CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date	18/01/2021

First name	Endzhe		
Family name	Matykina		
Gender (*)	Female	Date of Birth (dd/mm/yyyy)	01/04/1975
Social Security, Passport, ID number	Y0751083D		
e-mail	ematykina@ucm.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		orcid.org/0000-0002-9929-2618	

(*) Mandatory

A.1. Current position

Position	Associate Professor		
Initial date	01/03/2017		
Institution	Universidad Complutense de Madrid		
Department/Centre	Chemical and Materials Engineering		
Country	Spain	Phone number	+34913944354
Keywords	Light alloys; aluminium; magnesium; titanium; zirconium; stainless steel; surface treatments; anodizing; plasma electrolytic oxidation; electrodeposition; corrosion; tribology; biocompatibility		

A.2. Previous positions (research activity interruptions)

Period	Position/Institution/Country/Cause of the interruption
01/12/2010-28/02/2017	Ramon y Cajal Research Fellow/ Universidad Complutense de Madrid (UCM)/Spain/Promotion to Associate Professor
01/09/2009-31/11/2010	JAE-Doctor Fellow/National Centre for Metallurgical Research (CENIM), National Council for Scientific Research (CSIC)/Spain/ Research mobility via award of Ramon y Cajal Fellowship
01/09/2006-29/08/2009	PDRA/ The University of Manchester (UoM)/United Kingdom/Research mobility via award of JAE-Doctor CSIC.
03/06/2003-15/08/2006	PhD student/ UoM/U.K./Graduation and PDRA contract
01/09/2001 - 10/05/2003	Laboratory technician/ Kazan National Research Technological University (KNRTU)//Russia/Research mobility for PhD studies in the U.K.
01/09/1999 - 18/11/2002	PhD student/ KNRTU/Russia/Graduation
01/09/1998 - 30/06/1999	Research assistant/ KNRTU/Russia/Enrolment in a PhD programme.

A.3. Education

PhD, Graduate Degree	University/Country	Year
PhD	UoM/U.K.	2006

Candidate of Chemical Sciences (PhD)	KNRTU, Russia	2002
MSc in Electrochemical Engineering	KNRTU, Russia	1998
BSc in Chemical Engineering	KNRTU, Russia	1996

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

In the past 20 years Dr. Matykina has been working in the area of surface engineering of light alloys, with a focus on characterization (SEM, TEM, RBS, XRD, FTIR, Raman, XPS, AFM, SKPFM, FIB, hardness, adhesion, wear), active corrosion protection, environmental sustainability and added functionality for transport and biomedical applications.
Dr. Matykina has two 6-year accredited research periods (2004-2009, 2010-2015) and one (2015-2020) pending. She has published over **115 scientific articles (Scopus**) in peer-reviewed international journals of high impact factor (**65% Q1; 27% D1; h=46 (Scopus**); total citations 6220) and contributed to over 100 communications at national and international conferences. She has participated in over 20 competitive publically funded projects (in 5 of them as a PI) and over 20 non-competitive projects including industrial contracts. In her research, she actively collaborates with industrial partners such as Airbus (UK), Cidaut (Spain), Henkel (Germany), Akzo Nobel (Netherlands). She regualrly publishes with her extensive network of international collaborators that include Hereon (Germany), TuDelft (Netherlands), UoM (U.K.), TUIsfahan (Iran), Hunan University (China).
Dr. Matykina lectures on Materials Science; Metallurgy; Materials in Chemical Industry; Extractive Metallurgy; Composite Materials; Biodegradation of Metallic Materials as part of BSc and MSc degree courses in Chemistry, Chemical Engineering and Materials Engineering at UCM. She has supervised 3 PhD Thesis (1 in progress), 6 MSc and over 25 BSc graduation research projects in Spain, U.K. and Russia.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications *(see instructions)*

1. E.Wierzbicka (CA), B.Vaghefinazari, S.V.Lamaka, …, **E.Matykina** (2021). “Flash-PEO as an alternative to chromate conversion coatings for corrosion protection of Mg alloy”. Corrosion Science, 180, art. No. 109189. **Q1.** Cited: 12. Total authors/position of researcher: 11/11.
2. Daavari, M., M. Atapour, M. Mohedano, R. Arrabal, **E. Matykina,** and A. Taherizadeh (2021), “Biotribology and biocorrosion of MWCNTs-reinforced PEO coating on AZ31B Mg alloy”. Surfaces and Interfaces, 22, Art. No. 100850. **Q1.** Cited: 10.
3. R. del Olmo, M. Mohedano, P. Visser, **E. Matykina** and R. Arrabal (2020). "Flash-PEO coatings loaded with corrosion inhibitors on AA2024." Surface and Coatings Technology, 402, art. No. 126317. **Q1.** Cited: 3.
4. Wierzbicka, E., B. Pillado, M. Mohedano, R. Arrabal, **E. Matykina** (2020). “Calcium doped flash-peo coatings for corrosion protection of Mg alloy.” Metals 10(7), art. No. 916. **Q1.** Cited: 9
5. del Olmo, R., M. Mohedano, B. Mingo, R. Arrabal, **E. Matykina (**2019). “LDH post-treatment of flash PEO coatings”. Coatings, 9(6), art. No. 354. **Q2.** Cited: 8.
6. A. Santos-Coquillat, M. Esteban-Lucia, E. Martinez-Campos, M. Mohedano, R. Arrabal, C. Blawert, M. Zheludkevich, **E. Matykina (**2019)**.** “PEO coatings design for Mg-Ca alloy for cardiovascular stent and bone regeneration applications”. Materials Science and Engineering C, 105, Art. No. 110026. **Q1.** Cited: 29
7. B. Mingo, R. Arrabal, M. Mohedano, Y. Llamazares, **E. Matykina**, A. Yerokhin, A. Pardo, (2018). Influence of sealing post-treatments on the corrosion resistance of PEO coated AZ91 magnesium alloy, Applied Surface Science, 433 653-667. **Q1.** Cited: 61
8. **E. Matykina,** R. Arrabal, M. Mohedano, B. Mingo, J. Gonzalez, A. Pardo, M.C. Merino, Recent advances in energy efficient PEO processing of aluminium alloys, Transactions of Nonferrous Metals Society of China (English Edition), 27 (2017) 1439-1454. **Q1.** Cited: 36
9. **E. Matykina,** R. Arrabal, B. Mingo, M. Mohedano, A. Pardo, M.C. Merino (2016). “In vitro corrosion performance of PEO coated Ti and Ti6Al4V used for dental and orthopaedic

implants", Surface and Coatings Technology, 307C, 1255-1264. **Q1.** Cited: 41.

10. B. Mingo, R. Arrabal, A. Pardo, **E. Matykina**, P. Skeldon (2016). 3D study of intermetallics and their effect on the corrosion morphology of rheocast aluminium alloy. Materials Characterization,. 112: p. 122 – 128. **Q1.** Cited: 30.

C.2. Congresses

1. M. Mohedano*, L. Moreno, E. Wierzbicka, **E. Matykina**, R. Arrabal, Multifunctuional PEO coatings on Mg alloys. 3rd Coatings and Interfaces Conference. 24-26/11/2021. **Invited Talk**. *Speaker.
2. M. Mohedano*, A. Santos-Coquillat, E. Martinez-Campos, L. Moreno, R. Arrabal, **E. Matykina,** Bioactive Plasma Electrolytic Oxidation Coatings for Corrosion Protection and Functionalization. International Society of Electrochemistry (ISE). 29-03/09-10/2021. **Keynote**. *Speaker.
3. M. Mohedano*, E. Wierzbicka, **E. Matykina**, R. Arrabal. Novel Plasma Electrolytic Oxidation (PEO) Coatings on Mg alloys for Corrosion Protection. 1st Corrosion and Materials Degradation Web Conference. 15/05/2021-19/05/2021. **Invited Talk**. *Speaker.
4. **E. Matykina*,** E. Wierzbicka, R. del Olmo, M. Mohedano, R. Arrabal, Flash-PEO as Cr-free corrosion protection strategy for Al and Mg alloys. Coatings and Ceramics Seminar, The University of Manchester, United Kingdom. 15/06/2020. **Invited Talk**. *Speaker.
5. **E. Matykina*,** A.M. Santos-Coquillat, E. Martinez-Campos, L. Moreno, R. Arrabal, M. Mohedano, A. Gallardo, J.Rodriguez-Hernandez, Hybrid Functionalized Biomaterials for Tissue Engineering. 1st Surface Engineering for Biomedical Applications Workshop-SEBA 2020, Sofia, Bulgaria, 11/11/2020. **Invited Talk.** *Speaker.
6. B. Vaghefinazari*, S. Lamaka, E. **Matykina**, E. Wierzbicka. R.Arrabal, D. Mercier, A. Seyeux, D. Gayet, D. Mei, C. Blawert, P. Marcus, M. Zheludkevich, Selective Response of Magnesium Corrosion Inhibitors Incorporated in PEO Coatings. PRiME 2020 (ECS, ECSJ, & KECS Joint Meeting). Online, 04/10/2020. **Invited Talk.** *Speaker.
7. E. Wierzbicka, M. Mohedano, B. Vaghefinazari, S. Lamaka, R. Arrabal, **E. Matykina***, Flash-PEO coatings for corrosion protection of Mg alloys. EUROCORR2019. Seville, Spain 09-13/09/2019. *Speaker.
8. M. Mohedano*, **E. Matykina,** C. Blawert, M. Serdechnova, B. Mingo, M. Zheludkevich, R. Arrabal. Multi-functional surface treatments on light alloys by Plasma electrolytic Oxidation (PEO). CNMAT2018. Salamanca, Spain 04-06/07/2018. **Keynote.** *Speaker.
9. **E. Matykina*,** R. Arrabal, M. Mohedano, B. Mingo, A. Pardo, MC. Merino, Plasma electrolytic oxidation of aluminium alloys: processing and properties. Advances in Materials and Processing Technologies. Madrid, Spain, 14-16/12/2015. **Invited Talk.** *Speaker.
10. **E. Matykina***, R. Arrabal, M. Mohedano, B. Mingo, A. Pardo, M.C. Merino, J. Gonzalez de Frutos. Plasma electrolytic oxidation of aluminium alloys with increased energy efficiency. Plasma Surface Engineering (PSE 2014). Garmisch-Partenkirchen, Germany, 15-19/09/2014. **Keynote.** *Speaker.

C.3. Research projects

1. *Active protection and additive manufacturing of light alloys* (RTI2018-096391-B-C33), 90,750.00 €, 01/01/2019-31/12/2021. PI: R. Arrabal (UCM). Researcher.
2. *Additive manufacturing: from material to application* (ADITIMAT-CM, S2018/NMT4411), total 861,250.00 €. 01/01/2019-31/12/2022 **PI: E. Matykina (UCM)**.
3. *ALMAGIC 755515 - Aluminium and Magnesium Alloys Green Innovative Coatings*. Clean Sky 2, Horizon 2020, H2020-CS2-CFP04-2016-02/H2020-CS2-CFP04-2016-02, total 999,526.00€, 01/06/2017-30/11/2018. **PI: E. Matykina (UCM).**

4. *Multifunctional coatings on novel Mg-based materials for sustainable transport,* MINECO (MAT2015-66334-C3-3-R), 102,850.00 €, 1/01/2016-31/12/2018, PI: Raul Arrabal Duran (UCM). Researcher.
5. *Multifunctional materials for society challenges (Multimat Challenge)*, Community of Madrid (S2013/MIT-2862), 35,944.50€ (total 895,538.53€), 01/01/2014-31/12/2017, **PI: E. Matykina (UCM).**
6. *LATEST1+2 (Light Alloys Towards Environmentally Sustainable Transport),* EPRSC (EP/D029/201, EP/DH020047/1), total 12,490,808.00£, 2005-2016, PI: George E. Thompson (University of Manchester). Researcher.

C.4. Technology/Knowledge transfer

Contract with industry:

1. *Electrochemical tests of aluminium radiators in anticorrosive fluids*. Ingeteam technology, S.A. (Art. 83), 8,150.00 €, 30/10/2019- 30/09/2020, IP: R. Arrabal (UCM). Researcher.
2. *Evaluation of metal components subjected to high temperatures in reforming reactors*. Técnicas Reunidas Integrated Gas (Art. 83), 38,000.00 €, 19/10/2017 - 19/10/2019, IP: R. Arrabal (UCM). Researcher.
3. *Evaluation of the corrosion behaviour of aluminium heat exchangers*. . Ingeteam technology, S.A., 12,120.00 €, 25/07/2017-25/07/2019. IP: R. Arrabal (UCM). Researcher.
4. *Analysis and study of the state of the components of the combustion and reforming reactors of the pilot plan*t, Técnicas Reunidas Integrated Gas (Art. 83), 10.000 €, 04/05/2016 - 04/07/2017, IP: M.C. Merino (UCM). Researcher.
5. *Study to ascertain the necessity of on-line corrosion monitoring in Jazan IGCC utilities*, UTE Tecnicas Reunidas Integrated Gas (Art.83), 70,500.00€, 2014-2016, IP: M.C. Merino (UCM). Researcher.
6. *Failure anaoysis of NH4NO3 plant reactor.* Maxam Holding S.L. (Art.83). 9,000.00€, 01/10/2014-01/12/2014. IP: A. Pardo (UCM). Researcher.
7. *Manufacture of corrosion and wear-resistant coatings on cast metals on Ti alloys by plasma electrolytic oxidation*, Fundacion Cidaut (Art. 83), 92,000.00€, 2013-2015, IP: A. Pardo (UCM). Researcher.

Patents:

1. Merino Senovilla J.-C., Maroto Soto, J.-A., Rivas Salmón, A., Moriñigo Sotelo, D., Arrabal Durán, R., **Matykina, E.,** Pardo Gutiérrez Del Cid, A., Merino Casals, Mª C. WO 2015/007924 A1, EP3023521, US20160153112, *Metalic substrate with ceramic coating and process for obtaining it*. PCT/ES2013/070530,19.07.2013, Fundación CIDAUT.

2. Arenas Vara, Mª A., Conde Del Campo, A., De Damborenea Gonzalez, J.-J., **Matykina, E**., Esteban Moreno, J., Gomez Barrena, E., Perez-Jorge Peremarch, C., Perez Tanoira, R. WO2011/141610, *Titanium materials anodised with fluorine*. PCT/ES2011/070342, 13/05/2011, CSIC, Instituto de Investigación Sanitaria - Fundación Juménez Díaz.

3. Arrabal Durán, R., Merino Casals, MªC., Pardo Gutiérrez Del Cid, A., Mohedano Sanchez, M., **Matykina, E.** *Electrolytic cell for the performance of corrosion electrochemical test son flat surfaces*. P201300214. España. 28/02/2013. Universidad Complutense de Madrid.