



LISTĂ COMPLETĂ LUCRĂRI

Șef Lucrări Dr.Ing. ZĂRNESCU-IVAN Nicoleta

BrainMap Personal Profil: <https://www.brainmap.ro/nicoleta-zarnescu-ivan>

ORCID : <https://orcid.org/0000-0002-0314-1285>

Web of Science ResearcherID: [AAL-9815-2021](https://orcid.org/0000-0002-0314-1285)

TEZA DE DOCTORAT (T)

- T1 **Ivan, N.** „Cercetări privind fenomenul degenerării grafitului în stratul superficial al pieselor turnate din fonte cu forme compacte de grafit / Research on the graphite degeneration phenomenon in the superficial layer of the iron castings with compact graphite forms”, conducător științific: Prof.dr.ing. Mihai CHIȘAMERA, U.P.B., București, 2011.

ARTICOLE / STUDII IN EXTENSO PUBLICATE (R,V)

Ris - Reviste de specialitate de circulație internațională recunoscute (cotate / indexate ISI Thomson Reuters, sau indexate în alte Baze de Date Internaționale - BDI specifice domeniului, care fac un proces de selecție a revistelor pe baza unor criterii de performanță).

- Ris1 Irimescu, R.E.; Răducanu, D.; Nocivin, A.; Cojocaru, E.M.; Cojocaru, V.D.; **Zărnescu-Ivan, N.**; *Optimizing Suitable Mechanical Properties for a Biocompatible Beta-Titanium Alloy by Combining Plastic Deformation with Solution Treatment*. Materials **2024**, *17*, 5828. <https://doi.org/10.3390/ma17235828>
- Ris2 Cojocaru, V.D.; Șerban, N.; Cojocaru, E.M.; **Zărnescu-Ivan, N.**; *High-Temperature Deformation Behaviour of UNS S32750 Super Duplex Stainless Steel (SDSS) Alloy*. Materials **2024**, *17*, 5151. <https://doi.org/10.3390/ma17215151>
- Ris3 Cojocaru, V.D.; Dan, A.; Șerban, N.; Cojocaru, E.M.; **Zărnescu-Ivan, N.**; Gălbinașu, B.M. *Effect of Cold-Rolling Deformation on the Microstructural and Mechanical Properties of a Biocompatible Ti-Nb-Zr-Ta-Sn-Fe Alloy*. Materials **2024**, *17*, 2312. <https://doi.org/10.3390/ma17102312>
- Ris4 Cojocaru, V.D.; Șerban, N.; Cojocaru, E.M.; **Zărnescu-Ivan, N.**; Gălbinașu, B.M. *The Effect of Solution Treatment Duration on the Microstructural and Mechanical Properties of a Cold-Deformed-by-Rolling Ti-Nb-Zr-Ta-Sn-Fe Alloy*. Materials **2024**, *17*, 864. <https://doi.org/10.3390/ma17040864>
- Ris5 Răducanu, D.; Nocivin, A.; Cojocaru, V.D.; Șerban, N.; **Zărnescu-Ivan, N.**; Irimescu, R.E.; Gălbinașu, B.M.; *Microstructural Considerations of a Multi-Pass Rolled Ti-Nb-Ta-Zr Alloy*. Materials **2023**, *16*, 3208. <https://doi.org/10.3390/ma16083208>



- Ris6 Dan, A.; Angelescu, M.L.; Serban, N.; Cojocaru, E.M.; **Zărnescu-Ivan, N.**; Cojocaru, V.D.; Gălbinașu, B.M.; *Evolution of Microstructural and Mechanical Properties during Cold-Rolling Deformation of a Biocompatible Ti-Nb-Zr-Ta Alloy*. Materials **2022**, *15*, 3580. <https://doi.org/10.3390/ma15103580>
- Ris7 Mosinoiu, L.; Sobetkii, A.; Corban, M.; Piticescu, R.R.; **Zărnescu-Ivan, N.**; Cursaru, L.M.; *The influence Of Thin Multi-Layer Oxide Coatings Made by EB-PVD, On The Corrosion of 316 l Stainless Steel*; Journal of Science and Arts, ISSN / eISSN: 1844-9581 / 2068-3049, Volume 22, Issue 1, pp. 197-210, **2022**, <https://doi.org/10.46939/J.Sci.Arts-22.1-b01>
- Ris8 Angelescu, M.L.; Dan, A.; Ungureanu, E.; **Zărnescu-Ivan, N.**; Gălbinașu, B.M.; *Effects of Cold Rolling Deformation and Solution Treatment on Microstructural, Mechanical, and Corrosion Properties of a Biocompatible Ti-Nb-Ta-Zr Alloy*, Metals **2022**, *12*(2), 248, ISSN: 2075-4701, <https://doi.org/10.3390/met12020248>
- Ris9 Cursaru, L.M.; Valsan, S.N.; Puscașu, M.E.; Tudor, I.A.; **Zărnescu-Ivan, N.**; Vasile, B.S.; Piticescu, R.M.; *Study of ZnO-CNT Nanocomposites in High-Pressure Conditions*. Materials **2021**, *14*, 5330. <https://doi.org/10.3390/ma14185330>
- Ris10 Neagoe, C.; Tudor, I.A.; Ciobota, C.F.; Bogdănescu, C.; Stanciu, P.; **Zărnescu-Ivan, N.**; Piticescu, R.R.; Romero-Sanchez, M.D.; *Demonstration of Phase Change Thermal Energy Storage in Zinc Oxide Microencapsulated Sodium Nitrate*. Applied Sciences-Basel, ISSN 2076-3417, Volume 11, Issue 13, Article No. 6234, **2021**, <https://doi.org/10.3390/app11136234>
- Ris11 Chișamera, M.; **Ivan, N.**; Ripoșan, I.; Stan, S.; „Iron casting skin management in no-bake mould – Effects of magnesium residual level and mould coating”. China Foundry, ISSN 1672-6421, Volume 12, Issue 3, page 222-230, **2015**, Accession Number: WOS: 000360204000010
- Ris12 **Ivan, N.**; Chișamera, M.; Ripoșan, I.; „Graphite degeneration in the surface layer of ductile iron castings”; International Journal of Cast Metals Research, ISSN 1364-0461, Volume 26, Issue 3, page 138-142, **2013**, <https://doi.org/10.1179/1743133612Y.0000000046>
- Ris13 **Ivan, N.**; Chișamera, M.; Ripoșan, I.; „Mg-bearing coating of resin sand – PTSA moulds to control graphite degeneration in the surface layer of ductile iron castings”. Materials Science and Technology, ISSN 0267-0836, Volume 28, Issue 11, page 1246 – 1253, **2012**; <https://doi.org/10.1179/1743284712Y.0000000066>
- Ris14 **Ivan, N.**; Chișamera, M.; Ripoșan, I.; „Mold Coatings to Reduce Graphite Degeneration in the Surface Layer of Ductile Iron Castings”. International Journal of Metalcasting, ISSN 1939-5981, Volume 6, Issue 4, page 61-70, **2012**, <https://doi.org/10.1007/BF03355539>
- Ris15 Stan, S.; Chișamera, M.; Ripoșan, I.; **Ivan, N.**; Barstow, M.; „Iron Powder Treated Gray Irons - Critical Shape Characteristics for Graphite Nuclei”. Journal of Materials Engineering and Performance, ISSN 1059-9495, Volume 21, Issue 8, page 1793-1799, **2012**, <http://dx.doi.org/10.1007/s11665-011-0081-3>
- Ris16 **Ivan, N.**; Chișamera, M.; Ripoșan, I.; “Influence of magnesium content and coating type on graphite degeneration in surface layer of iron castings in resin sand – PTSA moulds”. ISIJ International ONLINE ISSN: 1347-5460 PRINT ISSN: 0915-1559, Volume 52, Issue 4, page 1848–1855, **2012**, <https://doi.org/10.2355/isijinternational.52.1848>



- Ris17 Anton, I.V.; Militaru, C.; Ștefan, E.M.; **Ivan, N.**; Chișamera, M.; Ripoșan, I.; „*Wall Thickness-Solidification Features Correlation of Ductile Iron Castings under Mould Type Influence*”. University Politehnica of Bucharest Scientific Bulletin series B- Chemistry and Materials Science, ISSN 1454-2331, Volume 71, Issue. 4, page 115-130, **2009**, <https://www.researchgate.net/publication/290562533>

Rns - Reviste de specialitate de circulație națională recunoscute de CNCSIS.

- Rns1 **Ivan, N.**; Ciobanu, I.; Chișamera, M.; Moinescu, V.; Crișan, A.; “*Research by computer simulation on the influence of painted molds on the thermal regime of iron castings solidification (part I)*” **Metalurgia (RO)**, ISSN 0461-9579, Issue 5, page 25-34, **2011**, Category B+, Code CNCSIS 481.
- Rns2 **Ivan, N.**; Ciobanu, I.; Chișamera, M.; Moinescu, V.; Crișan, A.; “*Research by computer simulation on the influence of painted molds on the thermal regime of iron castings solidification (part II)*” **Metalurgia (RO)**, ISSN 0461-9579, Issue 6, page 33-44, **2011**, Category B+, Code CNCSIS 481

Vis - Volumele unor manifestări științifice internaționale recunoscute, organizate în țară și străinătate, indexate ISI Thomson Reuters sau indexate în alte Baze de Date Internaționale - BDI specifice domeniului, care fac un proces de selecție a publicațiilor pe baza unor criterii de performanță.

- Vis1 **Ivan, N.**; Chișamera, M.; Ripoșan, I.; Stan, S.; „*Control of Graphite Degeneration in the Surface Layer of Mg - treated Iron Castings in Resin Sand – P-Toluol Sulphonic Acid (PTSA) Molds*”. TRANSACTIONS OF THE AMERICAN FOUNDRY SOCIETY, ISBN 978-0-87433-403-6, Volume 121, page 379-390, **2013**. Accession Number: WOS:000323529600041.

Vi - Volumele unor manifestări științifice internaționale recunoscute, organizate în țară și străinătate.

- Vi1 Dan, A.; Răducanu, D.; Cojocaru, V.D.; Șerban, N.; **Zărnescu-Ivan, N.**; Gălbinașu, B.M.; Cojocaru, E.M.; *Solution Treatment Influence on a TiNbZrTa Alloy*; 10th International Conference on Materials Science and Technologies – RoMat 2024 / 14-15 November **2024**, București, România
- Vi2 **Zărnescu-Ivan, N.**; Cojocaru, V.D.; Șerban, N.; Vintilă, A.; Cojocaru, E.M.; *The Deformation Behaviour and Microstructure Evolution of the F53 Super Duplex Stainless Steel Alloy Under High-Temperature Conditions*; 10th International Conference on Materials Science and Technologies – RoMat 2024 / 14-15 November **2024**, București, România
- Vi3 **Zărnescu-Ivan, N.**; Angelescu, M.L.; Cojocaru, E.M.; Cojocaru, V.D.; Șerban, D.M.; Șerban, N.; Tănase, O.; *Nanoscale Surface Modification Of AMS 6265 Aircraft Steel By Shot Peening Technique*; Materials Science and Engineering Congress / MSE Congress 2024 / In-situ mechanical testing and numerical modeling of small-scale mechanical behaviour – a COST MecaNano Symposium, 24-26 September **2024**, Darmstadt, Germany
- Vi4 Cojocaru, V.D.; Șerban, N.; **Zărnescu-Ivan, N.**; Cojocaru, E.M.; *Impact of peening treatment duration on structural and mechanical behaviour of AMS 6265 steel surface modified for heavy-duty aerospace applications*; 33rd International Conference on Metallurgy and Materials -

METAL 2024, 22-24 May **2024**, Brno, Cehia

- Vi5 Cojocaru, V.D.; Șerban, N.; **Zărnescu-Ivan, N.**; Cojocaru, E.M.; *Effect of solution treatment on the microstructure and mechanical properties of UNS S32750 / F53 / 1.4410 Super Duplex Stainless Steel (SDSS) alloy*; 4th Mediterranean Conference on Heat Treatment and Surface Engineering - MCHTSE 2024, 17-19 April **2024**, Lecce, Italia
- Vi6 Cojocaru, E.M.; Răducanu, D.; Șerban, N.; **Zărnescu-Ivan, N.**; Cojocaru, V.D.; *Effect of solution treatment duration on the microstructure and mechanical properties of UNS S32750 / F53 / 1.4410 Super Duplex Stainless Steel (SDSS) alloy*; 17th European Congress and Exhibition on Advanced Materials and Processes - FEMS EUROMAT 2023, Frankfurt am Main, Germany, 03-07 September **2023**
- Vi7 Cojocaru, V.D.; Dan, A.; Șerban, N.; **Zărnescu-Ivan, N.**; Gălbinașu, B.M.; Cojocaru, E.M.; *Microstructure, texture and mechanical properties evolution during solution treatment of a Ti-Nb-Zr-Ta-Sn-Fe alloy*; 17th European Congress and Exhibition on Advanced Materials and Processes - FEMS EUROMAT 2023, Frankfurt am Main, Germany, 03-07 September **2023**
- Vi8 Cojocaru, V.D.; Angelescu, M.L.; Șerban, N.; **Zărnescu-Ivan, N.**; Cojocaru, E.M.; *Effect of solution treatment duration on the microstructure and mechanical properties of a hot-rolled UNS S32750 / F53 / 1.4410 Super Duplex Stainless Steel (SDSS) alloy*; 6th European Steel Technology and Application Days - METEC & 6th ESTAD 2023, Düsseldorf, Germany, 12-16 June **2023**
- Vi9 Cojocaru, V.D.; Dan, A.; Șerban, N.; **Zărnescu-Ivan, N.**; Cojocaru, E.M.; *Solution treatment temperature influence on microstructural and mechanical properties of a cold-rolled Ti-Nb-Zr-Ta-Sn-Fe alloy*; European Conference on Heat Treatment - ECHT 2023, Genova, Italia, 29-31 May **2023**
- Vi10 Cojocaru, E.M.; Răducanu, D.; Șerban, N.; **Zărnescu-Ivan, N.**; Cojocaru, V.D.; *Microstructural and mechanical characterization of isochronal solution treated UNS S32750 / F53 / 1.4410 Super Duplex Stainless Steel (SDSS) alloy*; European Conference on Heat Treatment - ECHT 2023, Genova, Italia, 29-31 May **2023**
- Vi11 Cojocaru, V.D.; Șerban, N.; **Zărnescu-Ivan, N.**; Balkan, I.V.; Cojocaru, E.M.; *Deformability study of UNS S32750 / EN 1.4410 / F53 SDSS alloy*; 9th International Conference on Materials Science and Technologies – RoMat2022 / 24-25 November **2022**, București, România
- Vi12 Cojocaru, V.D.; Dan, A.; Șerban, N.; Cojocaru, E.M.; **Zărnescu-Ivan, N.**; Gălbinașu, B.M.; *Influence of Thermo-Mechanical Processing on Microstructure and Mechanical Properties of β -TNZTSF alloy*; 9th International Conference on Materials Science and Technologies – RoMat2022 / 24-25 November **2022**, București, România
- Vi13 Cojocaru, V.D.; Dan, A.; Șerban, N.; **Zărnescu-Ivan, N.**; Cojocaru, E.M.; Gălbinașu, B.M.; *Cold-rolling deformation influence on microstructural and mechanical properties of a Ti-Nb-Zr-Ta-Sn-Fe alloy*; Tenth International Conference on MATERIALS STRUCTURE & MICROMECHANICS OF FRACTURE, Brno, Cehia, 12-14 September, **2022**
- Vi14 Cojocaru, V.D.; Dan, A.; **Zărnescu-Ivan, N.**; Șerban, N.; Cojocaru, E.M.; Gălbinașu, B.M.; *Solution treatment duration influence on microstructural and mechanical properties of a cold-rolled Ti-Nb-Zr-Ta-Sn-Fe alloy*, 27th IFHTSE CONGRESS & EUROPEAN CONFERENCE ON HEAT TREATMENT 2022, Wyndham Grand Salzburg Conference Center Salzburg – Austria, 5-8 September, **2022**



- Vi15 Chișamera, M.; **Ivan, N.**; Ripoșan, I.; Stan, S.; “*Iron Casting Skin Management in No-Bake Mould – Effects of Magnesium Residual Level and Mould Coating*”; The 71st World Foundry Congress, May 19-21, **2014**, Bilbao, Spain, Paper 18-Cast Iron. [CD-Proceedings]
- Vi16 Militaru, C.; Anton, I.V.; Ștefan, E.M.; **Ivan, N.**; “*Ductile iron solidification under mold type and wall thickness influence*”, International PhD Foundry Conference, 3rd June **2009**, Brno, Cehia.

Vn - Volumele unor manifestări științifice naționale.

- Vn1 Militaru, C.; Anton, I.V.; **Ivan, N.**; Stan, I.; Ștefan, E.M.; Albu, B.; Chișamera, M.; Ripoșan, I.; „*Graphite Shape Degeneration under the Solidification Conditions Influence.*” 20th Romanian Foundry Conference and Exhibition with International Participation, June 9-11, **2010**, Brașov, Paper P11.
- Vn2 **Ivan, N.**; Anton, I.V.; Militaru, C.; Chișamera, M.; “*Casting Skin Formation In Ductile Iron Under Mould Type And Wall Thickness Influence*”, at ”PRODUCTICA” Scientific Session of the ACADEMY OF ROMANIAN SCIENTISTS - spring scientific session of the CPDR, called "WORLD OF SCIENCE - HOME IN ROMANIA" that took place on May 5-7, **2011**, in Mioveni, Arges, Romania, pg.51-57
- Vn3 Chișamera, M.; Ripoșan, I.; Stan, S.; **Ivan, N.**; Stan, I.; “*Graphite Nuclei-Chill-Eutectic Cell In Iron Power Treated Slightly Hypereutectic Grey Irons*” The eighth International Congress in Materials Science and Engineering, ISSIM, May 26-29, **2011**, Iași, Romania, Plenary Session I-2.
- Vn4 **Ivan, N.**; Chișamera, M.; „*Research Concerning Graphite Degeneration In The Iron Castings Skin Under Residual Mg Level And Mould Contamination Influence*”, in The 4th International Conference on Advanced Materials and Structures - AMS '11, Timisoara, 27 - 28 October **2011**, Paper 064.

CONTRACTE ȘI RAPOARTE ȘTIINȚIFICE (P,F)

Pic - Proiecte de cercetare-dezvoltare-inovare obținute prin competiție, pe bază de contract/grant la care am fost membru în colectivul de lucru – Internaționale.

- Pic1 “Digital technology for obtaining biodegradable implants for personalized medicine in orthopaedics” acronim: ORTOMED, Cod proiect: 220255693, Numărul de contract: 4PTE/2025, Perioadă: 8 ianuarie 2025 - 31 decembrie 2026, Responsabil de proiect: Prof.dr.ing. Răducanu Doina, **membru în colectivul de lucru.**
- Pic2 “Technology transfer for optimizing the thermomechanical processing of nickel-based superalloys for industrial applications” acronim: SuperNiTM, Cod proiect: 220253768, Numărul de contract: 3PTE/2025, Perioadă: 8 ianuarie 2025 - 31 decembrie 2026, Responsabil de proiect: Dr.ing. Vintilă Adrian, **membru în colectivul de lucru.**
- Pic3 “Demonstrative model of super-duplex stainless steel UNS S32750 / F53 / 1.4410 thermomechanical processing technology”, acronim: SDSS-ThermProTech, Cod proiect: 220223740, Numărul de contract: 593PED/2022, Perioadă: 1 iulie 2022 - 30 iunie 2024, Responsabil de proiect: Prof.dr.ing. Cojocaru Vasile Danut, **membru în colectivul de lucru.**



Pic4 „Technology transfer for optimizing the mechanical surface treatment of some parts used in the aeronautical industry”, acronim: OptiTMec, Cod proiect: 220223770, Numărul de contract: 94PTE / 2022, Perioadă: 30 iunie 2022 - 28 iunie 2024, Responsabil de proiect: Dr.ing. Ovidiu Tănase, **membru în colectivul de lucru.**

Pic5 “Composites based on compositionally complex alloys for transportation industry” acronim COM-TRANS, Proiect ERANET-M-COM@TRANS-1, perioada 2021-2023, Responsabil de proiect: CS I Dr. Ing. Radu Robert PITICESCU; **membru în colectivul de lucru.**

Pic6 “Recovery of rare earth elements from complex ores in Turkey and their potential use in high tech industrial applications”, acronim RETECH, Contract M – ERAMIN III 179 / 01.09.2020, Proiect ERANET-ERAMIN 3-RETECH-1, perioada 2020-2023, Responsabil de proiect: CS I Dr. Ing. Radu Robert PITICESCU; **membru în colectivul de lucru.**

Pic7 “Novel technology for manufacturing a multifunctional hybrid membrane for advanced purification of wastewaters”, acronim NYMPH, Contract MERANET-MANUNET 208/01.12.2020, Proiect ERANET-MANUNET-NYMPH, perioada 2020-2022, Responsabil de proiect: CS I Dr.Ing.Radu Robert PITICESCU; **membru în colectivul de lucru.**

Pic8 H2020 “FAST and Nano-Enabled SMART Materials, Structures and Systems for Energy Harvesting” Grant Agreement number 862289 acronim FAST – SMART, perioada: 2020-2024, Responsabil proiect: Dr. Ing. CS I Roxana Piticescu; **membru în colectivul de lucru.**

Pic9 Innovative Methods for Enhancing High Temperature Thermal Energy Storage Properties of Phase Change Materials - acronim ENERHIGH, perioada 2016-2019, ID / Cod MySMIS: P_37_776 / 104730, Nr. Contract: 93 /09.09.2016, Responsabil proiect: Dr. Ing. CS I Radu Robert Piticescu; **membru în colectivul de lucru.**

Pic10 Representative Inoculants Comparison in Low and Medium Sulphur Grey Irons. Project ELKEM 52155-52157/2008-1, perioada 2008-2010, UPB/CEMS-ELKEM ASA Foundry Products/Research, Norvegia, Responsabil proiect: Prof.dr.ing. Iulian Ripoșan; **membru în colectivul de lucru.**

Pnc - Proiecte de cercetare-dezvoltare-inovare obținute prin competiție la care am fost membru în colectivul de lucru – Naționale.

Pnc1 „Structuri 3D pe bază de materiale avansate, realizate prin fabricare aditivă, cu aplicații de mediu și stocare de energie” Proiect PN19190101, perioada 2019-2022, Responsabil de proiect: Dr. Ing. CSII Mădălina Cursaru; **membru în colectivul de lucru.**

Pnc2 „Soluții tehnologice inovative pentru obținerea oxizilor cu entropie înaltă cu conținut de pământuri rare” Proiect PN19190201, perioada 2019-2022, Responsabil de proiect: Dr. Ing. CSIII Cristina Ciobota; **membru în colectivul de lucru.**

Pnc3 „Cercetări privind obținerea de arhitecturi oxidice multistrat pentru substituția materialelor critice utilizate în medii înalt corozive” Proiect PN19190401, perioada 2019-2022, Responsabil de



proiect: Dr. Ing. CSII Mircea Corban; **membru în colectivul de lucru.**

„Procese electrochimice inovative cu aplicații în ingineria suprafețelor și recuperarea metalelor Pnc4 neferoase” Proiect PN19190501, perioada 2019-2022, Responsabil de proiect: Dr. Ing. CSIII Sorina Valsan; **membru în colectivul de lucru.**

“Intelligent hydrogels with applications in wound healing and infection prophylaxis”, acronim Pnc5 GELINT, Contract 18PTE/2020, Proiect PN-III-P2-2.1-PTE-2019-0314, perioada 2020 – 2022, Responsabil de proiect: CS III Dr.ing. Ioan Albert Tudor; **membru în colectivul de lucru.**

“New product fabricated by extrusion-based 3D printing from marine bio-waste”, acronim Pnc6 BIOPRO, Contract499PED / 2020, Proiect PN-III-P2-2.1-PED-2019-3090, perioada 2020-2022, Responsabil de proiect: CS II Dr. Ing. Laura Mădălina CURSARU; **membru încolectivul de lucru.**

“Modernised EB-PVD system for development and assessment of thermal barrier coatings for aeronautic applications”, acronim Pnc7 AERO-COAT, Contract503 PED /23.10.2020, ProiectPN-III-P2-2.1-PED-2019-2175, perioada 2020-2022, Responsabil de proiect: CS I Dr.Ing.Radu Robert PITICESCU; **membru încolectivul de lucru.**