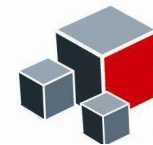


27.01.2022.

# Curriculum Vitae

## HRZZ Form



### PERSONAL INFORMATION

Name and surname **Vlasta Mohaček Grošev**  
 Academic title PhD  
 Year and institution of PhD obtained 1995, University of Zagreb  
 Address Bijenička cesta 54  
 Phone +385-1-4561-020  
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 Personal web page <https://www.irb.hr/Zavodi/Zavod-za-fiziku-materijala/Laboratorij-za-molekulsku-fiziku-i-sinteze-novih-materijala/Zaposlenici/Vlasta-Mohacek-Grosev>  
 Citizenship Croatian  
 Date and place of birth 11.12.1963. Zagreb

### WORK EXPERIENCE<sup>1</sup>

Date (from – until) *15.12.2010.-today*  
 Institution *Ruđer BoškovićInstitute*  
 Position senior research associate  
 Work field application of vibrational spectroscopy to organic condensed matter

Date (from – until) *29.05.2002.-15.12.2010.*  
 Institution *Ruđer BoškovićInstitute*  
 Position research associate  
 Work field vibrational dynamics of hydrogen bonded systems

Date (from – until) *01.12.1995.-29.05.2002.*  
 Institution Ruđer BoškovićInstitute  
 Position asistant with PhD  
 Work field vibrational spectroscopy of mushrooms, phase transitions in organic systems

Date (from – until) *17.7.1991. - 1.12.1995.*  
 Institution *Ruđer BoškovićInstitute*  
 Position research assistant  
 Work field Raman spectroscopy of molecules with internal rotation

Date (from – until) *1.06.1988.-17.7.1991*  
 Institution *Ruđer BoškovićInstitute*  
 Position assistant  
 Work field Raman spectroscopy of molecules in vapour and gas phase

### EDUCATION<sup>2</sup> (CHRONOLOGICALLY)

Date 07.12.2017.

<sup>1,2,3</sup> Please add rows to enter all required information

Institution *Ruđer Bošković Institute*  
 scientific advancement senior scientist

Date 24.11.2016.

Institution *University Josip Juraj Strossmayer in Osijek*  
 scientific advancement docent

Date 12.05.2006.

Institution *Ruđer Bošković Institute*  
 scientific advancement senior research associate

Date 29.05.2002.

Institution *Ruđer Bošković Institute*  
 scientific advancement research associate

Date 1. XII 1995. (defended PhD Thesis 16. XI 1995.)

Place Zagreb

Institution *Ruđer Bošković Institute*

Title of qualification awarded PhD assistant

Date 24. 07. 1991. (defended Master of Science thesis 26. 06.1991.)

Place Zagreb

Institution Faculty of Science, Zagreb

Title of qualification awarded scientific assistant

Date 01.06.1988. (defended B.Sc. in physics thesis on 11.05.1988.)

Place Zagreb

Institution *University of Zagreb, Faculty of Science*

Title of qualification awarded started to work as an assistant

Date 1982.-1988.

Institution Faculty of Science, Zagreb

Title of qualification awarded B.Sc. in physics

#### LANGUAGES

**MOTHER TONGUE** **Croatian**  
 Language **ENGLISH LANGUAGE**  
 Speaking **very good**  
 Writing **good**  
 Reading **very good**

#### LANGUAGES

Language **German, French, Italian**  
 Speaking fair  
 Writing fair  
 Reading good

#### RESEARCH AND OTHER PROJECTS

(CHRONOLOGICALLY; LEADER AND ASSOCIATES; FUNDING SOURCE)

2019 – 2023 collaborator in the JamInno+ project „Development of new functional beverage in sustainable packaging JamINNO+“, leader Jamnica d.o.o. company, partner Ruđer Bošković Institute, call „Povećanje razvoja novih proizvoda i usluga koji proizlaze iz aktivnosti istraživanja i razvoja – faza II“, KK.01.2.1.02

2015. – today works in Centre of Excellence for Advanced materials and Sensing Devices, head dr. Mile Ivanda, financed by Croatian government and European Union through European Regional Development Fund - The Competitiveness and Cohesion Operational programme (KK.01.1.1.01)

**Leader** of following projects:

2019-2022: Croatian-Slovenian bilateral project „Study of binding of biological molecules to substrate using surface-enhanced Raman (SERS) and surface enhanced infrared spectroscopy (SEIRS)“

2009-2010: Croatian-Slovenian bilateral project: Study of Preferential Conformations of Peptides in Solution Applying Vibrational Spectroscopy; Ministry of Science, Technology and Sport of the Republic of Croatia

2007-2008: Croatian-Slovenian bilateral project: Strong hydrogen bond: characterization and studying of its impact on enzymatic reactions and crystal engineering; Ministry of Science, Technology and Sport of the Republic of Croatia

2002-2006: «Sugar hydration dynamics» Ministry of Science and Technology of the Republic of Croatia

1998-2001: «Vibrational-spectroscopic characterization of mushrooms» Ministry of Science and Technology of the Republic of Croatia

**Associate** in following projects:

10.06.2020.-30.09.2023. „Development of new functional beverage in sustainable packaging JamINNO+“, leader Jamnica d.o.o., partner R. Bošković Institute, project call „Povećanje razvoja novih proizvoda i usluga koji proizlaze iz aktivnosti istraživanja i razvoja – faza II“, oznaka KK.01.2.1.02

2015. – today works in Centre of Excellence for Advanced materials and Sensing Devices, head dr. Mile Ivanda, financed by Croatian government and European Union through European Regional Development Fund - The Competitiveness and Cohesion Operational programme (KK.01.1.1.01)

2007–2013 „Physics and applications of nanostructures and bulk“, proj. 098-0982904-2898 project leader: Dr.sc. Krešimir Furić and Mile Ivanda

1996-2002 „Light scattering, interactions and dynamics of matter“, project no. 0980303, project leader: Dr.sc. Krešimir Furić

1991 – 1996 „Vibrational phenomena and interactions in condensed matter“, project no 1-03-066, project leader: Dr.sc. Krešimir Furić

**TEACHING**

(CHRONOLOGICALLY; UNDERGRADUATE, GRADUATE, POSTGRADUATE STUDY PROGRAMMES)

2017-2019 „Physics and Biophysics“, seminars, Faculty of Medicine, University of Zagreb

2019 – today lecturer «Spectroscopy methods for studying molecular vibrations», PhD study of physics at the Faculty of Science, University of Zagreb, field: Atomic and Molecular Physics and Astrophysics

2013 – 2021 lecturer of „Selected chapters of molecular physics“, for BSc students of physics at the Faculty of Science, University of Zagreb

2010 – 2019 lecturer «Molecular physics and spectroscopy», PhD study of physics at the

Faculty of Science, University of Zagreb, field: Atomic and Molecular Physics and Astrophysics

2014 – summer semester, lecturer of „Physics 1“, for BSc students of electrical engineering and computing at the Faculty of Electrical Engineering and Computing, University of Zagreb

2007 - today lecturer «Molecular spectroscopy of biological systems» at interdisciplinary study «Molecular biosciences» organized by University J. J. Strossmayer, Osijek; University of Dubrovnik and R. Bošković Institute

2003 – 2010 assistant «Molecular physics and spectroscopy», PhD study of physics at the Faculty of Science, University of Zagreb, field: Atomic and Molecular Physics and Astrophysics

1992/93 lecturer «Biophysical Chemistry» in the absence of Greta Pifat-Mrzljak, molecular biology students at the Faculty of Science, Zagreb

1991-95 assistant for «Biophysical Chemistry», prof. Greta Pifat-Mrzljak, for molecular biology students at the Faculty of Science, Zagreb

1989 assistant General Physics II, prof K. Ilakovac, Faculty of Science, Zagreb

#### **MENTORSHIP OF DEFENDED DOCTORAL AND MASTER DISSERTATIONS AND TRAINING OF YOUNG RESEARCHERS AND SCIENTISTS**

(CHRONOLOGICALLY)

mentorship of diploma thesis: Sandro Brljafa, mag.edu.phys., Faculty of Science, Zagreb, 2021.

mentorship of diploma thesis: Vladimir Šoštarić, B.Sc. Physics, Faculty of Science, Zagreb 2014.

#### **AWARDS AND RECOGNITIONS**

(CHRONOLOGICALLY)

award of the director of Ruđer Bošković Institute for 2011.

#### **ORGANIZATIONAL SKILLS AND COMPETENCES**

(CHRONOLOGICALLY; ORGANIZATION OF HOME AND INTERNATIONAL SCIENCE EVENTS)

2013 coordinator of the Organizing Committee of the Open days of the Ruđer Bošković Institute 18.- 20. April 2013.

2010 20th - 22nd May, organized workshop "Designing and applying computational tools for reliable prediction of metal oxides properties" within the European Science Foundation program "Molecular simulations in biosystems and material science"

2010 member of the Organizing Committee of the Open days of the Ruđer Bošković Institute 06.- 08. May 2010.

2008 member of the Organizing Committee of the XXIX European Congress on Molecular Spectroscopy, Opatija, Croatia, 31. August – 5. September 2008.

2008 member of the Organizing Committee of the Open days of the Ruđer Bošković Institute 24. – 26. April 2008.

2008 member of the Advisory Committee of the conference „Molecular Simulations in Biosystems and Materials Science“

#### **MEMBERSHIP IN SCIENCE ORGANIZATIONS AND BODIES**

(CHRONOLOGICALLY; HOME AND INTERNATIONAL ORGANIZATIONS AND BODIES)

2015 – 2018 member of the Management Committee of the COST action BM1401 „Raman based applications for clinical diagnostics“

2013 – 2017 member of the COST action "Optical Nanospectroscopy" MP1302

2006 – 2011 member of the Steering Committee "Molecular Simulations in Biosystems and Materials Science" of the European Science foundation as Croatia representative

by decision of the Croatian scientific Council  
 2003-2010 member of the group Women in Physics of the Croatian Physical Society  
 2009-2017 member of the Supervising Board of the Croatian Biophysical Society  
 1994 - 2021 member of the Croatian Physical Society  
 2003 - 2020 member of the Croatian Biophysical Society

#### COMMISSIONS, COMMITTEES, BOARDS AND WORK GROUPS

(CHRONOLOGICALLY; HOME AND INTERNATIONAL)

2015 – 2018 member of the Management Committee of the COST action BM1401 „Raman based applications for clinical diagnostics“  
 2011-2005 member of the Steering Committee of the programme "Molecular Simulations in Biosystems and Materials Science" of the European Science Foundation

Member of the pool of reviewers of Croatian National Science Foundation.

Member of the pool of reviewers of Ministry of Science and Education of the Republic of Macedonia.

#### COOPERATION WITH COMPANIES

(CHRONOLOGICALLY; HOME AND INTERNATIONAL)

2018- today contract with JADRAN – GALENSKI LABORATORIJ d.d. Rijeka  
 2017 – today commercial cooperation with „Belupo“ company , Koprivnica  
 2008 dr K. Furić, V. Mohaček Grošev: Analysis for „Krka“, Novo Mesto

#### Vlasta Mohaček Grošev, list of publications 10.11.2021.

#### PAPERS

(CHRONOLOGICALLY; RESEARCH BOOKS, HOME AND INTERNATIONAL RESEARCH JOURNALS, HOME AND INTERNATIONAL CONFERENCE PROCEEDINGS; PLEASE WRITE THEIR IMPACT FACTOR)

total 619 citations, average citations 14 per published article (Web of Science), h – index = 12 (Web of Science 10.11.2021.)

1. **Vlasta Mohaček Grošev**, Krešimir Furić, Vedran Vujnović: Raman study of water deposited in solid argon matrix, Spectrochimica acta Part A Molecular and Biomolecular Spectroscopy **269** (2022) 120770 (IF 4.098, cited 0 times, **Q1**)  
<https://doi.org/10.1016/j.saa.2021.120770>
2. **Vlasta Mohaček Grošev**, Sandro Brljafa, Marko Škrabić, Ivan Marić, Vesna Blažek Bregović, Vincenzo Amendola, Polona Ropret, Anita Kvaček Blažević : Glucosamine to gold nanoparticles binding studied using Raman spectroscopy, Spectrochimica acta Part A Molecular and Biomolecular Spectroscopy **264** (2022) 120326 (IF 4.098, cited 0 times, **Q1**) <https://doi.org/10.1016/j.saa.2021.120326>
3. **Vlasta Mohaček Grošev**, Marija Đuroković, Aleksandar Maksimović : Combining Raman Spectroscopy, DFT Calculations, and Atomic Force Microscopy in the Study of Clinker Materials, // Materials **14** (13) (2021) art.no. 3648 (14 pages). (IF 3.057, **Q2**).
4. Guo, Shuxia ; Beleites, Claudia ; Neugebauer, Ute ; Abalde-Cela, Sara ; Afseth, Nils Kristian ; Alsamad, Fatima ; Anand, suresh ; Araujo-Andrade, Cuauhtemoc ; Aškrabić, Sonja ; Avci, Ertug ; Baia, Monica ; Baranska, Malgorzata ; Baria, Enrico ; Batista de Carvalho, Luis A. E. ; de Bettignies, Philippe ; Bonifacio, Alois ; Bonnier, Franck ; Brauchle, eva maria ; Byrne, Hugh J. ; Chourpa, Igor ; Cicchi, Riccardo ; Cuisinier, Frederic ; Culha, Mustafa ; Dahms, Marcel ; David, Catalina ; Duponchel, Ludovic ; Duraipandian, Shiyamala ; El- Mashtoly, samir F. ; Ellis, David I. ; Eppe, Gauthier ; Falgayrac, Guillaume ; Gamulin, Ozren ; Gardner, Benjamin ; Gardner, Peter ; Gerwert, Klaus ; Giamarellos-Bourboulis, evangelos J. ; Gizurarson, Sveinbjorn ; Gnyba, Marcin ; Goodacre, Royston ; Grysan, Patrick ; Guntinas-Lichius, Orlando ; Helgadottir, Helga ; **Mohaček Grošev, Vlasta** ; Kendall, Catherine ; Kiselev, Roman ; Kölbach, Micha ; Krafft, Christoph ; Krishnamoorthy, Sivashankar ; Kubryck, Patrick ; Lendl, Bernhard ; Loza-

Alvarez, Pablo ; Lyng, Fiona M. ; Machill, Susanne ; Malherbe, Cedric ; Marro, Monica ; Marques, Maria Paula M. ; Matuszyk, Ewelina ; Morasso, Carlo Francesco ; Moreau, Myriam ; Muhamadali, Howbeer ; Mussi, Valentina ; Notingher, Ioan ; Pacia, Marta Z. ; Pavone, Francesco S. ; Penel, Guillaume ; Petersen, Dennis ; Piot, Olivier ; Rau, Julietta V. ; Richter, Marc ; Rybarczyk, Maria Krystyna ; Salehi, Hamideh ; Schenke-Layland, Katja ; Schlücker, Sebastian ; Schosserer, Markus ; Schütze, Karin ; Sergo, Valter ; Sinjab, Faris ; Smulko, Janusz ; Sockalingum, Ganesh D. ; Stiebing, Clara ; Stone, Nick ; Untereiner, Valérie ; Vanna, Renzo ; Wieland, Karen ; Popp, Jürgen ; Bocklitz, Thomas : Comparability of Raman Spectroscopic Configurations: A Large Scale Cross-Laboratory Study // *Analytical chemistry*, **92** (2020), 24; 15745-15756 doi:10.1021/acs.analchem.0c02696, (IF 6.35, **Q1**).

5. **Vlasta Mohaček Grošev**, Biserka Prugovečki, Stjepan Prugovečki: Structural characterization of  $\beta$ -glycolaldehyde dimer, **93** (2020) 15-22.(IF 0.752, **Q3**).
6. Stefano Fornasaro, Monica Baia, Claudia Beleites, Hugh J. Byrne, Alessandro Chiadò, Mihaela Chis, Malama Chisanga, Amuthachelvi Daniel, Luís A.E. Batista de Carvalho, Gauthier Eppe, Guillaume Falgayrac , Hrvoje Gebavi, Fabrizio Giorgise Roy Goodacre, Kirsten Gracie, Pietro La Mannan, Stacey Laingm, Lucio Littio, Fiona M. Lyngg, Sam Mabbottm, Kamilla Malekp, Cedric Malherbei, Maria Paula M. Marquesh, Moreno Meneghetti, Elisa Mitri, **Vlasta Mohaček-Grošev**, Carlo Morasso, Howbeer Muhamadali Pellegrino Musto, Chiara Novara, Marianna Pannico, Guillaume Penel, Olivier Piot, Tomas Rindzevicius, Elena Rusu, Michael S. Schmidt, Valter Sergo,u, Ganesh D Sockalingum, Valérie Untereiner, Renzo Vanna, Ewelina Wiercigroch, Alois Bonifacio: Surface Enhanced Raman Spectroscopy for quantitative analysis: results of a large-scale European multi-instrument interlaboratory study, *Analytical Chemistry* (IF 6.35, **Q1**, submitted).
7. Ivana Cetina, Irina Pucić, **Vlasta Mohaček Grošev**, Ana Šantić : Amines used for low temperature curing of PDMS-based gel-networks impact  $\gamma$ -irradiation outcome, *Radiation Physics & Chemistry* **170** (2020) 108635, (IF 1.984, **Q3**, cit 0 puta).
8. **Vlasta Mohaček Grošev**, N. Baran : Vibrational dynamics of 1,3-propanediol in liquid, polycrystalline and glassy states: a Raman spectroscopic study, *Spectrochimica acta Part A Molecular and Biomolecular Spectroscopy* **226** (2020) 117567 (IF 2.653, cited 0 times, **Q1**.)
9. H. Gebavi, D. Ristić, N. Baran, L. Mikac, V. Mohaček-Grošev, M. Gotić, M. Ivanda : Silicon Nanowires as Sensory Material for Surface-Enhanced Raman Spectroscopy, *SILICON* **11** (2) (2019) 1151-1157.
10. Hrvoje Gebavi, Davor Ristić, Nikola Baran, Lara Mikac, **Vlasta Mohaček Grošev**, Marijan Gotić, Mile Šikić, Mile Ivanda: Horizontal silicon nanowires for surface-enhanced Raman spectroscopy. // *Materials Research Express*. 5 (2018) 1.(IF 0.87)
11. **Vlasta Mohaček Grošev**, Hrvoje Gebavi, Alois Bonifacio, Valter Sergo, Marko Daković, Danica Bajuk-Bogdanović: Binding of p-mercaptobenzoic acid and adenine to gold-coated electroless etched silicon nanowires studied by surface-enhanced Raman scattering. // *Spectrochimica acta. Part A, Molecular and biomolecular spectroscopy*. 200 (2018) ; 102-109.(IF 2.653, cited 0 times, **Q1**)
12. Hrvoje Gebavi, Lara Mikac, Marijan Marcuš, Mile Šikić, **Vlasta Mohaček Grošev**, Tibor Janči, Sanja Vidaček, Emina Hasanspahić, Enisa Omanović Mikličanin, Mile Ivanda: Silicon Nanowires Substrates Fabrication for Ultra-Sensitive Surface Enhanced Raman Spectroscopy Sensors, *Croatica Chemica Acta*. **90** (2017)1-4 (IF 0.586, cit.0 times, **Q4**)
13. **Vlasta Mohaček Grošev**, Martina Vrankić, Aleksandar Maksimović, Vilko Mandić: Influence of titanium doping on Raman spectra of nanocrystalline ZnAl<sub>2</sub>O<sub>4</sub>, *Journal of Alloys and Compounds* 697 (2017) 90-95,( IF 2.397, cit.0 times, **Q1**)
14. Goranka Bilalbegović, Aleksandar Maksimović, **Vlasta Mohaček Grošev**: Missing Fe: hydrogenated iron nanoparticles, *Monthly Notices of the Royal Astronomical Society Letters* 466 (2017), L14-L18 (IF 4.952, cit. 0 times, **Q1**)

15. Ivana Fabijanić; Dubravka Matković-Čalogović, Viktor Pilepić, Irena Ivanišević, **Vlasta Mohaček Grošev**, Krešimir Sanković: New investigations of the guanine trichloro cuprate(II) complex crystal. // Journal of molecular structure. 1128 (2017), 1; 317-324. (IF=1.78, cit 0 times, [Q3](#)).
16. **V. Mohaček Grošev**, J. Grdadolnik, D. Hadži: Evidence of Polaron Excitations in Low Temperature Raman spectra of Oxalic Acid Dihydrate, J. Phys.Chem. A (2016, DOI: 10.1021/acs.jpca.5b12577) (IF 2.883, cited 1 time, [Q2](#))
17. **Vlasta Mohaček Grošev\***, Vladimir Šoštarić, Aleksandar Maksimović: Raman spectroscopic evidence of low temperature stability of D,L-glycolic and L-(+)-lactic acid crystals, Spectrochimica Acta A: Molecular and Biomolecular Spectroscopy **140** (2015) 35-43 (IF 2.653, cited 0 times, [Q2](#))
18. Goranka Bilalbegović, Aleksandar Maksimović, **Vlasta Mohaček Grošev**: Do cement nanoparticles exist in space? Monthly Notices of the Royal Astronomical Society. 442 (2014) , 2; 1319-1325. (IF 5.226, cited 0 times, [Q1](#))
19. Krešimir Molčanov, Jernej Stare, Mikhail Vener, Biserka Kojić-Prodić, Gregor Mali, Jože Grdadolnik, **Vlasta Mohaček Grošev**: Nitranilic acid hexahydrate, a novel benchmark system of the Zundel cation in an intrinsically asymmetric environment: spectroscopic features and hydrogen bond dynamics characterised by experimental and theoretical methods. Physical Chemistry Chemical Physics. **16** (2014) ; 998-1007. (IF 4.493, cited 2 times, [Q1](#))
20. **Vlasta Mohaček Grošev\***, Biserka Prugovečki, Stjepan Prugovečki, Neven Strukan: Glycolaldehyde dimer has axial hydroxyl groups in the stable crystal phase: Raman, infrared and X-ray study, Journal of Molecular Structure **1047** (2013) 209-215.(IF 1.599, cited 0 times, [Q3](#)).
21. **Vlasta Mohaček Grošev\***, Krešimir Furić, Hrvoje Ivanković: Observed bands in Raman and infrared spectra of 1,3-dioxolane and their assignments, Vibrational Spectroscopy **64** (2013) 101-107. (IF 1.547, cited 1 times, [Q3](#)).
22. **Vlasta Mohaček Grošev\***, Ozren Gamulin, Blaženka Foretić: Vibrational analysis of 1-methyl-pyridinium-2-aldoxime and 1-methyl-pyridinium-4-aldoxime cations, Spectrochimica Acta A Molecular and Biomolecular Spectroscopy **78** (2011)1376-1379. (IF 2.098, cited 2 times, [Q2](#)).
23. Jože Grdadolnik, **Vlasta Mohaček Grošev**, Robert L. Baldwin, Franc Avbelj: Population of the Three Major Backbone Conformations in 19 Amino-Acid Dipeptides, Proceedings of the National Academy of Sciences of the United States of America **108**(5) (2011) 1794-1798. (IF 9.681 for 2011., cit. 52 puta, [Q1](#)).
24. **V. Mohaček Grošev**, J. Grdadolnik, J. Stare, D. Hadži: Identification of Hydrogen Bond Modes in Polarized Raman Spectra of Single Crystals of  $\alpha$  Oxalic Acid Dihydrate, J. Raman Spectrosc. **40** (11) (2009) 1605-1614. (IF 3.147, cit. 18 puta, [Q1](#))
25. **V. Mohaček Grošev**, K. Furić, H. Ivanković: Luminescence and Raman spectra of acetylacetone at low temperatures, J. Phys.Chem. A **111** (2007) 5820 - 5827. (IF 2.918, cit. 9 puta, [Q1](#))
26. **V. Mohaček Grošev**, K. Furić: Low temperature Raman study of bis(trimethylsilyl)acetylene, J. Mol. Struct. 834-836 (2007) 270-275. (IF 1.486, cit. 2 puta, [Q3](#))
27. **V. Mohaček Grošev**: Spectroscopic arguments for a new crystal phase of glycolaldehyde, J. Raman Spectroscopy **36** (2005) 453-461. (IF1.884, cit. 4 puta, [Q2](#)).
28. K. Furić, **V. Mohaček Grošev**, M. Hadžija: Development of cataract caused by diabetes mellitus; Raman study, J. Mol. Struct. **744-747C** (2005) 169-177. (IF 1.634 za 2011. cited 4 times)

29. **V. Mohaček Grošev**: Vibrational analysis of hydroxyacetone, Spectrochim. Acta A Molecular and Biomolecular Spect. 61(3)(2005) 477- 484. (IF 1.290, cit. 9 puta, [Q2](#))
30. **V. Mohaček Grošev**, R. Božac, G. J.Puppels: Vibrational spectroscopic characterization of wild growing mushrooms and toadstools, Spectrochim. Acta A **57**(14) (2001) 2815-2829. (IF 0.838, cit. 65 puta, [Q3](#))
31. **V. Mohaček Grošev**, D. Kirin: The origin of disorder in CH<sub>3</sub>HgX (X = Cl, Br and I) crystals investigated by temperature dependent Raman spectroscopy, Eur. Phys. J. B **20** (1) (2001) 85 – 90. (IF 1.811, cit 1 put, [Q1](#)).
32. **V. Mohaček Grošev**, K. Furić: Low temperature Raman study of dimethylacetylene, J. Mol. Struct. **482-483** (1999) 651 – 657. (IF 0.868 cit. 0 puta, [Q3](#))
33. **Mohaček Grošev**, F. Stelzer, D. Jocham: Internal rotation dynamics of nitromethane at low temperature, J. Mol. Struct. **476** (1-3) (1999) 181 - 189. (IF 0.868 cit. 11 puta, [Q3](#))
34. Th. S. Bican, H. W. Schroetter, V. Mohaček Grošev: The Raman spectra of toluene vapour, J. Raman Spectrosc. **26** (1995) 787 - 790.(IF 1.219, cit. 5 puta, [Q3](#))
35. **V. Mohaček Grošev**, H. W. Schroetter, J. Jonuscheit: Vibrational contribution to the internal rotation potential of toluene and nitromethane, J. Raman Spectrosc. **26** (1995) 137 - 147. (IF 1.219 cit. 5 puta, [Q3](#))
36. S. Musić, M. Gotić, S. Popović, K. Furić, **V. Mohaček**: Structural properties of lead vanadate glasses containing La<sup>3+</sup> or Fe<sup>3+</sup> ions, J. Mater. Sci. **29** (1994) 1227 - 1232. (IF 0.741 cit. 10 puta, [Q2](#)).
37. K. Furić, M. Ivanda, J. Kučar-Kopić, **V. Mohaček**: Remarkable increase of organic particles in the atmosphere above Croatia, Spectrochim. Acta A Molecular and Biomolecular Spectroscopy **50** (13/14) (1994) 449 - 462. (IF 0.760, cit. 1 put, [Q3](#)).
38. K. Furić, **V. Mohaček**, M. Mamić: Methanol in matrix isolated, vapour and liquid phase: Raman spectroscopic study, Spectrochim. Acta A Molecular and Biomolecular Spectroscopy **49** (13/14) (1993) 2081 – 2087. (IF 0.893 cit. 17 puta, [Q3](#)).
39. **V. Mohaček**, K. Furić, M. Dakkouri, M. Grosser: Stable and metastable solid phases of dicyclopropylacetylene, J. Phys. Chem. **96** (1992) 11042 - 11047. (IF 3.457, cit. 7 puta, [Q1](#)).
40. S. Musić, K. Furić, Z. Bajš, **V. Mohaček**: Spectroscopic characterization of alkali borosilicate glasses containing tin ions, J. Mater. Sci. **27** (1992) 5269 -5275. (IF 0.798, cit. 9 puta, [Q2](#))
41. **V. Mohaček**, K. Furić: Bose peak and vibrational bands in Raman spectra of sodium borosilicate glass, Croat. Chem. Acta **65**(1) (1992) 119 - 123. (I.F. 0.703, cit. 0 puta, [Q2](#))
42. K. Furić, **V. Mohaček**, M. Bonifačić, I. Štefanić: Raman spectroscopic study of H<sub>2</sub>O and D<sub>2</sub>O water solutions of glycine, J. Mol. Struct. **267** (1992) 39 - 44. (IF 0.943 cit 110 puta, [Q3](#))
43. **V. Mohaček**, K. Furić: Vibrational analysis of some cyclopropyl derivatives, J. Mol. Struct. **266** (1992) 321 - 326. (IF 0.943 cit 3 puta, [Q3](#))
44. S. Musić, Z. Bajš, K. Furić, **V. Mohaček**: Moessbauer and vibrational spectra of sodium borosilicate glasses containing europium or tin ions, J. Mater. Sci. Lett. **10** (1991) 889-892. (IF 0.511 cit 13 puta, [Q3](#))



## Articles in other journals

1. Mohaček Grošev, Vlasta; Furić, Krešimir.  
Asymmetric profile of the totally symmetric stretching band in Raman spectra of bis(trimethylsilyl)acetylene. // Fizika A. 14 (2005) , 2; 219-224

## Articles in conference proceedings

1. K. Furić, M. Ivanda, J. Kučar-Kopić, V. Mohaček:  
O strukturi i sastavu paučinaste tvari, Zbornik hrvatskog toksikološkog društva, "Toksikološka služba u zaštiti domovine", 21. 01. - 22. 01. 1993., urednica D. Prpić-Majić, Zagreb 1993. strane 183 -185.
2. V. Mohaček Grošev, R. Božac:  
Vibrational spectroscopic characterization of mushroom spores, Spectroscopy of Biological Molecules: New Directions; Proceedings of the VIIIth European Conference on the Spectroscopy of Biological Molecules, Twente, Nizozemska, 29.08 - 02.09. 1999., str 595 - 596.
3. D. Kirin, V. Mohaček Grošev:  
Raman scattering studies of phase transitions in CH<sub>3</sub>HgX (X= Cl, Br, I) crystals  
Proceedings of XVIII<sup>th</sup> International Conference on Raman spectroscopy, 25. - 30. VIII 2002., Budapest, Hungary, Eds Janosz Mink, Gyorgy Jalsovszky, Gabor Keresztury, John Wiley, Chichester, 2002.
4. V. Mohaček Grošev, H. Ivanković: Electronic excitations in acetylacetone: are we seeing charge density waves? Recent developments in low dimensional charge density wave conductors; Biljaković, Katica ; Dumas, Jean ; Starešinić, Damir (ur.) Zagreb, 2006. 86-87.

## PAPERS

(CHRONOLOGICALLY; RESEARCH BOOKS, HOME AND INTERNATIONAL RESEARCH JOURNALS, HOME AND INTERNATIONAL CONFERENCE PROCEEDINGS; PLEASE WRITE THEIR IMPACT FACTOR)

## Oral contributions at conferences:

1. **V. Mohaček Grošev** Solar energy conversion materials characterization using computational and spectroscopic techniques, Workshop on Solar Energy materials Zagreb, Croatia, 09.-10. 05.2019.
2. **V. Mohaček Grošev:** Theory of Raman Spectroscopy on Molecules and Crystals, Training School in Raman spectroscopy, Zagreb, Croatia, 23.09.-25.09.2015
3. **V. Mohaček Grošev**, J. Grdadolnik, D. Hadži: Evidence of polaron bands in low temperature Raman spectra of oxalic acid dihydrate, XXI International Conference on "Horizons in Hydrogen Bond Research", Wroclaw, 13.09.-18.09.2015.
4. **V. Mohaček Grošev**, M. Đuroković: Vibracijsko-spektroskopijsko proučavanje kalcijevih oksida važnih u proizvodnji cementa, Peta radionica Sekcije za primijenjenu i industrijsku fiziku Hrvatskog fizikalnog društva Zagreb 16. - 17.12.2014.
5. **V. Mohaček Grošev:** How can Raman spectroscopy help in dating works of art, predavanje, IAEA Regional Training Course on Dating of Cultural Heritage Artefacts using Nuclear Analytical Techniques , Zagreb, 20. - 24. 05. 2013.
6. **V. Mohaček Grošev:** Vibracijska dinamika najjednostavnijih šećera, lecture Tat the Second scientific meeting of Croatian biophysicists in Zagreb 13. 06. 2003. Book of abstracts p.16. (ed. Vesna Svetličić).
7. **V. Mohaček Grošev:** Vodikova veza u derivatima dioksana izučavana vibracijskom spektroskopijom, lecture at the Fourth meeting of Croatian Physical Society 13. 11. 2003. in Zagreb. Abstract in Book of abstracts, p. 9.(ed. Krešimir Kumerički) Zagreb

8. **V. Mohaček Grošev:** "Vibrational spectroscopic characterization of mushrooms", VIIIth European Conference on the Spectroscopy of Biological Molecules, Twente, The Netherlands, 29.08 – 02.09. 1999.
9. **V. Mohaček K. Furić:** Bose Peak and Vibrational Bands in Raman Spectra of Sodium Borosilicate Glass, Fourth Yugoslav symposium on molecular sciences, Bled, 16.- 19. IV 1991.

#### Invited lectures:

1. **V. Mohaček Grošev:** Raman spectroscopy of organic molecules, invited lecture at the Institute for Protection of Cultural Heritage of Slovenia, Ljubljana, 20.10.2008.
2. **V. Mohaček Grošev:** "Vibrational spectroscopic characterization of mushrooms", VIIIth European Conference on the Spectroscopy of Biological Molecules, Twente, The Netherlands, 29.08 – 02.09. 1999.

#### PAPERS

(CHRONOLOGICALLY; RESEARCH BOOKS, HOME AND INTERNATIONAL RESEARCH JOURNALS, HOME AND INTERNATIONAL CONFERENCE PROCEEDINGS; PLEASE WRITE THEIR IMPACT FACTOR)

#### Abstracts in conference proceedings:

1. K. Furić. V. Mohaček:  
Fazni prijelaz u 1,2- diciklopropilacetilenu,  
Tenth Yugoslav conference on general and applied spectroscopy,  
Ohrid 12-16. VI 1989, Abstracts, MS17.
2. V. Mohaček, K. Furić:  
Bose peak and vibrational bands in Raman spectra of sodium borosilicate glass, Četrta jugoslavanski simpozij o molekularnih vedah, Bled 16 - 19. IV 1991. Abstracts, Pr-21.
3. V. Mohaček Grošev, K. Furić:  
Raman spectra of dimethylacetylene, XXIVth European Congress on Molecular Spectroscopy, Prag, 23. - 28. VIII 1998., str. 258, Izdavač ICT Press.
4. V. Mohaček Grošev:  
Raman study of polycrystalline dimethylacetylene, XXIVth European Congress on Molecular Spectroscopy, Prag, 23. - 28. VIII 1998., str. 259, Izdavač ICT Press.
5. D. Kirin, V. Mohaček Grošev:  
Raman scattering study of dynamics of the CH<sub>3</sub> group in CH<sub>3</sub>HgX (X=Cl, Br and I) compounds, XXIVth European Congress on Molecular Spectroscopy, Prag, 23. - 28. VIII 1998., str. 201, Izdavač ICT Press.
6. V. Mohaček Grošev, D. Kirin:  
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7. D. Kirin, V. Mohaček Grošev, J. Pirnat, Z. Trontelj, J. Lužnik:  
Mehanizam faznih prijelaza u kristalima CH<sub>3</sub>HgX; X= Cl, Br i I  
Knjiga sažetaka, Treći znanstveni sastanak Hrvatskog fizikalnog društva, Zagreb, 5.-7 prosinca 2001.
8. V. Mohaček Grošev: Vibrational analysis of glycolaldehyde and hydroxyacetone,

Book of Abstracts, Xth European Conference on Spectroscopy of Biological Molecules, Szeged 30. VIII –4. IX 2003., Szalontai, Balasz; Kota, Zoltan (ur.), Szeged : JATEPress, 2003. str 124.

9. V. Mohaček Grošev, H. Ivanković:  
Vibrational study of different polymorphs of glycolaldehyde,  
Book of abstracts, XXVIIth European Congress on Molecular Spectroscopy, Krakow, 05.-10. IX 2004., Handke, Mirosław; Hasik, Magdalena; Paluszkiwicz Czesława (ur.), Krakow, Wydawnictwo Naukowe "Akapit" Krakov.
10. K. Furić, V. Mohaček Grošev, M. Hadžija:  
Development of cataract caused by diabetes mellitus; Raman study.  
Book of abstracts, XXVIIth European Congress on Molecular Spectroscopy, Krakow, 05. – 10. IX 2004., Handke, Mirosław; Hasik, Magdalena; Paluszkiwicz Czesława (ur.), Krakow, Wydawnictwo Naukowe "Akapit" Krakov.
11. S. Prugovečki, V. Mohaček-Grošev, N. Strukan:  
Crystal structure of glycolaldehyde solved from powder diffraction data,  
Book of abstracts, Fourteenth Croatian-Slovenian crystallographic Meeting, Vrsar, Hrvatska, 15.-17. 06. 2005., str. 32.

#### PAPERS

(CHRONOLOGICALLY; RESEARCH BOOKS, HOME AND INTERNATIONAL RESEARCH JOURNALS, HOME AND INTERNATIONAL CONFERENCE PROCEEDINGS; PLEASE WRITE THEIR IMPACT FACTOR)

#### Abstracts in conference proceedings, cont.

12. V. Mohaček Grošev, K. Furić:  
Low temperature Raman spectra of bis(trimethylsilyl)acetylene,  
XXVIII European Congress of Molecular Spectroscopy, 3.-8. IX 2006. Istanbul  
Turska, Book of Abstracts, str.142.
13. K. Furić, V. Mohaček Grošev:  
Low temperature Raman study of water,  
XXVIII European Congress of Molecular Spectroscopy, 3.-8. IX 2006. Istanbul  
Turska, Book of Abstracts, str.141.
14. V. Mohaček Grošev, K. Furić, J. Grdadolnik, J. Stare, D. Hadži:  
Evidence of strong hydrogen bonding in monocrystals of oxalic acid dihydrate,  
XIIth European Conference on Spectroscopy of Biological Molecules, Bobigny,  
Pariz, Francuska 1. - 6. IX 2007., From Molecules to Tissues, Book of Abstracts,  
str. 317.
15. V. Mohaček Grošev, J. Grdadolnik, J. Stare, D. Hadži:  
Hydrogen Bonding in  $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$  and  $(\text{COOD})_2 \cdot 2\text{D}_2\text{O}$ ,  
XXIXth European Congress on Molecular Spectroscopy, Opatija, Croatia, 31. VIII  
- 5. IX 2008.
16. B. Foretić, V. Mohaček Grošev, I. Picek:  
Molecular dynamics of 1-methylpyridinium-4-aldoxime chloride,  
2nd European Chemistry Congress, Torino, Italija, 16-20.09.2008.
17. V. Mohaček-Grošev, B. Foretić, S. Kovač:  
Vibrational study of 1-methylpyridinium aldoxime chloride based on Raman and FT-IR  
spectra and b3lyp/6-31++G(d,p) calculation of 1-methylpyridinium aldoxime cation  
normal modes, 14th International Workshop on Computational Physics and Materials  
Science: Total Energy and Force Methods, International Centre for Theoretical Physics,  
Trieste, Italy 8.-10.I 2009.
18. V. Mohaček Grošev, K. Furić, J. Grdadolnik, D. Hadži:  
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sažetaka / Hrvoje Buljan i Davor Horvatić ed.).Zagreb : Croatian Physical Society, 2009.  
60-60.

19. V. Mohaček Grošev, J. Grdadolnik, D. Hadži:  
In search of hydrogen bond potential: comparing experimental and calculated phonons of several molecular crystals. Book of Abstracts / Babić, Darko ; Došlić, Nađa ; Smith, David ; Tomić, Sanja ; Vlahoviček, Kristijan (ed.). Zagreb : Centre for Computational Solutions in the Life Sciences, 2009. 69-69.
20. V. Mohaček Grošev, A. Maksimović:  
Modeliranje kristalnih struktura: teorija i eksperiment // Knjiga sažetaka / Gajović, Andreja, Tokić, Vedrana ; Zorić, Maja ; Marušćak, Tomislav (ed.). Zagreb : Croatian Physical Society, 2011. 100-100.
21. V. Mohaček Grošev, K. Furić:  
Molecular dynamics of 1, 3-dioxolane // Book of Abstracts / Nielaba, Peter ; Ciccotti, Giovanni; Dellago, Christian ; Dijkstra, Marjolein (ed.). Konstanz : Universitaet Konstanz, 2011. 97-97.

**PAPERS**

(CHRONOLOGICALLY; RESEARCH BOOKS, HOME AND INTERNATIONAL RESEARCH JOURNALS, HOME AND INTERNATIONAL CONFERENCE PROCEEDINGS; PLEASE WRITE THEIR IMPACT FACTOR)

**Abstracts in conference proceedings, cont.**

22. K. Molčanov, B. Kojić-Prodić, J. Stare, G. Mali, J. Grdadolnik, V. Mohaček Grošev:  
Proton dynamics of a Zundel ion in an asymmetric environment // XXI Slovenian-Croatian Crystallographic Meeting, Book of Abstracts / Lah, Nina ; Trdin, Miha ; Leban, Ivan (ur.). Ljubljana, Slovenija : University of Ljubljana, 2012. 38-38.
23. V. Mohaček Grošev, V. Šoštarić:  
Istraživanje niskotemperaturnih Ramanovih spektara glikolne i mliječne kiseline // Knjiga sažetaka/ Miroslav Požek (ed.)/ Primošten, Croatian Physical Society 2013., 75-75.
24. V. Mohaček Grošev, A. Maksimović, M. Vrankić, V. Dananić:  
Istraživanje porijekla luminescentnih vrpca u gornju ZnAl<sub>2</sub>O<sub>4</sub> dopiranom titanom // Knjiga sažetaka/ Miroslav Požek (ed.)/ Primošten, Croatian Physical Society 2013., 119-119.
25. V. Mohaček Grošev, V. Šoštarić:  
Low temperature dynamics of glycolic and lactic acid studied by Raman spectroscopy, Conference Book / Dai Zhabg, Monica Fleischer (ur.). Tuebingen : Eberhard Karls Universitaet Tuebingen, 2014. 88-88
26. V. Mohaček Grošev, Vlasta; Grdadolnik, Jože.  
Comparative Raman study of hydrogen bonding in LiHC<sub>2</sub>O<sub>4</sub>·H<sub>2</sub>O, KHC<sub>2</sub>O<sub>4</sub>, NaHC<sub>2</sub>O<sub>4</sub>·H<sub>2</sub>O, and (COOH)<sub>2</sub>·6H<sub>2</sub>O XXIV International Conference on Raman Spectroscopy / Juergen Popp, Volker Deckert (ur.). Jena : Friedrich Schiller Universitaet, 2014. 223-223.
27. V. Mohaček Grošev: Razlikovanje polikristaliničnih faza Ramanovom spektroskopijom, Znanstveno-stručni skup o industrijskoj kristalizaciji, 23.01.2015. PLIVA Hrvatska.
28. V. Mohaček Grošev, A. Maksimović, A. Kvaček, P. Ropret:  
Origin of intermolecular interactions determining the secondary structure of hyaluronic acid gel, 2<sup>nd</sup> Optical Nanospectroscopy Conference University College Dublin, Ireland, 17.03.- 20.03. 2015.
29. G. Bilalbegović, A. Maksimović, V. Mohaček Grošev:  
Hydrogenated iron nanoparticles in the ISM // 6 years of ISM-SPP 1573: What have we learned? / S. Walch (ur.). Cologne, Germany : University of Cologne, 2017. 114-114

(poster, međunarodna recenzija, sažetak, znanstveni).

30. I. Cetina, I. Pucić, V. Mohaček Grošev, A. Šantić:  
 $\gamma$ -irradiated PDMS gel networks cured with selected amines, 14th Tihany Symposium on Radiation Chemistry, Siófok, Hungary, 25-30 May 2019.
31. V. Mohaček Grošev, M. Đuroković, M. Škrabić: Evolution of C-S-H phase in ordinary Portland cement studied by Raman spectroscopy // Solid State Science & Research Meeting Zagreb 27.-29. 06.2019. Book of Abstracts / Biliškov, Nikola (ur.).

#### OTHER RESEARCH ACTIVITIES

(CHRONOLOGICALLY; CHIEF EDITOR OR EDITOR OF RESEARCH BOOK, HOME AND INTERNATIONAL RESEARCH JOURNALS, HOME AND INTERNATIONAL CONFERENCE PROCEEDINGS AND OTHER)

referee for international research journals:

- Journal of Raman Spectroscopy (IF 3.514)
- Ceramics International (IF 3.830)
- Journal of Chemical Physics (IF 3.044)
- Carbohydrate Research (IF 2.044)
- Journal of Molecular Structure (IF 1.404)
- Journal of Organic Chemistry (IF 3.959)
- Acta Chimica Slovenica (IF 1.093)
- Acta Physica Polonica A (IF 0.604)
- Spectrochimica Acta A- Molecular and Biomolecular Spectroscopy (IF 4.098)
- Central European Journal of Medicine (IF 0.312)
- High Temperature Materials and Processes (IF 0.261)
- Materials (IF 3.057)
- Croatica Chemica Acta (IF 0.766)
- Nova Science Publishers (book)
- Journal of Thermal Analysis and Calorimetry (IF 1.908)
- Macromolecular Symposia
- Crystal Engineering Communications (IF 3.49)

Member of the pool of reviewers of Croatian National Science Foundation.

Member of the pool of reviewers of Ministry of Science and Education of the Republic of Macedonia.

#### COMPUTER SKILLS

#### OTHER IMPORTANT SKILLS AND COMPETENCES

##### Equipment purchases, public contest:

2005. won purchase of optical cryostat CCS 350 Janis Research for low temperature Raman spectroscopy (Ministry of Science and Education of the Republic of Croatia)

2012. – today

proposed purchase of a combined Raman-AFM spectrometer within OZIP ( "Open Scientific Research Platforms) proposal of the R. Bošković Institute for EU funds

Valid driver's license B category

**ADDITIONAL INFORMATION AND NOTES**

total 630 citations, average citations 14.3 per published article (Web of Science), h – index = 13 (Web of Science 27.01.2022.)  
married, mother of a daughter (born 1996.) and a son (born 2001.)