

PERSONAL INFORMATION

Alexandru PASCU



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<http://orcid.org/0000-0002-6371-9253>

Sex | Date of birth | Nationality Romanian

WORK EXPERIENCE

October 2015 - present

Full Professor, Associate professor (2017 - 2021), Lecturer (2015 - 2017)

Department of Materials Engineering and Welding, Faculty of Materials Science and Engineering, Transilvania University of Braşov, 1 Universităţii street, Room A II 1 Braşov. <https://sim.unitbv.ro/>

- Dean of the Faculty of Materials Science and Engineering (2024 -)
- PhD coordinator in Industrial engineering field
- Head of the research center Advanced Welding Eco-technologies
- Erasmus coordinator of the Faculty of Materials Science and Engineering
- Teaching courses related with Materials science, Robotics, Welding Engineering and research activities in the field of Industrial Engineering

Business or sector Education and Research

2005-2008

Production engineer (Buses department)

S.C. ROMAN SA, No. 5, Poienelor, 500036, Braşov, Romania

- Responsible with welding, design and construction of prototype components in buses manufacturing department;
- Organization of work routines and production schedule;
- Optimisation of production flow;
- Identification of suppliers and acquisition of raw material and consumables for mass production.

Business or sector Automotive industry

EDUCATION AND TRAINING

April 2014 – October 2015

Postdoctoral

EQF level 8

Department of Materials Engineering and Welding, Faculty of Materials Science and Engineering, Transilvania University of Braşov

- Fundamental scientific research in the field of laser cladding.

October 2008 – September 2011

Doctor of Philosophy in Industrial Engineering

EQF level 8

Department of Materials Engineering and Welding, Faculty of Materials Science and Engineering, Transilvania University of Braşov

- Laser welding technology;
- Thesis title: *Improving or reconditioning metallic surfaces trough coaxial laser cladding with high-alloyed powders.*

October 2009 – September 2011

Master of Science in Laser Technology

EQF level 7

E.T.S. de Ingenieros Industriales, Universidad Politécnica de Madrid, Spain

- Laser physics and industrial applications of laser technology;
- Laser welding, cladding and cutting processes.
- Laser micro-processing of advanced materials.

October 2005 – October 2007

Master of Science in Welding Engineering

EQF level 7

Faculty of Materials Science and Engineering, Transilvania University of Braşov

- Materials science, conventional and advanced welding technologies.

October 2000 – June 2005

Bachelor of Science in Engineering

EQF level 6

Faculty of Materials Science and Engineering, Transilvania University of Braşov

- Materials science, welding techniques, welding equipment
- WPS – Welding Procedure Specifications.

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1/2	C1/2	C1/2	B1/2	C1/2
Spanish	C1/2	B1/2	B1/2	B1/2	B1/2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Organisational / managerial skills

- Vice Dean of the MSE Faculty 2019 – 2024;
- Member of the Materials Engineering and Welding Department Council 2018 – present;
- Member in the Board of the Faculty of Materials Science and Engineering;
- President of the Brasov Branch within RWA – Romanian Welding Association;
- Participation in national and international scientific research projects;
- Experience in organizing international conferences, seminars, and workshops;
- Ability to strategically allocate resources to maximize research and development activities;
- Ability to assess and improve the quality of academic and research programs.

Job-related skills

- Engineering – Welding engineering and technology;
- Research – member in 3 national and 6 international research grants;
- Design – Welding technology and procedures;
- Competence in the design, welding process selection and operation of welding equipment, automation, robotics and welding process integration in complex manufacturing systems;
- Familiar with complex tasks and multitasking in the industrial production area

Computer skills

- Hardware knowledge
- Good knowledge of Microsoft Office™ tools (Word™, Excel™, PowerPoint™ and Outlook™)
- Digital image processing - CorelDraw™, PhotoShop™
- Programming –Pascal
- 3D modelling – SolidWorks™
- FEA – COSMOS™, SYSWELD™.

Other skills

- CNC machine operator-programmer (Haemmerle);
- Operator-programmer of industrial robots;
- Skills in MIG/MAG, TIG, MMA welding;
- Flame coating;
- Laser welding and cladding;
- Related skills in research in the field of laser processing, laser spectroscopy, materials science, surface engineering, advanced materials testing, etc.

Driving license

Category B (2000), Category A (2008)

ADDITIONAL INFORMATION

Publications

- Publication of 8 books and more than 60 scientific papers in technical journals;

Projects

- Director of the international ERASMUS+ project 2023-1-RO01-KA220-HED-000159985, titled: Smart Healthcare Engineering;
- Director of 4 international projects under EU-DG RTD Solar Facilities for the European Research Area | SFERA (France, Italy);
- Member of the research team for 8 projects under EU-DG RTD Solar Facilities for the European Research Area | SFERA (Spain, Italy);
- Member of the research team for two international research projects with the business environment (Delft Enterprises B.V. and Technische Universiteit Delft);
- Member of the research team for 4 national contracts.

National and international visibility

- Evaluator for ARACIS, RNE C10. ENGINEERING SCIENCES I
- Reviewer for Web of Science indexed journals: Applied Surface Science, Journal of Spectroscopy, Solar Energy Journal, Journal of materials science, Materials, Coatings;
- Chairman of the international conference BRAMAT 2024 13th INTERNATIONAL CONFERENCE ON MATERIALS SCIENCE & ENGINEERING;
- Member of the scientific committee of The Second International Symposium on Modern Engineering Equipment and Technology 2023;
- Member of the organizing committee of conferences, ESTAC12 12th European Symposium on Thermal Analysis and Calorimetry – 2018 and BRAMAT 2017, 2019, 2022;
- Key-note speaker at the 8th Iran International Conference & Exhibition on Materials Science & Metallurgical Engineering – October 7th, 2019;
- Research activities in international laboratories such as: Centro Laser at the Polytechnic University of Madrid, IPCC and Nanoscience and Nanomaterials Lab. at the University of Las Palmas de Gran Canaria, ENEA at the Italian National Agency for New Technologies, Energy and the Environment, PROMES at the Institute of Engineering and Systems Sciences (INSIS), PSA at the Centre for Energy, Environment and Technology Research.
- Participation in numerous national and international conferences in the technical field.

Distinctions

- Gold medal at the 8th European Exhibition of Creativity and Innovation with handbook entitled *Materials Science and Engineering*;
- Patent, No. 133180/30.08.2022, FeCrAl(Y) type alloys and method for obtaining a product from this alloy, V. Geanta, I. Voiculescu, R. Ștefănoiu, V. Fugaru, E.M. Stanciu, A. Pascu, C. Postolache, M.R. Ioan.

Scientific Portfolio

Anex 1

Date: 17.04.2024



Prof. Alexandru PASCU

JOURNAL ARTICLES (SELECTION)

ISI THOMSON REUTERS

1. M. Anghel, I. D. Uțu, **A. Pascu**, I. Hulka, D. Horst Woelk, G. Mărginean, *Microstructure and properties of Co based laser clad composite coatings*, **Materials Testing** 2024, 1-10, 2024.
2. E.M. Stanciu, **A. Pascu**, C. Croitoru, I. C. Roata, D. Cristea, M.H. Tiorean, I. Hulka, I.M. Petre, J. C. Mirza Rosca, *Functional Surfaces via Laser Processing in Nickel Acetate Solution*, **Materials**, 16, 3087, 2023. **Q1** | **WOS:000976464500001**
3. A.C. Mocanu, F. Miculescu, G. E. Stan, T. Tite, M. Miculescu, M. H. Tiorean, **A. Pascu**, R.C. Ciocoiu, T. M. Butte, L.T. Ciocan, *Development of ceramic coatings on titanium alloy substrate by laser cladding with pre-placed natural derived-slurry: Influence of hydroxyapatite ratio and beam power*, **Ceramics International**, 49, 7, 10445-10454, 2023. **Q1** | **WOS:000944679300001**
4. D.N. Avram, C.M. Davidescu, I. Hulka, M.L. Dan, E.M. Stanciu, **A. Pascu**, J.C. Mirza-Rosca, *Corrosion behavior of coated low carbon steel in simulated PEMFC environment*, **Materials** 2023, 16, 3056. **Q1** | **WOS:000976988300001**
5. Mocanu A.-C., Miculescu F., Stan G.E., Pasuk I., Tite T., **Pascu A.**, Butte T.M., Ciocan L.-T., *Modulated Laser Cladding of Implant-Type Coatings by Bovine-Bone-Derived Hydroxyapatite Powder Injection on Ti6Al4V Substrates*, **Materials**, 15 (22), art. no. 7971, 2022. **Q1** | **WOS:000887357500001**
6. E.R. Moldovan, C.C. Doria, J.L. Ocana, B. Istrate, N. Cimpoesu, L.S. Baltes, E.M. Stanciu, C. Croitoru, **A. Pascu**, C. Munteanu, M.H. Tiorean, *Morphological Analysis of Laser Surface Texturing Effect on AISI 430 Stainless Steel*, **Materials**, 15(13), 4580, 2022. FI 3.748. **Q1** | **WOS:000824045100001**
7. E.R. Moldovan, C.C. Doria, J.L. Ocana, L.S. Baltes, E.M. Stanciu, C. Croitoru, **A. Pascu**, I.C. Roata, M.H. Tiorean, *Wettability and Surface Roughness Analysis of Laser Surface Texturing of AISI 430 Stainless Steel*, **Materials**, 15(8), 2955, 2022. FI 3.748. **Q1** | **WOS:000787465000001**
8. E.R. Moldovan, C.C. Doria, J.L.O. Ocana Moreno, L.S. Baltes, E.M. Stanciu, C. Croitoru, **A. Pascu**, M.H. Tiorean, *Geometry characterization of AISI 430 stainless steel microstructuring using laser*, **Archives of Metallurgy and Materials**, 67(2), pp 645-652, 2022. | **WOS:000813491700008**
9. D.N. Avram, C.M. Davidescu, M.L. Dan, J.C. Mirza-Rosca, I. Hulka, **A. Pascu**, E.M. Stanciu, *Electrochemical Evaluation of Protective Coatings with Ti Additions on Mild Steel Substrate with Potential Application for PEM Fuel Cells*, **Materials**, 15, 5364, 2022. FI 3.748. **Q1** | **WOS:000838943600001**
10. Hulka, I.D. Utu, D. Avram, M.L. Dan, **A. Pascu**, E.M. Stanciu, I.C. Roata, *Influence of the Laser Cladding Parameters on the Morphology, Wear and Corrosion Resistance of WC-Co/NiCrBSi Composite Coatings*, **Materials**, vol. 14, 15, 5583, 2021. **Q1** | **WOS:000710250900001**
11. **Pascu A.**, Stanciu E.M., Croitoru C., Roată I. C., Tiorean M.H., Mirza Rosca J., Cimpoesu N., Bogatu C., *Pulsed laser cladding of NiCrBSiFeC hardcoatings using single-walled carbon nanotubes additives*, **Journal of Nanomaterials** 2019, 1-12, 2019. **IF 2.23** **WOS:000487080800001**
12. **Pascu A.**, Stanciu E.M., Croitoru C., Roată I. C., Tiorean M.H., *Carbon nanoparticle-supported Pd obtained by solar physical vapor deposition*, **Advances in Materials Science and Engineering** 2018, 1-7, 2018. **IF 1.29** **WOS:000426193300001**
13. Roată I. C., Croitoru C., **Pascu A.**, Stanciu E.M., Hulka I., Petre I., Gabor C., Patroi D., Sbarcea B-G, Maior I., *Surface engineering of Ni-Al coatings through concentrated solar heat treatment*, **Applied Surface Science** 506, 144185, 2020. **IF 6.18 (Q1)** **WOS:000512983600137**
14. Croitoru C., Roată I. C., **Pascu A.**, Stanciu E.M., Hulka I., Stoian G., Lup N., *Photocatalytic surfaces obtained through one-step thermal spraying of titanium*, **Applied Surface Science** 504, 144173, 2020. **IF 6.18 (Q1)** | **WOS:000502040600179**
15. Croitoru C., Roată I. C., **Pascu A.**, Stanciu E.M., Hulka I., Stoian G., Lup N., *Diffusion and Controlled Release in Physically Crosslinked Poly (Vinyl Alcohol)/lota-Carrageenan Hydrogel Blends*, **Polymers** 2020, 12, 1544, 2020. **IF 3.42 (Q1)** | **WOS:000558033000001**
16. **Pascu A.**, Stanciu E.M., Roată I. C., Hulka I., Uțu D., Maior I., *Influence of the laser cladding parameters and solar heat treatment on the properties of biocompatible Inconel 718 coatings*, *Revista Română de Materiale / Romanian Journal of Materials* 2017, 47 (2), 157 – 165, 2017. **IF 0.66** **WOS:000404823800006**
17. Roată I. C., Croitoru C., **Pascu A.**, Stanciu E.M., *Photocatalytic coatings via thermal spraying: a mini-review*, **AIMS Materials Science** 6 (3), 335–353, 2019. **WOS:000471016400003**

18. Stanciu E.M., **Pascu A.**, Roată I.C., Croitoru C., Tierean M., Rosca J. Mirza, Hulka I., *Solar radiation synthesis of functional carbonaceous materials using Al_2O_3/TiO_2 -Cu-HA doped catalyst*, **Applied Surface Science** 438, 33–40, 2018. IF 5.15 (Q1) | WOS:000425731200005
19. Stanciu E.M., **Pascu A.**, Tierean M.H., Roata I.C., Voiculescu I., Hulka I., Croitoru C., *Dissimilar laser welding of AISI 321 and AISI 1010*, **Technical Gazette** 25 (2), 344–349, 2018. IF 0.72 | WOS:000430936800006
20. Croitoru C., Spirchez C., Lunguleasa A., Cristea D., Roata I.C., Pop M. A., Bedo T., Stanciu E.M., **Pascu A.**, *Surface properties of thermally treated composite wood panels*, **Applied Surface Science** 438, 114–126, 2018. IF 5.15 (Q1) | WOS:000425731200013
21. Roată I. C., Croitoru C., **Pascu A.**, Stanciu E.M., *Characterization of physically crosslinked ionic liquid-lignocellulose hydrogels*, **BioResources** 13(3), 6110–6121, 2018. IF 1.39 (Q2) | WOS:000440506300095
22. Roată I. C., Croitoru C., **Pascu A.**, Stanciu E.M., *Photocatalytic performance of copper-based coatings deposited by thermal spraying*, **Journal of Materials Science: Materials in Electronics**, 29, (13), 11345–11357, 2018. IF 2.19 (Q2) | WOS:000435588600069
23. Croitoru, A.M. Varodi, M.C. Timar, I.C. Roata, E.M. Stanciu, **A. Pascu**, *Wood-plastic composites based on HDPE and ionic liquid additives*, **Journal of Materials Science** 53 (6), 4132–4143, 2018, IF 3.4 (Q2) | WOS:000418294200017
24. Genta V., Voiculescu I., Stefanoiu R., Jianu A., Milosan I., Stanciu E.M., **Pascu A.**, Vasile I.M., *Titanium influence on the microstructure of FeCrAl alloys used for 4R generation nuclear power plants*, **REV.CHIM.** 70 (2), 549 – 554, 2019. IF 1.60 | WOS:000461982200038
25. **Pascu A.**, Stanciu E.M, Voiculescu I., Tierean M.H., Roata I.C., Ocana J.L., *Chemical and mechanical characterization of AISI 304 and AISI 1010 laser welding*, **Materials and Manufacturing Processes** 31 (3), 311–318, 2016. IF 2.27 | WOS:000365670400008
26. Stanciu E.M, **Pascu A.**, Tierean M.H., Voiculescu I, Roata I.C., Croitoru C., Hulka I., *Dual coating laser cladding of NiCrBSi and Inconel 718*, **Materials and Manufacturing Processes** 31 (12), 1556–1564, 2016. IF 2.27 | WOS:000381388400003
27. Hulka I., Serban V.A., Utu D., Duteanu N.M, **Pascu A.**, Roată I.C., *Corrosion resistance of laser clad NiCrBSi composite coatings*, **Studia UBB Chemia LX**, (4), 173–184, 2015. IF 0.191 | WOS:000369162600016
28. Hulka I., Serban V.A., Utu D., Duteanu N.M, **Pascu A.**, Roată I.C., Maior I., *Wear resistance of laser cladding NiCrBSi composite coatings*, **Romanian Journal of Materials**, 46 (1), 49 – 54, 2016. IF 0.563 | WOS:000372938400007
29. **Pascu A.**, Stanciu E.M., Savastru D., Geanta V., Croitoru C., *Optical and microstructure characterisation of ceramic – hydroxyapatite coating fabricated by laser cladding*, **Journal of Optoelectronics and Advanced Materials** 19, (1-2), 66–72, 2017. IF 0.39 | WOS:000400880700010
30. Roată I.C., Croitoru C., Stanciu E. M, **Pascu A.**, *Cladding under the spotlight: between performance materials and occupational health hazards*, **Materials Today: Proceedings** 19 (3), 1051–1058, 2019. | WOS:000496428200021
31. **Pascu A.**, Mirza Rosca J., Stanciu E. M, *Laser cladding: from experimental research to industrial applications*, **Materials Today: Proceedings** 19 (3), 1059–1065, 2019. | WOS:000496428200022
32. Stanciu E.M, **Pascu A.**, Roată I.C., Croitoru C., Tierean M. H., *Laser welding of dissimilar materials*, **Materials Today: Proceedings** 19 (3), 1066–1072, 2019. | WOS:000496428200023
33. Croitoru C., **Pascu A.**, Stanciu E.M, Roată I.C., *Solar synthesis of carbon microparticles from polymer waste*, **Materials Today: Proceedings** 19 (3), 996–1002, 2019. | WOS:000496428200013
34. Croitoru C., **Pascu A.**, Roata I. C., Stanciu E. M., *Obtaining and characterization of polyolefin-filled calcium carbonate composites modified with stearic acid*, **IOP Conf. Ser.: Mater. Sci. Eng.** 209, 012041, 2018. | WOS:000423732100041
35. Roata I. C., **Pascu A.**, Croitoru C., Stanciu E. M., Pop M. A., *Thermal spraying of CuAlFe powder on Cu5Sn alloy*, **IOP Conf. Ser.: Mater. Sci. Eng.** 209, 012042, 2018. | WOS:000423732100042
36. Stanciu E. M., **Pascu A.**, Gheorghiu I., *CMT welding of low carbon steel thin sheets*, **IOP Conf. Ser.: Mater. Sci. Eng.** 209, 012051, 2018. | WOS:000423732100051
37. Croitoru C., Roata I. C., **Pascu A.**, Stanciu E. M., *Ionic liquid surface treatment of calcite for improved compatibility with polyolefin matrix*, **IOP Conf. Ser.: Mater. Sci. Eng.** 209, 012052, 2018. | WOS:000423732100052
38. **Pascu A.**, Stanciu E. M., Croitoru C., Roată I. C., Tierean M. H., *Pulsed laser cladding of ni based powder*, **IOP Conf. Ser.: Mater. Sci. Eng.** 209, 012058, 2018. | WOS:000423732100058
39. Roată I.C., **Pascu A.**, Stanciu E.M., *Influence of the electric field voltage on the microhardness of the layers coated by thermal spraying*, **Solid State Phenomena** 216, 316–321, 2014. | WOS:000347924100055

40. Stanciu E.M., **Pascu A.**, Roată I.C., *Edge fillet laser welding of aisi 304 stainless steel*, **Solid State Phenomena** 216, 304-309, 2014. **WOS:000347924100053**
41. Hanea M.E., Iovănaș R., **Pascu A.**, Roată I.C., *Smart mobile workstation used to transmit data for non-destructive testing of pipelines welded joints*, **Solid State Phenomena** 216, 279-282, 2014. | **WOS:000347924100048**
42. **Pascu A.**, Iovanas R., Iordachescu D., Cuesta A., *Effects of the laser beam intensity on the clad layer geometry and microstructure*, Conferința Internațională Bramat 2011, **Revista Metalurgia International**, 16 (5), 125-128, 2011. **FI 0.08**. | **WOS:000289606200028**
43. Roată I. C., Iovănaș R., **Pascu A.**, *Influence of the metallizing distance variation and of the electric field voltage on the ohmic resistance of the layers deposited by thermal spraying*, **Revista Metalurgia International** 6, 73-76, 2013. **FI 0.08** | **WOS:000315835600016**
44. Staicu A.R., Iovanas R., Iovanas D.M., **Pascu A.**, Pop A., *Laser cladding of Ni based CW composite powder*, **Revista Metalurgia International** 6, 147-150, 2013. **FI 0.134** | **WOS:000315835600032**
45. Ceorapin C., Iovănaș D., Iovănaș R., Dozescu S., **Pascu A.**, *Research works regarding the hardness increase of the active parts of the contact electrodes used for pressure welding*, **Metalurgia International** XIV 2009, (2), 2009. **FI 0.173** | **WOS:000265001400048**

OTHER PAPERS / RELEVANT ACHIEVEMENTS

RESEARCH GRANTS

GRANT DIRECTOR

1. Director of the international ERASMUS+ project 2023-1-RO01-KA220-HED-000159985, titled: Smart Healthcare Engineering
2. Project: EU-DG RTD Solar Facilities for the European Research Area (SFERA 2) / FRANCE, Synthesis of carbon nanotubes using solar radiation and Al₂O₃-Mn/Cu₂O catalyst, 2016.
3. Project: EU-DG RTD Solar Facilities for the European Research Area (SFERA 2) / FRANCE, Al₂O₃/TiO₂ cladding in pre-placed powder geometry using concentrated solar radiation, 2017.
4. Project: EU-DG RTD Solar Facilities for the European Research Area (SFERA 2) / ITALY, Corrosion improvement of FeCrAl alloys designed for molten salt reactors, 2017.
5. Project: EU-DG RTD Solar Facilities for the European Research Area (SFERA 2) / FRANCE, Residual stress relieve of Ni based coatings fabricated by laser cladding, 2015.

MEMBER IN THE RESEARCH TEAM

1. Project: PN-III-P2-2.1-BG-2016-0349, Creșterea competitivității SC ELDON SRL prin optimizarea tehnologiei de fabricație a dulapurilor industriale de podea, 2016 – 2018.
2. Project: PN-II-RU-TE Nr. 349/2015, Polyolefins and calcite wastes recycling by obtaining new composite materials, 2016 – 2017.
3. Project with private sector – Delft Enterprises B.V, Nr. 8407/21.07.2015, Studies concerning the real time monitoring of laser welding/cutting process – SMOL, 2015 – 2018.
4. Project with private sector – Delft Enterprises B.V, Nr. 4452/17.04.2015, New methods for cutting metallic waste, 2015 – 2016.
5. Project: EU-DG RTD Solar Facilities for the European Research Area (SFERA 3) / FRANCE, Solar synthesis of functional carbonaceous under constant electric charge, 2019.
6. Project: EU-DG RTD Solar Facilities for the European Research Area (SFERA 2) / Italy, Corrosion and wear behavior of NiCrBSi coatings fabricated by laser cladding, 2016.
7. Project: EU-DG RTD Solar Facilities for the European Research Area (SFERA 2) / Spain, Mechanical properties improvement of Cu₁₀Al laser clad on aluminum, 2014.
8. Project: EU-DG RTD Solar Facilities for the European Research Area (SFERA 2) / Italy, Improvement of electric contacts corrosion resistance, 2014.
9. Project: EU-DG RTD Solar Facilities for the European Research Area (SFERA 1) / Spain, Improvement of corrosion and thermal resistance by thermal cladding of Ni-based coating on copper, 2013.
10. Project: PNCD 2/PARTENERIATE, nr. 72-216/2008, Tehnologie de depunere prin sudare hibrida Laser-MIG cu pulberi, 2008-2012.
11. Project: PNII – PARTENERIATE, Nr. 188/02.07.2012, Materiale și tehnologii performante destinate realizării cuțitelor de freză pentru asfalt- MATFREZ, 2012-2016.

Date: 17.04.2024



Prof. Alexandru PASCU