

LIČNE INFORMACIJE

**dr. sci. Adnan Zahirović**

📍 Sarajevo 71 000, Bosna i Hercegovina

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Datum rođenja: 22. 1. 1990.

Mjesto rođenja: Doboj, Bosna i Hercegovina

Državljanstvo: bosanskohercegovačko

ZAPOSLLENJE

Prirodno-matematički fakultet Univerziteta u Sarajevu

Odsjek za hemiju, Katedra za opštu i anorgansku hemiju

📍 Zmaja od Bosne 35, 71 000 Sarajevo, Bosna i Hercegovina

Kabinet: 343/III

Viši asistent za oblast Anorganska hemija

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<http://www.pmf.unsa.ba/hemija/index.php/bs/organizacija-odsjeaka/nastavno-osoblje/79-katedra-za-opstu-i-anorgansku-hemiju/161-adnan-zahirovic>

RADNO ISKUSTVO

od 07.07.2016.

Viši asistent za oblast *Anorganska hemija* na Odsjeku za hemiju Prirodno-matematičkog fakulteta Univerziteta u Sarajevu, Bosna i Hercegovina

20.02.2013. – 07.07.2016.

Asistent za oblasti *Anorganska hemija* i *Analitička hemija* na Odsjeku za hemiju Prirodno-matematičkog fakulteta Univerziteta u Sarajevu, Bosna i Hercegovina

Iskustvo u nastavi

Saradnik na izvođenju laboratorijskih vježbi za oblasti *Anorganska hemija* i *Analitička hemija* na predmetima

I ciklusa studija:

Anorganska hemija I, Anorganska hemija II, Hemija kompleksnih jedinjenja, Mehanizmi anorganskih reakcija, Bioanorganska hemija, Anorganska hemija sa materijalima, Dijagnostika anorganskih materijala, Anorganske sinteze, Nomenklatura anorganskih jedinjenja, Infracrvena spektroskopija anorganskih jedinjenja, Analitička hemija I, Analitička hemija II, Analitička hemija II, Mehanizmi jonske izmjene

II ciklusa studija:

Viši anorganski praktikum, Izabrana poglavlja iz anorganske hemije, Anorganski materijali, Strukturna anorganska hemija

OBRAZOVANJE

2013 – 2018 **Doktor hemijskih nauka**, Prirodno-matematički fakultet Univerziteta u Sarajevu
Doktorska disertacija: „Heteroleptički kompleksi rutenija sa flavonoidima: Sinteza, karakterizacija i struktura“

2014 – 2015 Jednosemestralni studijski boravak u okviru doktorskog studija na Sveučilištu u Zagrebu, Prirodno-slovno-matematički fakultet, Zavod za opću i anorgansku kemiju, *smjer: Anorganska i strukturna kemija* (Erasmus Mundus Basileus V mobility project)

2012 – 2013 **Magistar inženjerske hemije**, Prirodno-matematički fakultet, Sarajevo
Magistarski rad: „Spektroskopski i elektrohemijski dokazi interkalacije CT DNA sa Natrij bis(*N*-oksifenil-5-*X*-salicilideniminato-*ONO*)rutenat(III) kompleksima“
Prosječna ocjena tokom studija: 10.00

Dobitnik priznanja „**Zlatna značka Univerziteta u Sarajevu**“ kao najbolji student prvog i drugog ciklusa studija Prirodno-matematičkog fakulteta Univerziteta u Sarajevu

2008 – 2012 **Bakalaureat/bachelor inženjerske hemije**, Prirodno-matematički fakultet, Sarajevo
Diplomski rad: „Sinteza i karakterizacija novog anionskog kompleksnog jedinjenja tetrametilamonij dihlorobis(*N*-butilsalicilideniminato-*ON*)rutenat(III) – $(\text{CH}_3)_4\text{N}[\text{RuCl}_2(\text{C}_6\text{H}_4\text{OCHNC}_4\text{H}_9)_2]^{+}$ “
Prosječna ocjena tokom studija: 10.00

Dobitnik priznanja „**Zlatna značka Univerziteta u Sarajevu**“ kao najbolji student prvog ciklusa studija Prirodno-matematičkog fakulteta Univerziteta u Sarajevu i najuspješniji student Univerziteta u Sarajevu

2004 – 2008 JU Opća gimnazija „Edhem Mulabdić“ Maglaj, prirodno izborno područje

1996 – 2004 JU Osnovna škola „Sulejman Omerović Car“ Maglaj

LIČNE VJEŠTINE

Maternji jezik Bosanski jezik

Ostali jezici	RAZUMIJEVANJE		GOVOR		PISANJE
	Slušanje	Čitanje	Govorna interakcija	Govorna produkcija	
Engleski jezik	B2.2	B2.2	B2.2	B2.2	B2.2
Njemački jezik	A2	A2	A2	A2	A2

Stepeni: A1/2: Početnik – B1/2: Samostalni korisnik – C1/2: Iskusni korisnik
Zajednički europski referentni okvir za jezike

Rad na računaru

- Microsoft Office™
- web-design
- hemijski softveri

Vozačka dozvola

- B kategorija

DODATNE INFORMACIJE

Usavršavanja

septembar - oktobar 2015

Training & Research for Academic Newcomers, Univerzitet u Sarajevu, 2015
(pedagoško obrazovanje)

Učešće u projektima

Naziv projekta	<i>Razvoj kompleksa rutenija kao medijatora za nove senzore</i>
Tip projekta	<i>Domaći istraživački</i>
Nosilac projekta	<i>prof. dr. Emir Turkušić</i>
Učešće	<i>Saradnik – mladi istraživač</i>
Finansijer	<i>Federalno ministarstvo obrazovanja i nauke BiH</i>
Trajanje	<i>1 godina – 2017.</i>
Naziv projekta	<i>Kompleksi rutenija sa flavonoidima kao potencijalni lijekovi: sinteza i karakterizacija</i>
Tip projekta	<i>Domaći istraživački</i>
Nosilac projekta	<i>prof. dr. Emira Kahrović</i>
Učešće	<i>Saradnik – mladi istraživač</i>
Finansijer	<i>Federalno ministarstvo obrazovanja i nauke BiH</i>
Trajanje	<i>1 godina – 2015.</i>
Naziv projekta	<i>Metal-Hydride Organic Frameworks (HOF) – New solids for gas adsorption and separation</i>
Tip projekta	<i>Međunarodni istraživački – SCOPES projekat</i>
Nosilac projekta	<i>Černý, Radovan; glavni istraživač u bh timu prof. dr. Emira Kahrović</i>
Učešće	<i>Saradnik u bh nacionalnom timu</i>
Finansijer	<i>Swiss National Science Foundation</i>
Trajanje	<i>2014. – 2017.</i>
Naziv projekta	<i>Istraživanje interakcije - interkalacije DNK (dezoksiribonukleinske kiseline) sa novim kompleksima Ru (III) sa Šifovim bazama</i>
Tip projekta	<i>Domaći istraživački</i>
Nosilac projekta	<i>prof. dr. Emira Kahrović</i>
Učešće	<i>Saradnik – mladi istraživač</i>
Finansijer	<i>Federalno ministarstvo obrazovanja i nauke BiH</i>
Trajanje	<i>1 godina – 2013.</i>

Učešće na regionalnim konferencijama

oktobar 2016.	<i>2nd Congress of Chemists and Chemical Engineers of Bosnia and Herzegovina with International Participation, Sarajevo, Bosnia and Herzegovina</i>
oktobar 2014.	<i>1st Congress of Chemists and Chemical Engineers of Bosnia and Herzegovina with International Participation, Sarajevo, Bosnia and Herzegovina</i>
juni 2014.	<i>5. juni – Svjetski dan zaštite okolišta, Bihać, Bosna i Hercegovina</i>
februar 2014.	<i>X Meeting of Young Chemical Engineers, Zagreb, Croatia</i>
februar 2012.	<i>IX Meeting of Young Chemical Engineers, Zagreb, Croatia</i>

Učešće na međunarodnim konferencijama

- avgust 2016. *13th European Biological Inorganic Chemistry*, Budapest, Hungary
avgust 2014. *12th European Biological Inorganic Chemistry*, Zurich, Switzerland
septembar 2013. *International Turkish Congress on Molecular Spectroscopy*, Istanbul, Turkey
septembar 2012. *40th International Conference on Coordination Chemistry*, Valenica, Spain

Članstva

Član Society of Biological Inorganic Chemistry

BIBLIOGRAFIJA

Naučni radovi u časopisima

Radovi indeksirani u Web of Science – Current Contents Connect®

1. Kahrović, E., **Zahirović, A.**, Višnjjevac, A., Osmanković, I., Turkušić, E. and Kurtagić, H. (2018). Chalcone and Flavonol Copper(II) Complexes Containing Schiff Base Co-Ligand: Synthesis, Crystal Structures and Catecholase-like Activity. *Croatica Chemica Acta*, 91(2): 1-13.
https://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=297468
2. **Zahirović, A.**, Kahrović, E., Cindrić, M., Kraljević Pavelić, S., Hukić, M., Harej, A., & Turkušić, E. (2017). Heteroleptic ruthenium bioflavonoid complexes: From synthesis to in vitro biological activity. *Journal of Coordination Chemistry*, 70(24), 4030-4053.
<https://doi.org/10.1080/00958972.2017.1409893>
3. Turkušić, E., Redžić, S., Kahrović, E., & **Zahirović, A.** (2017). Electrochemical Determination of Adrenaline at Ru (III) Schiff Base Complex Modified Carbon Electrodes. *Croatica Chemica Acta*, 90(2), 1-8.
<https://doi.org/10.5562/cca3177>
4. Kahrović, E., **Zahirović, A.**, Kadrić, Š., Turkušić, E., Osmanković, I., & Džudžević Čančar, H. (2017). Structural feature of calf thymus deoxyribonucleic acid–ruthenium (III) interaction in aqueous solution by difference Fourier transformed infrared spectroscopy. *Spectroscopy Letters*, 50(8), 426-431.
<https://doi.org/10.1080/00387010.2017.1350720>
5. Kahrović, E., **Zahirović, A.**, Kraljević Pavelić, S., Turkušić, E., & Harej, A. (2017). In vitro anticancer activity of binuclear Ru (II) complexes with Schiff bases derived from 5-substituted salicylaldehyde and 2-aminopyridine with notably low IC50 values. *Journal of Coordination Chemistry*, 70(10), 1683-1697.
<https://doi.org/10.1080/00958972.2017.1308503>

6. Redžić, S., Kahrović, E., **Zahirović, A.**, & Turkušić, E. (2016). Electrochemical Determination of Dopamine with Ruthenium (III) Modified Glassy Carbon and Screen Printed Electrodes. *Analytical Letters*, 50(10), 1602-1619.

<https://doi.org/10.1080/00032719.2016.1241799>

7. Pazalja, M., Kahrović, E., **Zahirović, A.**, & Turkušić, E. (2016). Electrochemical Sensor for Determination of L-Cysteine Based on Carbon Electrodes Modified with Ru (III) Schiff Base Complex, Carbon Nanotubes and Nafion. *International Journal of Electrochemical Science*, 11, 10939-10952.

<dx.doi.org/10.20964/2016.12.86>

8. Kahrović, E., **Zahirović, A.**, Turkušić, E., & Bektaš, S. (2016). A Dinuclear Ruthenium (II) Schiff Base Complex with Dissimilar Coordination: Synthesis, Characterization, and Biological Activity. *Zeitschrift für anorganische und allgemeine Chemie*, 642(6), 480-485.

<https://doi.org/10.1002/zaac.201600008>

9. Ljubijankić, N., **Zahirović, A.**, Turkušić, E., & Kahrović, E. (2013). DNA binding properties of two ruthenium (III) complexes containing Schiff bases derived from salicylaldehyde: spectroscopic and electrochemical evidence of CT DNA intercalation. *Croatica Chemica Acta*, 86(2), 215-222.
(doi: 10.5562/cca2216)

<http://dx.doi.org/10.5562/cca2216>

Radovi indeksirani u Scopus, Ebsco i sličnim bazama podataka

10. Eminovic, I., Kahrović, E., Mesic, A., Turkusic, E., Kargic, D., **Zahirovic, A.**, & Dolicanin, Z. (2016). Cytogenotoxic effects of two potential anticancer Ruthenium (III) Schiff Bases complexes. *Journal of Health Sciences*, 6(2).

11. Emira Kahrović, Emir Turkušić, **Adnan Zahirović**, Sabaheta Bektaš and Huriya Džudžević Čančar (2016). Evidence on Antimicrobial Activity of Sodium Dichlorobis[N-phenyl-5-chlorosalicylideneiminato-N,O]ruthenate(III) against Gram-positive Bacteria. *Der Pharma Chemica*, 8(6): 174-178.

12. **Zahirović Adnan**, Turkušić Emir, Kahrović Emira (2015). Bis(iminato)ruthenates(III): Correlation of Half-wave Potential and Hydrolysis Constant with Electronic Effects of Substituent", *Bulletin of the Chemists and Technologists of Bosnia and Herzegovina*, 45, 1-8.

13. Sead Ljubijankić, **Adnan Zahirović**, Mahira Memišević, Nevzeta Ljubijankić, Emira Kahrović (2014). Spectrophotometric determination of binding constants of Ru(III) salicylideneimine complexes with CT DNA, *Bulletin of the Chemists and Technologists of Bosnia and Herzegovina*, 43, 5-10.

14. Emira Kahrovic, **Adnan Zahirovic** and Emir Turkusic (2014). Calf Thymus DNA Intercalation by Anionic Ru(III) Complexes Containing Tridentate Schiff Bases Derived from 5-X-Substituted Salicylaldehyde and 2-Aminophenol, *Journal of Chemistry and Chemical Engineering*, 8, 335-343.

Naučni radovi na konferencijama

1. **Adnan Zahirović**, Emir Turkušić, Emira Kahrović. *Oxidative Decomposition of Quercetin in Presence of Ruthenium(III)*. 2nd Congress of Chemists and Chemical Engineers of Bosnia and Herzegovina with International Participation, Sarajevo, Bosnia and Herzegovina, 21-23 October **2016**, Book of Abstracts, p. 86
2. Irnesa Svraka, Šeherzada Kadrić, **Adnan Zahirović**, Emira Kahrović. *FT-IR Spectroscopy Investigation of Cobalt(II) – CT DNA Interaction in Water Solution*. 2nd Congress of Chemists and Chemical Engineers of Bosnia and Herzegovina with International Participation, Sarajevo, Bosnia and Herzegovina, 21-23 October **2016**, Book of Abstracts, p. 78
3. H. Džudžević-Čančar, A. Dedić, N. Bibić, E. Kahrović, I. Tahirović, **A. Zahirović**, J. Đedibegović. *Extraction and Spectroscopic Characterization of Oleic Acid from Refined and Unrefined Olive Oil*. 2nd Congress of Chemists and Chemical Engineers of Bosnia and Herzegovina with International Participation, Sarajevo, Bosnia and Herzegovina, 21-23 October **2016**, Book of Abstracts, p. 117
4. **Adnan Zahirović**, Emira Kahrović, Marina Cindrić, Emir Turkušić, Irnesa Svraka, *Synthetic Approaches to First Ruthenium – Quercetin Complexes: Insight into Design, Reactivity towards CT DNA and Antioxidant Activity*, 13th European Biological Inorganic Chemistry Conference, Budapest, Hungary, August 28 – September 01 **2016**, Book of Abstracts, p. 301 (P148).
5. Emira Kahrović, **Adnan Zahirović**, Šeherzada Kadrić, Emir Turkušić, *Structural View on Ru(III)-CT DNA Interaction in Aqueous Solution by FTIR Spectroscopy*, 13th European Biological Inorganic Chemistry Conference, Budapest, Hungary, August 28 – September 01 **2016**, Book of Abstracts, p. 184 (P031).
6. Nevzeta Ljubijankić, **Adnan Zahirović** and Emira Kahrović, *Spectroscopic evidence on interaction of ruthenates (III) derived from N-low alkyl-5-substituted salicylideneimine with calf thymus DNA*, Congress of Chemists and Chemical Engineers of Bosnia and Herzegovina with International Participation, Sarajevo, Bosnia and Herzegovina, 10-12 October **2014**, Book of Abstracts, p.87
7. Sead Ljubijankić, **Adnan Zahirović**, Mahira Memišević, Nevzeta Ljubijankić and Emira Kahrović, *Spectrophotometric determination of binding constants of Ru(III) salicylideneimine complexes with CT DNA*, Congress of Chemists and Chemical Engineers of Bosnia and Herzegovina with International Participation, Sarajevo, Bosnia and Herzegovina, 10-12 October **2014**, Book of Abstracts, p.89
8. **Adnan Zahirović**, Sabaheta Bektaš, Ilda Graca, Maida Puška, Emir Turkušić, Emira Kahrović, *A new complex of Ru(III) with N-(2-pyridyl)salicylideneimine: DNA binding properties and activity against Staphylococcus Aureus*, 12th European Biological Inorganic Chemistry Conference, Zurich, Switzerland, August 24 – 28, 2014, *J. Biol. Inorg. Chem.* (**2014**) 19 (Suppl 2), S790.

9. Emir Turkušić, Emira Kahrović, Nevzeta Ljubijankić, **Adnan Zahirović**, *Hemijski senzori i biosenzori u kontroli i zaštiti okoliša i zdravlja*, Drugi naučno-stručni skup sa međunarodni učešćem "5. juni - Svjetski dan zaštite okoliša", Bihać, Bosna i Hercegovina, 4 - 5 juni **2014**, Zbornik sažetaka, p. 36.
10. **Adnan Zahirovic**, Ilda Graca, Emir Turkusic, Emira Kahrovic, *Synthesis and characterization of new ruthenium (III) complex with tridentate dibasic Schiff base*, X Meeting of Young Chemical Engineers, Zagreb, Croatia, 20 – 21 February **2014**, oral presentation, Book of Abstracts, p. 56. (*oral presentation*)
11. **Adnan Zahirovic**, Sabina Begic-Hairlahovic, Nevzeta Ljubijankic, Emir Turkusic, Emira Kahrovic, *The Spectroscopic characterization of some Ru(III) complexes with Schiff bases derived from salicylaldehyde and investigation of interaction with CT DNA*, International Turkish Congress on Molecular Spectroscopy, Istanbul, Turkey, September 15-20, **2013**, Book of Abstracts, Applied Spectroscopies – P7, p. 88.
12. Emira Kahrović, Emir Turkušić, Nevzeta Ljubijankić, Sabina Begić, Vera Dugandžić and **Adnan Zahirović**, *The Spectroscopic Investigations of a Ruthenium Schiff Base Complex with CT DNA*, 40 International Congress on Coordination Chemistry, Valencia, Spain, September 9-13, **2012**, Book of Abstracts, MS.D2.P.601, C404-C405.
13. **Adnan Zahirović**, Nevzeta Ljubijankić, *Synthesis and characterization of a new anionic compound dichlorobis(N-buthylsalicylideniminato-O,N)ruthenate(III)*, IX meeting of young chemical engineers, Zagreb, Croatia, February 16-17, **2012**, Book of Abstracts, p. 61

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