Curriculum Vitae

PERSONAL INFORMATION

Name and Surname	**Luka Pavić**
Academic title	Ph.D.
Year and institution of PhD obtained	**2014,** Department of Chemistry, **Faculty of Science,** University of Zagreb, Croatia
Address	Laboratory for Functional Materials **Division of Materials Chemistry** Ruđer Bošković Institute Bijenička c. 54, 10 000 Zagreb, Croatia
Phone	+385-(0)1-4571272 int.:1910
E-mail	lpavic@irb.hr
Personal web page	**http://www.irb.hr/eng/People/Luka-Pavic**
Citizenship	Croatian
Date and place of birth	21 March 1984, Rijeka, Croatia

RESEARCH EXPIRIENCE

Date (from-until)	Position/Institution
01/01/**2015** –present	**Postdoctoral Researcher**, Division of Materials Chemistry, Laboratory for Functional Materials, **Ruđer Bošković Institute**, Zagreb, Croatia Field of research: Solid State Chemistry, Electrical and Structural Properties of Various **Polaronic/Electronic**, **Ionic** and **Mixed Electronic-Ionic** Phosphate Based Glasses and Glass-Ceramics.
01/04/**2015** – 30/06/**2016**	**Postdoctoral Researcher**, Laboratoire de Mécanique des Solides (LMS), UMR CNRS 7649, **Ecole Polytechnique**, Palaiseau, France Field of research: Mechanical, Structural and Electrical Properties of Carbon Nanotubes (CNTs) based sensors
06/03/**2009** – 31/12/**2014** -	**Research Assistant/Scientific Novice**, NMR Centre, Glass Laboratory, **Ruđer Bošković Institute**, Zagreb, Croatia Field of research: Solid State Chemistry, Electrical, Structural and Magnetic Properties of Glasses, Glass-Ceramics, Dental and Biomaterials
01/11/**2008 –** 05/03/**2009**	**Volunteer**, NMR Centre, Glass Laboratory, Ruđer Bošković Institute, Zagreb. Croatia Field of research: Solid State Chemistry, Electrical/Dielectric and Structural Properties of Zinc Phosphate Glasses

SCIENTIFIC TITLE

08/04/**2015**

Research Associate in scientific field of Natural Sciencies - field Chemistry

EDUCATION

Dec. **2008** – Nov. **2014**	**Doctoral study (Ph.D.)** Department of Chemistry, Faculty of Science, University of Zagreb, Croatia 28.11.2014. **Doctor of Science (Ph.D.** in **Chemistry**) experimental work - Ruđer Bošković Institute *mentor*: dr.sc. A. Moguš-Milanković *thesis*: **Influence of crystallization on electrical processes and magnetic interactions in iron phosphate glass**
Oct. **2003** – May. **2008**	**Graduate study** (**Diploma in Chemistry**, 8 terms) Department of Chemistry, Faculty of Science, University of Zagreb, Croatia 30.05.2008. **Diploma in Chemistry** experimental work - Ruđer Bošković Institute, NMR Centre, Glass Laboratory *mentor*: dr.sc. A. Moguš-Milanković *diploma work*: **"Electrical properties of zinc phosphate glass doped with lithium"**

RESEARCH AND OTHER PROJECTS

Head of research projects:

2011–2012 ***"Crystallization Impact on Magnetic Properties of Iron Phosphate Polaron Glasses"***, Fellowship for Doctoral Student (Croatian Science Foundation)

Associate on research projects:

2018– ***"Expanding insights into the mechanism of POLARonic and IONic conduction in oxide GLASS (ceramics)"*** financially supported by Croatian Science Foundation, Principal investigator: A. Šantić (Ruđer Bošković Institute)

2015–2018 ***"Electrical Transport in Glasses and Glass-Ceramics"*** financially supported by Croatian Science Foundation (project IP-09-2014-5863); Principal investigator: A. Moguš-Milanković (Ruđer Bošković Institute)

2012–2015 ***"Evaluation of new bioactive materials and procedures in restorative dental medicine"*** financially supported by Croatian Science Foundation (Collaborative Research Programme); Ruđer Bošković Institute - Institut of Physics - School of Dental Medicine, University of Zagreb; Principal investigator: Z. Tarle (School of Dental Medicine, University of Zagreb); Lead investigator on Ruđer Bošković Institute: A. Moguš-Milanković

2010–2011 ***"Investigation of electrical mobility and dielectric relaxation of bioactive glasses"***, Croatian-Slovenian bilateral project; Principal investigators: A. Moguš-Milanković (Ruđer Bošković Institute) and S. Novak-Krmpotić (Jozef Stefan Institute)

2009–2010 ***"New insights into charge transport in iron phosphate glasses from analysis of conductivity spectra over a wide temperature range"***, Croatian-German bilateral project, Principal investigators: A. Moguš-Milanković (Ruđer Bošković Institute), K. Funke (Institute of Physical Chemistry, University of Muenster)

2007-2014 ***"Influence of structure on electrical properties of (bioactive) glasses and ceramics"***, financially supported by Croatian Ministry of Science, Education and Sports; Principal investigator: A. Moguš-Milanković (Ruđer Bošković Institute)

TEACHING

Undergraduate Study:

2013–2014 Assistant at Chemistry Department, Faculty of Science, University of Zagreb, Practical Course: "General Chemistry Laboratory 1".

2011–2014 Assistant at undergraduate study "Biotechnology and Investigation of Drugs", University of Rijeka, Courses: "Introduction to Bioinorganic Chemistry" and "Bioinorganic Chemistry".

2010–2011 Assistant at Intergrated Undergraduate and Graduate Study of Chemistry and Physics, Chemistry Department**,** Faculty of Science, University of Zagreb, Practical Course: "General Chemistry Laboratory 1" and "General Chemistry Laboratory 2".

MEMBERSHIP IN SCIENCE ORGANIZATIONS AND BODIES

The Croatian Chemical Society
The Croatian Crystallographic Association
The Croatian Microscopy Society

COMMISSIONS, COMMITTEES, BOARDS AND WORK GROUPS

Participant to the COST Action MP1308 "Towards Oxide-Based Electronics (TO-BE)" (2014-2018)
Assistant Council, Ruder Boškovic Institute (member 2009-2015)
Division of Materials Chemistry Council, Ruder Boškovic Institute (member 2017-)

PAPERS

CC Journal papers	**IF**	**Citations**
19. V. Prasad, **L. Pavić,** A. Moguš-Milanković, A. Siva Sesha Reddy, Y. Gandhi, V. Ravi Kumar, G. Naga Raju, N. Veeraiah, *Influence of silver ion concentration on dielectric characteristics of Li2O-Nb2O5-P2O5 glasses,* **J. Alloys Comp.** 773 (2019) 654-656. **(IF:3.779; Q1(4/75), Q1(62/285))**	3.779	0
18. **L. Pavić,** A. Šantić, N. Juraj, P. Mošner, L. Koudelka, D. Pajić, A. Moguš-Milanković, *Nature of mixed electrical transport in Ag2O-ZnO-P2O5 glasses containing WO3 and MoO3,* **Electrochimica Acta**, 276 (2018) 434-445. **(IF:4.798; Q1(4/29))**	4.798	2
17. **L. Pavić**, Ž. Skoko, A. Gajović, D. Su, A. Moguš-Milanković, *Electrical transport in iron phosphate glass-ceramics,* **J. Non-Cryst. Solids**, (2018) DOI:10.1016/j.jnoncrysol.2018.02.012. (**IF:2.124; Q1(4/26); Q2(115/275))**	2.124	1

16. N. Juraj, **L. Pavić**, A. Šantić, P. Mošner, L. Koudelka, D. Pajić, A. Moguš-Milanković, *Novel insights into electrical transport mechanism in ionic-polaronic glasses*, **J. Amer. Ceram. Soc.**, 101 (2018) 1221-1235. **(IF:2,841; Q1(3/26))**	2.841	2
15. N. Juraj, A. Šantić, **L. Pavić**, D. Pajić, P. Mošner, L. Koudelka, A. Moguš-Milanković, *Mixed Ion-Polaron Glasses as New Cathode Materials,* **Croat. Chem. Acta**, 90 (4) (2017) 1-9. **(IF:0.586; Q4(144/166))**	0.586	0
14. R. Vijay, R. **L. Pavić**, A. Šantić, A. Moguš-Milanković, P. Ramesh Babu, D. Krishna Rao, N.Veeraiah, *Influence of tungsten ions valence states on electrical characteristics of quaternary lithium-antimony-lead-germanate glasses,* **J. Phys. Chem. Solids**, 107 (2017) 108-117. **(IF:2.059; Q2(77/166))**	2.059	5
13. Ana Šantić, Radha D. Banhatti, **Luka Pavić**, Hüseyin Ertap, Mustafa Yüksek, Mevlut Karabulut, Andrea Moguš-Milanković, *Polaronic transport in iron phosphate glasses containing HfO_2 and CeO_2,* **Physical Chemistry Chemical Physics***, 19 (2017)* 3999-4009. **(IF:4.123; Q2(38/145))**	4.449	5
12. Andrea Moguš-Milanković, Ana Šantić, **Luka Pavić**, Kristina Sklepić, *Iron phosphate glass-ceramics,* **Croat. Chem. Acta**, 88(4) (2015) 553-560. **(IF:0.732; Q4(130/163))**	0.732	0
11. A. Šantić, M. Čalogović, **L. Pavić**, J. Gladić, Z. Vučić, D. Lovrić, K. Prskalo, B. Janković, Z. Tarle and A. Moguš-Milanković, *New Insights into the Setting Processes of Glass Ionomer Cements from Analysis of Dielectric Properties,* **J. Amer. Ceram. Soc.**, 98 (2015) 3869-3876. **(IF:2.787; Q1(2/27))**	2.787	0
10. **L. Pavić**, M. P. F. Graca, Ž. Skoko, A. Moguš-Milanković, M. A. Valente, *Magnetic Properties of Iron Phosphate Glass and Glass-Ceramics,* **J. Amer. Ceram. Soc.**, 97 (2014) 2517-2524. (**IF:2.61**; Q1(3/26))	2.61	4
9. **L. Pavić**, N. Narasimha Rao, A. Moguš-Milanković, A. Šantić, V. Ravi Kumar,M. Piasecki, I.V. Kityk, N. Veeraiah, *Physical properties of ZnF_2–PbO–TeO_2:TiO_2 glass ceramics–Part III dielectric dispersion and ac conduction phenomena*, **Ceramics international**, 40 (2014) 5989-5996. (**IF:2.605**; Q1 (4/26))	2.605	16
8. **L. Pavić**, A. Moguš-Milanković, P. Raghava Rao, A. Šantić, V. Ravi Kumar, N. Veeraiah, *Effect of alkali-earth modifier ion on electrical, dielectric and spectroscopic properties of Fe_2O_3 doped Na_2SO_4-MO-P_2O_5 glass system,* **J. Alloys Comp.**, 604 (2014) 352-362. (**IF:2.999**; Q1(4/74); Q1(48/260); Q2(47/139)	2.999	28
7. P. Raghava Rao, **L. Pavić**, A. Moguš-Milanković, V. Ravi Kumar, I.V. Kityk, N. Veeraiah, *Electrical and spectroscopic properties of Fe_2O_3 doped Na_2SO_4–BaO–P_2O_5 glass system*, **J. Non-Cryst. Solids**, 358 (2012) 3255-3267. (**IF:1.597**; Q1(5/27); Q1(91/241))	1.597	22
6. C. Filipič, A. Moguš-Milanković, **L. Pavić**, K. Srilatha, N. Veeraiah and A. Levstik**,** *Polaronic behavior of MnO doped LiI-AgI-B_2O_3 glass,* **J. Appl. Phys.**, 112 (2012) 073705-1–073705-3. (**IF:2.210**; Q2(32/128))	2.210	3
5. C. Filipič, A. Moguš-Milanković, **L. Pavić**, M. Karabulut, A. Levstik, *Polarons in boron doped iron phosphate glasses*, **J. Non-Cryst. Solids**, 358 (2012) 2793-2795. (**IF:1.597**; Q1(5/27); Q1(91/241))	1.597	0
4. A. Moguš-Milanković, **L. Pavić**, H. Ertap, M. Karabulut, *Polaronic mobility in boron doped iron phosphate glasses: influence of structural disorder on Summerfield scaling,* J**. Amer. Ceram. Soc.**, 95 (2012) 2007-2014. (**IF:2.107**; Q1(2/27)	2.107	11
3. A. Moguš-Milanković, **L. Pavić**, K. Srilatha, Ch. Srinivasa Rao, T. Srikumar, Y. Gandhi, N. Veeraiah, *Electrical, dielectric and spectroscopic studies on MnO doped LiI–AgI–B_2O_3 glasses,* **J. Appl. Phys.**, 111 (2012) 013714-1 – 013714-11. (**IF:2.210**; Q2(32/128))	2.210	26
2. K. Srilatha, **L. Pavić**, A. Moguš-Milanković, Ch. Sirinivasa Rao, Little Flower, V. Ravi Kumar, N. Veeraiah, *The role of vanadium valence state and coordination on electrical conduction in lithium iodide borate glasses mixed with small concentration of silver iodide*, **J. Non-Cryst. Solids**, 357 (2011) 3538-3547. (**IF:1.537**; Q1(5/25); Q2(93/232)	1.537	12

1. A. Moguš-Milanković, **L. Pavić**, S. T. Reis, D. E. Day, M. Ivanda, *Structural and electrical properties of Li_2O-ZnO-P_2O_5 glasses,* **J. Non-Cryst. Solids**, 356 (2010) 715-719 (**IF:1.492**; Q1(4/25); Q2(86/225))	1.492	25
Total	**45.119**	**162**

The publications listed above **(19)** are **cited 162 times** (Scopus, until 10/10/2018) in scientific papers (CC/SCI)
h index: 7, **Average IF =** 2.37, **Average Citation per paper:** 8.5 **First Author:** 5

CONFERENCES, SUMMER SCHOOLS AND AWARDS

Attendance at Conferences/Summer Schools:

14. "*2017 ICG Annual Meeting in conjunction with 32nd Şişecam Glass Symposium"*, Istanbul, Turkey, 22-25 October, 2017 (Poster Presentation).
13. "*12th International Symposium on Crystallization in Glasses and Liquids*, Segovia, Spain, 10-14 September, 2017. (Poster presentation).
12. "The 2nd International Conference on Phosphate Materials, Oxford, UK, 26-28 July, 2017.(Oral Presentation).
11. **"***XXV. Croatian Meeting of Chemists and Chemical Engineers"*, Poreč, Croatia, 19-22 April, 2017 (Poster presentation).
10. "8th ICG Montpellier Summer School: Glass formation, structure, and properties & Primary industrial glass fabrication", Montpellier, France, 04-07 June, 2016.
9. **"***XXIV. Croatian Meeting of Chemists and Chemical Engineers"*, Zagreb, Croatia, 21-24 April, 2015 (Poster presentation).
8. "I Scientific-Professional Meeting about Industrial Crystallization", Zagreb, Croatia, January 23rd, 2015 (Poster Presentation).
7. "International conference Borate Phosphate 2014", Pardubice, Czech Republic, June 30 – July 4, 2014 (Oral Presentation).
6. "International Conference on the Applications of the Mossbauer Effect-ICAME 2013", Opatija, Croatia, 1-6 September, 2013 (Poster presentation).
5. IV Annual meeting I3N, Quiaios, Portugal, 9-10 March 2012 (Poster presentation).
4. *XXII. Croatian Meeting of Chemists and Chemical Engineers*, Zagreb, Croatia, 13-16 February, 2011 (Oral presentation).
3. "6th International Discussion Meeting on Relaxations in Complex Systems" (6IDMRCS), Rome (Italy), August 2009 (Poster presentation).
2. *XXI. Croatian Meeting of Chemists and Chemical Engineers*, Trogir, Croatia, 19-22 April, 2009 (Poster presentation).
1. *VII. Croatian Meeting of Young Chemical Engineers*, Zagreb, Croatia, 21-22 February 2008 (Poster presentation).

Awards:

1. **Best Poster Award - First Prize** for poster presentation entitled: "Ionic Transport in Mixed Network Former Li_2O-P_2O_5-GeO_2 Glass-Ceramics" by authors: L. Pavić*, K. Sklepić, Ž. Skoko, G. Tricot, P. Mošner, L. Koudelka & A. Moguš-Milanković at "*2017 ICG Annual Meeting in conjunction with 32nd Şişecam Glass Symposium"*, Istanbul, Turkey, 22-25 October, 2017

2. Co-autor on **Student project** awarded with **"First Prize"** on Summer School "8th ICG Montpellier Summer School: Glass formation, structure, and properties & Primary industrial glass fabrication", Montpellier, France, 04-07 June, 2016.

Student project title: Luka Pavić, Helene Pablo, Celine Ragoen, Alessio Zandona, Abdul Rahsidi, Transport mechanism in sodium silica glasses – breakage of Si-O-Si bonds for Na^+-diffusion?

TRAINING AND WORKSHOPS

1. Short term fellowship aimed at fostering scientific collaboration with French laboratories (RBI/French Fellowships)
   Université des Sciences et Technologies de Lille 1-CNRS, Laboratoire de Spectrochimie Infrarouge et Raman (LASIR), Lille, France
   2018 (one month stay)
   Field of research:
   Structural investigation of various phosphate-based glasses: Insights on the Network Structures by NMR studies

2. **March 2017 (1 week) - Department of General and Inorganic Chemistry**, Faculty of Chemical Technology, University of Pardubice, Pardubice, **Czech Republic**
   Field of research: Ion-polaron glass, crystallization, DSC studeis, kinetics
3. **Postdoctoral Researcher**
   Laboratoire de Mécanique des Solides (LMS), UMR CNRS 7649, **Ecole Polytechnique**, Palaiseau, France
   2015/2016
   Field of research: Mechanical, Structural and Electrical Properties of Carbon Nanotubes (CNTs)-based sensors
4. **Rheology Seminar and Workshop,** Antun Paar, Terme Čatež/Brežice, Slovenija, 15-16 May **2014.**
5. **Fellowship for Doctoral Students** (Croatian Science Foundation)
   I3N-Department of Physics, **University of Aveiro**, Aveiro, Portugal
   2011/2012 (six month stay)
   Head of project entitled:
   "Crystallization Impact on Magnetic Properties of Iron Phosphate Polaron Glasses"
6. **Participation in Croatian-German bilateral project**
   Institute of Physical Chemistry, **University of Muenster**, Muenster, Germany
   2009 (1 month stay)
   Associate on research project:
   "New insights into charge transpot in iron phosphate glasses from analysis of conductivity spectra over wide temperature range"

SCIENTIFIC COLABORATION

- Prof. N. Veeraiah, **Department of Physics**, Acharya Nagarjuna University, Nagarjuna Nagar, India – Investigation of structural, electrical/dielectric properties of various phosphate, borate and tellurite glasses.
- Prof. A. Constantinescu, Laboratoire de Mécanique des Solides (LMS), UMR CNRS 7649, **Ecole Polytechnique**, Palaiseau, France – Properties of Carbon Nanotubes (CNTs)s based sensors.
- Prof. L. Koudelka and **Prof. P. Mošner,** Department of General and Inorganic Chemistry, Faculty of Chemical Technology, University of Pardubice, Pardubice, Czech Republic – Investigation of thermal, structural and electrical properties of mixed ion-polaron phosphate-based glasses.
-Prof. Gregory Tricot, Université des Sciences et Technologies de Lille 1-CNRS, Laboratoire de Spectrochimie Infrarouge et Raman (LASIR) – Solid state NMR investigation of mixed alkali aluminophosphate glasses.
- Prof. M. A. Valente and **dr. sc. M.P.F. Graca**, I3N-Department of Physics, University of Aveiro, Aveiro, Portugal –Magnetic properties of IPG glass and glass-ceramics.

VISITS TO FOREIGN RESEARCH AND EDUCATION INSTITUTIONS

2015–2016 (15 months) - Laboratoire de Mécanique des Solides (LMS), UMR CNRS 7649, **Ecole Polytechnique**, Palaiseau, **France**
Field of research: Mechanical, Structural and Electrical Properties of Carbon Nanotubes (CNTs)s based sensors

2011–2012 (6 months) - I3N-Department of Physics, University of Aveiro, Aveiro, **Portugal**
Fellowship for Doctoral Student (Croatian Science Foundation)
Head of project*: "Crystallization Impact on Magnetic Properties of Iron Phosphate Polaron Glasses"*

COMPUTER SKILLS AND COMPRTENCES

- Maintaining personal computers with Windows operating systems
- Managing web pages
- MS Office:Word, Excel, Power Point etc.
- Origin, Zview, ImageJ
- WinDETA and WinFIT software
- dmfit

OTHER RESEARCH ACTIVITIES

- **Reviewer in Journals**: Journal of the American Ceramic Society, Journal of Non-Crystalline Solids, Materialia, International Journal of Materials Engineering Innovation

SCIENTIFIC INTERESTS

- *Investigation of wide range of oxide glasses, glass-ceramics, ceramics, dental and biomaterials and their properties: electrical/dielectric, structural, thermal, magnetic, etc.*
  - Influence of structural changes on electrical properties of lithium phosphate glasses.
  - Electrical transport mechanism in multi-compositional phosphate-based glasses that exhibit pure electronic/ionic or mixed electronic-ionic conduction.
  - Mechanism of crystallization in amorphous glasses.
  - Influence of crystallization on electrical/dielectric and magnetic properties of various oxide glass and glass-ceramics.

- Ionic Transport in Mixed Network Former Glasses and Glass-Ceramics
- Investigation of charge transport - analysis of conductivity and dielectric permittivity spectra over wide temperature range.
- *Structural investigation of various phosphate-based glasses: Insights on the Network Structures by NMR studies.*

- *Investigation of mechanical, structural and electrical properties of Carbon Nanotubes (CNTs) sensors*
  - Piezoresistive flexible carbon nanotube (CNT)-based sensors produced by inkjet printing technique /and drop-casting.
  - Conducting films of CNTs are stretchable by applying strain along different axes and recover their initial configurations upon releasing strain (spring-like structure)
  - Characterization CNT-structure (microscopy techniques)
  - Influence of various loading and environmental factors on the resistivity of CNT sensors.
  - To understand the multiscale physical phenomena responsible for conductivity and piezoresistivity of the sensors.

LANGUAGES

MOTHER TONGUE	Croatian
ENGLISH LANGUAGE	speaking, writing and reading - FLUENT