

PERSONAL INFORMATION

Amalia Maria (Catanoiu) Soare

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Sex Female | Date of birth | Nationality Romanian

WORK EXPERIENCE

01/10/2007

Senior Researcher (CS I)

National Research and Development Institute for Cryogenics and Isotopic Technologies
Uzinei 2, 1000 Rm. Valcea (Romania)

- Responsible for the Microstructural Investigation Lab equipped with state-of-the-art metallography equipments and a Carl-Zeiss VP FEG-SEM (EDX, WDX)
- Investigation of materials using advanced microscopy techniques
- Key Words: Electron Microscopy, Mechanical Testing, Processing of Metallic Materials, High Temperature oxidation

Business or sector Research

01/10/2005–01/10/2006

Head of Department

SC OLTCHIM SA
Uzinei 1, Rm. Valcea (Romania)

- Leader of a twenty-person team responsible for inspecting and authorising all installations present on Oltchim SA, one of the biggest chemical plants from Romania and S-E Europe. The team's main responsibilities included technical checks by non-destructive testing (NDT) to all equipments (dynamical, statical, electrical and buildings) and ensure they function in safe conditions and according to laws.
- Key Words: Non-destructive testing (ultrasonic, magnetic-particle, liquid penetrant, radiographic methods and optical microscopy), Chemical Industry

Business or sector Chemical Industry

02/01/2002–01/08/2005

Project manager/Research fellow

Max-Plank Institute for Metals Research, Heisenbergstr. 3, D-70569 Stuttgart (Germany)

Investigation of Ru as a potential replacement for Pt in advanced NiAl based materials currently used as bond coats for thermal barrier systems. In this area, activities ranged from processing the materials to studying their oxidation behaviour using electron microscopy.

- Key Words: Electron Microscopy, Thermal Barrier Coatings, High Temperature Oxidation, Fifth Framework Programme
- Other Duties: - supervisor of one PhD student

Business or sector Research

EDUCATION AND TRAINING

15/09/1998–15/06/2003

PhD

University of Birmingham, School of Metallurgy and Materials, UK
Edgbaston, Birmingham, B15 2 TT (United Kingdom)

- PhD project sponsored by Corus Group plc had as its main objective a better understanding of free-cutting steels, with the emphasis on the effect of sulphide chemistry on the behaviour of manganese sulphide inclusions present in free-cutting steels and also on the structure, composition and first of all the cause for the formation of the protective layer which adheres to the tools during machining.

Detailed examination of the tools and workpieces was performed using SE microscopy and TE microscopy.

• Key Words: Electron Microscopy, Steels, Cutting Tools, Mechanical Testing

01/10/1992–01/09/1997

BSc

University Politehnica of Bucharest, Department of Engineering Sciences, English stream
Iuliu Maniu, Bucharest (Romania)

Science of Metallic Materials

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	B1	B2	B1	B1	B1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Job-related skills

- Expertise and extensive use of electron microscopy: Scanning Electron Microscopy (EDX, WDX), Transmission Electron Microscopy, Optical Microscopy;
- Steels; Thermal Barrier Coatings; Mechanical testing; Processing of materials; high temperature oxidation;
- Writing detailed and comprehensive (research) reports;
- Adaptable to different cultural and scientific environments.

Driving licence B

ADDITIONAL INFORMATION

RESEARCH FUNDING HISTORY

Nr. crt.	Title of project	Financing Body	Quality
1	Multilayer System for Cryogenic and High Temperature Applications ISOLAYERS	UEFISCDI (Executive Agency for Higher Education, Research, Development and Innovation Funding, ROMANIA)	Principal Investigator (ICSI)
2.	Science of high performance multifunctional high temperature coatings HIPERCOAT	EU (FP5) - Max-Planck Institute for Metals Research, Stuttgart, Germany	Research Fellow/Project Manager
3.	Optimising heat transfer through multilayer barriers in cryogenic installations	University Politehnica of Bucharest, Romania	Participant
4.	The Effect of Ingot Chemistry on Free Cutting Steels	(Former) British Steel and University of Birmingham, School of Metallurgy and Materials, UK	PhD student

Articles

1. Daniela Ion-Ebrasu, Adnana Spinu Zaulet, Amalia Soare, Elena Carcadea, Mihai Varlam, Simona Caprarescu, Graphene modified fluorinated cation-exchange membranes for proton exchange membrane water electrolysis, *International Journal of Hydrogen Energy*, Volume 44, Issue 21, 23 April 2019, Pages 10190-10196
2. Vasut F., Oubraham A., Soare A.M., Marinoiu A., Ion-Ebrasu D., Dragan M., Platinum supported on graphene - PTFE as catalysts for isotopic exchange in a detritiation plant, *Fusion Engineering and Design*, Volume: 146 Special Issue: SI Pages: 149-152 Part: A Published: SEP 2019
3. Cobzaru, C, Marinoiu, A, Cernatescu, C., Puitel, A, Soare, A, Experimental studies for the cinnamaldehyde adsorption on dealuminated clinoptilolite using as carrier, *Revista de Chimie*, Volume 69, Issue 3, March 2018, Pages 567-570
4. Stanica Enache, Mirela Dragan, Amalia Soare, Daniela-Ion Ebrasu, Adnana Zaulet, Mihai Varlam, Konstantin Petrov, One step solid-state synthesis of lanthanum cobalt oxide perovskites as catalysts for oxygen evolution in alkaline media, *Bulgarian Chemical Communications*, vol 50, 2018
5. Marinoiu, Adriana; Varlam, M ; Carcadea, E; Raceanu, M; Soare, A; Stefanescu, I, A Class of High Performance Electrocatalysts for Oxygen Reduction Reaction of Fuel Cells, using Iodine Doped Graphene, *MATERIALS TODAY-PROCEEDINGS* Volume: 5 Issue: 8 Pages: 15915-15922 Part: 1 Published: 2018
6. Fierascu, I.a, Avramescu, S.M, Petreanu, I. Marinoiu, A, Soare, A, Nica, A, Fierascu, R.C, Efficient removal of phenol from aqueous solutions using hydroxyapatite and substituted hydroxyapatites, *Reaction Kinetics, Mechanisms and Catalysis*, Volume 122, Issue 1, 1 October 2017, Pages 155-175
7. A Soare, I Csaki, M Sohaci, C Oprea, S Soare, I Costina, and M I Petrescu, New Bond Coat Materials for Thermal Barrier Coating Systems Processed Via Different Routes, *IOP Conf. Series: Materials Science and Engineering* 209 (2017)
8. Adriana Marinoiu, Mircea Raceanu, Elena Carcadea, Mihai Varlam, Amalia Soare, Ioan Stefanescu, Doped Graphene as Non-Metallic Catalyst for Fuel Cells, *MATERIALS SCIENCE (MEDŽIAGOTYRA)*. Vol. 23, No. 2. 2017
9. Ioana Csaki, Radu Stefanoiu, Victor Geanta, Ionelia Voiculescu, Mirela Gabriela Sohaci, Amalia Soare, Gabriela Popescu, Steluta Serghiuta, Researches Regarding the Processing Technique Impact on the Chemical Composition, Microstructure and Hardness of AlCrFeNiCo High Entropy Alloy *REV.CHIM.(Bucharest)*, 67, No. 7, 2016
10. Mihaiță Adrian Matara, Ioana Csaki, Gabriela Popescu, Cristian Aurelian Oprescu, Vasile Soare, Amalia Soare, Dumitru Mitrica, AlCrCuFeNiMn High Entropy Alloy Obtained by Powder Metallurgy Route, *U.P.B. Sci. Bull., Series B*, Vol. 77, Iss. 4, 2015
11. Amalia Soare, Ioana Csaki, Cristina Oprea, Sorin Soare, Cristian Predescu, Mirela Sohaci, Ru-based Bond Coats used for high temperature applications - *Advanced Materials Research*, Vol 1114 (2015) pp 229-232
12. Ionete, E., Monea, B., Vijulie, M., Soare, A., Iordache, S., Iordache, A., Stamatin, I., Salceanu, A., Graphene layers used as cryogenic temperature sensor, *Proceedings of the 2014 International Conference and Exposition on Electrical and Power Engineering*, 1 Dec 2014, pp 774-777
13. Adriana Marinoiu, Mircea Raceanu, Claudia Cobzaru, Constantin Teodorescu, Daniela Marinescu, Amalia Soare and Mihai Varlam, Low temperature CO retention using hopcalite catalyst for fuel cell applications, *Reaction Kinetics, Mechanisms and Catalysis*, March 2014
14. Alina Stefanescu, Ioan Stefanescu, Amalia Soare - Methods to obtaining and characterization of bands shape memory alloy NiTi, *AIP Conference Proceedings*, Vol. 1262, pp 118 -123, (ISBN 978-0-7354-08-10-4, ISSN 0094-243X)
15. Varlam, C., Stefanescu, L., Faurescu, I., Faurescu, D., Bogdan, D., Soare, A., Ionita, G, Tritium monitoring in the environment at tritium separation facility, *FUSION SCIENCE AND TECHNOLOGY* Volume: 60 Issue: 3 Pages: 1002-1005 Published: OCT 2011
16. D. Bogdan, C. Varlam, A. Soare, I. Stefanescu, Preparation and Chemical Properties of the Skutterudites, *Journal of Optoelectronics and Advanced Materials of The Romanian Journal of Physics*, ISSN 1221-146X, Constanta - Romania, 2010
17. Anisia Bornea, Marius Zamfirache, Ioan Stefanescu, Felicia Vasut, Amalia Soare – Laboratory studies conducted for the development of a plant to concentrate the radioactive waste from tritiated water, *Fusion Engineering and Design*, volume 85, Issues 10
18. P. J. Bellina, A. Catanoiu-Soare, F. M. Morales and M. Ruehle - Formation of discontinuous Al₂O₃ layers during high temperature oxidation of RuAl alloys, *Journal of Materials Research* 21 (1), pp. 276-286
19. C.G. Levi, E. Sommer, S. G. Terry, A. Catanoiu-Soare and M. Ruehle - Alumina grown during

deposition of thermal barrier coatings on NiCrAlY, Journal of the American Ceramic Society 86 (4), pp. 676-685

20. A. Catanoiu-Soare, M. Green, I. P. Jones and M. Wise - Free cutting steels: an SEM and TEM study, Proceedings of the 5th International Conference on the Behaviour of Materials in Machining, Chester, UK/2002, London, UK, IOM Communications, pp. 241-244