

# Curriculum Vitae



## Personal information

First name(s) / SURNAME(S)  
Current position  
Affiliation  
Department  
Address(es)  
Telephone(s)  
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E-mail  
Date of birth  
Gender

## Sandra KURKO

### Assistant Research Professor

Vinča Institute of Nuclear Sciences, University of Belgrade, Serbia  
Laboratory of physics  
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12.07.1982.  
Female

## Education

Dates	01.11.2008-30.12.2015.
Title of qualification awarded	PhD
Principal subjects/occupational skills covered	Influence of boron induced modification in MgH <sub>2</sub> structure on dehydrogenation process
Name and type of organisation providing education and training	Faculty of Physical Chemistry, University of Belgrade
Dates	17.06.2008-30.10.2008.
Title of qualification awarded	Master in Science
Principal subjects/occupational skills covered	Study of hydriding kinetics in Hf <sub>2</sub> Ni, Hf <sub>2</sub> Co and Hf <sub>2</sub> Fe
Name and type of organisation providing education and training	Faculty of Physical Chemistry, University of Belgrade
Dates	01.10.2001-16.06.2008.
Title of qualification awarded	Graduate degree in physical chemistry
Principal subjects/occupational skills covered	Study of hydriding kinetics in Hf <sub>2</sub> Ni, Hf <sub>2</sub> Co and Hf <sub>2</sub> Fe
Name and type of organisation providing education and training	Faculty of Physical Chemistry, University of Belgrade

## Research interests

- ♦ Hydrogen storage materials, Photocatalysts, Hydrogen production, DFT, Surface reactions, Nanostructured materials

## Citations/h-index

250/ h=10

## Participation in the national projects

Project title /Dates	Nanostructured ceramic and carbon materials and their composites /11/2008-12/2010
Occupation or position held	Research trainee and research assistant (PhD student)
Project title /Dates	Synthesis, processing and characterization of nanostructured materials for application in the fields of energy, mechanical engineering, environment and biomedicine/01/2011-12/2019
Occupation or position held	Research assistant (PhD student) and Assistant research professor

## Participation in the international projects

Project title /Dates	COST Action 18112 Mechanochemistry for Sustainable Industry/ 27/02/2019- 26/02/2023
Occupation or position held	MC substitute
Project title/Dates	Bilateral project Serbia-France: Nanostructured composite materials for solid state hydrogen storage/01/2016-12/2017
Occupation or position held	Researcher
Project title /Dates	Bilateral project Serbia-Croatia: Ammonia-borane and related compounds for solid state hydrogen storage /01/2016-12/2017
Occupation or position held	Researcher
Project title /Dates	Bilateral project Serbia-Italy-“Nanostructured reactive hydride composites for hydrogen storage/01/2014-12/2015
Occupation or position held	Researcher
Project title /Dates	Bilateral project Serbia-Slovenia: Microstructural investigation of materials for hydrogen storage and correlation with desorption properties/01/2012-12/2013
Occupation or position held	Researcher
Project title /Dates	Bilateral project Serbia-Spain:Effects of low energy ion irradiation on the catalytic activity magnesium and magnesium based intermetallic compounds/07/2010-12/2012
Occupation or position held	Researcher

## Invited lectures

Lecture title/Conference/Dates	Investigation of Surface and Near-surface Effects on Hydrogen Desorption Properties of MgH <sub>2</sub> /Joint meeting of 11th Young researchers' conference – materials science and engineering and The First European Early Stage Researcher's conference on Hydrogen storage/ 3-5/12/ 2012
Lecture title/Conference/Dates	Calculation methods in materials science/Hydrogen for sustainable energetics/21/12/2016

## Reviewer of a journal

Title of the journal	International Journal of Hydrogen Energy Physical Chemistry Chemical Physics
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## Mentorship engagement

PhD student	Jelena Rmuš
Title of the doctoral thesis	Working title:MoS <sub>2</sub> based heterostructures for photocatalytic hydrogen production
Status of the dissertation	In progress

## Editorship of books, journals and/or book of abstracts

Title/Date	International Journal of Hydrogen Energy Guest Editor /02/2019
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## Membership in scientific Committees & Boards

- ◆ President of the Department Scientific council of Vinča Insitute in the area of Accelerator science
- ◆ Vice chair and program committee member of The 3rd International symposium on materials for energy storage and conversion, Belgrade, Serbia, 2018
- ◆ Member of program and organizing board of The first and The second Workshop of French, Croatian and Serbian Researchers on Hydrogen Storage and Energy Related Materials, Belgrade, Serbia, 2016 an 2017.
- ◆ Member of program and technical committee of The 1st European early stage researcher's conference on hydrogen storage, Belgrade, Serbia, 2012.
- ◆ Member of organizing committee of the 1st Conference of the Serbian Ceramic Society, Belgrade, Serbia, 2011;
- ◆ Member of technical committee of the 4th Serbian Congress for microscopy, Belgrade, Serbia, 2010;

## Memberships in scientific and technical societies

- ◆ Vice-president of Hydrogen economy initiative Serbia
- ◆ Vice president of Serbian student chapter of International Association of hydrogen energy
- ◆ Serbian Microscopy Society,
- ◆ Materials Research Society

## Prizes and awards

- ◆ 2019 IUPAP (International Union of Pure and Applied Physics) women in physics travel grant.

- ◆ 2011 Scholarship for attendance in Hands-On Tutorial Workshop 2011: "DFT and beyond - towards a first-principles understanding of materials properties and function" Berlin, July 12. July 21., 2011, awarded by the organizers,
- ◆ 2010 Scholarship for attendance in Summer school on materials for the hydrogen society, Chernogolovka, Moscow district 14-18. July 2010 as a part of International Symposium on metal-hydrogen systems 19-23. July 2010 Moscow, awarded by the organizers
- ◆ 2009 Best poster award at Microscopy Conference MC2009 Graz, Austria,
- ◆ 2009 EMS (European Microscopy Society) Scholarship for attendance on MC2009,
- ◆ 2009 IUPAP (International Union of Pure and Applied Physics) women in physics travel grant.

## Selected Papers in last 5 years

1. **S. Kurko**, B. Paskaš Mamula, J. Rmuš, J. Grbović Novaković, N. Novaković, **DFT study of boron doped MgH<sub>2</sub>: bonding mechanism, hydrogen diffusion and desorption**, Accepted for publishing in International journal of hydrogen energy, (2019) <https://doi.org/10.1016/j.ijhydene.2019.05.015>
2. J. Grbović Novaković, N. Novaković, **S. Kurko** et al., **Influence of Defects on the Stability and Hydrogen-Sorption Behavior of Mg-Based Hydrides, a review**, ChemPhysChem, 20 (2019) 1216-1247
3. I. Radisavljević, N. Novaković, H-E. Mahnke, V. Andrić, **S. Kurko**, D. Milivojević, N. Romčević, N Ivanović, **Survey of electronic properties and local structures around Fe in selected multinary chalcogenides**, Journal of Alloys and Compounds, 782 (2019) 160-169
4. Ž. Rašković Lovre, **S. Kurko**, N. Ivanović et al. **In situ Desorption of Magnesium Hydride Irradiated and Non-irradiated Thin Films: Relation to Optical Properties** Journal of Alloys and Compounds, 695 (2017) 2381-2388
5. I. Radisavljević, B. Kuzmanović, N. Novaković, H.-E. Mahnke, Lj. Vulićević, **S. Kurko**, N. Ivanović, **Structural stability and local electronic properties of some EC synthesized magnetite nanopowders**, J.Alloys and Compd, 697 (2017) 409-416
6. R. Vujasin, A. Mraković, **S. Kurko**, N. Novaković, Lj. Matović, J. Grbović Novaković, S. Milošević, **Catalytic activity of titania polymorphs towards desorption reaction of MgH<sub>2</sub>**, International Journal of Hydrogen Energy, 41 (2016) 4703-4711
7. A. Đukić, K. Kumrić, N. Vukelić, M. Dimitrijević, Z. Baščarević, **S. Kurko**, Lj. Matović, **Simultaneous removal of Pb<sup>2+</sup>, Cu<sup>2+</sup>, Zn<sup>2+</sup> and Cd<sup>2+</sup> from highly acidic solutions using mechanochemically synthesized montmorillonite-kaolinite/TiO composite**, Applied Clay Science 103 (2015) 20-27
8. S. Milošević, **S. Kurko**, Luca Pasquini, Lj. Matović, R. Vujasin, N. Novaković, J. Grbović Novaković, **Fast hydrogen sorption from MgH<sub>2</sub>-VO<sub>2</sub>(B) composite materials**, Journal of Power Sources, 307 (2016) 481-488;

## Congresses and conferences attended -last 3 years

1. Solid-State Science & Research Meeting, 28-30 June 2017, Zagreb, Croatia.
2. 2nd International symposium of Energy storage and conversion, mESC-IS 2017, 26-28 September 2017, Cappadocia, Turkey.
3. 3<sup>rd</sup> International symposium of Energy storage and conversion, mESC-IS 2018, 10-12 September 2018, Belgrade, Serbia