

Curriculum Vitae



Personal information

First name(s) / Surname(s) **NOVAKOVIC, Nikola**
Address(es) 12-14, Mike Petrovica Alasa 11 000 Belgrade, Serbia
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E-mail novnik@vinca.rs
Nationality Serbian
Date of birth 20.12.1971.
Gender Male

Work experience

Dates	From July 2011 to December 2015
Occupation or position held	Research Associate
Main activities and responsibilities	Researcher on COST Action MP1103 Nanostructured materials for solid-state hydrogen storage Member of working group devoted to the calculations
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14 Mike Petrovića Alasa, 11001 Belgrade, Serbia
Type of business or sector	Scientific Institution
Dates	From 2009 to 2012
Occupation or position held	Research Associate
Main activities and responsibilities	Leader of international project: Investigation of mechanism of formation and bonding features of local structures in highly doped metal oxides
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14 Mike Petrovića Alasa, 11001 Belgrade, Serbia
Type of business or sector	Scientific Institution
Dates	From 2010 to 2014
Occupation or position held	Research Associate
Main activities and responsibilities	National project "Synthesis, processing and characterization of nanostructured materials for application in the fields of energy, mechanical engineering, environment and biomedicine" Researcher in work package: Experimental and theoretical investigation of materials for hydrogen storage
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14 Mike Petrovića Alasa, 11001 Belgrade, Serbia
Type of business or sector	Scientific Institution
Dates	From 2010 to 2012
Occupation or position held	Research Associate
Main activities and responsibilities	National project "Optoelectronic nanodimensional systems" Researcher in work package: Electronic principles of formation and functioning of nanostructures
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14

Type of business or sector	Mike Petrovića Alasa, 11001 Belgrade, Serbia Scientific Institution
Dates	From 2010 to 2012
Occupation or position held	Research Associate
Main activities and responsibilities	Researcher: Bilateral project Serbia Spain “Effects of low energy ion irradiation on the catalytic activity magnesium and magnesium based intermetallic compounds”
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14 Mike Petrovića Alasa, 11001 Belgrade, Serbia
Type of business or sector	Scientific Institution
Dates	From 2010 to 2012
Occupation or position held	Research Associate
Main activities and responsibilities	Researcher on Bilateral project between Serbia and Russia: Ion beam induced nanostructuring of silicon based and materials for hydrogen storage
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14 Mike Petrovića Alasa, 11001 Belgrade, Serbia
Type of business or sector	Scientific Institution
Dates	From 2010 to 2011
Occupation or position held	Research Associate
Main activities and responsibilities	Researcher in international project :Investigations of quaternary transition metal-based Cd _{1-x} MxTe _{1-y} Se(S)y (M=Mn, Fe, Co) diluted magnetic semiconductors
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14 Mike Petrovića Alasa, 11001 Belgrade, Serbia
Type of business or sector	Scientific Institution
Dates	2009
Occupation or position held	Research Associate
Main activities and responsibilities	Researcher in international project :Inelastic neutron scattering study of the microscopic proton dynamics in ion-bombarded MgH ₂
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14 Mike Petrovića Alasa, 11001 Belgrade, Serbia
Type of business or sector	Scientific Institution
Dates	From 2009 to 2010
Occupation or position held	Research Associate
Main activities and responsibilities	Researcher on international project : Magnetic impurities in Cd _{1-x} MxTe _{1-y} Sey (M=Cr, Mn, Fe, Co, Ni) semiconductors
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14 Mike Petrovića Alasa, 11001 Belgrade, Serbia
Type of business or sector	Scientific Institution
Dates	From 2008 to 2009
Occupation or position held	Research Associate
Main activities and responsibilities	Researcher on international project : Local structures in PbTe:A (A=Ni, Co, Yb) semimagnetic semiconductors
Name and address of employer	Department of Materials Science, Vinča Institute of Nuclear Sciences, University of Belgrade, 12-14 Mike Petrovića Alasa, 11001 Belgrade, Serbia
Type of business or sector	Scientific Institution

Education and training

Dates	2010
Title of qualification awarded	PhD
Principal subjects/occupational skills covered	Materials for hydrogen storage: Theme: <i>Ab initio</i> investigation of alkali, alkaline earth and transition metal hydrides properties
Name and type of organisation providing education and training	Faculty of Physics University of Belgrade, 12-16, Studentski trg, 11000 Belgrade, Serbia
Dates	From 2000 to 2003
Title of qualification awarded	Magisterium in physics
Principal subjects/occupational skills covered	Theme: " <i>Ab initio</i> calculations of Laves phases HfFe₂ "
Name and type of organisation providing education and training	Faculty of Physics, University of Belgrade, 12-16, Studentski trg, 11000 Belgrade, Serbia
Dates	From October 1992 to 2000
Title of qualification awarded	Graduate degree in physics
Principal subjects/occupational skills covered	Theme: " Half-life measurement of excited states of americium "
Name and type of organisation providing education and training	Faculty of Physics, University of Belgrade, 12-16, Studentski trg, 11000 Belgrade, Serbia

Personal skills and competences

Mother tongue(s) **Serbian**

Other language(s)

Self-assessment
European level ()*

English

Russian

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
A1	Basic user	A2	Basic user	A1	Basic user	A2	Basic user	A2	Basic user

(*) *Common European Framework of Reference for Languages*

Organisational skills and competences

- Member of program and organizing committee of the joint meeting of 11th Conference of young researchers in field of material science and the 1st European early stage researchers conference of hydrogen storage , 03-05. 12. 2012, Belgrade, Serbia
- Member of program committee of the 1st Conference of the Serbian Ceramic Society, 17-18. 03.2011, Belgrade, Serbia
- Member of program and organizing board of 4th Serbian congress on microscopy, Belgrade 11-12. October 2010
- Member organizing board of 3th Serbian congress on microscopy, Belgrade 2007
- Member of organizing board of national meeting on "50 years of electron microscopy in Serbia"

Technical skills and competences

- Theoretical modelling of various metal-hydrogen systems (electronic structure calculations using state-of-art WIEN2k and Abinit codes,
- SRIM Monte Carlo simulation
- EXAFS local structures investigation of IV-VI semiconductors
- XMCD measurements

Computer skills and competences

- My IT skills cover usage and development on MS Windows and advance use of Unix-like platforms for many years now. Also, I have prominent knowledge of C, C++, C#, web client and server and to some extent Fortran programming languages.
- Advanced knowledge of Microsoft Office (and Open Office) applications and Internet;

Professional memberships	<ul style="list-style-type: none"> • Advanced Corel Draw, Adobe Photoshop; • Advanced: Origin, FindIt-XRD data base • Member of Serbian society for microscopy • European microscopy society • Materials research society-Serbia • Society of physics of Serbia
Referee	<ul style="list-style-type: none"> • International Journal of Hydrogen Energy • Journal of Alloys and Compounds • Oxford Journal of Microscopy • Journal of Chemical Thermodynamics
Teaching	<ul style="list-style-type: none"> • Mentor of PhD of Sandra Kurko, theme: Theoretical and experimental study of changes induced in MgH₂ matrix by B and N ion irradiation • Mentor of M.Sc thesis of Igor Milovanović. Theme: Theoretical study of surface effects on hydrogen desorption kinetics of MgH₂ finished in 2011
Social skills and competences	<ul style="list-style-type: none"> • Highly developed team spirit • Flexibility, responsibility • Very organized person • Problem-solving attitude • Readiness to learn new things, open and communicative
Selected Papers in last 5 years	<ol style="list-style-type: none"> 1. S. Kurko, Ž. Rašković, N. Novaković, B. Paskaš Mamula, Z. Jovanović, Z. Baščarević, J. Grbović Novaković, Lj. Matović, Hydrogen storage properties of MgH₂ mechanically milled with α and β SiC, Int.J.Hyd. Energy 36 (2011) 549-554 2. S. Kurko, Lj. Matović, N. Novaković, B. Matović, Z. Jovanović, B. Paskaš Mamula, J. Grbović Novaković, Changes of Hydrogen Storage Properties of MgH₂ Induced by Boron Ion Irradiation, Int.J.Hyd. Energy 36 (2011) 1184-1189 3. S. Kurko, B. Paskaš-Mamula, Lj. Matovic, J. Grbovic Novakovic, N. Novakovic. The Influence of Boron Doping Concentration on MgH₂ Electronic Structure, Acta Physica Polonica 120(2)(2011) 238-241 4. Ivanović, N., Radisavljević, I., Novaković, N., Manasijević, M., Colognesi, D. Calculations of molecular structures and processes important for hydrogen behaviour in the Li-amide/imide system, Acta Physica Polonica 120(2) (2011) 242-245 5. N. Novaković, Lj. Matović, J. Grbovic Novaković, I. Radisavljevic, M. Manasijevic N. Ivanović, AB INITIO calculation of MgH₂, MgH₂: Ti AND MgH₂:Co compounds, Int.J.Hyd. Energy 35 (2010) 598-608 6. Kurko, S.V., Matović, L.L.J., Novaković, N.B., Nenadović, S.S., Jovanović, Z.M., Ivanović, N.B., Jasmina, D., Novaković, G. Changes of structural and hydrogen desorption properties of MgH₂ induced by ion irradiation [Ispitivanje promena desorpcionih osobina MgH₂ nastalih bombardovanjem jonskim snopovima] Hem. Ind 64(3) (2010) 227-232 7. Ivanović, N., Novaković, N., Colognesi, D., Radisavljević, I., Ostojčić, S. Electronic principles of some trends in properties of metallic hydride, Int. J. Modern Phys. B 24 (6-7) (2010) 703-710 8. Lj. Matović, N. Novaković, S. Kurko, M. Šiljegović, B. Matović, N. Romčević, Z. Kacarević-Popović, N. Ivanović, J. Grbovic Novaković, Structural destabilisation of MgH₂ obtained by heavy ion irradiation, Int.J.Hyd. Energy 34 (2009) 7275 -7282 9. N. Novaković, Lj. Matović, J. Grbović Novaković, M. Manasijević, N. Ivanović. Ab Initio Study of MgH₂ Formation, Mat. Sci. & Eng. B, 165(3) (2009) 235-238 10. J. Grbović Novaković, Lj. Matović, S. Milovanović, M. Drvendžija, N. Novaković, D. Rajnović, M. Šiljegović, Z. Kačarević Popović, N. Ivanović, Changes of hydrogen storage properties of MgH₂ induced by heavy ion irradiation, Int.J.Hyd. Energy 33(7) (2008) 1876-1879 11. N. Novaković, I. Radisavljević, D. Colognesi, S. Ostojčić, N. Ivanović First Principle Calculations of Alkali Hydride Electronic Structures J. Phys. Condens. Matter, 19 (2007) 406211 12. Grbović Novaković, J., Brdarić, T., Novaković, N., Matović, Lj., Montone, A., Mentus, S. Experimental and theoretical investigation of hydrogen storage in magnesium based composites Mat. Sci. Forum 555 (2007) 343-348

Congresses and conferences
attended -last 3 years

1. S.Kurko, Igor Milanovic, J. Grbovic Novakovic, **N. Novakovic, Role of Boron Doping on MgH₂ Hydrogen Surface Sorption Properties**, Hands-on Tutorial Workshop 2011 on *ab initio* Molecular Simulations, Towards a First-Principles Understanding of Materials Properties and Functions, Book of abstracts, P31, pg. 30,
2. R.Vujasin, Lj.Matović, J. Grbović Novaković, **N. Novaković, Hydrogen - rutile TiO₂ (110) surface interaction**, Hands-on Tutorial Workshop 2011 on *ab initio* Molecular Simulations, Towards a First-Principles Understanding of Materials Properties and Functions 12-21.6.2011, The book of abstract pg. 45
3. **N. Novaković**, B. Paskaš Mamula, I. Radisavljević, J. Grbović Novaković, N. Ivanović, **An *ab initio* study of Mg-H phase diagram**, The book of abstract of 1st Conference of the Serbian Ceramic Society, Belgrade, Serbia 17-18.03.2011 pg.52
4. J. Grbovic Novakovic, A.Djukic, **B. Paskaš Mamula**, N.Novakovic, Lj. Matovic, Lj. Vulicevic, N.Ivanovic, **Microstructure and morphology of natural clay minerals**, Proceedings of 10th Multinational Cogress of Microscopy, Urbino 4-9.09.2011, Italy, pg.639
5. Ž. Rašković, S. Kurko, B. Paskaš Mamula, Lj. Matović, **N. Novaković**, R. Vujasin, J. Grbović Novaković, **Improvement of hydrogen storage properties of MgH₂ by α and β -SiC**, The book of abstract of 1st Conference of the Serbian Ceramic Society, Belgrade, Serbia 17-18.03.2011 pg.60
6. Lj.Matović, S.Kurko, Ž.Rašković, **N.Novaković**, Z. Jovanović, J.Grbović Novaković, **Improvement of Hydrogen Storage Properties of MgH₂ by Formation of MgH₂-SiC Nanocomposite**, 11th Eurasia Conference on Chemical Sciences, Amman, Jordan, 6-11.October 2010 pg. 132
7. Lj. Matović, S. Kurko, Z. Rašković, B. Paskaš Mamula, Z. Baščarević, **N. Novaković**, J. Grbović Novaković, **Improvement of Hydrogen Storage Properties of MgH₂ by α and β -SiC**, 12th Annual Conference YUCOMAT 2010 Hotel "Plaža", Herceg Novi, Montenegro, September 6-10, 2010, Programme and The Book of Abstracts pg. 114
8. S. Kurko, B. Paskaš Mamula, Lj. Matović, J. Grbović Novaković, **N. Novaković, The Influence Of Boron Doping Concentration On MgH₂ Electronic Structure**, 12th Annual Conference YUCOMAT 2010 Hotel "Plaža", Herceg Novi, Montenegro, September 6-10, 2010 Programme and The Book of Abstracts pg.120
9. S.Kurko, **N. Novakovic**, Lj. Matovic, Z.Raskovic, Z.Jovanovic, B.Matovic, J.Grbovic Novakovic, **MgH₂:B Nanocomposite for hydrogen storage: Ab Initio Calculations and Experiment**, International Symposium " Metal-Hydrogen Systems. Fundamentals and Application, Moscow, Russia, July 19-23, 2010, The Book of abstract pg. 366
10. Lj. Matovic, S. Kurko, Z.Raskovic, Z.Bascarevic, **N.Novakovic**, J. Grbovic Novakovic, **M21515 - Improvement of Hydrogen Storage Properties of MgH₂-SiC** Accepted abstract International conference of microscopy IMC 17, Rio de Jenairo, Brasil, september 19-24, 2010
11. S. Kurko, Ž.Rašković, **N. Novaković**, J. Grbović Novaković, Lj. Matović, **Microstructure Evolution of MgH₂ surface after N³⁺ ion bombardment**, Program i knjiga proširenih apstrakata, Četvrti srpski kongres za mikroskopiju 11-12. Oktobar 2010, Beograd, Srbija, strana 53