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SCIENTIFIC FIELDS AND KEYWORDS

Scientific Fields:

Food Technology, Process Engineering, Pharmacy

Keywords:

Extraction, supercritical CO₂, bioactive compounds, medicinal herbs, hemp, food industry by-products, process optimization, response surface methodology

SCIENTIFIC DATABASES

WOS

Link: <https://www.webofscience.com/wos/author/record/14981559,42744776>

ORCID

Link: <https://orcid.org/0000-0003-0678-7660>

SCOPUS

Link: <https://www.scopus.com/authid/detail.uri?authorId=23501702200>

GOOGLE ZNALAC

Link: <https://scholar.google.hr/citations?user=G6xHI1oAAAAJ&hl=hr&oi=ao>

CR OSBI/CRORIS

Link: <https://www.croris.hr/osobe/profil/21999>

EDUCATION AND TRAINING

University Specialist in Dermopharmacy and Cosmetology (univ. spec. pharm.)

University of Zagreb, Faculty of Pharmacy and Biochemistry [26/02/2021 – 15/05/2023]

Doctor of Science in the Scientific Field of Biotechnical Sciences

Faculty of Food Technology Osijek [01/02/2008 – 16/12/2011]

City: Osijek | Country: Croatia

Graduated Engineer of Food Technology and Process Engineering

Faculty of Food Technology Osijek [15/10/2000 – 07/04/2006]

City: Osijek | Country: Croatia

TRAINING



Training

- 2007 - The European Food Safety Authority (EFSA), Parma, Italy (AFC, PLH, PPR, and CONTAM Panels; The FEEDAP, BIOHAZ, AHAW, and NDA Panels)
- November 1, 2004 – January 1, 2005 - Institute for Food Process Engineering in Freising-Weihenstephan, Freising, Germany (CMP-Caseinomacropptide)
- March 2, 2009 – April 2, 2009 - Faculty of Chemical and Food Technology, Bratislava, Slovakia (Optimization of Spray Drying Process for Milk Powder)
- May 1, 2009 – July 1, 2009 - Faculty of Technology, Novi Sad, Serbia (Supercritical CO₂ Extraction of Plant Material)
- July 1, 2010 – October 1, 2010 - Faculty of Technology, Novi Sad, Serbia (Extraction of Edible Vegetable Oils)
- October 1, 2010 – February 1, 2011 - Budapest University of Technology and Economics, Budapest, Hungary (Supercritical CO₂ Extraction, Mathematical Modeling, Scale-Up)
- May 1, 2011 – July 1, 2011 - Faculty of Technology, Novi Sad, Serbia (Vacuum Drying, Extraction, HACCP)
- August 21, 2011 – September 5, 2011 - Budapest University of Technology and Economics, Budapest, Hungary (Modeling)
- July 1, 2012 – July 18, 2012 - University of Maribor (Slovenia) and Graz University of Technology (Austria); Life Long Learning INTENSIVE PROGRAM; Process Intensification by High Pressure Technologies
- June 3, 2014 – June 9, 2014 - Biotechnical Faculty, Ljubljana, Slovenia (Response Surface Methodology)
- March 9, 2016 – March 11, 2016 - Joint Research Centre – DR JRC Ispra, Italy
- June 18, 2017 – June 30, 2017 - University of Maribor (Slovenia), Faculty of Chemistry and Chemical Engineering (Extraction)
- May 30, 2018 – June 5, 2018 - Faculty of Technology, Novi Sad, Serbia
- September 2, 2018 – September 15, 2018 - University of Maribor (Slovenia), Faculty of Chemistry and Chemical Engineering (Extraction)
- June 19, 2019 – June 24, 2019 - Faculty of Technology, Novi Sad, Serbia
- May 23, 2022 – June 4, 2022 - ERASMUS – Novi Sad, Serbia
- May 26, 2021 – June 9, 2021 - ERASMUS – Novi Sad, Serbia

WORK EXPERIENCE

Teaching Assistant

Faculty of Food Technology Osijek, Franje Kuhača 18 [01/05/2007 – 31/01/2012]

City: Osijek | Country: Croatia

- Extraction
- Drying
- Mathematical Modeling
- Process Optimization

Senior Teaching Assistant

Faculty of Food Technology Osijek, Franje Kuhača 18 [31/01/2012 – 01/12/2012]

City: Osijek | Country: Croatia

- Supercritical Fluid Extraction
- Mathematical Modeling

Assistant Professor

Faculty of Food Technology Osijek, Franje Kuhača 18 [01/12/2012 – 26/02/2016]

City: Osijek | Country: Croatia

- Teaching
- Research

Associate Professor

Faculty of Food Technology Osijek, Franje Kuhača 18 [26/02/2016 – 01/07/2019]

City: Osijek | Country: Croatia

- Teaching
- Research



Full Professor

Faculty of Food Technology Osijek, Franje Kuhača 18 [01/07/2019 – Current]

City: Osijek | Country: Croatia

- Teaching
- Research

Vice Dean for Science

Faculty of Food Technology Osijek, Franje Kuhača 18 [01/11/2017 – 01/10/2021]

City: Osijek | Country: Croatia

Vice-Dean for Marketing and Business Cooperation

Faculty of Food Technology Osijek, Franje Kuhača 18 [01/10/2021 – Current]

City: Osijek | Country: Croatia

LANGUAGE SKILLS

Mother tongue(s): Croatian

Other language(s):

English

LISTENING C1 READING C1 WRITING C1
SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

German

LISTENING A1 READING A1 WRITING A1
SPOKEN PRODUCTION A1 SPOKEN INTERACTION A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Communication and Interpersonal Skills

- **CCUSA Program "Work Experience USA"**

Excellent communication skills acquired through work as a university professor and vice dean, as well as advanced English language proficiency gained during stays in the USA in 2004, 2005, and 2006 as part of the CCUSA program "Work Experience USA" - United States Government designated Exchange Visitor Program (a few-month work/travel program).

Business Skills

- Laboratory work; process optimization using various software packages;
- Possesses strong expertise in developing technological projects for various facilities as well as in designing different plant material extractors and essential oil distillation equipment.
- Has extensively promoted science and the profession (hundreds of times) through TV and radio shows, newspaper articles, and numerous popular scientific and professional lectures at various events.

Organizational and Leadership Skills

- 2012 – Present: Member of the Organizing Committee of the Scientific Conference "Food for Health," Osijek
- 2014 - 2015: Head of the Department of Technological Process Design and Construction Materials (Faculty of Food Technology, Osijek)
- 2015: Participated in the founding of the Scientific Centre of Excellence for Marine Bioprospecting – BioProCro
- 2015 – Present: Member of the Scientific and Organizing Committee of the International Scientific and Professional Conference "Ružička Days," Vukovar
- 2017 – 2021: Served as Vice Dean for Science at the Faculty of Food Technology, Osijek
- 2020 – Present: Member of the Scientific and Organizing Committee of the International Scientific and Professional Conference on Food Industry By-products
- 2020 – Present: Member of the Scientific and Organizing Committee of the International Scientific and Professional Conference on Natural Resources, Green Technology & Sustainable Development
- 2021 – Present: Serving as Vice-Dean for Marketing and Business Cooperation at the Faculty of Food Technology, Osijek



Other Skills

- Responsibility
- Tolerance
- Proactivity
- Dedication to Work
- Respect for Authority
- Teamwork Orientation – Strong Organizational Skills – Desire for Continuous Improvement

DIGITAL SKILLS

Microsoft Office (Word, Excel, PowerPoint, Access, Outlook, itd.) / VISIO / Mathcad / Design Expert / Statistica

DRIVING LICENCE

Driving Licence: B

HONOURS AND AWARDS

in my career

- 1st Place at the Millennium Competition of the Creative Treasury in the category Creative Planet (Higher Education Institutions)
- Annual Award of the Faculty of Food Technology Osijek for Achievements in Scientific, Teaching, and Professional Work in 2023
- Annual Award of the Faculty of Food Technology Osijek for Achievements in Scientific, Teaching, and Professional Work in 2021
- Annual "Rikard Podhorsky" Award for 2019 from the Croatian Academy of Technical Sciences (HATZ)
- National Science Award for 2018, in the category Annual Award for Promotion and Popularization of Science in the Field of Biotechnical Sciences
- National Science Award for 2015 in the Field of Biotechnical Sciences
- Annual Award of the Faculty of Food Technology Osijek for Achievements in Scientific, Teaching, and Professional Work in 2016
- Annual Award of the Faculty of Food Technology Osijek for Achievements in Scientific, Teaching, and Professional Work in 2015
- Danubius Young Scientist Award 2015 for the Republic of Croatia (from the Federal Ministry of Science, Research, and Economy of the Republic of Austria and the Institute for the Danube Region and Central Europe)
- Annual Award of the Faculty of Food Technology Osijek for Achievements in Scientific, Teaching, and Professional Work in 2013
- HATZ Award for Young Scientist "Vera Johanides" in 2013
- "Annual Science Award for 2012" from Osijek-Baranja County
- "Award for Exceptional Achievements in the Field of Science" from the Municipality of Đurđenovac in 2013
- National Science Award for 2011 in the category Annual Award for Junior Researchers in the Field of Biotechnical Sciences
- AXON Award for Best Oral Presentation (Title of the work: "Optimization of Basil Extraction Process Considering Its Antioxidant Properties" in the section Nutrition and Healthy Lifestyle) at the 11th European Nutrition Conference FENS, held in Madrid, Spain from October 26 to 29, 2011
- Rector's Award for the Academic Year 2004/2005

PROJECTS

Project Manager

- **Optimization of high-quality hemp oil production** (2013-2014)
- **The risk assessment on the safety of fresh and semi-hard cheeses at markets of the Republic of Croatia** (2014, 2015)
- **Extraction of active substances from plant material using supercritical CO₂** (2015-2016)
- **Development of high-value products based on medicinal plant extracts** (2016-2017)



- **Application of high pressure technologies in the extraction of plant material**, International Bilateral Project with Serbia (2016-2018)
- **Possibilities of processing medicinal plants using modern technological processes** (2018)
- **Development of api-syrup (bronchial)**. Project with APIMEL (2018)
- **Extraction of oil from pepper seeds as a by-product of ajvar processing using supercritical CO₂**. Project with PODRAVKA d.d. (2018)
- **Preparation of specifications for selected spices and essential oils from aromatic plants produced in the Osijek-Baranja County**. Project of Osijek-Baranja County (2019)
- **Production and quality control of essential oils and hydrolates from selected aromatic plants**. Project of Osijek-Baranja County in collaboration with K.T.M. natura (2020)
- **Separation of active components from food industry by-products - cocoa shells and formulation of powdered products**, International Bilateral Project with Slovenia (2018-2020)
- **Strengthening the development capacities of Darvitalis ltd. through the creation of "know-how" technology for new products: api-syrup from marshmallow root and alcohol-free spray for normal respiratory function** (Innovation Vouchers for SMEs; OP Competitiveness and Cohesion 2014-2020; KK.03.2.2.03; ERDF)
- **Strengthening the K.T.M. natura for research, development, and innovation - Unique Natural Cream** (Innovation Vouchers for SMEs; OP Competitiveness and Cohesion 2014-2020; KK.03.2.2.03; ERDF)
- **Application of innovative extraction techniques for bioactive components from plant-based by-products**, Establishment Research Project HRZZ (2018-2023)
- **Development and establishment of an interdisciplinary master's program "Biotechnology" in English** (ESF, UP. 03.1.1.02, Internationalization of Higher Education) (2018-2020)
- **FoodFacts** - Establishment of an online system for verifying the accuracy of food information (NextGenerationEU - European Union) (January 1, 2024 - December 31, 2025)

Participation in Projects

- **2008 – 2010** – Collaborator on the project: Development of Integrated Procedures and Processes for Dehydration of Biological Materials. Project code: 113-0000000-3497 (MZOŠ)
- **2011** – Collaborator on the Technological Project for the honey and bee products processing plant in Cerovlje, Pazin. Investor: Department of Agriculture, Forestry, Hunting, Fishing, and Water Management of Istria County
- **2012 – 2014** – Collaborator on the VIP project "Development and Standardization of Organic Blackberry Wine Production" in collaboration with OPG "Dorkić"
- **2013** – Collaborator on the Main Technological Project for the honey and bee products processing plant in Široki Brijeg (Investor: NaturaPharm d.o.o. Široki Brijeg, BiH)
- **Application of food industry by-products in the development of functional and environmentally friendly extruded food products and additives** (HRZZ 2014-2018)
- **Bioprospecting of the Adriatic Sea** (European Regional Development Fund, Operational Programme "Competitiveness and Cohesion 2014-2020")
- **Digital and Green (Twin) Transition of Pharmaceutical Product and Process Development**, Austrian Science Fund (July 1, 2024 - June 30, 2028)
- **Production and development of compostable packaging from waste biomass for the packaging of industrially processed food products**, NPOO.C3.2.R3-I1.04 (January 1, 2024 - June 30, 2026), Ministry of Science, Education and Youth of the Republic of Croatia

NETWORKS AND MEMBERSHIPS

[2012 – Current]

Member of the Croatian Society of Chemical Engineers and Technologists

[2012 – Current]

Member of the Faculty of Food Technology Osijek in the International Association European Hygienic Engineering and Design Group

[2012 – Current]

Member of the TehnOS Association



JOURNAL EDITOR

Croatian Journal of Food Science and Technology

- Editor-in-Chief

PUBLICATIONS

Over 200 scientific papers published in internationally recognized journals

Most Significant Scientific Papers in the Last 5 Years

- Banožić, Marija; Krzywonos, Małgorzata; Aladić, Krunoslav; Pińkowska, Hanna; Mucha, Igor; Złocińska, Adrianna; Jokić, Stela. "Physicochemical, structural characterization and evaluation of encapsulated hesperidin from natural sources: Comparison of two encapsulation techniques; spray drying and freeze drying." *Journal of Drug Delivery Science and Technology*, 90 (2023), 105098, 11.
- Mandura Jarić, Ana; Čikoš, Ana; Pocrnić, Marijana; Aladić, Krunoslav; Jokić, Stela; Šeremet, Danijela; Vojvodić Cebin, Aleksandra; Komes, Draženka. "Teucrium montanum L.—Unrecognized Source of Phenylethanoid Glycosides: Green Extraction Approach and Elucidation of Phenolic Compounds via NMR and UHPLC-MS/MS." *Antioxidants*, 12 (2023), 11; 1903, 21.
- Šafranko, Silvija; Šubarić, Drago; Jerković, Igor; Jokić, Stela. "Citrus By-Products as a Valuable Source of Biologically Active Compounds with Promising Pharmaceutical, Biological and Biomedical Potential." *Pharmaceuticals*, 16 (2023) 8; 1081, 33. doi:10.3390/ph16081081
- Castillo, Aly; Celeiro, Maria; Lores, Marta; Grgić, Kristina; Banožić, Marija; Jerković, Igor; Jokić, Stela. "Bioprospecting of Targeted Phenolic Compounds of *Dictyota dichotoma*, *Gongolaria barbata*, *Ericaria amentacea*, *Sargassum hornschurchii* and *Ellisolandia elongata* from the Adriatic Sea Extracted by Two Green Methods." *Marine Drugs*, 21 (2023), 2; 97, 14.
- Banožić, Marija; Vladić, Jelena; Banjari, Ines; Velić, Darko; Aladić, Krunoslav; Jokić, Stela. "Spray Drying as a Method of Choice for Obtaining High Quality Products from Food Wastes– A Review." *Food Reviews International*, 39 (2023), 4; 1953-1985.
- Jokić, Stela; Jerković, Igor; Pavić, Valentina; Aladić, Krunoslav; Molnar, Maja; Jakovljević Kovač, Martina; Vladimir-Knežević, Sanda. "Terpenes and Cannabinoids in Supercritical CO₂ Extracts of Industrial Hemp Inflorescences: Optimization of Extraction, Antiradical and Antibacterial Activity." *Pharmaceuticals*, 15 (2022), 9; 1117, 21.
- Radman, Sanja; Cikoš, Ana-Marija; Babić, Sanja; Čižmek, Lara; Čož-Rakovac, Rozelindra; Jokić, Stela; Jerković, Igor. "In Vivo and In Vitro Antioxidant Activity of Less Polar Fractions of *Dasycladus vermicularis* (Scopoli) Krasser 1898 and the Chemical Composition of Fractions and Macroalga Volatilome." *Pharmaceuticals*, 15 (2022), 743, 20. doi:10.3390/ph15060743
- Zorić, Marina; Banožić, Marija; Aladić, Krunoslav; Vladimir-Knežević, Sanda; Jokić, Stela. "Supercritical CO₂ extracts in cosmetic industry: Current status and future perspectives."
- Banožić, Marija; Babić, Jurislav; Jokić, Stela. "Recent advances in extraction of bioactive compounds from tobacco industrial waste-a review." *Industrial Crops and Products*, 144 (2020), 112009, 11. doi:10.1016/j.indcrop.2019.112009
- Jokić, Stela; Gagić, Tanja; Knez, Željko; Banožić, Marija; Škerget, Mojca. "Separation of active compounds from tobacco waste using subcritical water extraction." *Journal of Supercritical Fluids*, 153 (2019), 104593, 8. doi:10.1016/j.supflu.2019.104593

PHD SUPERVISOR

Doctoral Mentorship

- Krunoslav Aladić; defense date: February 6, 2015; Dissertation Title: "Extraction Optimization of Hemp (*Cannabis sativa* L.) Oil from Cold Pressed Cake with Supercritical CO₂," Faculty of Food Technology Osijek
- Nika Pavlović; defense date: July 13, 2020; Dissertation Title: "Application of Innovative Techniques for Extracting Bioactive Components from Cocoa Shell," Faculty of Food Technology Osijek
- Marina Zorić; defense date: July 13, 2021; Dissertation Title: "Optimization of Supercritical CO₂ Extraction of Immortelle Flower (*Helichrysum italicum* (Roth) G. Don.) and Chaste Tree Fruit (*Vitex agnus castus* L.)," Faculty of Food Technology Osijek
- Ana Marija Cikoš; defense date: December 3, 2021; Dissertation Title: "Characterization of Targeted Macroalgae from the Adriatic Sea: Volatile Compounds, Fatty Acids, and Pigments," Faculty of Food Technology Osijek



- Marija Banožić; defense date: January 21, 2022; Dissertation Title: "Application of Innovative Extraction Techniques of Bioactive Compounds from Tobacco Waste," Faculty of Food Technology Osijek
- Silvija Šafranko; defense date: February 9, 2023; Dissertation Title: "The Preparation and Modification of Carbon Quantum Dots from Citrus clementina: Physico-chemical Characterization and Pharmacological Activity Investigation of the Obtained Nanoparticles," Faculty of Food Technology Osijek