

## *Curriculum Vitae*

**Name and Surname: Zoran Marković**

Academic or scientific position: Full Professor/Principal research fellow

Affiliation: Institute for Information Technologies, University of Kragujevac, Serbia

Current position: Director of the Institute for Information Technologies, University of Kragujevac, Serbia

### **EDUCATION**

1981: B. Sc. degree in chemistry

1989: M. Sc. degree in chemistry (Faculty of Science, University of Kragujevac, Supervisor - Prof. Dr Ivan Gutman)

1995: Ph. D. degree in chemistry (Faculty of Science, University of Kragujevac, Supervisor - Prof. Dr. Stanimir Konstantinović)

1999 – 2001: Post-doctoral studies: Technikon Pretoria, Department of Chemistry and Physics  
Supervisor: Dr. Johan P. Engelbrecht

### **PARTICIPATION IN NATIONAL PROJECTS**

1996-2000: - project number 02E17

2000-2005: - project number 1448

2005-2008: - project number 371013

2006-2010: - project number 142025

2011-2016: - project number 172015

2011-2016: - project number 174028

### **PARTICIPATION IN INTERNATIONAL PROJECT**

1. IPA project Supply of Laboratory and IT Equipment, Furniture and other Equipment to Lecturing Buildings, Laboratories and Classrooms at the Faculties of the Universities of the Republic of Serbia (2009)
2. ERASMUS+ project KA1- Learning Mobility of Individuals (2016).
3. Bilateral Project between the Republic of Serbia and Republic of Slovakia under the title “Synergy of experiment and theory: antioxidative action of phenolic compounds derivatives“ for the period 2019-2020.
4. ERASMUS+ project KA103 (2021).
5. Balkan-Network у оквиру пројекта DAAD HAW (2021).

### **MANAGEMENT OF INTERNATIONAL PROJECT**

1. Serbia-Croatia bilateral project under the title “Investigations of the structure-activity relationships in polyphenols”, for the period 2011-2012.
2. A bilateral project between the Republic of Serbia and the Republic of France under the title "Development of Theoretical Methodology for Polyphenol Antioxidant Evaluation: Towards real-world applications" for the period 2014-2015.

### **REVIEWER OF JOURNAL PAPERS**

- peer reviewer for Molecular Simulation, Chemical Engineering Science, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Chemical Paper, Chemical Physics Letters, Molecules, Hemijska Industrija, Acta Agriculturae Serbica, Journal of Molecular Modelling, Journal of Chemistry, etc.

### **MEMBERSHIP IN THE PROGRAM COMMITTEES OF CONFERENCES**

1. 12<sup>th</sup> INTERNATIONAL SYMPOSIUM ON BIOTECHNOLOGY, Čačak, Serbia, 2007.
2. 13<sup>th</sup> INTERNATIONAL SYMPOSIUM ON BIOTECHNOLOGY, Čačak, Serbia, 2008.
3. 4<sup>th</sup> International Congress of Serbian Society of Mechanics, Vrnjačka Banja, Serbia, 2013.
4. 15<sup>th</sup> IEEE International Conference on Bioinformatics and BioEngineering (BIBE2015), Belgrade, Serbia, 2015.
5. 4<sup>th</sup> South-East European Conference on Computational Mechanics, Kragujevac, Serbia, 2017.
6. 8<sup>th</sup> International Conference on Computational Bioengineering (ICCB2019), Belgrade, Serbia 2019.

7. 1<sup>st</sup> International Conference on Chemo and BioInformatics, Kragujevac, Serbia, 2021.

### MENTOR OF PHD STUDENTS

Professor Dr Zoran Marković was a mentor for several PhD thesis, written by students: Dejan Milenković, Jelena Đorović, Dušan Dimić, Žiko Milanović and Marko Antonijević.

### BOOKS AND CHAPTERS

1. Zoran Marković, Zorica Petrović, Ljubinka Joksović, Praktikum za vežbe iz organske hemije, Univerzitet u Kragujevcu, Prirodno-matematički fakultet, ISBN 86-81829-25-4 (1996)
2. Svetlana Marković, Zoran Marković, Molekulska modeliranje, Centar za naučno istraživački rad Srpske akademije nauka i umetnosti i Univerziteta u Kragujevcu, ISBN 978-86-81037-32-4, CIP - 544.18:519.87., (2012)
3. Zoran Marković, Praktikum iz tehnologije ugljenih hidrata, Univerzitet u Kragujevcu, Agronomski fakultet Čačak, ISBN 978-86-82107-95-8 (2007).
4. Zorica Petrović, Zoran Marković, Dušica Simijonović, Vladimir Petrović, Praktikum i repititorijum iz organskih hemija 2, Univerzitet u Kragujevcu, Prirodno-matematički fakultet, ISBN 978-86-0602.
5. Zoran Marković, Dejan Milenković, Chapter 7 - Different theoretical approaches in the study of antioxidative mechanisms, Computational Modeling in Bioengineering and Bioinformatics 211-256, doi.org/10.1016/B978-0-12-819583-3.00007-2, 2020.

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List of publications in journals on SCI list by professor Marković:

1. Ivan Gutman, **Zoran Marković**, Truncated Hosoya index, J. Serb. Chem.Soc. 51, 455-458, 1986.
2. Ivan Gutman, V. R. Rosenfeld, **Zoran Marković**, Approximate formula for Hosoya's topological index, J. Serb. Chem. Soc. 52, 139-144, 1987.
3. Ivan Gutman, **Zoran Marković**, Svetlana Marković, A simple method for the approximate calculation of Hosoya's index, Chem. Phys. Lett. 134, 139-141, 1987.
4. Ivan Gutman, **Zoran Marković**, Approximate formulas for Hosoya's topological index, Bull. Chem. Soc. Jpn. 60, 2611-2614, 1987.
5. **Zoran Marković**, Stanimir Konstantinović, Ivan Gutman, The Dependence of Vicinal Proton-Proton Coupling Constants on Molecular Structure, Z. Naturforsch. A 49, 815-818, 1994. DOI: 10.1515/zna-1994-7-815
6. **Zoran Marković**, Ljiljana Mićović-Došen, Stanimir Konstantinović, Conformational Analysis. Theoretical Study of Phenylseleno-tetrahydropyrans based on Molecular Mechanics Methods, Ind. J. Chem. B 34, 695-701, 1995.
7. **Zoran Marković**, Stanimir Konstantinović, Ivan Gutman, The Dependence of Vicinal Proton-Proton Coupling Constants of Norbornenes on Molecular Structure, Z. Naturforsch. A 51, 1042-1044, 1996.
8. **Zoran Marković**, Stanimir Konstantinović, Ivan Juranić, Ljiljana Mićović-Došen, Molecular Orbital Study of the Rearrangement of Seleniranium Ions, Gazz. Chim. Ital. 127, 429-434, 1997.
9. Stanimir Konstantinović, Zorica Bugarčić, Rastko Vukićević, Z. Ratković, W. Wisnevsky, **Zoran Marković**, Mihailo Mihailović, Stereochemistry and <sup>13</sup>C NMR Spectra of Some Phenyl Selenotetrahydrofuranes and Selenotetrahydropyrans, J. Serb. Chem. Soc. 62(4), 307-317, 1997.
10. Ivan Gutman, **Zoran Marković**, Slavica Solujić, Slobodan Sukdolak, On the Tautomers of Hypericin, Monatsh. Chem. 129, 481-486, 1998.
11. Ivan Gutman, **Zoran Marković**, On the Relative Stability of Dioxo Derivatives of Phenantro[1,10,9,8-opqra]perilene, Related to the Tautomers of Hypericin, Monatsh. Chem. 129, 1019-1024, 1998.
12. Rastko Vukićević, Ljubinka Joksović, Stanimir Konstantinović, **Zoran Marković**, Mihailo Mihailović, Use of a Sacrificial Aluminium Anode in Acylation of Some Olephines, B. Chem. Soc. Jpn. 71, 899-904, 1998. DOI: [10.1246/bcsj.71.899](https://doi.org/10.1246/bcsj.71.899)
13. Ivan Gutman, **Zoran Marković**, Ljiljana Marjanović, On factors influencing the geometry of hypericin and its tautomers, Ind. J. Chem. A 37, 856-864, 1998 DOI: 10.1515/zna-1994-7-815
14. Stanimir Konstantinović, Zorica Bugarčić, W. Wisniewski, Zoran Ratković, **Zoran Marković**, Mihailo Mihailović, Stereochemistry and <sup>13</sup>C NMR spectra of some phenyl selenoethers obtained in phenylselenoetherification of olefinic alcohols, Ind. J. Chem. B 37, 48-55, 1998. DOI: 10.1002/chin.199836051
15. Ivan Gutman, **Zoran Marković**, Dioxo derivatives of benzenoid hydrocarbons: Part IV - Dioxo-bisanthrenes, Ind. J. Chem. A 38, 407-410, 1999.
16. Ivan Gutman, **Zoran Marković**, Ivan Juranić, A Clar-Type Regularity for Dianions of Benzenoid Hydrocarbons, Polycyc. Arom. Comp. 13, 33-40, 1999. DOI: [10.1080/10406639908020541](https://doi.org/10.1080/10406639908020541)

17. **Zoran Marković**, Bogdan Šolaja, Dragan Milić, Ivan Juranić, Miroslav Gašić, Molecular Orbital Study of the Oxidation of Steroidal Phenols into Quinols and Epoxyquinols, *J. Serb. Chem. Soc.* 65, 491-496, 2000. DOI: 10.2298/JSC0007491M
18. **Zoran Marković**, Johan P. Engelbrecht, Parametrization of MMX force field for benzocyclobutenes, *Ind. J. Chem. A* 39, 787-791, 2000. DOI: 10.1515/zna-1994-7-815
19. **Zoran Marković**, Svetlana Marković, Johan P. Engelbrecht, F. D. Visser, Extraction of the coal-tar pitch by supercritical carbon dioxide. Dependence of chemical composition of the extracts on temperature, pressure and extraction time, *S. Afr. J. Chem.S.Afr.T.*, 53, 179-190, 2000.
20. Ivan Gutman, **Zoran Marković**, Johan P. Engelbrecht, On the relative stability of tetraoxo-bisanthrenes, related to the radical anions of hypericin, *S. Afr. J. Chem.S.Afr.T.*, 53, 169-178, 2000.
21. Svetlana Marković, **Zoran Marković**, Robert McCrindle, Spectral Moments of Phenylenes, *J. Chem. Inf. Comput. Sci.* 41, 112-119, 2001. DOI: 10.1021/ci000013w.
22. Svetlana Marković, **Zoran Marković**, Johan Engelbrecht, Robert I. McCrindle, Spectral Moments of Polycyclic Aromatic Hydrocarbons. Solution of Kinetic Problem, *J. Chem. Inf. Comput. Sci.* 42, 82-86, 2002. DOI: 10.1021/ci0100604.
23. **Zoran Marković**, Svetlana Marković, Johan Engelbrecht, Theoretical study of the Kolbe-Schmitt Reaction Mechanism, *Z. Naturforsch. A* 57, 812-818, 2002.
24. **Zoran Marković**, Vesna Ivanov-Petrović, Ivan Gutman, Extremely branched alkanes, *J. Mol. Struc. (Techoem)* 629, 303-306, 2003. DOI: 10.1016/S0166-1280(03)00196-9
25. Nebojša Begović, **Zoran Marković**, Slobodan Anić, Ljiljana Kolar-Anić, Modelling the formation of biogenic iodine in marine aerosols, *Environ. Chem. Lett.* 2, 65-69, 2004. DOI: 10.1007/s10311-004-0077-4
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29. **Zoran Marković**, Svetlana Marković, Nedeljko Manojlović, Jasmina Predojević-Simović, Mechanism of the Kolbe-Schmitt Reaction. Structure of the Intermediate Potassium Phenoxide - CO<sub>2</sub> Complex, *J. Chem. Inf. Model.* 47, 1520-1525, 2007. DOI: 10.1021/ci700068b.
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32. Svetlana Marković, **Zoran Marković**, Robert I. McCrindle, B. R. Simonović, Kinetics of Extraction of Coal-Tar Pitch Components with Supercritical Carbon Dioxide, *Chem. Pap.* 61, 46-50, 2007. DOI: 10.2478/s11696-006-0094-9
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41. Nedeljko Manojlović, **Zoran Marković**, Wandee Gritsanapan, K. Boonpagob, High\_Performance Liquid Chromatographic Analysis of Anthraquinone Compounds in the Lichen *Laurera Benguelensis*, *Russ. J. Phys. Chem.* 83, 1554–1557, 2009. DOI: 10.1134/S0036024409090258
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45. Jasmina Dimitrić-Marković, **Zoran Marković**, Tanja Brdarić, Vesna Pavelkić, Milka Jadranić, Iron complexes of dietary flavonoids: Combined spectroscopic and mechanistic study of their free radical scavenging activity, *Food Chem.* 129, 1567–1577, 2011. DOI: 10.1016/j.foodchem.2011.06.008
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48. **Zoran Marković**, Jasmina Dimitrić-Marković, Tanja Brdarić, and Nenad Filipović, Comparative Spectroscopic and Mechanistic Study of Chelation Properties of Fisetin with Iron in Aqueous Buffered Solutions. Implications on in vitro Antioxidant Activity, *Dalton T.* 40, 4560–4571, 2011. DOI: 10.1039/C0DT01834A
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51. **Zoran Marković**, Jasmina Predojević, Nedeljko Manojlović, Synthesis of C7-C16-alkyl maltosides in the presence of tin (IV) chloride as a Lewis acid catalyst, *B. Chem. Soc. Ethiop.* 25(1), 83–90, 2011.
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53. Nedeljko Manojlović, Perica Vasiljević, Dragan Nikolić, Gordana Bogdanović-Dušanović, **Zoran Marković**, Stevo Najman, The isolation, analytical characterization by HPLC-UV and NMR spectroscopy, cytotoxic and antioxidant activities of baecomycesic acid from *Thamnia vermicularis* var. *subuliformis*. *Hem. Ind.* 65, 591–598, 2011. DOI: 10.2298/HEMIND110414035M
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55. **Zoran Marković**, Dejan Milenković, Jelena Đorović, Jasmina Dimitrić-Marković, Višnja Stepanić, Bono Lučić, Dragan Amić, Free radical scavenging activity of morin 2<sup>-</sup>-O<sup>-</sup> phenoxide anion, *Food Chem.* 135, 2070–2077, 2012. DOI: 10.1016/j.foodchem.2012.05.119
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59. Tanja Brdarić, **Zoran Marković**, Dejan Milenković, Jasmina Dimitrić-Marković, A joint application of vibrational spectroscopic and quantum mechanical methods in quantitative analysis of baicalein structure, *Monatsh. Chem.* 143, 1369–1378, 2012. DOI: 10.1007/s00706-012-0805-6
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61. Dragan Amić, Višnja Stepanić, Bono Lučić, **Zoran Marković**, Jasmina Dimitrić-Marković, PM6 study of free radical scavenging mechanisms of flavonoids: why is the O–H bond dissociation enthalpy able to effectively represent free radical scavenging activity?, *J. Mol. Model.* 19, 2593–2603, 2013. DOI: 10.1007/s00894-013-1800-5
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64. Marina Stanić, Joanna Zakrzewska, Mirzeta Hadžibrahimović, Milan Žižić, **Zoran Marković**, Željko Vučinić, Miroslav Živić, Oxygen regulation of alternative respiration in fungus *Phycomyces blakesleeana*: connection with phosphate metabolism, *Res. Microbiol.*, 164, 770-778, 2013. DOI: 10.1016/j.resmic.2013.03.002
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73. Jasmina Dimitrić-Marković, Dragan Amić, Bono Lučić, **Zoran Marković**, Oxidation of kaempferol and its iron(III) complex by DPPH radical: spectroscopic and theoretical study, *Monatsh. Chem.* 145, 557–563, 2014. DOI: 10.1007/s00706-013-1135-z
74. **Zoran Marković**, Jelena Đorović, Jasmina Dimitrić-Marković, Miroslav Živić, Dragan Amić, Investigation of the radical scavenging potency of the hydroxybenzoic acids and their carboxylate anions, *Monatsh. Chem.* 145, 953–962, 2014. DOI: 10.1007/s00706-014-1163-3
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