



## PERSONAL INFORMATION

Name Surname  
Address  
Telephone Number  
E-mail  
Nationality

## EDUCATION AND TRAINING

- Period
- Name and type of the educational organization
- Period
  
- Period
- Name and type of the educational and training organization
- Diploma or certificate granted
  
- Period
- Name and type
  
- Basic theme/acquired competences
  
- Period
- Name and type of organization
- Basic theme/acquired competences
  
- Period
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- Basic theme/acquired competences
  
- Period
- Name and type of the educational and training organization

Pagina 1 /12- Curriculum vitae  
Marioara ABRUDEANU

## CURRICULUM VITAE

### ABRUDEANU Mărioara

Romanian

1967-1972  
Polytechnic Institute București, Faculty of Metallurgy  
1972-Engineer Diploma

1991- Doctor's Degree in the fundamental domain Engineering Sciences – domain Materials Science and Engineering

December 1991 - June 1992

Postdoctoral stage, grant of French Government at Institut National Polytechnique de Lorraine, Université Nancy I, Ecole des Mines de Nancy, Laboratoire de Science et Génie des Matériaux Métalliques: "

Postdoctoral stage certificate :” L'influence de l'oxydation à haute température sur les propriétés thermophysiques de l'alliage zircaloy-4 ".

May 1992 Continuous Learning stage CNRS

Continuous Learning Center "Materials -Surfaces-Interfaces", Université Marseille 2

*Advanced certificate in "Analysis Techniques for Surfaces, Interfaces and Thin Layers".*

July-August 1992 postdoctoral stage, grant of French Government,

Université Paris-Nord, Laboratoire d'Ingénierie des Matériaux et Hautes Pressions:

*Large surface superficial strata developed on high-alloyed steels with Cr and Al*

November-December 1992 – Visiting researcher at National Scientific Research Center of France (CNRS)

Institut des Matériaux, University of Paris - Sud Orsay

*"Study on obtaining through oxidation a proper surface for the use of Fe-Cr-Al as metallic support for a catalytic filter".*

January-March 1994 – research stage in the European programme PECO - CE

Institut National Polytechnique de Toulouse, Ecole Nationale Supérieure de Chimie, Laboratoire de Matériaux en couches minces

- Basic theme/acquired competences „Chemical deposits as vanadium carbonitration vapors, on steel support, starting from organometallic precursors”.
- Period 1996- 2002
- Name and type of the educational and training organization University Wolverhpton, Academy Orléans – Tours, Ecole Centrale de Paris – Laboratory of Physical chemistry of Solides, CESI Paris Ile de France, Odense TS, IAW Aachen, Universidad Autonoma Barcelona, CNRS –France – Solar Furnace Odeillo Font Romeu
- Basic theme/acquired competences Continous Learning, international collaboration, research in the domain nanomaterials-nanotechnologies.

## WORK EXPERIENCE

### INDUSTRY

- Period August 1972- August 1975
- Employer’s name and address Dacia Pitesti Plant
- Domain/field of activity Chief Metallurgist Office
- Occupation or position held Trainee engineer –Process engineer, Designing engineer.

### DIDACTIC ACTIVITY

- Period September 1975- March 1993
- Employer’s name and address University of Pitești
- Occupation or position held Assistant lecturer, Works Coordinator
- Period 1993-1997
- Employer’s name and address University of Pitești, Technology and Management Chair
- Domain/field of activity Higher Education
- Occupation or position held Associate professor
  - Teaching courses : Materials Study, Materials Technology, Corrosion and Anticorrosion Protection
  - Coordinator of The Master programme in French language teaching „Science and Technology of Materials”; initiated in 1995, and developed in a partnership with 6 universities and French „grandes écoles „ plus as research partners CNRS – Laboratory Promes and the Institute of Materials Science Barcelona and other French universities.
- Main activities and responsibilities Since 2004 the graduates of the Master programme are awarded a double diploma – Research Master diploma from the Polytechnic National Institute of Toulouse and from the Univesity of Pitesti
  - Coordinator of the French learning module „Corrosion et protection contre la corrosion” developed in collaboration with Ecole Centrale Paris for the engineering specialities
  - Scientific secretary of the Engineering faculty
  - Managing Director of International Relations University of Pitești, founder of the International Relations Office

- Period March –May 1997
- Employer’s name and address Institut National Polytechnique de Toulouse, Ecole Nationale Supérieure de Chimie
- Domain/field of activity Materials in Thin Layers
- Occupation or position held Visiting Professor
- Main activities and responsibilities Conferences, seminars, scientific activity

- Period 1999/2000, 2001/2002, 2004/2005 (2-3 months/university year)
- Employer’s name and address National Institute of Applied Sciences from Lyon, Laboratory of Industrial Physics and Chemistry

<p>Domain/field of activity</p> <ul style="list-style-type: none"> <li>• Occupation or position held</li> </ul>	<p>Corrosion and Anticorrosion Protection</p> <p>Visiting professor, conferences, scientific research, teaching activities „Corrosion at high temperatures” -engineers</p>
<ul style="list-style-type: none"> <li>• Period</li> <li>• Employer’s name and address</li> <li>• Domain/field of activity</li> <li>• Occupation or position held</li> <li>• Main activities and responsibilities</li> </ul>	<p>1997 – 2015</p> <p>University of Pitești, Technology and Management Department</p> <p>Higher education</p> <p>Professor</p> <ul style="list-style-type: none"> <li>▪ Coordinator of The Master programme ”Science and Technology of Materials”-STM, in partnership with EC Paris, INSA Lyon , ENI Tarbes, Université de Metz, INP Toulouse, INP Lorraine, with Master Diploma of University of Pitești and Research Master Diploma of The Polytechnic National Institute of Toulouse</li> <li>▪ Member in The Research Master Commission Matériaux of INP Toulouse</li> <li>▪ Teaching courses in Romanian : Materials Science, Materials Technology, Materials Processing Technology, Physical Metallurgy, Corrosion and Anticorrosion Protection.</li> <li>▪ Teaching courses in French: Technologies de mise en forme, Technologies de réalisation des revêtements protecteurs, Corrosion et protection contre la corron.</li> <li>▪ PhD adviser in the domain Materials Engineering (2000 present): 20 theses in coordination, of which 16 completed with the title of doctor / 8 in co-supervision with French universities and 5 theses in progress / 2 in international collaboration with Germany and Italy.</li> <li>▪ Coordinator of Initial and Continuous Formation European projects and for international collaboration development;</li> <li>▪ Managing Director of International Relations University of Pitești, 1997-2000;</li> <li>▪ Vice-rector for Scientific Research activities, international relations and continuous formation - University of Pitești, 2000-2004;</li> <li>▪ President of Scientific Council - University of Pitești, 2000-2004;</li> <li>▪ Founder of the Continuous Formation Department - University of Pitești, 2002;</li> <li>▪ Collaboration with BECO –AUF for the founding of University of Pitesti Center for Academic Success, 2014;</li> <li>▪ Vice-rector for Research and Competitivity 2012-2015</li> <li>▪ President of University Foundation Pitești, 1999.</li> </ul> <ul style="list-style-type: none"> <li>▪ Member of CNCSIS Council 2003-2008</li> <li>▪ Member of The Academy of Technical Sciences from Romania, 2005.</li> <li>▪ Member of The Romanian Council for the History and Philosophy of Science and Technology, Romanian Academy, 2012</li> <li>▪ Member of The National Council for Attestation of Academic Titles, Diplomas and Certificates - Materials Engineering Commission, 2011, Member in the international pilot-committee of the francophone project for young leaders formation, 2014</li> <li>▪ Member of Romanian Alliance for Education in Engineering-president Arges Branch, 2015</li> </ul> <ul style="list-style-type: none"> <li>▪ Award for research of CNCSIS, 2008</li> <li>▪ Distinction „Palme académiques”- granted by National Assembly of France on the 25-th of July 1996.</li> </ul>

**HONOURS AND AWARDS**

**PERSONAL SLILLS  
MANAGERIAL SKILLS**

Initiative, communication, determination  
Organization, management and evaluation capacities

Technical expert in the domain of materials for state administration, since 1981  
Expert evaluator national research programmes  
Continuous formation trainer.

## TECHNICAL SKILLS

## FOREIGN LANGUAGES

	FRENCH
• Reading	Very well
• Writing	Very well
• Speaking	Well
	RUSSIAN
• Reading	Satisfactory
• Writing	Satisfactory
• Speaking	Satisfactory
	ENGLISH
• Reading	Satisfactory
• Writing	Satisfactory
• Speaking	Satisfactory

## LIST OF PUBLICATIONS, 1990-2021

### Books in Central Publishing Houses :

- **Marioara Abrudeanu**, Adriana-Gabriela Plăiașu, Maria-Magdalena Dicu, 2015, Materiale-compozitie, microstructura, proprietati, ISBN 978-973-47-1827-6, Editura Paralela 45,
- Clara Abrudeanu, H Zingle, **M Abrudeanu**, 2014 : **Matériaux**, Editura Paralela 45, ISBN 978-973-47-1821-4, dictionar francez-român, român francez.
- **Marioara Abrudeanu**: Materiale , Ed Paralela 45, 2011, ISBN 978-973-47-1124-6,
- C Pereira, T Evirgen, **M Abrudeanu**, T Inclanzan, F Fericeanu, M Petermandl, M Le May, I Lifka, 2002, “Double evolution-sistem pentru managementul calitatii in formarea personalului”, Editura Tehnica, Bucuresti, ISBN 973-31-2007-3.
- C Pereira, **M Abrudeanu**, T Evirgen, M Petermandl, M Le May, I Lifka, T Inclanzan, F Fericeanu, 2001, “Double evolution”, WIFI Viena–CD Rom .
- N. Bizon, **M Abrudeanu**, T Macarie, D Chirlesan, G Chilesan, E Neagu, 2001, Tehnologia informatiei si comunicarii, Editura Tehnica, 2002, Bucuresti, ISBN 973-31-2062-6.
- **Marioara Abrudeanu**, Roxana Piticescu, Radu Piticescu, 2000, Sinteza pulberilor ceramice in medii ultradisperse, Editura Tehnica, Bucuresti, ISBN 973-31-1381-6
- Ioan Lita, **Marioara Abrudeanu**, 2000, Efectul radiatiilor asupra materialelor si componentelor electronice, Editura Tehnica, Bucuresti, ISBN 973-31-1495-2.
- **Marioara Abrudeanu**, 1999, Stiinta materialelor, Editura Tehnica, Bucuresti, ISBN 973-31-1383-2

### Books, textbooks published in University or local presses:

- **M. Abrudeanu**, GA Plaiasu, EL Stirbu: Metalografie, Editura Universitatii din Pitesti, 2009, ISBN 978-973-690-888-0
- Jean-Pierre Millet , Adriana-Gabriela Plaiasu, **Mărioara Abrudeanu**, 2012, Analyser, comprendre, resoudre un probleme de corrosion. Rappels de cours. Exercices et etudes de cas, ISBN 978-606-560-293-9, Ed. Editura Universitatii din Pitești.
- Adriana-Gabriela Plaiasu, Constantin Vahlas, **Mărioara Abrudeanu**, Maria Magdalena DICU, 2012, Termodinamica în metalurgie. Aplicații, ISBN 978-606-560-280-9/, Ed. Universitatii din Pitești,
- **M Abrudeanu** ,1997, 1999, Studiul materialelor Vol.1,2, Ed. Universitatii Pitesti ISBN 973-988-19-1-2.
- **M Abrudeanu**, I Lita, 1997, Materiale pentru electromecanică - tehnici de laborator, Ed. Pygmalion Pitești, ISBN 973-96591-9-5.

- **M Abrudeanu**, 2001, Tehnologia materialelor vol.1, Ed.Universitatii, Pitesti, ISBN 973-8212-81-2.
- **M Abrudeanu**, M Gavrilă, 1997, Durabilitate și coroziune- tehnici de laborator, Ed.Pygmalion Pitești, ISBN ISBN 973-96591-8-7
- **M. Abrudeanu**, 1995, Coroziune si protectie anticoroziva, Editura ARS-TEMPUS Pitesti, 129 pagini, ISBN 973-96657-3-X.
- **M Abrudeanu**, C Petot, G Petot-Ervas, 1996, Corrosion et protection contre la corrosion, m.e.f., Universitatea din Pitesti

## ISI Quoted Articles

- Elisabeta Roxana Ungureanu **Arva**; Denis Aurelian Negrea; Andrei Galatanu; Magdalena Galatanu; Sorin Georgian Moga; Daniel-Constantin Anghel; Mihai Branzei; Livia Stoica; Alexandra Ion Jinga; Mircea Ionut Petrescu; Corneliu Munteanu; **Marioara Abrudeanu**: The Influence of Cyclic Thermal Shocks at High Temperatures on the Microstructure, Hardness and Thermal Diffusivity of the Rene 41 Alloy, *Materials* 2024, Volume 17, Issue 10, 2262; <https://doi.org/10.3390/ma17102262>; IF 3,4, Q2
- Vâlcea, A. E.; Grecu, D.; Maris, I.; Negrea, A. D.; Cimpoesu, N.; Giugea, D.; Istrate, B.; Munteanu, C.; Moga, S. G.; Anghel, D.-C, **Abrudeanu, M**: The Characterization of a Fragment of a Medieval Fresco from Corbii de Piatră Cave Church, *Applied Sciences*, 2023, 13, 4933, 2023; <https://doi.org/10.3390/app13084933>. IF, 2,7, Q2
- Vâlcea, A. E.; Maris, I.; Negrea, A. D.; Cimpoesu, N.; Garbea, G.; Grecu, D.; Moga, S. G.; Istrate, B.; Finta, F. N.; Rizea, A. D.; **Abrudeanu, M**: Interdisciplinary Research on Medieval Fresco Subjected to Degradation Processes in the Corbii de Piatra Cave Church, *Materials*, 2023, 16, 5257; <https://doi.org/10.3390/ma16155257>. IF 3.4, Q2
- Characterization of Archaeological Artefacts Using Methods Specific to Materials Science: The Case Study of Dacian Ceramics from 2nd c. BC to 1st c. AD.L. Teodorescu, Ayed Ben Amara, Nadia Cantin, Rémy Chapoulie, Cătălin Ducu, Sorin Ciucă, Claudiu Tulugea., Carol Terteci, **Mărioara Abrudeanu**, <https://www.mdpi.com/1996-1944/14/14/3908>, Published: 13 July 2021 FI 3,748
- Structure and heat transfer in zircaloy - 4 treated at high, temperature, **Mărioara Abrudeanu**, Maria Magdalena Dicu, Maria Minodora Pasăre, *Collection of Papers in Material Science from* [https://www.mdpi.com/journal/materials/special\\_issues/Materials\\_Romania,2021](https://www.mdpi.com/journal/materials/special_issues/Materials_Romania,2021), FI 3,748
- D C Anghel, AE Rosu, G Neacsu, IA Popa, M Branzei, V Rizea, CM Ducu, MM Dicu, AD Rizea, E Ungureanu, **M Abrudeanu**, 2019 : The influence of thermal shocks on the thermophysical properties of the zircaloy-4, *Revista de chimie* , Bucharest, 70, 2, p 575-577.
- Activation of CuAlNi SMAs using solar energy Cristian Ion Tudora, Nicanor Cimpoesu , Sergiu Stanciu, Daniel Constantin Anghel, Gabriela Adriana Plaiasu, Margareta Coteata , Ana-Maria Roman , Ramona Cimpoesu , **Marioara Abrudeanu** , Volume 1, Issue 1, 0001-0005 , 2019
- A. Popa, A. E. Rosu, G. Neacsu, D. C.n Anghel, V. Rizea, M Branzei, CM. Ducu, M.M. Dicu, **M. Abrudeanu**, 2018 : The influence of the high temperatures thermal shocks on the microstructure and harness of zircaloy-4 alloy, *Revista de chimie*, 69(7), 1655-1660,
- M. Stanciulescu, **M. Abrudeanu**, C. Ducu, A.G.Plaiasu, 2018.,: Chemical redistribution and microstructural evolution of ODS Fe-Cr powders during mechanical alloying, , *Revista de Chimie (Bucuresti)*, 69, nr.2,p.495-498,
- Al. Nițu, V. Radu, E. Ungureanu, **M. Abrudeanu**, 2018 The study of the mechanical properties of small tubes made from Oxide Dispersion Strengthened steel by using the Ring Tension Tests, *Revista de chimie* ISSN 0034-7752, vol. 69, nr. 11/2018 (accept de publicare nr.51/18.04.2018);
- Al. Nițu, V. Radu, E. Ungureanu, **M. Abrudeanu**, 2018, Investigation of the fracture mechanics properties of small tubes from Oxide Dispersion Strengthened steels, *Revista de chimie* ISSN 0034-7752, vol. 69, nr. 12/2018 (accept de publicare nr.51/18.04.2018).
- Madalina Stanciulescu, **Mărioara Abrudeanu**, Andrei Galatanu, Paula CARLAN Maria Mihalache: Dissolution Behaviour of Alloying Elements Into Vanadium Matrix During Mechanical Milling, *Rev.Chim.(Bucharest)* ♦68♦No. 5 ♦2017, pag 1109-1113
- E S Barca, L C Trinca, M Filipescu, M DINESCU ,A-G Plaiasu, **M Abrudeanu**, R Leata , 2016.: Influence of CeO2 Thickness Layer Deposited on the 945A Steel, Substrate Concerning the Corrosion Process, *REV.CHIM.(Bucharest)* ♦67♦No., f.i 0.956
- N. Halem, Z.Halem, **M. Abrudeanu**, C.Petot, G. Petot-Ervas, 2016.: Transport properties of Al or Cr-doped nickel oxide relevant to the thermal oxidation of dilute Ni-Al and Ni-Cr alloys , *Solid State Ionics*, 297 , 13-19, banda galbena UEFISCDI, f.i. 2.561.

- ES Bârca; M Filipescu, C Luculescu, B Birjega, M Dumitru, C Néstor, C Stanciu, **M Abrudeanu**, C. Munteanu, M Dinescu, 2016.; Piramidal growth of ceria nanostructures by pulsed laser deposition , Applied Surface Science, 363 245-251, banda rosie UEFISCDI, f.i. 2.711
- G.L. Pintilei a,b,\*, V.I. Crismarub, **M. Abrudeanu**, C. Munteanu, E.R. Baciuc, B. Istrate B,N. Basescu, 2015 : The behavior of ZrO<sub>2</sub>/20%Y<sub>2</sub>O<sub>3</sub> and Al<sub>2</sub>O<sub>3</sub> coatings deposited on aluminum alloys at high temperature regime, Applied Surface Science, 352, 178–183
- G.L. Pintilei, V.I. Crismaru B, **M. Abrudeanu**, C. Munteanu, D. Luca, B. Istrate, 2015 The influence of ZrO<sub>2</sub>/20%Y<sub>2</sub>O<sub>3</sub> and Al<sub>2</sub>O<sub>3</sub> deposited coatings to the behavior of an aluminum alloy subjected to mechanical shock, Applied Surface Science, 352 ,169–177
- I Dumitrescu, Iulia Maria; Mihalache, Maria; **Abrudeanu, Marioara**, 2015 : Isothermal Oxidation of UO<sub>2</sub> Fuel Pellets in Steam.Revista de chimie Volume: 66 Issue: 2, 290-293
- I.Dumitrescu., M .Mihalache, A Dinu,; Meleg, T Ohai, D, **Abrudeanu, M**,2015, Fuel Pellets Phase Composition Evolution During Steam or Air Oxidation, REVISTA DE CHIMIE Volume: 66 Issue: 3, 316-319
- Geanina Laura Pintilei, **Marioara Abrudeanu**, Corneliu Munteanu, Dragomir-Stanciu Daniel, Ionut Vasile Crismaru, 2015 „The characterization of an 99,5% Al<sub>2</sub>O<sub>3</sub> coating deposited on a Ti alloy and subjected to thermal shock”, Procedia Technology 19, 276 – 283
- E. S. Barca, A. G. Plaiasu, **M. Abrudeanu**, B. Istrate, D. Luca, C. Munteanu 2015 "Study of the plasma deposition of Al<sub>2</sub>O<sub>3</sub> powder on an internal combustion engine piston" Journal of optoelectronics and advanced materials, Vol. 17, No. 9-10, 1522 - 1527
- E S Bârca, V Rizea, **M Abrudeanu**, A G Plaiasu, B Istrate and C Munteanu , 2015:Comparative study of morphology and composition on oxide nanopowders elaborated by SPVD" Materials Science and Engineering 95 012028 doi:10.1088/1757-899X/95/1/012028
- G.Plăiașu, **M. Abrudeanu**, M.M.Dicu, C.Monty 2014.; Elaboration and nanostructural study of pure and Al doped ZnO nanopowders, Journal of Optoelectronics and Advanced Materials., 16 (9-10), 1116-1120
- Adriana-Gabriela Plăiașu, Carmen Mihaela Topală, Alice Dinu, **Mărioara Abrudeanu**, Claudiu Suțan , 2014.; Cooper oxides nanopowders: synthesis by S.P.V.D. and characterisation, Revista de Chimie, 66.no.10, 1636-1638.
- Bubulinca, C.; Balandraud, X.; Grediac, M.; S. Stanciu, **Abrudeanu M**, 2014 Characterization of the mechanical dissipation in shape-memory alloys during stress-induced phase transformation, Journal of materials science volume: 49 issue: 2 , 701-709 ,
- Adriana-Gabriela Plăiașu, Alice Dinu, **Mărioara Abrudeanu**, Vasile Rizea, Denis Negrea, Dionisie Bojin, Marius Enăchescu, Claude Monty, Corneliu Munteanu, 2014: Synthesis and microstructural characterization of CuO nanoparticles elaborated by S.P.V.D., Environmental Engineering and Management Journal, 763-1038.
- Bubulinca C., Balandraud X., Grediac M., Stanciu S., **Abrudeanu M.**, 2014, Characterization of the mechanical dissipation in shape-memory alloys during stress-induced phase transformation; *Journal of Materials Science* 49, 701-709,
- Bubulinca C., Balandraud X., Grediac M., Stanciu S., **Abrudeanu M.**, Plaiasu A.G., Dicu M.M., Nitu EL2013: Study of Cu-Al-Be shape memory alloy amplitude variation of temperature with the infrared camera, Journal of Optoelectronics and Advanced Materials, , Volume: 15, Issue: 5-6, 544-549,
- Dicu M.M., **Abrudeanu M.**, Moga S., Bubulinca C., Plaiasu A. G., 2013, Researches concerning the titania coatings formed on titanium by plasma electrolytic oxidation, Optoelectronics and Advanced Materials - rapid communications, Volume: 7, Issue: 5-6, Pages: 402-405.
- Radutoiu N., Alexis J., Lacroix L., **Abrudeanu M.**, Petit J.A., 2013, Study of the influence of the artificial ageing temperature on the AA2024 alloy microstructure, Key Engineering Materials, Volume: 550, 115-125,
- Radutoiu N, Alexis J., Lacroix L., **Abrudeanu M.**, Petit J.A.,2013 Application of Kelvin probe Force Microscopy (KFM) to evidence localized corrosion of over-aged aeronautical 2024 aluminum alloy, Key Engineering Materials, Volume: 550, 127-134.
- Radutoiu N., Lacroix L., Joel A., **Abrudeanu M.**, Petit J.A., Rizea V., Vulpe S., 2013: The Evolution of the Microstructure of AA2024 Aluminum Alloys as a Function of the Artificial Ageing Temperature, REVISTA DE CHIMIE, Volume: 63, Issue: 12, 1257-1260.;
- Vulpe S.C., **Abrudeanu M.**, Ohai D., Plaiasu A.G., Radutoiu N.,2012, The Influence of the Thermal Cycling on Grains Size of the Nickel-based Alloys, Revista de Chimie, Volume: 63, Issue: 11, 1112-1115, Published: NOV 2012;
- Vulpe S.C., **Abrudeanu M.**, Ohai D., Plaiasu A.G., Rizea V., Radutoiu N., 2012, The Influence of the Thermal Transient Regime on Grain Size at Nickel-based Alloys, Revista de Chimie, Volume: 63, Issue:10, 1026-1030.
- Radutoiu N., Alexis J., Lacroix L., Petit J.A., **Abrudeanu M.**, Rizea V., Vulpe S., 2012: of the Over-ageing Treatment on the Mechanical Properties of AA2024 Aluminum Alloy, Revista de Chimie, Volume: 63, Issue: 10, 1042-1045,
- Dicu .M., **Abrudeanu M.**, Moga S., Negrea D., Andrei V., Ducu C. 2012, Preparation of ceramic coatings on titanium formed by micro-arc oxidation method for biomedical application, Journal of Optoelectronics and Advanced Materials, Volume: 14, Issue: 1-2, 125-130, ;



- Florina Constantin, Jean-Pierre Millet, **Mărioara Abrudeanu**, Adriana Gabriela Plaiasu, 2011: Influence of a cooling liquid on the corrosion behaviour of Al-Mn alloy, *Revue Roumaine de Chimie*, ISSN 0035-3930, 56, 9, 917-921.
- Florina Constantin, Jean Pierre Millet, **Mărioara Abrudeanu**, Claudiu Constantin Ionescu, 2011, *Corrosion behaviour of the "sandwich" material AlSi/AlMn/AlSi in contact with an inhibited cooling liquid*, *Revista de Chimie*, ISSN 0034-7752, 62, 12, 1157-1161.
- Claudiu Constantin Ionescu, Pierre Ponthiaux, **Mărioara Abrudeanu**, François Wenger, Florina Constantin, 2011 *A comparative study on tribocorrosion of two Ni - Cr model alloys in a solution of boric acid and lithium hydroxide*, *Revista de Chimie*, ISSN 0034-7752, 62, 11, 1077-1084.
- Claudiu Constantin IONESCU, **Mărioara ABRUDEANU**, Pierre PONTTHIAUX, François WENGER, 2011, *Effect of normal force on tribocorrosion behaviour of Ni - 30Cr model alloy in LiOH - H3BO3 solution*, *Revue Roumaine de Chimie*, ISSN 0035-3930, 56, 9, 907-915, .
- M Dicu, A Matei, **M Abrudeanu**, C Ducu ,2011: Synthesis and properties of the porous titania coatings formed on titanium by plasma electrolytic oxidation for biomedical application, *Journal of Optoelectronics and Advanced Materials*, vol.13, nr.3, 318-325
- N. Halem, **M. Abrudeanu** and G. Petot-Ervas, mai 2011 Al effect in transport properties of nickel oxide and its relevance to the oxidation of nickel, *Materials Science and Engineering: B, ELSEVIER, ScienceDirect*, 176, 13, 1002-1009;
- N Boicea, **M Abrudeanu**, C Ducu, V Malinovski, I Ciuca, 2009. : Researches regarding the influence of the oxinitrocraburizing treatment over the wear resistance of the X153 CrMoV12 Steel, *Metalurgia international*, vol XIV, s.i. nr. 3, 133-136, ISSN 1582-2214
- MM Pasare, MI Petrescu, **M Abrudeanu**., 2008: The heat treatment and P effect on Ni-P/SiC coatings hardness, *Rev. Roum. Chim*, 53(7) , p.563-567, ISSN 00347752, FI.0.262
- Alice Dinu, **M. Abrudeanu**, 2007,: Stress Corrosion Cracking Zircaloy-4 Coatings in Iodine Containing Environments, *Revista de Chimie*, Nr. 8, p.751-754, ISSN 00347752
- M Pasare, JP Bonino, **M Abrudeanu**, 2007 Studiul influenței concentrației electrolitului asupra compoziției alajului NiP/SiC, *Rev. Chimie* , nr.12, .1190-1193, ISSN 00347752
- ARizea, G. Petot-Ervas, C. Petot, **M. Abrudeanu**, M.J. Graham, G.I. Sproule, 2007: Transport properties of yttrium-doped zirconia – Influence of kinetic demixing, *Solid State Ionics* 177, issue 39-40, .3417-3424,
- J. Kouam, T.Ait-Ahcene, A.G. Plaiasu, **M. Abrudeanu**, A. Motoc, E. Beche, C. Monty, 2007: Characterisation and properties of ZnO based nanopowders prepared by solar physical vapor deposition (SPVD), *Solar Energy*, 2007, on line [www.sciencedirect.com](http://www.sciencedirect.com) , *Solid State Ionics* 177/ 3417-3424
- V Malinovski, C Ducu, G Plaiasu, **M Abrudeanu**, S Moga, RR Piticescu, C Monty, 2007, Microstructural analysis of ZnO powders with different concentrations of Al dopant obtained means hydrothermal synthesis, E- MRS Fall Meeting Symposium B, on-line Journal of E-MRS Fall Meeting 2007, [Http:// Science 24.com/paper/11988](http://Science24.com/paper/11988)
- Alice Dinu, **M. Abrudeanu**, M. Radulescu, L. Velciu, 2006, "Electrochemical Studies on Stress Corrosion Cracking of Incoloy-800 in Caustic Solution, Part II: Pre-cracking samples, *Nuclear Technology & Radiation Protection, NT&RP*, Vol. XXI, No. 1, Pp34-40, YU ISSN 1451-3994
- Trifa, G. Montavon, Ch. Coddet, C Nardin, **M Abrudeanu**, , 2005, Geometrical features of plasma sprayed deposits and their characterization methods, *Materials Characterization*, Vol. 54, 157-175, Elsevier,
- **M. Abrudeanu**: A. Gleizes 2005: From a French–Romanian Master to a European Research-Master with double, 3rd Balkan Region Conference on Engineering Education, *Conference Proceedings: Advancing Engineering Education*, proc ISI, 28-29,
- P. Archambault, **M Abrudeanu**, 1993, Influence de l'oxydation et de l'état structural sur les propriétés thermo-physiques d'un alliage à base de zirconium, *Journal of Nuclear Materials*, 200, 2, 162-168.

## Relevant participation in international events

- The influence of thermal shock at high temperature on zy-4 alloy, **Marioara Abrudeanu**, Gabriel Neacșu, Andreea Elena Roșu , Justin-Alexandru Popa, Daniel-Constantin Anghel, Vasile Rizea, Daniel Alin Rizea, Mihai Branzei , Gabriela Adriana Plaiasu , Luminita Constantinescu , Cătălin-Marian Ducu, *Journal of Engineering Sciences and Innovation* Volume 5, Issue 1 / 2020, Pp. 21-32
- Z. Halem, Bouira University/DZ; N. Halem, Tizi-Ouzou University/DZ; S. Chekroude, Constantine University/DZ; **M. Abrudeanu**, Pitesti University/RO; G. Petot-Ervas, Ecole Centrale des Mines, Paris/F: Influence of CaO and CeO<sub>2</sub> coatings on the oxidation of nickel polycrystals, EUROCORR 2019
- Influence of thermal shocks at high temperatures on microstructure and hardness of RENE 41 alloy, E Ungureanu (Arva), D-C Anghel, D Negrea , A G Plaiasu, V Rizea, M M Dicu , C M Ducu and M Abrudeanu, *IOP Conf. Series: Materials Science and Engineering* 564 (2019) 012046 IOP Publishing doi:10.1088/1757-899X/564/1/012046

- C Tudora, **M Abrudeanu**, S Stanciu, D Anghel, G Plaiășu, V Rizea, I Stirbu, R Cimpoescu, M Coteață : Preliminary results on microstructure profile of Cu-based shape memory alloy, IOP conference series: materials science and engineering, volume 572 , 2019
- Z.Halem, N.Mahiouz, N.Halem, **M.Abrudeanu**, G.Petot-Ervas : General approach of matter transport processes at elevated temperature during the growth of oxide scales on alloys. Oxidation of CeO<sub>2</sub>-coated Ni, Eurocorr 2017, Praga, International Corrosion Committee diploma for best poster
- A.Dinu, **M. Abrudeanu**, M.I. Petrescu, 2009 : Stress corrosion cracking of hydrided zircaloy-4 valddings in iodine containing environments, EUROCOR, Nice, SS11-O-8353, p.1981, www.eurocorr.org .
- N Halem, **M Abrudeanu**, G Petot ,Ervas, 2009, : Al or Cr effect in Y transport of Nickel Oxide – Influence on Nickel Oxidation, EUROCOR Nice, SS 03-P-8053, p. 85, www.eurocorr.org.
- **M Abrudeanu**, A Dinu, M Petrescu, N Petrescu, 2008: Stress corrosion cracking in nuclear fuel cladding, The 32nd Annual Congress of the American Romanian Academy of Arts and Sciences, Boston, Proceedings, Politechnic International Press, Montreal Quebec. ISBN 978-2-553-01424-6, 214-217
- M.M.Pasare, M.I Petrescu, **M Abrudeanu** 2007: Wear resistant electroplated microcomposite coatings, The 31st Annual Congress of the American Romanian Academy of Arts and Sciences, Boston, Proceedings, Politechnic International Press, Montreal Quebec. ISBN 978-2-553-01424-6, 174-177.
- Magdalena Sovar, Catalin Ducu, **Marioara Abrudeanu**, Ioana Demetrescu, 2007, Improving the quality of electrochemical phosphate deposition on Co-Cr bioalloy, The International Conference on Structural Analysis of Advance Materials (ICSAM 2007), CD, TOPIC 1, Biomaterials, No.3, Patras, Grecia.
- M Pasare, M I Petrescu, **M Abrudeanu**, 2006, Hardness Characterisation of SiC/NiP surface coatings, Proceedings of the 7<sup>th</sup> International Conference on the Technology and Quality for Sustained Development TQSD, 383-385
- **M Abrudeanu**, J Philibert, 1999, Les NTIC au service de l'enseignement en collaboration internationale, Conferinta internationala « Journées TIC », Nice, 10-11
- **M Abrudeanu**, P Archambault, 1995, Corrélation microstructures- propriétés pour l'alliage zircaloy 4, Conferinta Zr-95, Saclay, Franta, 303-312
- **M Abrudeanu**, P Archambault, 1994, L'influence de l'oxydation à haute température sur la diffusivité thermique de l'alliage Zy-4, plenary conference, 9e, Congrès International du Traitement Thermique et de l'Ingénierie des Surfaces, Nice., 87-93.
- **M Abrudeanu**, P.Archambault, G Petot -Ervas , N Petrescu, M. Petrescu, 1993, Microstructure and electron microprobe study of oxide layers obtained on zircaloy-4 by oxidation at high temperature, Microscopy of Oxidation 2, Proceeding of the Second International Conference Held at Selwyn College University of Cambridge, p.387-395, IM- ISBN 0901 716502..
- **M Abrudeanu**, N Petrescu, 1991, Diffusion coefficients of oxygen in zirconium alloys during dry oxidation, *International Conference of Diffusion and Defects in Solids DD91, Academy of Sciences, Moscou- URSS*, 75, 84.

### Research Projects in International Programmes :

- Contract NATO, 1992, ref.SFP 974-054 *Dezvoltarea unor nanomateriale pe bază de oxid de zirconiu pentru aplicații care utilizează proprietățile electrice și mecanice*
- Contract PECO cu nr 8087/Ref. ERB 3510 PI 20279, 1994, *Realizarea unor straturi de carbonitru de vanadiu pe suport din oțel carbon prin depunere chimică în faza de vapori plecând de la precursori organometalici.*
- Contract European FP-6 Acces la resurse SOLFACE, 2006, *coordonare Prof Claude Monty - Laboratorul Solar Odeillo, " ZnO based Nanostructured Coatings and Thin films- NANOCOAT"*
- *Contract european facilitati - Acces aux ressources FP7 : SYCANCO - Synthesis and characterization of nanomaterials for coatings with specific properties, CNRS Odeillo Franța, perioada 2010-2011*
- *Contract facilitati - Acces aux ressources FP7: NESGED Nanopowders Elaboration and sintering of CeO<sub>2</sub>-Gd doped nanopowders, 2012-2013*
- FP7 Specific Programme 'Capacities' - Optimising the use and development of research infrastructures, Project reference: 228296, NANOCOMAFI: Synthesis and characterisation of nanostructured copper and manganese oxide powders for thin film elaboration, 2013
- FP7 Specific Programme 'Capacities' - Optimising the use and development of research infrastructures: Disulphide of molybdenum nanostructure synthesis and characterisation for obtain greases with high adhesion to metals – NANODISMOLY-2014 under SFERA (Solar facilities for the European research area), 2014-



- FP7 Specific Programme 'Capacities' - Optimising the use and development of research infrastructures, Influence of structural transformations performed by thermal shock on thermal diffusivity alloy zircaloy-4, acronymul:TERMOSHOCZY, 2015
- FP7 Specific Programme 'Capacities' - Study of variation of the mechanical properties of superalloys Inconel 718 and Rene 41 under thermal shock” TERMOINCORENE P1601300180, SFERA 2016
- FP7 Programme 'Capacities Thermal Shock and Fatigue on Shape memory alloy from CuZnAl and CuAlNi systems – HTSMAs, Acronym: TERMOMEM, SFERA 2017 :
- Orizont 2020: Experimental route of fabrication for Fe-Cr oxide dispersion strengthened steel used in Generation IV nuclear reactors construction= FECRODS- SURPF2001300034FECRODS, 2020-2023
- The influence of sintering temperature on the structure and properties of ceramics, **SURPF2201300021** TERMOCER, 2022-2023
- 

## Coordination of PhD theses in the field : Materials Engineering

### with the title of doctor

1. **Luminita Elena Din Stirbu** : Comportarea la coroziune a aliajelor de aluminiu utilizate in industria de automobile la fabricarea radiatorului de încălzire /*Influence des inhibiteurs dans le liquide de refroidissement utilisé dans l'automobile sur le comportement a la corrosion de l'alliage AlMn2, 2005, French -Romanian Coordination* : Universitatea din Pitesti /*Institut National de Sciences Appliquées Lyon- Pr. Jean-Pierre Millet*
2. **Maria Minodora Brânzan Pasare** : Studii si cercetari privind structura si proprietatile straturilor compozite Ni-P/SiC realizate pe suport metalic , Uiniversity of Pitesti, 2006
3. **Alice Daniela Dinu** : Cercetari privind coroziunea fisuranta sub sarcina a unor materiale utilizate in energetica nucleara,2008 ; Uiniversity of Pitesti, 2008
4. **Gabriela Adriana Schiopu Plaiasu** : Cercetari privind elaborarea si caracterizarea unor nanomateriale oxidice cu proprietati speciale , Uiniversity of Pitesti 2008
5. **Florina Simescu Lazar**: Élaboration des revêtements de phosphates de zinc sur armature à béton. Étude de leur comportement à la corrosion en milieu neutre et alcalin,2008, N° d'ordre : 08 ISAL 0019, *French -Romanian Coordination* Universitatea din Pitesti- Institut National de Sciences Appliquées Lyon- Prof Hassan Idrissi ,2008
6. **Mihaela Teaca**: Caractérisation expérimentale et modélisation de la déformation plastique des tôles métalliques, *French -Romanian Coordination*: Universitatea din Pitesti -*Université de Metz – Prof Gerard Ferron*; 2009
7. **Florina Constantin** : Studiul eficacitatii inhibitorilor de coroziune utilizati in sistemele de racire/ *Etude de l'efficacité d'inhibiteur de corrosion utilisés dans les liquides de refroidissement, French -Romanian Coordination* Universitatea din Pitesti /*Institutul National de Stiinte Aplicade din Lyon- Prof. JP Millet 2011*
8. **Tiberiu Meleg** : Coroziunea aliajelor nucleare in conditii de accident sever /*Corrosion des alliages nucléaires en conditions d'accident sévère., University of Pitesti, 2011*
9. **Claudiu Ionescu** : Caracterizarea mecanismelor de uzare prin tribocoroziune a unor aliaje utilizate in domeniul nuclear/*Caractérisation des mécanismes d'usure par tribocorrosion d'alliages utilisés dans le domaine nucléaire, French -Romanian Coordination*: Universitatea din Pitesti /Ecole Centrale Paris – pr. P Pontiaux 2011
10. **Constantin Bubulinca**: Aplicarea termografiei in infrarosu pentru determinarea disiparii mecanice a aliajelor cu memoria formei Cu-Zn-Al, *French -Romanian Coordination* Universitatea din Pitesti / *Université Blaise Pascale Clermont Ferrand- Prof. Michel Grediac 2013*
11. **Sanda Cristina Vulpe** : Cercetari privind comportarea termomecanica a unor akaije cu continut înalt de nichel in vederea utilizarii in reactoarele de generatie IV, Universitatea din Pitesti, 2013

12. **Nicoleta Radutoiu** Caracterizarea si interpretarea la scara locala a comportamentului mecanic si la corozione a aliajului EN AW2024 in functie de tratamentul termic aplicat/ *Influence des traitements thermiques sur le comportement en corrosion a l'échelle locale de l'alliage d'aluminium en AW 2024, , French -Romanian Coordination (cotutelle)Universitatea din Pitesti/ Institut polytechnique de Toulouse, ENI Tarbesc prof jacques Alain Petit, 2013*
13. **Iulia Maria Dumitrescu** : Contribuții la studiul comportării matricei de combustibil nuclear în condiții de accident sever, Universitatea din Pitesti, 2018
14. **Alexandru Ionut NITU**, Contribuții privind studiul unor mecanisme de defectare întâlnite la materialele structurale utilizate în energetica nucleară, Universitatea din Pitesti, 2019
15. **Madalina Gabriela Stanciulescu**: „Cercetari privind influenta socurilor termice asupra structurii si proprietatilor unor aliaje cu memoria formei”,2021
16. **Laura Teodorescu** : Caractérizarea bunurilor de patrimoniu material folosind tehnici specifice ingineriei materialelor/Caravtérisation des bines du patrimoine culturel matériel par des techniques spécifiqués à l'ingénierie des matériaux, *French -Romanian Coordination (cotutelle) Universitatea din Pitesti/Université Nordeaux Montaigne- Prof. Rémy Chapoulie, 2022.*

#### under development:

17. **Elisabeta Ungureanu Arva** : Cercetări privind influența șocurilor termice la temperaturi înalte asupra aliajelor René 41 și Inconel 718, sustinere iunie 2024
18. **Adriana Elena Valcea** : Caracterizarea avansata a unor fresce din patrimoniul cultural romanesc folosind tehnici specifice ingineriei materialelor, sustinere iunie 2024 .
19. **Ana Maria Ivan (Dicu)** : The theme of the scientific research program: the identification of materials efficient in capturing volatile radiotoxic elements from the coating gas of the new generation fast reactors cooled with liquid metal, in particular the ALFERD reactor. Adsorbition of radiotropic volatile elements from Gen, IV-LFR, *colaborare internationala* cu National Agency for neu Technologies and Sustainabel Economy - E.N.E.A Italia, Dr Mariano Tarantino
20. **Ion Cosmin Pirvu** : “Research on hybrid piezoelectric materials and manufacturing technologies especially the additive manufacturing technology to develop new smart systems”, “Cercetari privind materialele hibride piezoelectrice si tehnologiile lor de fabricatie in special fabricatia aditiva pentru dezvoltarea unor sisteme inteligente”. *colaborare internationala* cu Ansbach University of Applied Sciences -Germania, Prof Alexabdru Sover
21. **Flavio Nicolae Finta**: Cercetari privind mortarele utilizate in constructii de patrimoniu de pe teritoriul Romaniei
22. **Ionela Crstina Gheroghe** : Studiul proceselor de degradare a pigmentilor folositi in fresce din sec XVII
23. **Tiberius Nicusor Duta**: studiul proceseor de degradare din frescele realizate de Pantelimon, sec XVIII

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