**Name and surname: AMAR OSMANOVIĆ**

**WORK EXPERIENCE**

* **Associate Professor**

September 2024 – current

University of Sarajevo – Faculty of Pharmacy

Department of Pharmaceutical Chemistry

* **Assistant Professor**

April 2021 – September 2024

University of Sarajevo – Faculty of Pharmacy

Department of Pharmaceutical Chemistry

* **Senior Teaching and Research Assistant**

June 2016 – April 2021

University of Sarajevo – Faculty of Pharmacy

Department of Pharmaceutical Chemistry

* **Teaching and Research Assistant**

May 2012 – June 2016

University of Sarajevo – Faculty of Pharmacy

Department of Pharmaceutical Chemistry

**EDUCATION**

* **DigiEdu** – Strengthening the pedagogical and digital competences of teachers

January – February 2023, University of Sarajevo

* **Specialist internship in the field of "Pharmaceutical Health Care"**

October 2022 – current

University of Sarajevo – Faculty of Pharmacy; Federal Ministry of Health of Bosnia and Herzegovina

* **PhD in Pharmaceutical Chemistry: “Synthesis and investigation of biological activities of 5-alkyl pyrimidine derivatives”**

July 2020, University of Sarajevo – Faculty of Pharmacy

* **TRAIN (*Training & Research for Academic Newcomers)***

September – December 2014, University of Sarajevo

* **State qualifying exam for Masters of Pharmacy**

September 2014, Federal Ministry of Health of Bosnia and Herzegovina

* **Master of Pharmacy**

November 2011, University of Sarajevo – Faculty of Pharmacy

**ACADEMIC/TEACHING WORK:**

**Integrated study** of Ist and 2nd Cycle at University of Sarajevo – Faculty of Pharmacy

Obligatory courses:

* *Pharmaceutical Chemistry I*
* *Pharmaceutical Chemistry II*

Elective courses:

* *Selected Chapters in Pharmaceutical Chemistry: Drug Design*
* *Selected Chapters in Pharmaceutical Chemistry: Drugs for the Treatment of Influenza and Cold*
* *Selected Chapters in Pharmaceutical Chemistry: Metabolic Drug Stability and Strategies for Increasing Metabolic Stability*

**Integrated study** of Ist and 2nd Cycle at University “Džemal Bijedić” in Mostar, study programme Pharmacy

March 2023 – current

Obligatory courses:

* *Pharmaceutical Chemistry I*
* *Pharmaceutical Chemistry II*

**Third cycle** of studies at the University of Sarajevo – Faculty of Pharmacy, doctoral studies: "Pharmaceutical research":

Elective courses:

* *Design and synthesis of new pharmacologically active compounds (course supervisor)*
* *Molecular basics of pharmaceutical chemistry*
* *Organic chemistry in drug synthesis*
* *Application of in silico methods in drug design*

**STUDY VISITS ABROAD**

* Training school: "**Ecologically acceptable synthesis of targeted antimicrobial peptides and small molecules**"

March 2024, Sapienza University, Rome, Italy

* Training school: "**Bioinformatics and computer tools in antibacterial research**"

January 2023, University of Lusófona, Lisbon, Portugal

* Radboud summer school: "**Introduction to preclinical drug discovery**"

July 2022, Radboud University, Nijmegen, The Netherlands

* Post-doctoral research: “**Synthesis of photoswitchable derivatives of cholesterol as optoregulators of TRPC3/6-channels**”

October 2021 – January 2022, Depertament of Medicinal Chemistry - Institute for Chemistry, University of Graz

* Short Term Scientific Mission (STSM): “**Molecular docking study of effects of 4-methylumbelliferone and structurally similar molecules on hyaluronan synthesis**“

February 2020, Faculty of Chemistry and Chemical Technology, University of Ljubljana

* Training School: “**Basics of data modelling application to permeability studies and *in vitro in vivo* correlations**“

December 2019, Faculty of Pharmacy, University of Lisbon

* **Synthesis of *N*-acyclic pyrimidine nucleoside analogs**

June 2012, Faculty of Chemical Engineering and Technology, University of Zagreb

**NETWORKS AND MEMBERSHIPS**

* **COST Action 21145 EURESTOP** – European Network for diagnosis and treatment of antibiotic-resistant bacterial infections (October 2022 – current)
* Management Committee Member
* WG 3 member – Drug Design and Delivery
* Young Researchers & Innovators Committee Member
* **Committee for Quality Assurance** of the University of Sarajevo – Faculty of Pharmacy

2020 – current

Member

* **COST Action 18103 INNOGLY –** Innovation with Glycans: new frontiers from synthesis to new biological targets (June 2019 – April 2022)
* WG 4 member – Exploring the multifaceted roles of glycosaminoglycans (GAGs)
* **COST Action 16205 UNGAP –** European Network on Understanding Gastrointestinal Absorption-related Processes (June 2019 – October 2023)
* Management Committee Member
* WG 4 member – Food-drug interface

**PROJECTS:**

* **Combating drug resistance: design and synthesis of novel diarylideneacetone derivatives and their pharmacological and toxicological profiling (Leader of the project)**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2024 – 2025

* **Artificial intelligence in the first search in B&H for an antiviral drug against hantavirus - the causative agent of hemorrhagic fever**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2024 – 2025

* **Elderberry - an underutilized natural resource of Bosnia and Herzegovina: Phytochemical and bioactive profile, and modeling of protective effects on human health**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2024 – 2025

* **Rational design and "green" synthesis of new acridine derivatives with antitumor and antimicrobial effects**

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2024 – 2025

* **Cornelian cherry - the unused red gem of Bosnia and Herzegovina: bioactive profile, macro and microelements and health benefits**

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2024 – 2025

* **Maternal exposure and child health: Investigating the transplacental transfer of pollutants**

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2024 – 2025

* **Research center for designing new drugs (Leader of the project)**

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2023 – 2025

* **Multicomponent synthesis of heteroaryl substituted acridine and xanthene derivatives as potential antitumor agents**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2022 – 2023

* **Improving motion sickness therapy by inclusion complexes of dimenhydrinate with hydrophilic betacyclodextrin derivatives**

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2022 – 2023

* **Bioactive profile and protective effects on human health of the bladder cherry - unused treasure of Bosnia and Herzegovina**

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2022 – 2023

* **Virtual laboratories in education of pharmacists**

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2022 – 2024

* **Bioactive profile and predictive modeling of the action of white mulberry in the fight against antibiotic resistance and SARS-CoV-2**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2022 – 2023

* **Compounds from marine organisms: *in silico* screening in search for potential drug against SARS CoV-2**

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2021 – 2022

* **Investigation of antitumor activity and toxicity of synthesized xanthenes**

Ministry of Science, Higher Education and Youth of Canton Sarajevo, Bosnia and Herzegovina, 2021 – 2022

* **Improvement of solubility and biological activity of 3-cinnamoyl-4-hydroxycoumarin derivatives by inclusion complexation with hydrophilic β-cyclodextrin derivatives**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2017 – 2018

* **Chemical composition and antioxidant potential of edible wild mushrooms of Bosnia and Herzegovina**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2017 – 2018

* **Investigation of antitumor, antioxidant and microbiological effects of synthesized tetraketone derivatives**

Ministry of Education and Science of Canton Sarajevo, Bosnia and Herzegovina, 2016 – 2017

* **Neural networks and QSAR in the design and synthesis of pharmacologically active xanthenes**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2016 – 2017

* **Modelling and docking studies of new potent azomethine thymoquinone derivatives and their organometallic complexes**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2014 – 2015

* **New analogues of acyclic nucleosides – synthesis, structure and biological activity**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2013 – 2014

* **Application of green chemistry in development and synthesis of biologically active xanthenes and biscoumarins**

Federal Ministry of Education and Science, Bosnia and Herzegovina, 2013 – 2014

* **Development of novel C-5 fluoroalkyl *N*-acyclic pyrimidine nucleoside analogs as PET tracer for *in situ* monitoring of gene and cell-based therapies using HSV1-TK as a reporter gene.**

International project SCOPES, 2009 – 2012

**SELECTED PUBLICATIONS**

**Original scientific articles:**

* **Marine Origin vs. Synthesized Compounds: In Silico Screening for a Potential Drug Against SARS-CoV-2**

**A. Osmanović**, M. Salihović, E. Veljović, L. Hindija, M. Pazalja, M. Malenica, A. Selmanagić, S. Špirtović-Halilović. *Scientia Pharmaceutica* **2025**, *93*(1): 2

* **Data-Driven Modelling of Substituted Pyrimidine and Uracil-Based Derivatives Validated with Newly Synthesized and Antiproliferative Evaluated Compounds**

S. Zukić, **A. Osmanović**, A. Harej Hrkać, S. Kraljević Pavelić, S. Špirtović-Halilović, E. Veljović, S. Roca, S. Trifunović, D. Završnik, U. Maran. *International Journal of Molecular Sciences* **2024**, 25(17): 9390

* **Biological potential, chemical profiling, and molecular docking study of Morus alba L. extracts**

I. Mahmutović-Dizdarević, A. Mešić, A. Jerković-Mujkić, B. Žujo, M. Avdić, M. Hukić, E. Omeragić, **A. Osmanović**, S. Špirtović-Halilović, S. Ahmetovski, S. Mujkanović, E. Pramenković, M. Salihović. *Fitoterapia* **2024**, 177: 106114

* **Synthesis, in silico study and antitumor activity of coumarin compounds in lymphoma cells**

E. Bilajac, **A. Osmanović**, U. Glamočlija, E. Veljović, B. Imamović, E. Bečić, S. Roca, M. Salihović, D. Završnik, S. Špirtović-Halilović. *Farmacia* **2023**, 71(6): 1263-1273

* **Analysis of Antitumor Potential of Xanthene Compounds in Lymphoma Cells**

E. Bilajac, U. Glamočlija, **A. Osmanović**, L. Mahmutović, A. Sezer, S. Roca, S. Špirtović-Halilović, M. Salihović, A. Hromić-Jahjefendić, E. Veljović. *Croatica Chemica Acta* **2023**, 96(1): 59-68

* **Interaction of Copper(II) Complexes of Bidentate Benzaldehyde Nicotinic Acid Hydrazones with BSA: Spectrofluorimetric and Molecular Docking Approach**

A. Zahirović, I. Osmanković, **A. Osmanović**, A. Višnjevac, A. Magoda, S. Hadžalić, E. Kahrović. *Acta Chimica Slovenica* **2023**, 70: 74-85

* **Curcumin Decreases Viability and Inhibits Proliferation of Imatinib-Sensitive and Imatinib- Resistant Chronic Myeloid Leukemia Cell Lines**

E. Bilajac, L. Mahmutović, U. Glamočlija, **A. Osmanović**, A. Hromić-Jahjefendić, M. M. Tambuwala, M. Suljagić. *Metabolites* **2023**, 13(1): 58

* **Inclusion complexes of 3-(3-(2-chlorophenyl)prop-2-enoyl)-4-hydroxycoumarin with 2-hydroxypropyl-β-cyclodextrin: solubility and antimicrobial activity**

J. Hadžiabdić, S. Špirtović-Halilović, **A. Osmanović**, L. Zahirović, A. Elezović. *Brazilian Journal of Pharmaceutical Sciences* **2022**, 58: e20013

* **Copper(II) Salicylideneimine Complexes Revisited: From a Novel Derivative and Extended Characterization of Two Homologues to Interaction with BSA and Antiproliferative Activity.**

M. Memišević, A. Zahirović, A. Višnjevac, **A. Osmanović**, D. Žilić, M. Kralj, S. Muratović, I. Martin-Kleiner, D. Završnik, E. Kahrović. *Inorganica Chimica Acta* **2021**, 525: 120460

* **Quantitative structure–activity relationships of xanthen-3-one and xanthen-1,8-dione derivatives and design of new compounds with enhanced antiproliferative activity on HeLa cervical cancer cells.**

S. Zukić, S. Oljacic, K. Nikolic, E. Veljović, S. Špirtović-Halilović, **A. Osmanović**, D. Završnik. *Journal of Biomolecular Structure and Dynamics* **2021**, 39(11): 4026-4036

* **Synthesis, Biological Evaluation and Docking Studies of Benzoxazoles Derived from Thymoquinone.**

U. Glamočlija, S. Padhye, S. Špirtović-Halilović, **A. Osmanović**, E. Veljović, S. Roca, I. Novaković, B. Mandić, I. Turel, J. Kljun, S. Trifunović, E. Kahrović, S. Kraljević Pavelić, A. Harej, M. Klobučar, D. Završnik. *Molecules* **2018**, 23(12): 3297-3314

* **9-aryl substituted hydroxylated xanthen-3-ones: synthesis, structure and antioxidant potency evaluation.**

E. Veljović, S. Špirtović-Halilović, S. Muratović, L. Valek Žulj, S. Roca, S. Trifunović, **A. Osmanović**, D. Završnik. *Croatica Chemica Acta* **2015**, 88(2): 121-127

* **Synthesis, structural, conformational and DFT studies of N-3 and O-4 alkylated regioisomers of 5-(hydroxypropyl) pyrimidine.**

M. Salihović, **A. Osmanović**, S. Špirtović-Halilović, S. Roca, A. Meščić, Lj. Vujisić, S. Trifunović, D. Završnik, E. Sofić. *Journal of Molecular Structure* **2015**, 1091: 170-176

* **DFT Study and Biological Activity of Some Methylxanthines.**

M. Salihović, Š. Huseinović, S. Špirtović-Halilović, **A. Osmanović**, A. Dedić, Z. Ašimović, D. Završnik. *Bulletin of the Chemists and Technologists of Bosnia and Herzegovina* **2014**, 42: 31-36

* **Synthesis of biscoumarin derivatives as antimicrobial agents.**

S. Muratović, K. Durić, E. Veljović, **A.** **Osmanović**, Dž. Softić, D. Završnik. *Asian Journal of Pharmaceutical and Clinical Research* **2013**, 6(3): 132-134

* **C-5 Hydroxyethyl and Hydroxypropyl Acyclonucleosides as Substrates for Thymidine Kinase of Herpes Simplex Virus Type 1 (HSV-1 TK): Syntheses and Biological Evaluation.**

A. Meščić, S. Krištafor, I. Novaković, **A.** **Osmanović**, U. Müller, D. Završnik, S. M. Ametamey, L. Scapozza, S. Raić-Malić. *Molecules* **2013**, 18: 5104-5124

* **N-alkylated and O-alkylated regioisomers of 5-(hydroxyalkyl)pyrimidines: Synthesis and structural study.**

A. Meščić, D. Glavač, **A.** **Osmanović**, D. Završnik, M. Cetina, D. Makuc, J. Plavec, S. M. Ametamey, S. Raić-Malić. *Journal of Molecular Structure* **2013**, 1039: 160-166

**Books:**

* **Farmaceutska hemija I -zbirka problemskih zadataka sa rješenjima-**

**(Pharmaceutical Chemistry I -practice book-)**

S. Špirtović-Halilović, E. Veljović, **A. Osmanović**, D. Završnik. Print studio „Student Line“, Sarajevo, **2021**.

* **Farmaceutska kemija 1**

**(Pharmaceutical Chemistry I)**

D. Završnik, S. Muratović, S. Špirtović-Halilović, E. Veljović, **A. Osmanović**, M. Bojić, M. Medić-Šarić. Univerzitet u Sarajevu, Sarajevo, **2015**.

**Chapters in the books:**

* **Drug design of tyrosinase inhibitors**

F. Melfi, S. Carradori, A. Granese, **A. Osmanović**, C. Campestre. The Enzymes. Elsevier, *Academic Press* **2024**; 56: 111-134