

PERSONAL INFORMATION

Name and surname	Dragana Šeklić
Date and place of birth	1981. Čačak
Scientific title	Scientific associate
E-mail	dragana.seklic@uni.kg.ac.rs
Educational-scientific / educational-artistic field	PhD Biological Sciences
University, Faculty, Organizational unit	University of Kragujevac
Research field and areas	Cell and molecular biology

EDUCATION

BACHELOR

Year	2008.
Place	Kragujevac
Institution	Faculty of Science

MASTER STUDIES

Year	2008.
Place	Kragujevac
Institution	Faculty of Science

DOCTORAL DISSERTATION

Year	2018.
Place	Kragujevac
Institution	Faculty of Science
Title of doctoral dissertation	Molecular mechanisms of colorectal cells migration in antitumor action of new-synthesized platina(IV) complex and natural bioactive substances
Scientific title	Research Associate

Research area	Biology
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PROFESSIONAL BIOGRAPHY – ELECTION IN RESEARCH OR SCIENTIFIC TITLE

Date	Institution	Scientific title
2008.	Faculty of Science	Research Associate
2012.	Faculty of Science	Research Associate
2019.	Faculty of Science	Scientific associate

PROFESSIONAL BIOGRAPHY - TRAINING

Year	Institution	Duration
2020.	“Proteomics: From sample preparation to practical aspects”, Belgrade, Serbia	5 days
2019.	1st FoodEnTwin Workshop “Food and Environmental - Omics”, Belgrade, Serbia	5 days
2019.	“Metallomics: Food, feed and environmental applications with practical training” Belgrade, Serbia	5 days
2015.	“Cell Science and Engineering Course”, Kragujevac, Serbia	5 days
2011.	Faculty of Science and Mathematics, Skopje, Republic of North Macedonia	15 days
2008.	Paris, Institute CURIE, France	2 months

ENGAGEMENT IN THE FORMATION OF SCIENTIFIC PERSONNEL

Mentor - Milena Jovanović, June 2020, "Molecular mechanisms of migration and invasion of immortalized and primary colorectal cancer cell lines in treatment with royal jelly and 10H2DA", PhD studies of Biology, Faculty of Science, University of Kragujevac; Mentor advisor - Dejan Arsenijević, November 2021, PhD studies of Biology, Faculty of Science, University of Kragujevac; Mentor advisor - Katarina Pecić, January 2022, PhD studies of Bioengineering, Faculty of Engineering, University of Kragujevac.

**PARTICIPATION IN NATIONAL PROJECTS FINANCED BY
MINISTRY OF EDUCATION/MINISTRY OF SCIENCE AND
TECHNOLOGICAL DEVELOPMENT/SCIENCE FUND OF THE
REPUBLIC OF SERBIA:**

Preclinical tests of bioactive substances (RS-41010)
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PARTICIPATION IN INTERNATIONAL PROJECTS

Centre for pre-clinical testing of active substances (EU-206809)
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MEMBERSHIP IN SCIENTIFIC AND PROFESSIONAL ASSOCIATIONS

Serbian Cancer Research Society (SDIR) Belgrade
Serbian Biological Society "Stevan Jakovljević" Kragujevac

**ORGANIZATION OF NATIONAL/INTERNATIONAL SCIENTIFIC
MEETINGS (CONFERENCES, CONGRESSES...)**

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LIST OF SCIENTIFIC PAPERS:

Monographs, anthologies	Monographic studies, Thematic	Sum
Papers published in scientific journals of international scientific importance		Sum 24
- Ćurčić MG, Stanković MS, Mrkalić EM, Matović ZD, Banković DD, Cvetković DM, Đačić DS, MarkovićSD. Antiproliferative and proapoptotic activities of methanolic extracts from <i>Ligustrum vulgare</i> L. as an individual treatment and in combination with palladium complex. International Journal of Molecular Sciences 2012, 13: 2521-2534 M21 - Mitrović T, Stamenković S, Cvetković V, Tošić S, Stanković M, Radojević I, Stefanović O, Čomić Lj, Đačić D, Ćurčić M, Marković S. Antioxidant, antimicrobial and antiproliferative activities of five		

lichen species. International Journal of Molecular Sciences 2011, 12(8): 5428-5448. M21

3. Kosanic M, **Šeklić D**, Jovanovic M, Petrovic N, Markovic S. Hygrophorus eburneus, edible mushroom, a promising natural bioactive agent. EXCLI JOURNAL, 2020, 19,442-457 **M21 IF 2020 4.068**
4. **Šeklić D**, Jovanović M, Virijević K, Grujić J, Živanović M, Marković S. Pseudevernia furfuracea inhibits migration and invasion of colorectal carcinoma cell lines. Journal of Ethnopharmacology, 2022, (284) br. str.- <https://doi.org/10.1016/j.jep.2021.114758> **M21 IF 2021 5.195**
5. Jovanović M, **Šeklić D**, Rakobradović J, Planojević N, Vuković N, Vukić M, Marković S. Royal jelly and Trans-10-Hydroxy-2-Decenoic Acid Inhibit Migration and Invasion of Colorectal Carcinoma Cells. Food Technology and Biotechnology. 2022; 60(2): 213-224. doi: 10.17113/ftb.60.02.22.7495 **M21 IF 2020 3.918**
6. Nikolić S, Gazdić-Janković M, Rosić G, Miletić-Kovacević M, Jovičić N, Nestorović N, Stojkovic P, Filipovic N, Milosevic-Djordjevic O, Selakovic D, Zivanovic M, **Seklic D**, Milivojević N, Markovic A, Seist R, Vasilijic S, Stankovic K, Stojkovic M, Ljubic B, Orally administered fluorescent nanosized polystyrene particles affect cell viability, hormonal and inflammatory profile, and behavior in treated mice, Environmental Pollution (2022), 305, 119206, <https://doi.org/10.1016/j.envpol.2022.119206>. M21(a) IF 2020 8.071
7. **Šeklić D**, Đukić T, Milenković D, Jovanović MM, Živanović MN, Marković Z, Filipović N. Numerical modelling of WNT/ β -catenin signal pathway in characterization of EMT of colorectal carcinoma cell lines after treatment with Pt(IV) complexes. Computer Methods and Programs in Biomedicine, 2022; 22: 107158. <https://doi.org/10.1016/j.cmpb.2022.107158>. M21 IF 7.027
8. Kosanić M, **Šeklić D**, Marković SD, Ranković B. Evaluation of antioxidant, antimicrobial and anticancer properties of selected lichens from Serbia. Digest Journal of Nanomaterials and Biostructures 2014, 9 (1): 273-287. M22 IF
9. Ćurčić MG, Stanković MS, Radojević ID, Stefanović OD, Čomić LjR, Topuzović MD, **Đačić DS**, Marković SD. Biological effects, total phenolic content and flavonoid concentrations of fragrant yellow

onion (*Allium flavum* L.). *Medicinal Chemistry* 2012, 8(1): 46-51. M22 IF

10. **Šeklić DS**, Obradović AD, Stanković MS, Živanović MN, Mitrović TLj, Stamenković SM, Marković SD. Proapoptotic and antimigratory effects of *Pseudevernia furfuracea* and *Platismatia glauca* on colon cancer cell lines. *Food Technology and Biotechnology* 2018, 56 (3): 421-430. M22 IF
11. Avdović E, Milanović Z, Zivanović M, **Seklić D**, Radojević I, Comić Lj, Trifunović S, Amić A, Marković Z. Synthesis, spectroscopic characterization, biological activity, DFT and molecular docking study of novel 4-hydroxycoumarine derivatives and corresponding palladium(II) complexes, *INORGANICA CHIMICA ACTA*, (2020), 504, -M22 IF
12. Milanović Ž, Marković Z, Dimić D, Klisurić O, Radojević I, **Šeklić D**, Živanović M, Dimitrić Marković J, Radulović M, Avdović E. Synthesis, structural characterization, biological activity and molecular docking study of 4,7-dihydroxycoumarin modified by aminophenols derivatives. *Comptes Rendus Chimie* (2021), 2, 215-232 M22 IF2021 3.118
13. **Šeklić D**, Jovanović M. *Platismatia glauca*—Lichen species with suppressive properties on migration and invasiveness of two different colorectal carcinoma cell lines. *Journal of Food Biochemistry* (2022), 00, e14096. <https://doi.org/10.1111/jfbc.14096> M22 IF2021 3.654
14. Branković J, Milivojević N, Milovanović V, Simijonović D, Petrović Z, Marković Z, **Šeklić D**, Živanović M, Vukić M, Petrović V. Evaluation of antioxidant and cytotoxic properties of phenolic N-acylhydrazones: Structure-activity relationship. *Royal Society Open Science* (2022), <https://doi.org/10.1098/rsos.211853> M22 IF 3.653
15. Tošić-Pajić J, **Šeklić D**, Radenković J, Marković S, Čukić J, Baskić D, Popović S, Todorović M, Sazdanović P. Augmented oxidative stress in infertile women with persistent chlamydial infection. *Reproductive Biology* 2017, 17(2): 120-125. M22
16. Živanović MN, Košarić JV, Šmit B, **Šeklić DS**, Pavlović RZ, Marković SD. Novel seleno-hydantoin palladium(II) complex - antimigratory, cytotoxic and prooxidative potential on human colon HCT-116 and breast MDA-MB-231 cancer cells. *General Physiology and Biophysics* 2017, 36(2): 187-196. M22 IF

17. **Šeklić D**, Stanković M, Milutinović M, Topuzović M, Štajn A, Marković S. Cytotoxic, antimigratory and pro/antioxidative activities of extracts from medicinal mushrooms on colon cancer cell lines. Archives of Biological Science 2016, 68(1): 93-105. M23
18. Mitrović TLj, Stamenković SM, Cvetković VJ, Radulović NS, Mladenović MZ, Stanković MS, Topuzović MD, Radojević ID, Stefanović OD, Vasić SM, Čomić LJ, **Šeklić DS**, Obradović AD, Marković SD. Contribution to the knowledge of the chemical composition and biological activity of the lichens *Cladonia foliacea* H u d s. (Wild.) and *Hypogymnia physodes* (L.) Oxidaion Communications, 2015, 38(4A): 2016-2032. M23
19. Stojković DLj, Jevtić VV, Radić GP, **Đačić DS**, Čurčić MG, Marković SD, Đinović VM, Petrović VP, Trifunović SR. Stereospecific ligands and their complexes. Part XII. Synthesis, characterization and in vitro antiproliferative activity of platinum(IV) complexes with some O,O'-dialkyl esters of (S,S)-ethylenediamine-N,N'-di-2-propanoic acid against colon cancer (HCT-116) and breast cancer (MDA-MB-231) cell lines. Journal of Molecular Structure 2014, 1062: 21-28. M23
20. Jevtić VV, Radić GP, **Šeklić D**, Živanović MN, Marković SD, Trifunović SR. Part XVI - stereospecific ligands and their complexes. Synthesis, characterization and in vitro antiproliferative activity of new platinum(IV) complexes with some O,O'-dialkyl esters of (S,S)-ethylenediamine- N,N'-di-2-propanoic acid against breast cancer (MDA-MB-231) and colon cancer (HCT-116 and SW-480) cell lines. Macedonian Journal of Chemistry and Chemical Engineering 2014, 33(1): 53-58. M23
21. Košarić J, Cvetković D, Živanović M, Čurčić M, **Šeklić D**, Bugarčić Z, Marković S. Antioxidative and antiproliferative evaluation of 2 (phenylselenomethyl) tetrahydrofuran and 2-(phenylselenomethyl) tetrahydropyran. Journal of the Balkan Oncology 2014, 19 (1): 283-290. M23
22. Šmit B, Pavlović R, Radosavljević-Mihajlović A, Došen A, Čurčić M, **Šeklić D**, Živanović M. Synthesis, characterization and cytotoxicity of palladium(II) complex of 3-[(2-hydroxy-benzylidene)- amino]-2-thioxo-imidazolidin-4-one. Journal of Serbian Chemical Society 2013, 78(2): 217-227. ISSN: 0352-5139, M23
23. Marković S, **Đačić D**, Cvetković D, Obradović A, Žižić J, Ognjanović B, Štajn A. Effects of acute in vivo cisplatin and selenium treatment

on hematological and oxidative stress parameters in red blood cells of rats. Biological Trace Element Research 2011, 142 (3): 660-670. M23

24. Marković SD, Žižić JB, Đačić D, Obradović AD, Ćurčić MG, Cvetković DM, Đorđević NZ, Ognjanović BI and Štajn AŠ. Alteration of oxidative stress parameters in red blood cells of rats after chronic in vivo treatment with cisplatin and selenium. Archives of Biological Science 2011, 63(4): 991-999. M23

Proceedings of international scientific conferences

Sum
12

1. Milivojević N, Nikolić D, Šeklić D, Jovanović Z, Filipović N, Živanović M. Development of Microfluidic Lab-on-Chip System for Cultivation of Cells and Tissues. 'International Conference on Medical and Biological Engineering (CMBEBIH)'. 2021
2. Milivojević N, Marko Živanović M, Dalibor Nikolić D, Živana Jovanović Z, Šeklić D, Nikolić M, Filipović N Microfluidic Lab-on-Chip System Development for Cell Culture Cultivation. 8 th International Congress of Serbian Society of Mechanics. 2021 ISSN 168800737 DOI 10.1007/978-3-030-73909-6_81
3. Jovanović M, Grujović M, Mladenović K, Mitić M, Nikolić J, Milivojević N, Šeklić D. Phenolic profile and effects of edible mushroom *Laetiporus sulphureus* extract on cervical cancer cell line. ISPEC 7th INTERNATIONAL CONFERENCE on AGRICULTURE, ANIMAL SCIENCES and RURAL DEVELOPMENT. Online, 18-19 September 2021- MUS/TURKEY, pp. 917-923. M33
4. Jovanović M. Virijević, K. Grujić, J. Živanović M. Šeklić, D. Extract of Edible Mushroom *Laetiporus sulphureus* Affects Redox Status and Motility of Colorectal and Cervical Cancer Cell Lines. The 2nd International Electronic Conference on Foods - "Future Foods and Food Technologies for a Sustainable World". Proceedings 2021, 68, x.
5. Šeklić D, Jovanović M, Milivojević N, Živanović M, Marković S. *Cordyceps sinensis* edible mushroom reduces migration of colorectal adenocarcinoma cells. ISPEC 7th INTERNATIONAL CONFERENCE on AGRICULTURE, ANIMAL SCIENCES and RURAL DEVELOPMENT. Online, 18-19 September 2021- MUS/TURKEY, pp. 924-928.
6. Šeklić, D, Jovanović M, Virijević K, Grujić J, Živanović M, Marković S. Effects of Edible Mushrooms *Phellinus linteus* and *Lentinus edodes* Methanol Extracts on Colorectal Cancer. The 2nd International Electronic Conference on Foods - "Future Foods and Food Technologies for a Sustainable World". Proceedings 2021, 1, x
7. Šeklić D, Jovanović M, Milivojević N, Živanović M. Platinum(IV) Complex and Its Corresponding Ligand Suppress Cell Motility and Promote Expression of Frizzled-7 Receptor in Colorectal Cancer Cells. 1st International Conference on Chemo and BioInformatics, 2021, Kragujevac, Serbia

8. Šeklić D, Đukić T, Živanović M, Jovanović M, Nenad Filipović N. Numerical modelling in assessment of different colorectal cancer cell lines behavior in treatment with cisplatin. The 21st IEEE International Conference on BioInformatics and BioEngineering, October 25-27, 2021, Kragujevac, Serbia 9. Jovanović, M.; Virijević, K.; Pavić, J.; Arsenijević, D.; Pecić, K.; Kastratović, N.; Živanović, M.; Šeklić, D. Antimigratory activity of royal jelly on HCT-116 colorectal cancer cells. The 3rd International Electronic Conference on Foods; Food, Microbiome, and Health: <i>Biology and life sciences forum</i>. 2022. https://doi.org/10.3390/Foods2022-12951 M33 10. Arsenijević, D.; Jovanović, M.; Pecić, K.; Grujović, M.; Mladenović, K.; Šeklić, D. Effects of <i>Laetiporus sulphureus</i> on viability of HeLa cells in co-culture system with <i>Saccaromyces boulardii</i>. <i>The 3rd International Electronic Conference on Foods; Food, Microbiome, and Health: Biology and life sciences forum</i>. 2022. M33 11. Jovanović, M.; Virijević, K.; Arsenijević, D.; Pecić, K.; Šeklić, D. Expression of β-catenin marker in colorectal cancer cells after treatment with royal jelly. The 26th International Electronic Conference on Synthetic Organic Chemistry 2022. M33 12 Jovanović, M.; Virijević, K.; Arsenijević, D.; Pecić, K.; Šeklić, D. Royal jelly inhibit invasion of colorectal cancer cells via snail and vimentin. The 3rd International Electronic Conference on Cancers 2022. M33	
Proceedings of national scientific conferences	Sum 2
1. Šeklić DS, Jovanović MM, Stanković MS, Topuzović MD, MarkovićSD. Proapoptotski i antimigratorni efekti Cordyceps sinensis i Ganoderma lucidum na HCT-116 ćelijama. XXIV savetovanje o biotehnologiji sa međunarodnim učešćem, 2019. Zbornik radova, 709-714.ISBN: 978-86-87611-68-9 2. Ćurčić MG, Stanković MS, Đaćić DS, Topuzović MD, Marković SD. Antiproliferativna aktivnost metanolnog ekstrakta biljke Teucrium scordium L. na HCT-116 ćelijskoj liniji. XI savetovanje o biotehnologiji sa međunarodnim učešćem, 2011. Zbornik radova, 497-501.ISBN: 978-86-87611-15-3	
Scientific papers in national journals	Sum
Technical solutions	Sum

Patents	Sum

CITATION OF SCIENTIFIC PAPERS

heterocytes 394 (source Scopus) h-index 11

BRIEF DESCRIPTION OF RESEARCH IN THE PREVIOUS PERIOD

The focus of research is investigation of anticancer activity of newly synthesized chemical complexes and bioactive substances from natural sources. Emphasis is on molecular mechanisms and key proteins of signaling pathways involved in migration and invasion processes.

BRIEF DESCRIPTION OF PLANNED RESEARCH IN THE NEXT PERIOD

Co-cultures system (interaction microorganisms with different colorectal cancer cell lines) is great part of my interest.
