

**Autorul tezei de abilitare: Conf. Dr. Stanciu Elena-Manuela**

**Titlul tezei de abilitare: SUDAREA ȘI PRELUCRAREA CU LASER A MATERIALELOR AVANSATE**

**Domeniul: INGINERIE INDUSTRIALĂ**

## LISTA DE LUCRĂRI

### LUCRĂRI RELEVANTE

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1. **E.M. Stanciu** , A. Pascu , C. Croitoru , I. C. Roata, D. Cristea, M.H.Tierean, I. Hulka, I.M. Petre, J. C. Mirza Rosca, *Functional Surfaces via Laser Processing in Nickel Acetate Solution*, **Materials**, 2023, 16, 3087, e-ISSN 1996-1944, **FI 3.4, (Q2)**

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2. **E.M. Stanciu**, A. Pascu, I.C. Roată, C. Croitoru, M. Tierean, J. Mirza Rosca, I. Hulka, *Solar radiation synthesis of functional carbonaceous materials using Al<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub>-Cu-HA doped catalyst*, **Applied Surface Science**, pp 33–40, 2018, ISSN 0169-4332t, **FI 5.15, (Q1)**

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3. **E.M. Stanciu**, A. Pascu, M.H. Tierean, I. Voiculescu, I.C. Roata, C. Croitoru, I. Hulka, *Dual Coating Laser Cladding of NiCrBSi and Inconel 718*, **Materials and Manufacturing Processes**, Volume 31, Issue 12, pp. 1556-1564, 2016, **FI 2.27**

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4. **E.M. Stanciu**, A. Pascu, I.C. Roata, C. Croitoru, M.H. Tierean, *Laser welding of dissimilar materials*, **Materials Today-Proceedings**, 19, pp 1066-1072, ISSN 2214-7853, 2019.

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5. **E.M. Stanciu**, A. Pascu, M.H. Tierean, I.C. Roata, I. Voiculescu, I.Hulka, C.Croitoru, *Dissimilar Laser Welding of AISI 321 and AISI 1010*, **Technical Gazette**, ISSN 1330-3651, Vol. 25/No. 2, 2018, **FI 0.72**

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6. **E.M. Stanciu**, A. Pascu, I.C. Roată, C. Iatan, E.R. Moldovan and M.H. Tierean, *Millisecond pulsed laser welding of AISI 316 stainless steel*, **IOP Conf. Series: Materials Science and Engineering**, IOP Publishing, 1251, 2022, 012012, doi:10.1088/1757-899X/1251/1/012012

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7. A. Pascu, **E.M. Stanciu**, I. Voiculescu, M.H. Tiorean, I.C. Roata, J.L. Ocana, *Chemical and Mechanical Characterization of AISI 304 and AISI 1010 Laser Welding*, **Materials and Manufacturing Processes**, Volume: 31, Issue: 03, pp. 311 – 318, 2015 , **FI 2.27**

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8. I. 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**, 2021, 14(19), 5583, e-ISSN 1996-1944, **FI 3,748, (Q1)**

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9. 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 , e-ISSN 1996-1944, **FI 3.4, (Q2)**

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10. **E.M. Stanciu**, A. Pascu, I. Gheorghiu, *CMT Welding of Low Carbon Steel Thin Sheets*, **IOP Conference Series: Materials Science and Engineering** , 209, 2017, 012051, doi:10.1088/1757-899X/209/1/012051. Indexat în baza de date: **Scopus**

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## TEZA DE DOCTORAT

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**Titlu:** Cercetări privind sudarea comportarea la sudare a componentelor cu pereți subțiri din oțeluri inoxidabile prin procedeul laser Nd-YAG

**Domeniul fundamental:** Științe Inginerești

**Domeniul:** Inginerie Industrială

**Conducător științific:** Prof. Dr. Ing. Gabriel Marius Dumitru

Prof. Dr. Ing. Dănuț Iordăchescu

**Susținere publică** 09.09.2011, Universitatea Politehnica din București, Facultatea de Ingineria și Managementul Sistemelor Tehnologice

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## BREVETE

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1. **Brevet de invenție, Nr. 133180/ 30.08.2022, Aliaje tip FeCrAl(Y) și procedeu de obținere a unui produs din acest aliaj, V. Geanta, I. Voiculescu, R. Ștefănoiu, V. Fugaru, E.M. Stanciu, A. Pascu, C. Postolache, M.R. Ioan.**

2. **Brevet de inventie, Nr. 132082/ 28.06.2019, *Printer pentru depunerea de straturi ultra-subtiri cu proprietati fizico-chimice diferite*, I.Mihaiela, M. Lazar, I. Pintilie, L. Vladareanu, T. Necsoiu, V. Stancu, A.G. Tomulescu, C. Besleaga Stan, M. Sima, L.N. Leonat, E. M. Stanciu, B. Comanescu, A.V. Enuica.**

## CĂRȚI / CAPITOLE DE CĂRȚI

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1. **E.M. Stanciu**, Laser welding: *Theoretical background and applications*, Editura Lambert Academic Publishing, ISBN 978-613-9-87404-0, **2018**.
2. **E.M. Stanciu**, Pascu Alexandru, *Sudarea cu laser*, Editura LuxLibris Braşov, ISBN 978-973-131-304-4, **2014**
3. **E.M. Stanciu**, Măsurători, toleranțe și control dimensional, Editura LuxLibris, ISBN 978-973-131-392-4, **2017**.
4. I. Voiculescu, I.M. Vasile, **E.M. Stanciu**, A. Pascu, Știința și Ingineria Materialelor, Editura LuxLibris, **2015**, ISBN 978-973-131-316-0.
5. **E.M. Stanciu**, Curs de Toleranțe și control dimensional, Editura Printech, **2018**, ISBN 978-606-23-0864-3.
6. **E.M. Stanciu**, Îndrumar de laborator, Tehnologia materialelor, Editura Universității Transilvania din Braşov, **2023**, ISBN 978-606-19-1677-1.

## ARTICOLE ÎN REVISTE

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1. **E.M. Stanciu**, A. Pascu, C. Croitoru, I. C. Roata, D. Cristea, M.H.Tierean, I. Hulka, I.M. Petre, J. C. Mirza Rosca, *Functional Surfaces via Laser Processing in Nickel Acetate Solution*, **Materials**, 2023, 16, 3087, e-ISSN 1996-1944, **FI 3.4, (Q2)**

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2. 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, e-ISSN 1996-1944, **FI 3.4, (Q2)**

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3. 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**, 2022, 15, 5364, e-ISSN 1996-1944, SRI 1,659, **FI 3.4, (Q2)**

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5. E.R. Moldovan, C.C. Doria, J.L. Ocana, B. Istrate, N. Cimpoesu, L.S. Baltés, **E.M. Stanciu**, C. Croitoru, A. Pascu, C. Munteanu, M.H. Tierean, *Morphological Analysis of Laser Surface Texturing Effect on AISI 430 Stainless Steel*, **Materials**, 2022, 15(13), 4580, e-ISSN 1996-1944, **FI 3,4, (Q2)**

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6. E.R. Moldovan, C.C. Doria, J.L. Ocana, L.S. Baltés, **E.M. Stanciu**, C. Croitoru, A. Pascu, I.C. Roata, M.H. Tiereanu, *Wettability and Surface Roughness Analysis of Laser Surface Texturing of AISI 430 Stainless Steel*, **Materials**, 2022, 15(8), 2955, e-ISSN 1996-1944, **FI 3.4, (Q2)**

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8. I. 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**, 2021, 14(19), 5583, e-ISSN 1996-1944, **FI 3,748, (Q1)**

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10. C. Croitoru, I.C. Roata, A. Pascu, **E.M. Stanciu**, *Diffusion and Controlled Release in Physically Crosslinked Poly (Vinyl Alcohol)/Iota-Carrageenan Hydrogel Blends*, **Polymers**, 2020, 12 (7), 1544, ISSN 2073-4360, **FI 3.42 (Q1)**

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11. I.C. Roata, C. Croitoru, A. Pascu, **E.M. Stanciu**, I. Hulka, I. Petre, C. Gabor, D. Patroi, , B.G. Sbarcea, *Surface engineering of Ni-Al coatings through concentrated solar heat treatment*, **Applied Surface Science**, 2020, 506, 144185, ISSN 0169-4332, **FI 6.18 (Q1)**

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12. C. Croitoru, I.C. Roata, A. Pascu, **E.M. Stanciu**, I. Hulka, G. Stoian, N. Lupu, *Photocatalytic surfaces obtained through one-step thermal spraying of titanium*, **Applied Surface Science**, 2020, 504, 144173, ISSN 0169-4332, **FI 6.18 (Q1)**

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13. Pascu, **E.M Stanciu**, C. Croitoru, I.C. Roata, J.M. Rosca, N. Cimpoesu, M.H. Tierean, C. Bogatu, *Pulsed Laser Cladding of NiCrBSiFeC Hardcoatings Using Single-Walled Carbon Nanotube Additives*, **Journal of Nanomaterials**, 2019, 1-12, 2019, 2401295, ISSN: 1687-4110, **FI 2.23**

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14. V. Geanta, I. Voiculescu, R. Stefanoiu, A. Jianu, I. Milosan, **E.M. Stanciu**, A. Pascu, I.M. Vasile, *Titanium Influence on the Microstructure of FeCrAl Alloys Used for 4R Generation Nuclear Power Plants*, **Revista de chimie**, 2019, 70 (2), pp. 549-554, ISSN: 0034-7752, **FI 1.60**

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17. I. C. Roată, C. Croitoru, A. Pascu, **E.M. Stanciu**, *Characterization of physically crosslinked ionic liquid-lignocellulose hydrogels*, **BioResources** 13(3), 6110-6121, 2018, **FI 1.39 (Q2)**

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23. A. Pascu, **E.M. Stanciu**, D. Savastru, V. Geanta, C. Croitoru, *Optical and microstructure characterisation of ceramic – hydroxyapatite coating fabricated by laser cladding*, **Journal of Optoelectronics and Advanced Materials**, ISS 1-2\_2017, pg. 66-72, **FI 0,39**

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24. **E.M. Stanciu**, A. Pascu, M.H. Tiorean, I. Voiculescu, I.C. Roata, C. Croitoru, I. Hulka, *Dual Coating Laser Cladding of NiCrBSi and Inconel 718*, **Materials and Manufacturing Processes**, Volume 31, Issue 12, pp. 1556-1564, 2016, **FI 2.27**

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2. D.N. Avram, C.M. Davidescu, M.L. Dan, **E.M. Stanciu**, A. Pascu, J.C. Mirza-Rosca, I. Hulka, *Influence of titanium additions on the electrochemical behaviour of NiCr/Ti laser clad coatings*, **Annals of "Dunarea de Jos" University of Galati**, Fascicle XII, Welding Equipment and Technology, 33, pp 107 – 111, ISSN: 1221-4639, 2022. Indexed in the database: **Scopus**.

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5. A. Pascu, **E. M. Stanciu**, I. Roată, C. Croitoru, M. Tiorean, I. Hulka, J. Mirza Rosca, *Reconditioning of compression moulds by laser cladding*, **Annals of Faculty of Engineering Hunedoara – International Journal of Engineering XVII (4)**, 41-44, (2019). Indexed in the database: **Proquest**.

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8. A. Pascu, J.M. Mirza, **E.M. Stanciu**, *Laser cladding: from experimental research to industrial applications*, **Materials Today-Proceedings**, 19, pp 1059-1065, ISSN 2214-7853, 2019, Autor correspondent. Indexed in the database: **Scopus**.

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#### ALTE LUCRĂRI / REALIZĂRI RELEVANTE

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##### PROIECTE DE CERCETARE

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1. Proiect: EU-DG RTD Solar Facilities for the European Research Area (SFERA 3) / FRANȚA, Solar synthesis of functional carbonaceous under constant electric charge, 2019
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Data

04.12.2023

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