Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**MITRICA, Dumitru**
Address(es)	Bucharest, Romania
Telephone(s)	+(4021)3522046
Fax(es)	+(4021)3522048
E-mail	dmitrica@imnr.ro
Nationality	Romanian
Date of birth	03.07.1968
Gender	Male

Work experience

Dates	January 2007 onwards
Occupation or position held	Scientific Researcher III
Main activities and responsibilities	Scientific literature review Project idea elaboration Modelling Experimental Scientific assessment Project manager Scientific responsible
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

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
Name and address of employer	University of Arizona, Tucson, Arizona S.U.A.
Type of business or sector	Education

Dates	July 1992 – January 1993
Occupation or position held	Research assistant
Main activities and responsibilities	Scientific literature reviews Research idea elaboration Experiments supervision and coordination
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

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	29-30.10. 2009
Title of qualification awarded	Attendence Diploma
Principal subjects/occupational skills covered	Symposium: „Chemistry Priorities for a Sustainable Development-PRIOCHEM"
Name and type of organisation providing education and training	PRIOCHEM - Romania
Dates	08-11.04. 2008
Title of qualification awarded	Attendence Diploma
Principal subjects/occupational skills covered	Symposium: „Priority domains partnership– Elements of financed projects monitorization"
Name and type of organisation providing education and training	National Authority for R&D - Romania
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	September 1987 – June 1992
Title of qualification awarded	Diploma engineer- Master equivalent
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 „Politehnica" of Bucharest
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	Understanding				Speaking				Writing	
European level (*)	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 manager for PN09240204 and PN 09240105 „Nucleu" research programmes Scientific responsible for complex projects 71-058/2007 and 72-221/2008. 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 casting (Al, Cu, Ti), Metal matrix composites synthesis, Hydrogen storage materials preparation, Molten salt electrolysis, Electrochemical co-deposition of photovoltaic materials, Nanostructured aluminum masteralloys by melt spinning and mechanical alloying. Melting/casting and heat treatment of HEA. Activities: Thermodynamic assessment, Modeling, Experimental process, Characterization (chemical, microstructural, physical and mechanical).
Computer skills and competences	Competent with Word, Excel, PowerPoint, Adobe, MathCAD, HSC, Princeton Power Suite Some experience with Corel Designer

Additional information

Member of *The Minerals, Metals & Materials Society (TMS)*
Web of Science Hirsch index: 2

Annexes

1. **List of publications** (selection)
2. List of national and international projects

LIST OF PUBLICATIONS (SELECTION)

Articles:

Refereed Journals

1. **Dumitru MITRICA**, Mihai BUZATU, *Influence of charge density to the efficiency of AlV masteralloys production*, Bulletin of Polythechnic Institute from Bucharest, 1993
Gabriela POPESCU, Liana VLADUTIU, Vasile SOARE, Ioan SURCEL, **Dumitru MITRICA**, Ioan CARCEA, *„Nanostructured aluminum alloys with high physical and mechanical properties",* Metalurgia International, vol. XIV (2009), special issue no.2, pp. 35-38, ISSN 1582-2214
2. Marian BURADA, Vasile SOARE, **Dumitru MITRICA**, Cristian Petrica LUNGU, Veta GHENESCU, *„Growth of cis thin films using one step electrodeposition process"*, Metalurgia International, vol. 3, 2009, pp.191-196, ISSN 1582-2214.
3. **Dumitru MITRICA**, Vasile SOARE, Florin STOICIU, Marian BURADA, Victoria SOARE, Petru MOLDOVAN, Gabriela POPESCU, Mihai BUTU, *„Magnesium ingluence to in-situ fabrication of Al-Si/AlN$_p$ by RGI method"*, Metallurgy and New Materials Researches, vol. XVIII, no.4 (2010), pp. 35-46, ISSN 1221-5503.
4. Vasile SOARE, Marian BURADA, **Dumitru MITRICA,** Viorel BADILITA, Florin STOICIU, Cristian Petrica LUNGU, Veta GHENESCU, MI RUSU, Stefan ANTOHE, *"Electrodeposition and characterization of CuInSe2/CdS multilayered thin films deposited on flexible substrate„,* Optoelectronics and Advanced Materials-rapid communications , 2010 vol.4, nr.12, pp. 2018-2021, ISSN 1454 – 4164
5. Petru MOLDOVAN, Mihai BUTU, Gabriela POPESCU, Mihai BUZATU, Emilia UȘURELU, Vasile SOARE, **Dumitru MITRICA,** *„Thermodynamics of Interactions in Al-K2TiF6-KBF4 System*", Revista De Chimie, 61 (9), 2010, pag. 828-832, ISSN 0034-7752
6. Vasile SOARE, Ioan SURCEL, **Dumitru MITRICA**, Florin STOICIU, Viorel BADILITA, Mircea RADU, Petru MOLDOVAN, *„AlSiMg/SiC$_p$ fabrication through RGI method*", Metallurgy and New Materials Researches, vol. XVIII, no.4, 2010, pag. 23-34, ISSN 1221-5503.
7. Vasile SOARE, **Dumitru MITRICA**, Viorel BADILITA, Ionut CONSTANTIN, Mihai TARCOLEA, Gabriela POPESCU, *„Experimental models for processing of nanostructured aluminum master alloys",* Metalurgia International, vol. XVI, no.4, 2011, pag. 161-164, ISSN 1582-2214
8. Mihai BUTU, Petru MOLDOVAN, Emilia USURELU, **Dumitru MITRICA**, *„The Mechanism and Kinetics of TiB2 Nanoparticles and Microparticles Formation via Aluminothermic Reaction",* Revista de Chimie, 62 (7), 2011, pp. 723-726, ISSN 0034-7752.
9. Gabriela POPESCU, Liana Maria VLADUTIU, Vasile SOARE, **Dumitru MITRICA**, Roxana TRUSCA, Eugeniu VASILE, *„Nanostructured Al-Mn master alloys obtained by Mechanical alloying*", Metalurgia International, vol. XVI, no.4, 2011, pag. 137-140, ISSN 1582-2214.
10.**Dumitru MITRICA**, Petru MOLDOVAN, *In-situ synthesis of Al-Si/SiC$_p$ composites by reactive gas injection method*, Scientific Bulletin-UPB, series B, vol 74, issue 4, 2012, pp 185-194.
11. Adina USURELU-CRISTEA, Gabriela POPESCU, **Dumitru MITRICA**; Vasile SOARE, Mihai BUZATU, *Obtaining of AlMgMnCr wrougth alloy by alloying with AlMn nanostructured master alloy, Metalurgia internationa*l, vol:: 18 Special Issue: 1, 2013, Pages: 100-103.
12. Raluca Maria FLOREA, Ildiko PETER, Mario ROSSO, **Dumitru MITRICA**, Ioan CARCEA, *Microstructural evolution and mechanical properties of AlMg/AlN composite materials obtained "in-situ"* , Journal of Optoelectronics and Advanced Materials, vol. 15, nr. 7-8, 2013, pp 833-840.
13. Vasile SOARE **, Dumitru MITRICA,** Ionut CONSTANTIN**,** Mihai GHIŢĂ**,** Gabriela. POPESCU, Ion CARCEA, Ion FLOREA, *"High entropy alloy with enhanced mechanical properties"*, Metallurgical and New Materials Researches, vol. 31, iss. 1 (2013), pp 29-39.
14. 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, vol .XIX, no.1/2011, ISSN 1221-5503
15. 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, vol.XIX,no.2/2011,ISSN 1221-5503
16. **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, vol.XIX,no.2/2011,ISSN 1221-5503
17. V. Soare, M. Burada, I. Constantin, D. Dumitrescu, F. Stoiciu, V. Bădiliţă, **D. Mitrică***, "The influence of the process control agent and dispersoid on the mechanical alloying of the A5083 alloy"*, Metallurgy and new materials researches, vol. 21, no. 4 (2013), 31-41.
18. V. Soare, **D. Mitrica**, I. Constantin, G. Popescu, I. Csaki, M. Tarcolea, and I. Carcea, *„The Mechanical and Corrosion Behaviors of As-cast and Re-melted AlCrCuFeMnNi Multi-Component High-Entropy Alloy"*, Metallurgical and Materials Transactions A, vol. 46A (2015), 1468-1473.
19. V. Soare, **D. Mitrica**, I. Constantin□, V. Badilita, F. Stoiciu, A. M. J. Popescu, I. Carcea, *"Influence of the re-melting on the microstructure, hardness and corrosion behaviour of the AlCoCrFeNiTi high-entropy alloy"*, Materials Science And Technology, vol. 31, no. 10 (2015), 1194-1200.
20. V. Soare, M. Burada, I. Constantin**, D. Mitrică**, V. Bădiliţă, A. Caragea, M. Târcolea, *"Electrochemical deposition and microstructural characterization of AlCrFeMnNi and AlCrCuFeMnNi high entropy alloy thin films*, Applied Surface Science, vol. 358 (2015), 533–539.
21. M. A. Matara, I. Csaki, G. Popescu, C. A. Popescu, V. Soare, A. Soare, **D. Mitrică**, *"AlCrCuFeNiMn high entropy alloy obtained by powder metallurgy route"*, U.P.B. Scientific Bulletin, Series B, vol. 77, no.. 4 (2015), 351-358.

Refereed proceedings

1. Vasile SOARE, Constantin GURGU, Ioan SURCEL, Marian BURADA, **Dumitru MITRICA**, Mihai TARCOLEA, *„Titanium alloy matrix composite materials with reinforcement ceramic particles, sinthesized by an electrochemical method"*, National conference on materials science and engineering - ROMAT, 25-26 September, 2008, Bucharest, Romania.
2. Ioan SURCEl, Mircea RADU, Florin STOICIU, Viorel BĂDILIŢĂ, **Dumitru 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. Vasile SOARE, Constantin GURGU, **Dumitru MITRICA**, Petru MOLDOVAN, Gabriela POPESCU, „*Low cost method for AlMMC obtaining*", International Conference on Structural Analysis of Advanced Materials -ICSAAM 2009, 7-10 of September 2009
4. **Dumitru MITRICA**, Vasile SOARE, Ioan SURCEL, Mircea RADU, Marian BURADA, Ionut CONSTANTIN *„Modeling of metal matrix composite synthesis from Al alloys/nitrides system"*, Proceedings of International Workshop-Functional Nanomaterials, Bucureşti, Romania, 01-02 Iulie 2009, pag. 10-18, ISSN 2066 – 8023.
.5. **Dumitru MITRICA**, Vasile SOARE, Ioan SURCEl, Florin STOICIU, Mircea RADU, Marian BURADA, Ionut 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, ISBN 978-973-0-06996-9.
5. Marian BURADA, Vasile SOARE, Mircea RADU, **Dumitru MITRICĂ**, Ionut CONSTANTIN, Petrica Lungu CRISTIAN, Veta GHENESCU, Stefan ANTOHE , *CuInSe$_2$ 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. Vasile SOARE, **Dumitru MITRICA**, Viorel BADILITA, Ionut CONSTANTIN, Mihai TARCOLEA, Gabriela POPESCU, „*Experimental models for processing of nanostructured aluminum master alloys",* 7th International Conference on Materials Science and Engineering-BRAMAT (2011).
7. Gabriela POPESCU, Liana Maria VLADUTIU, Vasile SOARE, **Dumitru MITRICA**, Roxana TRUSCA, Eugeniu VASILE, „*Nanostructured Al-Mn master alloys obtained by Mechanical alloying*", 7th International Conference on Materials Science and Engineering-BRAMAT (2011).
8. Popescu GABRIELA, Soare VASILE, **Dumitru MITRICA**, Iacob GHEORGHE, *Obtaining and Characterization of Nanostructured Al-Sr Master Alloys*, 2012 TMS Annual Meeting & Exhibition, Supplemental Proceedings: Materials properties, characterisation, and modelling, vol. 2, 2012, pag. 43-50, ISBN 978-1-1182-9609-7.
9. **Dumitru MITRICA**, Soare VASILE, Ionut CONSTANTIN, Florin STOICIU, Gabriela 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, Brasov, Romania, Octombrie 2012.
10.Vasile SOARE , **Dumitru MITRICA**, Gabriela POPESCU, Iuliana STAN, *Obtaining of AlSr10 and AlTi5B1 nanostructured master alloys by melt spinning* , The 21th national foundry conference and exhibition Iasi, Romania, 2012.
11. Vasile SOARE, **Dumitru MITRICA**, Gabriela POPESCU, Gheorghe IACOB, *Obtaining of AlSi7mg cast alloy by micro-alloying with nanostructurated AlSr10 and AlTi5B1 master alloys*, The 21th national foundry conference and exhibition Iasi, Romania , 2012.
12. **Dumitru MITRICA**, Marian BURADA, Raluca Maria FLOREA, Mihai GHITA, Elvira ALEXANDRESCU, Vasile SOARE, Petru MOLDOVAN, *Microstructural characterization of aluminum metal matrix composite prepared by in-situ method,* 2014 TMS Annual Meeting & Exhibition, Symposium: Materials Processing Fundamentals, EPD proceedings, Wiley, 2014, pp 393-400
13. Vasile SOARE**, Dumitru MITRICĂ,** Ionut CONSTANTIN, Gabriela POPESCU, Ioana CSAKI, Mihai TARCOLEA, Ion CARCEA, *"AlMnCrCuFeNi multicomponent alloy with superior hardness and corrosion resistance"*, TMS 143rd Annual meeting & exhibition, 16-20 Februarie 2014, San Diego, SUA, Supplemental Proceedings, pp. 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. Bădiliţă, 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 – RICCCE 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.

Patents

1. Vasile SOARE, **Dumitru MITRICA**, Petru MOLDOVAN, Mihai BUTU, Ioan CARCEA, „*Procedeu și instalație de obținere prin proces insitu a materialelor compozite cu matrice din aliaje de aluminiu și particule de ranforsare din carburi",* patent application OSIM nr. 127408-A2, 2009.
2. **Dumitru MITRICA**, Vasile SOARE, Ionut CONSTANTIN, Marian BURADA, ***"****Procedeu de obţinere in-situ a materialelor compozite de tipul Al-Si/AlN şi instalaţie experimentală",* patent application OSIM nr. A/00385/2011.
3. **Dumitru MITRICA**, Vasile SOARE, Ionut CONSTANTIN, Marian BURADA, Mihai GHIȚĂ, ***"****Procedeu şi instalaţie experimentală de obţinere aliaje de aluminiu poroase cu greutate specifică redusă",* patent application OSIM nr. A/00809/2012.

Awards

1. Vasile SOARE, **Dumitru MITRICA**, Ionut CONSTANTIN, Costel ROMAN, Gabriela POPESCU, *„Aluminum alloys obtaining process with improved mechanical properties by micro bonding with nanostructured prealloys*", gold medal at EUROINVENT, 2012.

2. Vasile SOARE, **Dumitru MITRICA**, Petru MOLDOVAN, Mihai BUTU, Ioan CARCEA, *„Process and equipment for in-situ obtaining of aluminium alloys matrix composite materials reinforced with carbide particles”*, bronze medal at EUROINVENT 2012.

ANNEX 2

LIST OF NATIONAL PROJECTS (SELECTION)

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 of an engine installation based on hydrogen storage metallic materials using solar or residual energy”	Researcher	2007-2010
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 “New high entropy alloys/composites with superior mechanical and corrosion resistance characteristics, for high temperature uses”	Team leader	2014-
Programme PNCDI2 Partnerships “Innovative and ecological technology for the recovery of nonferrous metals from electrical and electronic equipment wastes (WEEE) using microwaves energy”	Researcher	2014-
Core funding project PN 09240110 “High-entropy alloys with superior mechanical characteristics and corrosion resistance for high-temperature applications”	Researcher	2014-
PN 09240113 „Studies and researches for the obtaining of new semiconductor materials for applications in renewable energy”	Researcher	2015
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