

dr Slavko Radenković, docent

Curiculum Vitae

Prezime	Radenković
Ime	Slavko
Ime oca	Dragan
Datum rođenja	9. januar 1981. godine
Mesto rođenja	Kragujevac, Srbija
Adresa	PMF, Univerzitet u Kragujevcu Radoja Domanovića 12 34 000 Kragujevac Srbija
e-mail	slavkoradenkovic@kg.ac.rs
website	www.pmf.kg.ac.rs/sradenkovic

OBRAZOVANJE

1988 – 2000.	Osnovna i srednja škola u Kragujevcu
2005.	Diplomirani hemičar za istraživanje i razvoj, Prirodno-matematički fakultet, Univerzitet u Kragujevcu
2007.	Magistar hemijskih nauka, Prirodno-matematički fakultet, Univerzitet u Kragujevcu Magistarska teza: <i>Istraživanja hemijskih primena Žang-Žangovog polinoma</i>
2010.	Doktor hemijskih nauka, Prirodno-matematički fakultet, Univerzitet u Kragujevcu Doktorska disertacija: <i>Istraživanje i hemijske primene Estradinog indeksa i Laplaceove energije molekulskih grafova</i>
Strani jezici	Engleski, nemački

PROFESIONALNA KARIJERA

2005-2012.	Asistent, Prirodno-matematički fakultet, Univerzitet u Kragujevcu, predmet Fizička hemija
2012-	Docent, Prirodno-matematički fakultet, Univerzitet u Kragujevcu, predmet Fizička hemija 1 i Fizička hemija 2

USAVRŠAVANJE U INOSTRANSTVU

2009. (2 meseca)	Doktorske studije, Prof. W. Linert, TU Beč, Austrija
2010. (10 meseci)	Postdoktorsko istraživanje, Prof. P. Bultinck, Fakultet prirodnih nauka, Gent, Belgija
2011. (1 mesec)	Postdoktorsko istraživanje, Prof. P. Bultinck, Fakultet prirodnih nauka, Gent, Belgija
2012. (3 meseca)	Postdoktorsko istraživanje, Prof. B. Braida, Univerzitet Pjera i Marije Kiri, Pariz, Francuska

NAUČNI RADOVI

1. I. Gutman, D. Vidović, N. Cmiljanović, S. Milosavljević, S. Radenković, Graph energy – A useful molecular structure–descriptor, *Indian Journal of Chemistry* **42A** (2003) 1309–1311.
2. I. Gutman, N. Cmiljanović, S. Milosavljević, S. Radenković, Efect of non-bonding molecular orbitals on total π -electron energy, *Chemical Physics Letters* **383** (2004) 171–175.
3. I. Gutman, N. Cmiljanović, S. Milosavljević, S. Radenković, Dependence of total π -electron energy on the number of non-bonding molecular orbitals, *Monatshefte für Chemie* **135** (2004) 765–772.
4. I. Gutman, D. Stevanović, S. Radenković, S. Milosavljević, N. Cmiljanović, Dependence of total π -electron energy on large number of non-bonding molecular orbitals, *Journal of the Serbian Chemical Society* **69** (2004) 777–782.
5. I. Gutman, B. Furtula, S. Radenković, Relation between Pauling and Coulson bond orders in benzenoid hydrocarbons, *Zeitschrift für Naturforschung* **59a** (2004) 699–704.
6. I. Gutman, S. Radenković, B. Furtula, H. Hosoya, Some properties of the topological bond order, *Chemical Physics Letters* **407** (2005) 73–77.
7. S. Radenković, I. Gutman, On Hosoya bond order of alternant nonbenzenoid molecules, *Kragujevac Journal of Science* **28** (2006) 39–46.
8. I. Gutman, A. Vodopivec, S. Radenković, B. Furtula, On π -electron excess of rings of benzenoid molecules, *Indian Journal of Chemistry* **45A** (2006) 347–351.
9. J. Durdević, B. Furtula, I. Gutman, S. Radenković, Dependence of Hess–Schaad resonance energy on Kekulè structures, *Kragujevac Journal of Science* **28** (2006) 57–64.
10. I. Gutman, S. Gojak, B. Furtula, S. Radenković, A. Vodopivec, Relating total π -electron energy and resonance energy of benzenoid molecules with Kekulè– and Clar–structure–based parameters, *Monatshefte für Chemie* **137** (2006) 1127–1138.
11. S. Gojak, S. Radenković, R. Kovačević, S. Stanković, J. Đurdević, I. Gutman, A difference between the π -electron properties of catafusenes and perifusenes, *Polycyclic Aromatic Compounds* **26** (2006) 197–206.
12. I. Gutman, S. Radenković, Dependence of Dewar resonance energy of

- benzenoid molecules on Kekulé structure count, *Journal of the Serbian Chemical Society* **71** (2006) 1039–1047.
- 13. I. Gutman, S. Radenković, Extending and modifying the Hall rule, *Chemical Physics Letters* **423** (2006) 382–385.
 - 14. I. Gutman, S. Radenković, N. Trinajstić, A. Vodopivec, On the relationship between π -electron energy and topological resonance energy, *Zeitschrift für Naturforschung* **61a** (2006) 345–348.
 - 15. I. Gutman, S. Radenković, A simple formula for calculating resonance energy of benzenoid hydrocarbons, *Bulletin of the Chemists and Technologists of Macedonia* **25** (2006) 17–21.
 - 16. I. Gutman, S. Radenković, Estrada index of benzenoid hydrocarbons, *Zeitschrift für Naturforschung* **62a** (2007) 254-259.
 - 17. I. Gutman, S. Radenković, A lower bound for the Estrada index of bipartite graphs, *Kragujevac Journal of Science* **29** (2007) 67-72.
 - 18. S. Gojak, I. Gutman, S. Radenković, A. Vodopivec, Relating resonance energy with Zhang-Zhang polynomial, *Journal of the Serbian Chemical Society* **72** (2007) 673-679.
 - 19. I. Gutman, S. Radenković, B. Furtula, T. Mansour, M. Schork, Relating Estrada index with spectral radius, *Journal of the Serbian Chemical Society* **72** (2007) 1321-1327.
 - 20. I. Gutman, S. Radenković, A. Graovac, D. Plavšić, Monte Carlo approach to Estrada index, *Chemical Physics Letters* **446** (2007) 233-236.
 - 21. I. Gutman, N. M. M. de Abreu, C. T. M. Vinagre, A. S. Bonifácio, S. Radenković, Relation between energy and Laplacian energy, *MATCH Communications in Mathematical and in Computer Chemistry* **59** (2008) 343-354.
 - 22. I. Gutman, S. Radenković, N. Li, S. Li, Extremal energy trees, *MATCH Communications in Mathematical and in Computer Chemistry* **59** (2008) 315-320.
 - 23. S. Radenković, I. Gutman, Total π -electron energy and Laplacian energy: How far the analogy goes?, *Journal of the Serbian Chemical Society* **72** (2007) 1343-1350.
 - 24. I. Gutman, S. Radenković, Hypoenergetic molecular graphs, *Indian Journal of Chemistry* **46A** (2007) 1799-1736.
 - 25. S. Radenković, I. Gutman, Relation between Wiener index and spectral radius, *Kragujevac Journal of Science* **30** (2008) 57-64.
 - 26. B. Furtula, S. Radenković, I. Gutman, Bicyclic molecular graphs with greatest

- energy, *Journal of the Serbian Chemical Society* **73** (2008) 431-433.
- 27. J. Liu, B. Liu, S. Radenković, I. Gutman, Minimal LEL-equiengetic graphs, *MATCH Communications in Mathematical and in Computer Chemistry* **61** (2009) 471-478.
 - 28. O. Miljković, B. Furtula, S. Radenković, I. Gutman, Equiengetic and almost-equiengetic trees, *MATCH Communications in Mathematical and in Computer Chemistry* **61** (2009) 451-461.
 - 29. J. Đurđević, S. Radenković, I. Gutman, The Hall rule in fluoranthene-type benzenoid hydrocarbons, *Journal of the Serbian Chemical Society* **73** (2008) 989-995.
 - 30. S. Marković, S. Stanković, S. Radenković, I. Gutman, Electronic structure study of thermal intraconversions of some dicyclopenta-fused polycyclic aromatic compounds, *Journal of Chemical Information and Modeling* **48** (2008) 1984–1989.
 - 31. S. Marković, S. Stanković, S. Radenković, I. Gutman, Thermal isomerization in cyclopenta[fg]aceanthrylene, *Monatshefte für Chemie* **140** (2009) 153-156.
 - 32. S. Radenković, I. Gutman, Stability order of isomeric benzenoid hydrocarbons and Kekulé structure count, *Journal of the Serbian Chemical Society* **74** (2009) 155-158.
 - 33. I. Gutman, J. Đurđević, S. Radenković, A. Burmudžija, Energetic properties of fluoranthenes, *Indian Journal of Chemistry* **48A** (2009) 194-197.
 - 34. S. Stanković, S. Marković, S. Radenković, I. Gutman, Formation and isomerization of dicyclopenta[de,mn]anthracene. Electronic structure study, *Journal of Molecular Modeling* **15** (2009) 953-958.
 - 35. J. Đurđević, S. Radenković, I. Gutman, S. Marković, Testing the PCP-rule, *Monatshefte für Chemie* **140** (2009) 1305-1309.
 - 36. S. Radenković, J. Đurđević, I. Gutman, Quantitative study of the PCP rule, *Chemical Physics Letters* **475** (2009) 289-292.
 - 37. B. Furtula, I. Gutman, S. Jeremić, S. Radenković, Effect of a ring on cyclic conjugation in another ring: Applications to acenaphthylene-type polycyclic conjugated molecules, *Journal of the Serbian Chemical Society* **75** (2010) 83-90.
 - 38. S. Radenković, W. Linert, S. Jeremić, I. Gutman, Pairwise energy effects of rings in benzo-annelated perylenes, *Indian Journal of Chemistry* **48A** (2009) 1657-1661.
 - 39. I. Gutman, S. Radenković, W. Linert, Pairwise energy effect of cyclic conjugation in benzo-annelated perylenes, *Monatshefte für Chemie* **141** (2010)

401-407.

40. A. T. Balaban, J. Đurđević, I. Gutman, S. Jeremić, S. Radenković, Correlations between local aromaticity indices of bipartite conjugated hydrocarbons, *Joutnal of Physical Chemistry A* **114** (2010) 5870–5877.
41. S. Jeremić, S. Radenković, I. Gutman, Cyclic conjugation in benzo-annelated triphenylenes, *Journal of Sebian Chemical Society* **75** (2010) 943-950.
42. S. Jeremić, S. Radenković, I. Gutman, Cyclic conjugation in benzo-annelated coronenes, *Macedonian Journal of Chemistry and Chemical Engineering*, **29** (2010) 63-69.
43. S. Marković, S. Radenković, Z. Marković, I. Gutman, DFT Study on Singlet Diradical Character of Zethrenes, *Russian Journal of Physical Chemistry A* **85** (2011) 2368–2372.
44. N. Otero, S. Fias, S. Radenković, P. Bultinck, A. M. Graña, M. Mandado, How does aromaticity rule the thermodynamic stability of hydroporphyrines? *Chemistry- A European Journal* **17** (2011) 3274-3286.
45. S. Radenković, P. Bultick, Ring currents in Polycyclic Sodium Clusters, *Journal of Physical Chemistry A* **115** (2011) 12493–12502.
46. I. Gutman, M. Janošević, S. Radenković, Effect of benzocyclobutadieno- annelation on cyclic conjugation in coronene, *Kragujevac Journal of Science* **33** (2011) 45-53.
47. S. Radenković, S. Marković, R. Kuč, N. Stanković, The diradical character of polyacenequinododimethides, *Monatshefte für Chemie* **142** (2011) 1013-1019.
48. I. Gutman, J. Tošović, S. Radenković, S. Marković, On atom-bond connectivity index and its chemical applicability, *Indian Journal of Chemistry A* **51A** (2012) 690-694.
49. S. Radenković, S. Marković, V. Milenković, Electronic structure study of the triplet azulene-like molecules, *Chemical Physics Letters* **545** (2012) 132-137.
50. S. Radenković, J. Đurđević, P. Bultick, Local aromaticity of the five-membered rings in acenaphthylene derivates, *Physical Chemistry Chemical Physics* **14** (2012) 14067–14078.
51. D. Deb, S. Duley, S. Radenković, P. Bultinck, P. K. Chattaraj, M. Bhattacharjee, Heterotrimetallic compounds containing Mo-M-Li [M = K, Rb and Cs] clusters: synthesis, structure, bonding, aromaticity and theoretical investigations of Li₂M₂ [M = K and Rb] and Cs₄ Rings, *Physical Chemistry Chemical Physics* **14** (2012) 15579-15592.
52. S. Radenković, I. Gutman, P. Bultinck, Comparative study of aromaticity in tetraoxa[8]circulenes, *Journal of Physical Chemistry A* **116** (2012) 9421-9430.

53. I. Gutman, J. Đurđević, S. Radenković, Z. Matović, Anomalous cyclic conjugation in the perylene/bisanthrene homologous series, *Monatshefte für Chemie* **143** (2012) 1649–1653.
54. S. Radenković, P. Bultinck, I. Gutman, J. Đurđević, On induced current density in the perylene/bisanthrene homologous series, *Chemical Physics Letters* **552** (2012) 151–155.
55. N. Ramos-Berdullas, S. Radenković, P. Bultinck, M. Mandado, Aromaticity of Closed-Shell Charged Polybenzenoid Hydrocarbons, *Journal of Physical Chemistry A* **117** (2013) 4679–4687.
56. I. Gutman, S. Radenković, M. Antić, J. Đurđević, A test of Clar aromatic sextet theory, *Journal of Serbian Chemical Society* **78** (2013) 1539–1546.
57. S. Radenković, M. Antić, J. Đurđević, S. Jeremić, Electronic structure study of the biradical pleiadene-like molecules, *Monatshefte für Chemie* **145** (2014) 281–290.
58. S. Radenković, I. Gutman, M. Antić, A case of breakdown of the Pauling bond order concept, *Chemical Physics Letters* **614** (2014) 104–109.
59. S. Radenković, J. Tošović, R. W. A. Havenith, P. Bultinck, Ring currents in benzo- and benzocyclobutadieno-annelated biphenylene derivates, *ChemPhysChem* **16** (2015) 216–222.
60. S. Radenković, J. Kojić, J. Petronijević, M. Antić, Effect of benzo-annellation on local aromaticity in heterocyclic conjugated compounds, *Journal of Physical Chemistry A* **118** (2014) 11591–11601.
61. S. Radenković, I. Gutman, S. Đorđević, Strain in strain-free benzenoid hydrocarbons: The case of phenanthrene, *Chemical Physics Letters* **625** (2015) 69–72.
62. S. Radenković, J. Tošović, J. Đurđević Nikolić, Local aromaticity in naphtho-annelated fluoranthenes: Can the five-membered rings be more aromatic than the six-membered rings? *Journal of Physical Chemistry A* **119** (2015) 4972–4982.
63. S. Mandal, S. Pan, D. Deb, S. Giri, S. Duley, S. Radenković, D. L. Cooper, P. Bultinck, A. Anoop, M. Bhattacharjee, P. K. Chattaraj, Three-dimensional networks containing rectangular Sr_4 and Ba_4 units: Synthesis, structure, bonding, and potential application for Ne gas separation, *International Journal of Quantum Chemistry* **115** (2015) 1501–1509.
64. I. Gutman, S. Radenković, S. Đorđević, Igor Ž. Milovanović, Emina I. Milovanović, Total π -electron and HOMO energy, *Chemical Physics Letters* **649** (2016) 148–150.

65. B. Đ. Glišić, N. D. Savić, B. Waržajtis, L. Djokic, T. Ilic-Tomic, M. Antić, S. Radenković, J. Nikodinovic-Runic, U. Rychlewska, M. I. Đuran, Synthesis, structural characterization and biological evaluation of dinuclear gold(III) complexes with aromatic nitrogen-containing ligands: antimicrobial activity in relation to the complex nuclearity, *Medicinal Chemical Communications* **7** (2016) 1356–1366.
66. S. Radenković, I. Gutman, S. Ružić, S. Zdravković, Strain in strain-free benzenoid hydrocarbons: The case of chrysene and triphenylene, *Revue Roumaine de Chimie* **61** (2016) 261–267.
67. S. Jeremić, S. Radenković, M. Filipović, M. Antić, A. Amić, Z. Marković, Importance of hydrogen bonding and aromaticity indices in QSAR modeling of the antioxidative capacity of selected (poly)phenolic antioxidants, *Journal of Molecular Graphics and Modelling* **72** (2017) 240–245.

UDŽBENIK

1. I. Gutman, S. Radenković, *Zbirka zadataka iz Fizičke hemije 1*, Prirodno-matematički fakultet, Kragujevac, 2008.

POGLAVLJA U KNJIGAMA

1. I. Gutman, S. Radenković, Investigation of Hosoya bond order, in the book: I. Gutman (ed.), *Mathematical Methods in Chemistry*, Prijepolje Museum, Prijepolje, 2006, pp. 169–181.
2. I. Gutman, S. Radenković, *Zbirka zadataka iz Fizicke hemije 1* (Collection of Problems from Physical Chemistry 1), Faculty of Science, Kragujevac, 2008.
3. H. Deng, S. Radenković, I. Gutman, The Estrada index, in the book: D. Cvetković, I. Gutman (ed.), *Applications of graph spectra*, Matematički institut SANU, Beograd, 2009 pp. 123–140.
4. J. Đurđević, B. Furtula, I. Gutman, S. Radenković, S. Stanković, Comparative study of cyclic conjugation in tribenzoperylene isomers, in the book: A. Graovac, I. Gutman, D. Vukičević (eds), *Mathematical Methods and Modeling for Students of Chemistry and Biology*, University of Dubrovnik, University of Split, Institute Ruđer Bošković, Zagreb, 2010.
5. I. Gutman, H. Deng, S. Radenković, The Estrada index: An updated survey, in the book: D. Cvetković, I. Gutman (ed.), *Selected topics on applications of graph spectra*, Matematički institut SANU, Beograd, 2011 pp. 155–174.
6. I. Gutman, S. Radenković, Paradise Lost – π -Electron Conjugation in Homologs and Derivatives of Perylene, in the book: R. Chauvin, C. Lepetit, B. Silvi, E. Alikhani (Eds), *Applications of Topological Methods in Molecular Chemistry*, Springer, 2016, pp. 297-320.

NAUČNA SAOPŠTENJA

1. S. Radenković, M. Sc. Thesis: *Investigation of chemical applications of Zhang-Zhang polynomial*, Faculty of Science, Kragujevac, 2007.
2. S. Radenković, Ph. D. thesis: *Investigation and chemical applications of Estrada index and Laplace energy of molecular graphs*, University of Kragujevac, Kragujevac, 2010.
3. S. Radenković, I. Gutman, Calculating the Estrada index, MATH/CHEM/COMP 2007, June 11-17, 2007, Dubrovnik, Croatia, Abstact pp. 54.
4. S. Marković, S. Radenković, Z. Marković, I. Gutman, Diradical character of zethrenes, PHYSICAL CHEMISTRY 2010, 10th International Conference on Fundamental and Applied Aspects of Physical Chemistry, Belgrade, Serbia.
5. S. Radenković, P. Bultinck, Ring currents in polycyclic sodium clusters, MATH/CHEM/COMP - The 26th International Course & Conference on the Interfacesamong Mathematics, Chemistry and Computer Sciences, 2011, Dubrovnik, Croatia, Abstact pp. 34.
6. S. Marković, S. Radenković, Diradicals and singlet diradicals, 2nd International Conference on Computation for Science and Technology, 2012, Nigde, Turkey, Abstract pp. 149.
7. M. Antić, S. Radenković, Ring currents in fluorinated fulvene derivatives, Third Conference of Young Chemists of Serbia, Treća konferencija mlađih hemičara Srbije, 2015. Hemijski fakultet, Beograd.
8. Slavko Radenković, Marija Antić, Nada D. Savić, Biljana Đ. Glišić, Miloš I. Djuran, The nature of Au-N bond and aromaticity of N-heterocycles coordinated to Au(III) ion, 53rd Meeting of the Serbian Chemical Society, 2016, Kragujevac, Serbia, Abstract pp. 67.
9. Nada D. Savić, Biljana Đ. Glišić, Marija Antić, Slavko Radenković, Miloš I. Djuran, Synthesis and characterization of gold(III) complexes with tricyclic aromatic nitrogen-containing heterocycles, 53rd Meeting of the Serbian Chemical Society, 2016, Kragujevac, Serbia, Abstract pp. 55.
10. Marija Antić, Slavko Radenković, The “Anthracene problem”: Reactivity-based aromaticity study of benzo-annelated anthracenes, MATH/CHEM/COMP - The 28th International Course & Conference on the Interfacesamong Mathematics, Chemistry and Computer Sciences, 2011, Dubrovnik, Croatia, Abstact pp. 29.
11. S. Radenković, Ring currents in nonplanar benzenoid hydrocarbons, MAGIC

2016 - The 2nd workshop on Magnetically Induced Currents in molecules, 2016,
Fisciano, University of Salerno, Italy.

STRUČNI RADOVI

1. S. Radenković, O prirodi hemijske veze u molekulu C₂, *Hemijski pregled*, **57** (2016) 123–129.