

Professor ZORICA BULAT

Employment Information:

- 2020. Full Professor, University of Belgrade – Faculty of Pharmacy
Department of Toxicology "Akademik Danilo Soldatović"
- 2015. Associate Professor, University of Belgrade – Faculty of Pharmacy
Department of Toxicology "Akademik Danilo Soldatović"
- 2010. Assistant Professor, University of Belgrade – Faculty of Pharmacy
Department of Toxicology "Akademik Danilo Soldatović"
- 1997. Assistant, University of Belgrade – Faculty of Pharmacy
Department of Toxicological Chemistry
- 1993. Trainee Assistant, University of Belgrade – Faculty of Pharmacy
Department of Toxicological Chemistry
- 1992. Associate in practical teaching, University of Belgrade – Faculty of Pharmacy, Institute of Toxicological Chemistry
- 1990. Internship in a pharmacy

Education:

- 2009. Ph.D.
Defended doctoral thesis "Interactions of cadmium and bioelements zinc, copper and magnesium in humans and rabbits exposed to cadmium", University of Belgrade – Faculty of Pharmacy
- 2015. Academic specialization in pharmacy (Toxicological risk assessment of environmental pollutants), University of Belgrade – Faculty of Pharmacy
- 2000. Specialization in Toxicological Chemistry, University of Belgrade – Faculty of Pharmacy
- 1997. Mr sci
Defended master's thesis "The effect of chronic cadmium poisoning on the content of zinc, copper, iron and magnesium in rabbits", University of Belgrade – Faculty of Pharmacy
- 1990. Graduated pharmacist, University of Belgrade – Faculty of Pharmacy

Training:

- 2019. "Workshop on Borderline Issues in the Context of Cosmetics, organized by the Technical Assistance and Information Exchange (TAIEX) Instrument of the European Commission", Ministry of health and Chamber of commerce, Serbia

2019. "Workshop on Safety Assessment of Cosmetics, organized by the Technical Assistance and Information Exchange (TAIEX) Instrument of the European Commission" Ministry of health and Chamber of commerce, Serbia

2017. "Further capacity building in the field of plant protection products and pesticide residues in the Republic of Serbia" (SR / 13 / IB / AG / 02), Ministry of Agriculture of the Republic of Serbia: "Assessments of toxicological properties of plant protection products", "Technical equivalences in data evaluation and risk assessment - mammalian toxicology "

2017. "Biocide's hazard assessment", "Biocide's exposure assessment", "Biocide's risk assessment", Ministry of Agriculture of the Republic of Serbia in cooperation with the Ministry of Health of the Republic of Slovenia and the Austrian Environment Agency within the twinning project "Further development of chemicals and biocidal products in Serbia"

2015. EUROTOX Specialized Toxicology Course "Genotoxicity and Carcinogenicity", 19-23. October 2015

2013. "Mammalian Toxicology of Pesticides", IPA Twinning Project, "Harmonization of national legislation with EU legislation for placing on the market and control of Plant Protection Products and implementation of new legal provisions" SR / 08 / IB / AG / 01, Ministry of Agriculture, water management and forestry of the Republic of Serbia

2011. Ecotoxicological risk assessment - Ministry of Agriculture, Water Management and Forestry of the Republic of Serbia

2011. Risk assessment - mammalian toxicology and exposure of risk operators - Ministry of Agriculture, Water Management and Forestry of the Republic of Serbia

2011. Course in Cancer Risk Assessment, Institute of Environmental Medicine (IMM), Karolinska Institute, Stockholm, Sweden, May 23-27, 2011

Teaching activities:

- Teaching undergraduate students at University of Belgrade – Faculty of Pharmacy different topics of toxicology: Toxicology (F and F-MB), Clinical Toxicological Analysis (F-MB), Introduction to Medical Biochemistry (F-MB) and from Elective courses: Substances of abuse (F and F-MB), Acute drug poisoning (F and F-MB), Ecotoxicology (F and F-MB), Human health risk assessment (F and F-MB), Chemical Carcinogens (F-MB)
- Teaching postgraduate students at University of Belgrade – Faculty of Pharmacy different topics of toxicology:
 - Specialization in Toxicological Chemistry in all subjects covered in the program

- Academic specialization Toxicological risk assessment in all subjects covered in the program
- Doctoral academic studies
- Mentored of 27 thesis and membership in 65 theses
- Mentored 8 specialist thesis and membership in 21
- Mentored 1 doctoral dissertation and membership in 3 commissions

Textbooks:

- Vesna Matović, Mirjana Đukić, Biljana Antonijević, Dragana Vujanović, Zorica Bulat "Practicum in Toxicology and Analysis", 2021.
- Vesna Matović, Aleksandra Buha, Zorica Bulat "Drug Poisoning - Selected Chapters", 2013. ISBN: 978-86-6273-010-7
- Biljana Antonijević, Danijela Đukić-Ćosić, Marijana Ćurčić, Evica Antonijević, Aleksandra Buha Đorđević, Zorica Bulat. "Practicum in General Toxicology", 2021. ISBN: 978-86-6273-067-1

Activities within the Faculty:

- Head of Toxicological Chemistry Specialization (2018-)
- President of the Commission for the preparation and implementation of the knowledge retention test (2016-)
- Member of the Commission for Specialist Studies (2012-)
- Member of the Council of the Group of Medical Sciences of the University of Belgrade (2018-)
- Member of the Statutory Commission (2018-)
- Member of the Commission for Monitoring and Improving the Quality of Teaching (2019-)
- Member of the Working Group for drafting the Rulebook on criteria for election into professors degrees at the Faculty of Pharmacy (2017-2018)
- Member of the Council of the Faculty of Pharmacy (2012-2015)
- Member of the Disciplinary Commission for Students and Employees (2010-2013)

Activities within wider Academic Community:

- President of the Section for Toxicological Chemistry of the Pharmaceutical Associations of Serbia;
- Bord member of the Serbian Society of Toxicology;

- Member of EUROTOX (Federation of European Toxicologists & European Societies of Toxicology);
- Member of IUTOX (International Union of Toxicology);
- Member of TIAFT (The International Association of Forensic Toxicologists);
- Supervisor for external quality control of professional work conducted by reference health institutions and the Institute of Public Health of Serbia for Pharmacy (specialty toxicological chemistry);
- Expert of the Agency for Medicinal Products and Medical Devices for the assessment of documentation on testing the quality, safety and efficacy of drugs and medical devices (assessment of the pharmaceutical-toxicological profile of impurities)
- Evaluator for regulatory risk assessment of biocidal products (Human health hazard, exposure and risk assessment), Ministry of Environmental Protection of the Republic of Serbia; Environment Agency Austria; Ministry of Health R. Slovenia
- Trainer of Advisors for Chemicals approved by Faculty of Pharmacy, Ministry of Environmental Protection of the Republic of Serbia
- Member of the Working Group for drafting the Law and Rulebooks on health safety of consumer products at the Ministry of Health of the Republic of Serbia
- Member of the Working Group for drafting the Proposal of the Decree on Amendments to the Decree on the Manner and Procedure of Destruction of Confiscated Psychoactive Controlled Substances
- Member of the Working Group for Amendments to the Law on Psychoactive Controlled Substances
- Member of the Working Group for Amendments to the Law on Precursors at the Ministry of Health of the Republic of Serbia
- Member of the Working Group for re-evaluation of maximum permitted concentrations of cadmium and copper in foodstuffs at the Ministry of Agriculture of the Republic of Serbia
- Review activities in scientific journals: Environmental Research, Environmental Pollution, Environmental Health, Food and Chemical Toxicology, Chemicobiological interactions, Biological Trace Element Research, Science of the Total Environment, Chemosphere, Environmental Science and Pollution Research, BioMed Research International, Scientific Report, Human and Experimental Toxicology, Toxicology and Industrial Health, Drug and Chemical Toxicology, Mediators of Inflammation, Evidence-Based Complementary and Alternative Medicine, Chemical Industry, Archives of Occupational Hygiene and Toxicology, Military Medical Review, Archives of Pharmacy, Croatian Journal of Food Science and Technology

Projects:

- 2021-2023. Improving anti-cancer immunotherapy efficiency of CAR-T cells or PD-1 / PD-L1 inhibitors by combining immune modulators; Scientific research and development project between the Republic of Serbia and the Republic of China
- 2021-2025. CA20121 – Bench to bedside transition for pharmacological regulation of NRF₂ in noncommunicable diseases, EU COST action
- 2021 The informed mother, healthy baby – how to live safe with chemicals? Serbian Society of Toxicology, funded by Ministry of Health R. Serbia (SETOX team member from the Faculty of Pharmacy)
- 2020-2022. Program PROMIS: Decoding the role of exposomes in endocrine health (DecodExpo), Science Fund of the Republic of Serbia
- 2019-2021 National Project of Montenegro: "Health risk assessment in Pljevlja municipality based on human biomonitoring data", coordinator from the Serbian side
- 2014-2015 "Probabilistic assessment of mercury intake through food", bilateral project with the Republic of Slovenia
- 2016-2017 "Risk assessment of contaminant mixtures present in food", bilateral project with the Republic of Croatia
- 2011-onwards Subproject "Chemical food contaminants"; Project "Improvement and development of hygienic and technological procedures in the production of food of animal origin in order to obtain quality and safe products competitive on the world market"; Project type: Integral and interdisciplinary research
- 2009-2010. "Food Safety, Chemical Contaminants and Integrative Risk Assessment" no. pr. 20212; Project type: Technological development
- 2001-2005. "Endogenous xenobiotic exposure parameters; analytics, monitoring, prophylaxis and therapy "
- 1998-2000. "Interactions of heavy metals and bioelements"

Publications:

- Anđelković M, Djordjevic AB, Miljaković EA, Javorac D, Čolaković N, Oprić S, Petričević S, Granić M, Kotur-Stevuljević J, Antonijević B, Bulat Z. Cadmium tissue level in women diagnosed with breast cancer - A case control study. Environ Res. 2021 Aug;199:111300. doi: 10.1016/j.envres.2021.111300.
- Javorac D, Antonijević B, Anđelković M, Repić A, Bulat P, Buha Djordjević A, Baralić K, Đukić-Ćosić D, Antonić T, Bulat Z. Oxidative stress, metallomics and blood toxicity after subacute low-level lead exposure in Wistar rats: Benchmark dose analyses. Environmental Pollution 2021;291. doi: 10.1016/j.envpol.2021.118103
- Buha Djordjevic A, Andjelkovic M, Javorac D, Manic L, Bulat Z, Talab Y, Panieri E, Saso L, Wallace D. The Role of ROS in Chemical Carcinogenesis

Induced by Lead, Nickel, and Chromium. In: Chakraborti S., Ray B.K., Roychowdhury S. Eds: Handbook of Oxidative Stress in Cancer: Mechanistic Aspects. Springer, Singapore Pte Ltd. 2021.

- Baralić K, Živančević K, Javorac D, Buha Djordjevic A, Anđelković M, Jorgovanović D, Antonijević Miljaković E, Čurčić M, Bulat Z, Antonijević B, Đukić-Ćosić D. Multi-strain probiotic ameliorated toxic effects of phthalates and bisphenol A mixture in Wistar rats. Food Chem Toxicol. 2020 Sep;143:111540. doi: 10.1016/j.fct.2020.111540.
- Repić A, Bulat P, Antonijević B, Antunović M, Džudović J, Buha A, Bulat Z. The Influence of Smoking Habits on Cadmium and Lead Blood Levels in the Serbian Adult People. Environ Sci Poll Res 2019 DOI: 10.1007/s11356-019-06840-1
- Djordjevic VR, Wallace DR, Schweitzer A, Boricic N, Knezevic D, Matic S, Grubor N, Kerkez M, Radenkovic D, Bulat Z, Antonijevic B, Matovic V, Buha A. Environmental cadmium exposure and pancreatic cancer: Evidence from case control, animal and in vitro studies. Environ Int 2019; 128:353-361. doi: 10.1016/j.envint.2019.04.048.
- Mandić-Rajčević S, Bulat Z, Matović V, Popević M, Lepić M, Mandić B, Jovanović M, Haufroid V, Žarković M, Bulat P. Environmental and take-home lead exposure in children living in the vicinity of a lead battery smelter in Serbia. Environ Res 2018; 167:725–734. doi.org/10.1016/j.envres.2018.08.031
- Matović V, Buha A, Đukić-Ćosić D, Bulat Z. Insight into the oxidative stress induced by lead and/or cadmium in blood, liver and kidneys. Food Chem Toxicol 2015; 78:130-40. DOI: 10.1016/j.fct.2015.02.011
- Matović V, Buha A, Bulat Z, Đukić-Ćosić D. Cadmium toxicity revisited: focus on oxidative stress induction and interactions with zinc and magnesium. Arh Hig Rada Toksikol 2011; 62: 65-76.
- Plamenac Bulat Z, Đukić-Ćosić D, Đokić M, Bulat P, Matović V. Blood and urine cadmium and bioelements profile in nickel-cadmium battery workers in Serbia. Toxicol Ind Health 2009; 25(2): 129-35.