Dr Vladan Ćosović

Naučni savetnik

Adresa: **NU IHTM - Centar za materijale i metalurgiju, Univerzitet u Beogradu**
Njegoševa 12, 11000 Beograd 6,
PAK 125213, Republika Srbija
Laboratorija: Tehnološko-metalurški fakultet, Karnegijeva 4, I sprat, soba 101.
11120 Beograd 35, PAK 135804

Telefon: 011 33 70 412

Faks: 011 33 70 412

Elektronska pošta: vlada@tmf.bg.ac.rs

Datum i mesto rođenja: **1974** Beograd, Srbija

Obrazovanje: **2008** Doktor tehničkih nauka – oblast hemija i hemijska tehnologija, Univerzitet u Beogradu, Tehnološko-metalurški fakultet

Zvanja: **2015** Naučni savetnik

Članstva u društvima: Savez inženjera metalurgije Srbije
Srpsko hemijsko društvo
Komitet za termodinamiku i fazne dijagrame Srbije

Profesionlno iskustvo: **2002 –** Centar za materijale i metalurgiju, Institut za hemiju, tehnologiju i metalurgiju
2013 – Univerzitet u Beogradu, Tehnički fakultet u Boru

Nagrade i priznanja: **2012** Zahvalnica i plaketa povodom Jubileja 60 godina od osnivanja Saveza inženjera metalurgije Srbije za unapređenje nauke i tehnologije u oblasti metalurgije

Oblasti interesovanja: Višekomponentni metalni sistemi i nanostrukturni materijali sa različitim funkcionalnim svojstvima za primenu u elektronici, elektrotehnici, energetici i kao elementi senzora. Uticaj procesnih parametara na strukturu, sastav i svojstva materijala. Sinteza i karakterizacija nanokristalnih permanentnih magnetnih materijala na bazi jedinjenja retkih zemalja i mešovitih oksida gvožđa, konvencionalni i hibridni magnetni nanokompoziti sa polimernom i metalnom matricom, ekološki prihvatljivi eletrokontaktni materijali na bazi srebra i legura binarnih i ternarnih metalnih sistema. Termijska i metalografska analiza, analiza faznog sastava i strukture, magnetna i električna svojstva materijala.

Znanje jezika: Engleski

Najznačajniji projekti: **Međunarodni:***

2014-2016 - "Research and development of functional nanomaterials for various applications", in cooperation with Institute of Physics of Materials, Czech Academy of Sciences, Brno, Czech Republic;
2013 – 2014 – "Comparative thermodynamic analysis and characterization of the advanced ecological shape memory alloys", in cooperation with Central South University, Changsha, Hunan, China;
2013 – 2014 - COST project MP0903 NANOALLOYS;
2011-2014 - "Advanced multicomponent metal systems and nanostructured materials with diverse functional properties", in cooperation with Institute of Physics of Materials, Czech Academy of Sciences, Brno, Czech Republic;
2011-2012 - "Thermodynamic investigation of Zn-Al-Me (Me=Ni,Ge,Fe) systems via comparative approach – first-principles calculation, CALPHAD and key experiments", in cooperation with Central South University, Changsha, Hunan, China;
2007-2010 - "Prop. #1224 –TEM Analysis of Nanocrystalline Rapid-Quenched Nd-Fe-B Alloys", in cooperation with National Center for Electron Microscopy, Lawrence Berkeley National Laboratory, Berkeley, USA;
2007-2010 - "Synthesis, characterization of nano- and micro- structured materials of high magnetic energy and new methods of application", in cooperation with Institute of Physics of Materials, Czech Academy of Sciences, Brno, Czech Republic;
2007-2011 - COST project MP0602 HISOLD;
2005-2007 - "Permanent magnetic materials: design and characterization of micro and nanocrystalline magnets based on Nd-Fe-B alloys", in cooperation with Institute of Physics of Materials, Czech Academy of Sciences, Brno, Czech Republic

Nacionalni:
2010 – 2016 - "Savremeni višekomponentni metalni sistemi i nanostrukturni materijali sa različitim

funkcionalnim svojstvima“, Projekat ON 172037, Ministarstvo za prosvetu, nauku i tehnološki razvoj, Republika Srbija;
2006-2010 - „Dizajniranje nanokristalnih magnetnih materijala tipa i komponenti na bazi (Nd,Pr)-Fe-B smart magnetnih materijala“, Projekat OI 142035 B, Minstarstvo za nauku i tehnološki razvoj, Republika Srbija;
2006-2007 - „Istraživanje mogućnosti primene tehnika metalurgije praha u proizvodnji ekoloških elektrokontaktnih materijala na bazi srebra“, Projekat IP 06 8255, Minstarstvo za nauku i zaštitu životne sredine, Republika Srbija;
2005-2006 - „Optimizacija i provera tehnološkog postupka proizvodnje sinterovanih i kompozitnih elektrokontaktnih materijala“, Projekat PTR-2116B, Minstarstvo za nauku i zaštitu životne sredine, Republika Srbija;
2002-2006 - „Sinteza i karakterizacija nano i mikrostrukturnih magnetnih materijala visoke magnetne energije i nove vrste primene“, Projekat OI 1212, Ministarstvo za nauku i tehnologiju, Republika Srbija;

Izabrane publikacije: **Publikovani radovi:**

1. **V. Ćosović**, D. Minić, D. Manasijević, M. Premović, I. Dervišević, D. Živković, “Experimental investigation and thermodynamic calculations of the Ag-Ga-Zn phase diagram“, Journal of Alloys and Compounds, 632 (2015) 783-793
2. D. Živković, M. Niculović, D. Manasijević, D. Minić, **V. Ćosović**, M.Sibinović, “Bibliometric Trend and Patent Analysis in Nano-Alloys Research for Period 2000-2013“, Recent Patents on Nanotechnology, 9 (2) (2015) 126-138
3. D. Minić, M. Premović, D. Manasijević, **V. Ćosović**, D. Živković, A. Marković, “Experimental investigation and thermodynamic calculations of the Ag-Bi-Ga phase diagram“, Journal of Alloys and Compounds, 646 (2015) 461–471
4. L. Gomidželović, D. Živković, N. Talijan, **V. Ćosović**, “Properties of new gold based multicomponent alloys as innovative lead-free solder material“, Materials Research Innovations, 19 (2) (2015) 145-149
5. M. Premović, D. Minić, D. Manasijević, **V. Ćosović**, D. Živković, I. Dervišević, “Experimental investigation and thermodynamic calculations of the Bi–In–Ni phase diagram“, Thermochimica Acta, 609 (2015) 61–74
6. T. Žák, B. David, A. Ćosović, **V. Ćosović**, D. Živković, N. Talijan, “Structure and Magnetic Properties of Nano crystalline $NiFe_2O_4$ Prepared via Precipitation Route“, Acta Physica Polonica A, 126 (1) (2014) 142-143
7. M. Premović, D. Minić, **V. Ćosović**, D. Manasijević, D. Živković, “Experimental Investigation and Thermodynamic Calculations of the Bi-Ge-Sb Phase Diagram“, Metallurgical and Materials Transactions A-Physical Metallurgy and Materials Science, 45A. (11) (2014) 4829-4841
8. Lj. Balanović, D. Živković, D. Manasijević, D. Minić, **V. Ćosović**, N. Talijan, “Calorimetric investigation of Al-Zn alloys using Oelsen method“, Journal of Thermal Analysis and Calorimetry, 118 (2) (2014) 1287-1292
9. M.M. Pavlović, M.G. Pavlović, **V. Ćosović**, V. Bojanić, N. Nikolić, R. Aleksić, “Influence of Electrolytic Copper Powder Particle Morphology on Electrical Conductivity of Lignocellulose Composites and Formation of Conductive Pathways“, International Journal of Electrochemical Science, 9 (12) (2014) 8355-8366
10. D. Minić, M. Premović, **V. Ćosović**, D. Manasijević, Lj. Nedeljković, D. Živković, “Experimental investigation and thermodynamic calculations of the Cu-In-Ni phase diagram“, Journal of Alloys and Compounds, 617 (2014) 379-388
11. M. Premović, D. Minić, D. Manasijević, **V. Ćosović**, D. Živković, I. Dervišević, N. Talijan, “Mechanical and Electrical Properties of the Ternary Ag-Sb-Zn System“, Acta Metallurgica Sinica-English Letters, 27 (1) (2014) 47-54
12. **V. Ćosović**, A. Ćosović, N. Talijan, D. Živković, D. Manasijević, D. Minić, “Improving dispersion of SnO_2 nanoparticles in Ag-SnO_2 electrical contact materials using template method”, Journal of Alloys and Compounds, 567 (2013) 33-39
13. I. Dervišević, D. Minić, Ž. Kamberović, **V. Ćosović**, M. Ristić, ”Characterization of PCBs from computers and mobile phones, and the proposal of newly developed materials for substitution of gold, lead and arsenic”, Environmental Science and Pollution Research, 20 (6) (2013) 4278-4292
14. D. Minić, M. Premović, **V. Ćosović**, D. Manasijević, D. Živković, A. Kostov, N. Talijan, “Experimental investigation and thermodynamic calculations of the Al-Cu-Sb phase diagram“, Journal of Alloys and Compounds, 555 (2013) 347-356
15. A. Ćosović, **V. Ćosović**, T. Žák, B. David, N. Talijan, “Structure and Properties of Nanosize $NiFe_2O_4$ Prepared by Template and Precipitation Methods“, Journal of Mining and Metallurgy Section B: Metallurgy, 49 (3) (2013) 271-277
16. D. Manasijević, D. Živković, N. Talijan, **V. Ćosović**, L. Gomidželović, R. Todorović, D. Minić, ”Thermal analysis and thermodynamic prediction of phase equilibria in the ternary Au-Ga-Sb system”, Journal of Physics and Chemistry of Solids, 74 (2) (2013) 280-285
17. D. Živković, **V. Ćosović**, Ž. Živković, N. Štrbac, M. Sokić, N. Talijan, B. Boyanov, A. Mitovski, ”Kinetic investigation of silver sulfide phase transformations”, Materials Science in Semiconductor Processing, 16 (1) (2013) 217-220
18. Lj. Balanović, **V. Ćosović**, N. Talijan, D. Živković, ”Internal-Oxidation Kinetics of Ag-Cd Alloys”, Materiali in Tehnologije, 47 (4) (2013) 447-452
19. **V. Ćosović**, M. Pavlović, A. Ćosović, P. Vulić, M. Premović, D. Živković, N. Talijan, ”Microstructure Refinement and Physical Properties of Ag-SnO_2 Based Contact Materials Prepared by High-Energy Ball Milling”, Science of Sintering, 45 (2) (2013) 173-180
20. D. Živković, M. Sokić, Ž. Živković, D. Manasijević, Lj. Balanović, N. Štrbac, **V. Ćosović**, B. Boyan, ”Thermal study and mechanism of Ag_2S oxidation in air”, Journal of Thermal Analysis and Calorimetry, 111 (2) (2013) 1173-1176
21. D. Minić, M. Premović, M. Kolarević, **V. Ćosović**, D. Manasijević, D. Živković, ”Description of the Liquidus

Surface and Characterization of Alloys of the Ternary Bi-Cu-In System", Journal of Materials Engineering and Performance, 22 (8) (2013) 2343-2350
22. D. Živković, L. Gomidželović, D. Manasijević, N. Talijan, **V. Ćosović**, "Calorimetric study and phase diagram investigation of the Au-Ga system", International Journal of Materials Research, 104 (6) (2013) 554-560
23. **V. Ćosović**, N. Talijan, D. Živković, D.Minić, Ž.Živković, Comparison of properties of silver-metal oxide electrical contact materials, Journal of Mining and Metallurgy, Section B: Metallurgy, 48 (1)B (2012) 131-141
24. T. Žák, **V. Ćosović**, A. Ćosović, B. David, N. Talijan, D. Živković, "Formation of Magnetic Microstructure of the Nanosized $NiFe_2O_4$ Synthesized Via Solid-State Reaction", Science of Sintering, 44 (2012) 103-112
25. D. Minić, D. Manasijević, **V. Ćosovic**, N. Talijan, Ž. Živković, D. Živković, M. Premović, "Experimental investigation and thermodynamic prediction of the Cu-Sb-Zn phase diagram", Journal of Alloys and Compounds, 517 (2012) 31-39
26. **V. Ćosović**, D. Minić, D. Manasijević, M. Kolarević, N. Talijan, D. Živković, "Study of electrical conductivity and hardness of the alloys of ternary Bi–Sb–Zn system and calculation of isothermal section at 298K", Kovove Materialy (Metallic Materials), 50 (3) (2012) 161-167
27. D. Živković, D. Manasijević, Lj. Balanović, D. Minić, **V. Ćosović**, A. Kostov, Ž. Živković, "Phase Relations in Bi - Rich Part of the Bi-Ga-Ni System", Journal of Mining and Metallurgy Section B: Metallurgy, 48 (3) (2012) 375-381
28. M.M. Pavlović, **V. Ćosović**, M.G. Pavlović, V. Bojanić, N.D. Nikolić, R. Aleksić, "Electrical Conductivity of Lignocellulose Composites Loaded with Electrodeposited Copper Powders. Part II. Influence of Particle Size on Percolation Threshold", International Journal of Electrochemical Science, 7 (9) (2012) 8883 – 8893
29. T. Žák, **V. Ćosović**, A. Ćosović, B. David, N. Talijan, D. Živković, "Formation of Magnetic Microstructure of the Nanosized NiFe2O4 Synthesized Via Solid-State Reaction", Science of Sintering, 44 (1) (2012) 103-112
30. D. Minić, M. Kolarević, D. Manasijević, **V. Ćosović**, D. Živković, N. Talijan, M. Marković, "Characterization of Alloys and Liquidus Projections of Ternary Bi-Sb-Sn system", High Temperature Materials and Processes, 31 (1) (2012) 19-25
31. **V. Ćosović**, A. Ćosović, N. Talijan, D. Živković, Ž. Živković, "State of the Art and Challenges in Development of Electrical Contact Materials in the Light of the RoHS Directive", Science of Sintering, 44 (2) (2012) 245-253
32. L. Gomidželović, D. Živković, N. Talijan, **V. Ćosović**, Lj. Balanović, "Investigation of structural, mechanical and electrical properties of Au-Ga alloys with low gold content", Materials Testing, 54 (5) (2012) 347-350
33. D. Minić, D. Manasijević, **V. Ćosović**, A. Todorović, I. Dervišević, D. Živković, J. Djokić, "Experimental investigation and thermodynamic prediction of the Ni-Pb-Sb phase diagram", CALPHAD, 35 (2011) 308-313
34. M. Pavlović, **V. Ćosović**, M. Pavlović, N. Talijan, V. Bojanić, "Electrical conductivity of lignocellulose composites loaded with electrodeposited copper powders", International Journal of Electrochemical Science, 6 (9) (2011) 3812-3829
35. D. Minić, V. Blagojević, Lj. Mihajlović, **V. Ćosović**, D. Minić, "Kinetics and mechanism of structural transformations of Fe75Ni2Si8B13C2 amorphous alloy induced by thermal treatment", Thermochimica Acta, 519 (2011) 83–89
36. J. Stevanović, J. Stajić-Trošić, **V. Ćosović**, V. Panić, O. Pešić, B. Jordović, "Electrodeposition of Co-Ni-MoxOy Powders: Part I. The Influence of Deposition Conditions on Powder Composition and Morphology", Metallurgical & Materials Transactions B, Vol. 41B (2010) 80-85
37. D. Minić, J. Đokić, **V. Ćosović**, J. Stajić-Trošić, D. Živković, I. Dervišević, "Experimental investigation and thermodynamic prediction of the Bi–Sb–Zn phase diagram", Materials Chemistry and Physics, 122 (2010) 108-113
38. T. Žák, N. Talijan, **V. Ćosović**, J. Stajić-Trošić, A. Grujić, "Overstoichiometric Nd-Fe-B hard magnetic material", Journal of Serbian Chemical Society, 75 (9) (2010) 1271-1277
39. D. Živković, D. Minić, D. Manasijević, N. Talijan, LJ. Balanović, A. Mitovski, **V. Ćosović**, I. Rangelov, ,,Phase diagram investigation and characterization of alloys in Bi-Ga10Sb90 section of Ga-Bi-Sb system", Journal of Optoelectronics and Advanced Materials, 12 (6) (2010) 1262 – 1267
40. A. Milosavljević, D. Živković, D. Manasijević, N. Talijan, **V. Ćosović**, A. Grujić, B. Marjanović, "Phase diagram investigation and characterization of ternary Sn-In-Me (Me= Ag,Cu) lead-free solder systems", Int. J. Materials and Product Technology, 39 (1/2) (2010) 95-107.
41. A. Grujić, N. Lazić, N. Talijan, V. Spasojević, J. Stajić-Trošić, **V. Ćosović**, R. Aleksić, ,,Polymer-Bonded Magnetic Materials with Various Nd-Fe-B Filler Content", Acta Physica Polonica A, 117 (5) (2010) 859-863
42. **V. Ćosović**, N. Talijan, A. Grujić, J. Stajić-Trošić, T. Žák, Z. Lee, V. Radmilović, "Study of Nd-Fe-B alloys with nonstoichiometric Nd content in optimal magnetic state" Science of Sintering, 41 (2) (2009) 209-218
43. N. Talijan, **V. Ćosović**, J. Stajić-Trošić, A. Grujić, T. Žák, Z. Lee, V. Radmilović, "Thermomagnetic Analysis of Nanocrystalline Nd4.5Fe77B18.5 Alloy", Materials Transactions, 50 (9) (2009) 2302-2307
44. N. Talijan, **V. Ćosović**, T. Žák, A. Grujić, J. Stajić-Trošić, „Structural and Phase Composition Modification of Nanocrystalline $Nd_{14}Fe_{79}B_7$ Alloy During Thermomagnetic Measurements", Journal of Mining and Metallurgy, 45B (1) (2009) 111-119.
45. **V. Ćosović**, N. Talijan, A. Grujić, J. Stajić-Trošić, T. Žák, Z. Lee, V. Radmilović, "Study of Nd-Fe-B alloys with nonstoichiometric Nd content in optimal magnetic state" Science of Sintering, 41 (2) (2009) 209-218
46. A. Grujić, T. Žak, N. Talijan, J. Stajić-Trošić, **V. Ćosović**, "A comparative thermomagnetic study of melt-spun Nd-Fe-B alloys with different Nd content", Science of Sintering, 41 (3) (2009) 337-345
47. A. Grujić, T. Žák, **V. Ćosović**, J. Stajić-Trošić, V. Spasojević, N. Talijan, "The comparative study of Nd-Fe-B magnetic materials with different Nd content" Optoelectronics and Advanced Materials-Rapid

Communications, 3 (5) (2009) 477-480
48. **V. Ćosović**, T. Žák, N. Talijan, A. Grujić, J. Stajić-Trošić, “Phase composition, structure and magnetic behaviour of low neodymium rapid-quenched Nd–Fe–B alloys”, Journal of Alloys and Compounds, 456 (2008) 251-256
49. L. Gomidželović, D. Živković, N. Talijan, D. Manasijević, **V. Ćosović**, A. Grujić, “Phase equilibria investigation and characterization of the Au-In-Sb system“, Journal of Optoelectronics and Advanced Materials, 10 (2) (2008) 455-460
50. N. Talijan, **V. Ćosović**, A. Grujić, J. Stajić-Trošić, T. Žák, “Thermomagnetic Behavior and Microstructure of Rapid Quenched Nd4.5Fe77B18.5 Alloy“, Acta Physica Polonica A, 113 (1) (2008) 525-528
51. T. Žák, N. Talijan, **V. Ćosović**, A. Grujić, “NdFeB Permanent Magnets With Various Nd Content”, Acta Physica Polonica A, 113 (1) (2008) 279-282
52. V. Radojević, N. Talijan, A. Grujić, **V. Ćosović**, R. Aleksić, “Influence of composition of the magnetic composite coating on the performance of the optical fiber magnetic field sensing element“, Journal of Optoelectronics and Advanced Materials, 9 (9) (2007) 2873 -2878
53. N. Talijan, **V. Ćosović**, J. Stajić-Trošić, A. Grujić, D. Živković, E. Romhanji, “Microstructure and properties of silver based cadmium free electrical contact material”, Journal of mining and metallurgy, 43 B (2) (2007) 171-176
54. A. Grujić, **V. Ćosović**, J. Stajić-Trošić, A. Maričić, N. Talijan, “Methods of characterization of multiphase Nd-Fe-B melt-spun alloys“, Science of Sintering, 39 (2) (2007) 193-198
55. M. Srećković, J. Ilić, A. Kovačević, S. Pantelić, Z. Latinović, N. Borna, **V. Ćosović**, “Models of interactions of laser beams with materials of interest for optical components and provoked damages“ Acta Physica Polonica A, 112 (5) (2007) 935-940
56. **V. Ćosović**, A. Grujić, J. Stajić-Trošić, V. Spasojević, N. Talijan, "Phase Composition and Magnetic Properties of Multiphase melt-spun $Nd_{4.3}Fe_{76.2}B_{19.5}$ Alloy", Mat. Sci. Forum, 555 (2007) 527-532
57. D. Nedeljković, V. Radojević, **V. Ćosović**, T. Serbez, N. Talijan, R. Aleksić, “Application of permanent magnetic powder for magnetic field sensing elements“, Sensors & Materials, 18 (2) (2006) 63-70
58. T. Žák, N. Talijan, **V. Ćosović**, A. Grujić, “Structure and phases of low-neodymium NdFeB permanent magnets“, Czechoslovak Journal of Physics, 56 (2006) E45 -E50
59. A. Grujić, N. Talijan, A. Maričić, J. Stajić-Trošić, **V. Ćosović**, V. Radojević, Magnetic Properties of Nd Rich Melt-Spun Nd-Fe-B Alloy, Science of Sintering, 37 (2005) 139-145
60. N. Talijan, **V. Ćosović**, J. Stajić-Trošić, T. Žák, “Phase composition and magnetic properties of melt-spun Nd-Fe-B alloy”, Journal of Magnetism and Magnetic Materials, 272 (2004) E11911-E1912