and modelling, 2012, 2, 43-50, ISBN 978-1-1182-9609-7.
9. **D. Mitrica**, S. Vasile, I. Constantin, F. Stoiciu, G. Popescu, *Microstructural characterization of AlSi7Mg/AlN and AlSi12Mg/SiC composites obtained by reactive gas injection method*, The 4th International Conference Advanced Composite Materials Engineering-COMAT, October, 2012, Brasov, Romania.
- 10.V. Soare, **D. Mitrica**, G. Popescu, I. Stan, *Obtaining of AlSr10 and AlTi5B1 nanostructured master alloys by melt spinning*, The 21th national foundry conference and exhibition, 2012, Iasi, Romania.
11. V. Soare, **D. Mitrica**, G. Popescu, G. Iacob, *Obtaining of AlSi7mg cast alloy by micro-alloying with nanostructured AlSr10 and AlTi5B1 master alloys*, The 21th national foundry conference and exhibition. 2012, Iasi, Romania.
12. **D. Mitrica**, M. Burada, R. M. Florea, M. Ghita, E. Alexandrescu, V. Soare, P. Moldovan, *Microstructural characterization of aluminum metal matrix composite prepared by in-situ method*, 2014 TMS Annual Meeting &

Exhibition, Symposium: Materials Processing Fundamentals, EPD proceedings, 2014, Wiley, 393-400.

13. V. Soare, **D. Mitrica**, I. Constantin, G. Popescu, I. Csaki, M. Tarcolea, I. Carcea, *AlMnCrCuFeNi multicomponent alloy with superior hardness and corrosion resistance*, TMS 143rd Annual meeting & exhibition, 16-20 Februarie 2014, San Diego, SUA, Supplemental Proceedings, 1079 – 1086.

14. V. Soare, M. Burada, **D. Mitrică**, I. Constantin, D. V. Dumitrescu, “*Investigation of Al-5083 alloy obtained by mechanical alloying*”, 12th Young researchers’ Conference - Materials Science and Engineering, 11-13 December 2013, Belgrade, Serbia.

15. **D. Mitrica**, M. Burada, V. Soare, M. Ghita, R. M. Florea, F. Miculescu, P. Moldovan, *Microstructure and properties of aluminum metal matrix composite prepared by in-situ method*, TMS 143rd Annual meeting & exhibition, 16-20, February, 2014, San Diego, USA.

16. I. Constantin, V. Soare, M. Burada, **D. Mitrica**, D. Dumitrescu, P. Moldovan, A. M. Popescu, *Double layer multifunctional Zn-Ni-P coatings for anticorrosive applications*, TMS 143rd Annual meeting & exhibition, 16-20, February, 2014, San Diego, USA

17. D. V. Dumitrescu, V. Soare, I. Constantin, M. Burada, **D. Mitrică**, “*Microwave field melting of non-ferrous metallic wastes*”, 10th ELSEDIMA International Conference, , 18-19 September 2014, Cluj-Napoca, Romania.

18. V. Soare, M. Burada, I. Constantin, **D. Mitrică**, V. Bădiliță, A. Caragea, M. Târcolea, *Electrochemical deposition and microstructural characterization of AlCrFeMnNi and AlCrCuFeMnNi high entropy alloy thin films*, 9th International Conference on Materials Science and Engineering – BRAMAT 2015, 5 – 7, March, 2015, Brasov, Romania.

19. G. Popescu, V. Soare, **D. Mitrica**, I. Csaki, V. Badilita, M. Ghita, I. Carcea, *Study of high entropy alloys synthesis by induction melting and mechanical alloying*, 9th International Conference on Materials Science and Engineering – BRAMAT 2015, 5 – 7, March, 2015, Brasov, Romania.

20. **D. Mitrica**, V. Soare, I. Constantin, G. Popescu, V. Badilita, F. Stoiciu, A. M. J. Popescu, *Improvement of the Mechanical and Corrosion Resistance Characteristics of AlCrFeMnNi High Entropy Alloy by the Annealing Process*, The 19th Romanian International Conference on Chemistry and Chemical Engineering – RICCE 19, 02-05, September, 2015, Sibiu, Romania.

21. G. Popescu, M. A. Matara, I. Csaki, C.A. Popescu, **D. Mitrică**, V. Soare, I. Carcea, *Mechanically Alloyed High Entropy Composite*, ModTech 2016 International Conference – Modern Technologies in Industrial Engineering”, 15-18, June, 2016, Iasi, Romania.

22. G. Popescu, I. Csaki, C. Popescu, M. A. Matara, R. Trușcă, E. Vasile, **D. Mitrică**, *Microstructure and hardness investigation on high entropy alloy matrix composite material reinforced with graphite particles*, Proceedings of the 3rd Mediterranean Conference on Heat Treatment and Surface Engineering - MCHTSE 2016, Portoroz – Slovenia, 26-28, September, 2016.

23. **D. Mitrica**, V. Soare, I. Constantin, M. Olaru, V. Badilita, V. Soare, F. Stoiciu, G. Popescu, I. Carcea, *Influence of the heat treatment processes on the properties of high entropy alloys based on Al-Cr-Fe-Mn-Ni system*, Proceedings of the 3rd Mediterranean Conference on Heat Treatment and Surface Engineering - MCHTSE 2016, Portoroz – September 26-28, Slovenia, 2016.

24. I. Csaki, G. Popescu, M. A. Matara, R. Trușcă, **D. Mitrică**, *Structural Evolution of AlCrFeNiMn/Graphite During Mechanical Alloying from 5 to 40 Hours*, World PM2016 Proceedings, 9-13, October, 2016.

25. **D. Mitrică**, V. Soare, M. T. Olaru, V. Drăguț, G. Popescu, C. Predescu, A. Berbecaru, V. Soare, M. Ghiță, *Influence*

of the element additions to the microstructural and mechanical characteristics of selected high entropy alloys, 10th international Conference of materials science and engineering – BRAMAT, 2017, Brasov,.

26. **D. Mitrica**, V. Soare, M. T. Olaru, G. Popescu, C. Predescu, I. Carcea, V. Badilita, V. Soare, F. Stoiciu, *High entropy alloys for steam power plant applications*, International Conference Modern Technologies in Industrial Engineering ModTech, 2017, Sibiu, ISSN 2286-4369

27. **D. Mitrica**, A. Tudor, A. Rinaldi, Va. Soare, C. Predescu, A. Berbecaru, Fl. Stoiciu, V. Badilita, *Structural transformations of heat treated Co-less high entropy alloys*, EMRS fall meeting, 2017, Varşovia, Polonia.

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40. **D. Mitrică**, V. Geantă, I. Voiculescu, R. Ștefănoiu, A. Rotariu, E. Scutelnicu, D. Savu, *Individual and collective protection systems for the military field based on high entropy alloys – HEAPROTECT*, European Exhibition of Creativity and Innovation EUROINVENT, 21 – 23, May 2020, Iasi, Romania.
41. V. Geanta, A. Rotariu, I. Voiculescu, R. Ștefănoiu, **D. Mitrica**, *Cercetări preliminare privind obținerea și caracterizarea aliajelor cu entropie ridicată și densitate ridicată $2HfMoNi2Ta$ utilizate la realizarea miezurilor perforante*, 8th International Conference on Materials Science and Technologies – RoMat 2020, 26-27, Noiembrie, 2020, Bucuresti, Romania.
42. B. A. Șerban, I. C. Badea, N. Constantin, M. T. Olaru, S. E. Bejan, **D. Mitrică**, M. Burada, D. V. Dumitrescu, V. Bădiliță, F. Stoiciu, *Modelling and characterisation of complex concentrated alloys with biocompatible properties*, EmergeMat, 29 – 30 October, 2020.

Patents

1. C. Gurgu, V. Soare, I. Surcel, M. Burada, **D. Mitrica**, *Procedeu de obținere prin proces electrochimic a unor materiale compozite cu matrice metalică*, brevet OSIM nr. 125598 B1
2. **D. Mitrica**, V. Soare, I. Constantin, M. Burada, *Procedeu de obținere in situ a materialelor compozite de tipul Al-Si/AlN, și instalație experimentală*, brevet OSIM nr. RO128216-B1
3. **D. Mitrica**, V. Soare, I. Constantin, M. Burada, M. Ghiță, *Procedeu de obținere a unui aliaj de aluminiu poros*, brevet OSIM nr. RO 129439 B1
4. V. Soare, **D. Mitrică**, I. Constantin, *Procedeu de obținere a unui aliaj de aluminiu cu caracteristici mecanice îmbunătățite*, brevet OSIM nr. RO 128755 B1
5. V. Soare, M. Burada, **D. Mitrica**, I. Constantin, S. Antohe, L. Ion, C. Lungu, C. Porosnicu, M. Ghenescu, V. Ghenescu, *Proces electrochimic de obținere filme subțiri cis pentru aplicații fotovoltaice*, brevet OSIM nr. RO127532
6. M. Burada, V. Soare, **D. Mitrica**, I. Constantin, A. Caragea, D. V. Dumitrescu, *"Procedeu de obținere a unei bare de semifabricat sinterizat din pulberi metalice de aliaj Al-Mg-Mn-Cr-Ti"*, brevet OSIM nr. 130769
7. **D. Mitrica**, V. Soare, A. Caragea, M. Olaru, M. Carcea, R. Chelariu, Gh. Matei, M. Sarghi, G. Popescu, I. Csaki, *Procedeu de producer a unei role de laminar cu duritate ridicată din aliaj de înaltă entropie și aliaj obținut prin acesta*, brevet OSIM nr. 132661

Awards

1. V. Soare, **D. Mitrica**, I. Constantin, C. Roman, G. Popescu, *Aluminum alloys obtaining process with improved mechanical properties by micro bonding with nanostructured prealloys*, gold medal at EUROINVENT, 2012.

2. V. Soare, **D. Mitrica**, P. Moldovan, M. Butu, I. Carcea, *Process and equipment for in-situ obtaining of aluminium alloys matrix composite materials reinforced with carbide particles*, bronze medal at EUROINVENT 2012.
3. V. Soare, **D. Mitrica**, I. Constantin, *Process for obtaining aluminium alloys with improved mechanical properties by microalloying with nanostructured master alloys*, gold medal at Euroinvent 2019, Iasi, Romania, 18 may 2019, Date and number of granting the patent: 128755/30.01.2018.
4. **D. Mitrica**, V. Soare, I. Constantin, M. Burada, M. Ghița, *Process for obtaining a porous aluminium alloy*, silver medal at Euroinvent 2019, Iasi, Romania, 18 may 2019, Date and number of granting the patent: 129439/30.08.2018.
5. **D. Mitrica**, I. C. Banica, A. Caragea, G. Enache, D. Vonica, *Concentrated Complex Alloy Of Low Density, For Explosion Protection Devices*, Gold medal, Euroinvent 12 Edition E, 23 May 2020.
6. **D. Mitrică**, M. T. Olaru, R. R. Piticescu, M. Burada, G. Enache, D. V. Dumitrescu, B. A. Șerban, *High entropy alloy for high temperature applications and process*, Gold Medal, Euroinvent 12 Edition European Exhibition Of Creativity And Innovation, 23 Mai 2020.
7. **D. Mitrica**, V. Geata, I. Voiculescu, R. Stefanoiu, A. Rotariu, E. Scutelnicu, D. Savu, *Individual and collective protection systems for the military field based on high entropy alloys - HEAPROTECT*, Silver medal, Euroinvent 12 Edition European Exhibition Of Creativity And Innovation, 23 Mai 2020.
8. **D. Mitrica**, R.R. Piticescu, M. Sluiter, B. Podgornik, B. Zuzek, A. Gustin, P. Klaver, *High entropy alloys with predictable mechanical properties by computational modelling - HEAMODELL*, Bronze medal, Euroinvent 12 Edition European Exhibition Of Creativity And Innovation, 23 May 2020
9. **D. Mitrică**, M. T. Olaru, R. R. Piticescu, M. Burada, G. Enache, D. V. Dumitrescu, B. A. Șerban, *Process For Aluminium Recovery Using Microwave Energy To Metal Cans Waste Melting*, DIPLOMA OF ACHIEVEMENT AND INVENTICA 2020 MEDAL, The 24 Th International Exhibition Of Inventions Inventica 2020.
10. **D. Mitrica**, V. Soare, I. Constantin, M. Burada, M. Ghița, *Tehnologie ecologica de obtinere de aliaje de aluminiu cu porozitate ridicata si greutate specifica scazuta pentru aplicatii industriale*, Medalie de argint, Ugal Invent 16-18 octombrie 2019.

National projects

Program/Project	Position	Period:
GRANT GR 39 / 2007-2008: "Modelling of physical-chemical processes in the elaboration of a new and environmental friendly method for titanium extraction"	Researcher	2007-2008
GRANT 64 GR / 2007-2008: "New concept for the synthesis of titanium alloys matrix composites through molten salt electrochemical processes"	Researcher	2007-2008
71-134/2007-2010 /P4-PARTENERIATE IN DOMENIILE PRIORITARE: "New types of flexible solar cells based on CIS compounds obtained through electro- deposition"	Researcher	2007-2010
71-058/2007-2010 /P4-PARTENERIATE IN DOMENIILE PRIORITARE: "New methods of synthesis of composites with metallic matrix through in - situ processes"	Researcher	2007-2010
21-023/2007-2010 /P4-PARTENERIATE IN DOMENIILE PRIORITARE: "The implementation of clean energy technologies through the developing	Researcher	2007-2010

of an engine installation based on hydrogen storage metallic materials using solar or residual energy”		
72-221/2008-2011 /P4–PARTENERIATE IN DOMENIILE PRIORITARE: “New method of protection against corrosion of steel materials by thin film electro-deposition of Zn-Ni-P ternary alloys”	Researcher	2009-2011
72-205/2008-2011 /P4–PARTENERIATE IN DOMENIILE PRIORITARE: “Nanostructured aluminum alloys with superior physical-chemical characteristics”	Researcher	2009-2011
NUCLEU PN09240204/2009-2012 ”Research studies regarding the obtaining of metallic matrix composites Al-Si-Mg/nitrides with applications in automobile industry”	Project responsible	2009-2012
NUCLEU PN 09240105/2009-2012”Ecological technology for the obtaining of aluminum alloys with high porosity and low density for industrial applications.”	Project responsible	2009-2013
Programme PNCDI2 Partnerships Contract 270/2014 “New high entropy alloys/composites with superior mechanical and corrosion resistance characteristics, for high temperature uses”	Team leader	2014-2017
Programme PNCDI2 Partnerships Contract 82/2014 “Innovative and ecological technology for the recovery of nonferrous metals from electrical and electronic equipment wastes (WEEE) using microwaves energy”	Researcher	2014-2017
Core funding project PN 09240110 “High-entropy alloys with superior mechanical characteristics and corrosion resistance for high-temperature applications”	Researcher	2014-2016
PN 09240113 „Studies and researches for the obtaining of new semiconductor materials for applications in renewable energy”	Researcher	2015-2017
PN 16200304 “High entropy alloys for applications in energy industry”	Researcher	2016-2017
PN 16200202 “Advanced metallic materials with elevated thermoelectric properties”	Researcher	2016-2017
POC-A1-A1.2.3-G 2015 – P 40-397- Promoting unconventional eco-efficient technologies for metal recovery useful from industrial waste by building partnerships for knowledge transfer with economic agents	Researcher	2016-2019
Programme PNCDI3 -project nr 20PCCDI/2018: “INDIVIDUAL AND COLLECTIVE PROTECTION SYSTEMS FOR THE MILITARY FIELD BASED ON HIGH ENTROPY ALLOYS”	Director	2018-2021

International projects:

Program/Project	Position	Period:
M-Era.Net, contract nr. 75 / 2017: “High entropy alloys with predictable mechanical properties by computational modelling”- HEAMODELL	Scientific responsible	2017-2020
ERAMIN contract nr. 51 / 2018: “Integrated eco-technology for a selective recovery of base and precious metals in Cu and Pb mining by-products”- MINTECO	Researcher	2018-2021
M-Era.Net, contract ERANET-M-COMTRANS-1:”Composites based on compositionally complex alloys for transportation industry”- COMPTRANS	Director	2021-ongoing