



*4<sup>th</sup> International Scientific and Professional Conference /*  
4. međunarodni znanstveno-stručni skup

# FOOD INDUSTRY BY- PRODUCTS

*SCIENTIFIC PROGRAMME / PROGRAM SKUPA*

6<sup>th</sup> and 7<sup>th</sup> June 2024  
Osijek, Croatia

## SCIENTIFIC PROGRAMME / PROGRAM SKUPA

Thursday, 6 June 2024 / Četvrtak, 6. lipnja 2024.

9:30 – 10:00 *Registration of participants*  
Prijava i registracija sudionika

10:00 – 10:30 *Conference opening Ceremony*  
Otvorenje Skupa

10:30 – 11:00 *Coffee Break, Poster Session*  
Pauza za kavu, razgledavanje postera

*Plenary lectures and Invited lectures /*  
**Plenarna predavanja i pozvana predavanja**  
*Moderators / Moderatori:*  
*Stela Jokić, Jelka Pleadin*

### Plenary lectures / Plenarna predavanja

11:00 – 11:25 **THE MAGIC OF STARCH – A SCIENTIFIC JOURNEY WITH STARCH AND STARCH BY-PRODUCTS FOR FOOD AND NON-FOOD APPLICATIONS**  
*Janusz Kapusniak*

11:25 – 11:50 **CLIMATE CHANGE: CHALLENGES AND OPPORTUNITIES FOR THE FOOD PRODUCTION SYSTEMS**  
*Ivan Güttler*

### Invited lectures / Pozvana predavanja

11:50 – 12:05 **HOW MICROPLASTIC AS UBIQUITOUS POLLUTANT MIGHT AFFECT THE GLOBAL FOOD PRODUCTION CHAIN**  
*Tanja Bogdanović, Sandra Petričević, Jelka Pleadin, Federica Di Giacinto*

12:05 – 12:20 **BY-PRODUCTS OF THE FOOD INDUSTRY AS GREEN BIOCATALYSTS IN ORGANIC REACTIONS**  
*Dajana Gašo-Sokač, Valentina Bušić*

12:20 – 12:30 *Discussion and conclusions / Rasprava i zaključci*

*Book presentation / Predstavljanje knjige*  
*Promoters / Promotori:*  
*Drago Šubarić, Draženka Komes, Jurislaw Babić*

*Book presentation / Predstavljanje knjige*  
12:30 – 13:00 **NEKE MOGUĆNOSTI ISKORIŠTENJA NUSPROIZVODA PREHRAMBENE INDUSTRIJE – KNJIGA 5**  
*Drago Šubarić, Midhat Jašić, Stela Jokić*

13:00 – 14:30 *Lunch break, Poster Session*  
Pauza za ručak, razgledavanje postera

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**Invited lectures and Oral presentations /  
Pozvana predavanja i usmena priopćenja**  
**Moderators / Moderatori:**  
*Đurđica Ačkar, Jasmina Ranilović*

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**Invited lectures / Pozvana predavanja**

**14:30 – 14:45** **SUBCRITICAL SOLVENT EXTRACTION – DIFFERENT APPLICATION METHODS IN BY-PRODUCTS TREATMENT**  
*Krunoslav Aladić, Ante Lončarić, Aly Jesús Castillo Zamora, Ema Pavičić, Stela Jokić*

**14:45 – 15:00** **THE POTENTIAL FOR CIRCULARITY, DECARBONISATION AND HYDROGEN UTILIZATION IN THE FOOD INDUSTRY**  
*Ilija Gasan Osojnik Črnivec, Blaž Likozar*

**15:00 – 15:15** **FROM BY-PRODUCT OF FOOD INDUSTRY TO VALUABLE INGREDIENT FOR COSMETIC INDUSTRY**  
*Tanja Cvetković, Jasmina Ranilović, Stela Jokić*

**Oral presentations / Usmena priopćenja**

**15:15 – 15:25** **POTENTIAL OF KERATIN FROM BIOLOGICAL RESOURCES**  
*Mojca Škerget, Maja Čolnik, Simona Strnad, Olivija Plohl, Lidija Fras Zemljich*

**15:25 – 15:35** **FOOD INDUSTRY BY-PRODUCTS AS FOOD SUPPLEMENTS IN SUPPORT OF TREATMENT MODERN SYSTEMIC NON-COMMUNICABLE DISEASES**  
*Nermina Beganović, Midhat Jašić, Drago Šubarić, Asmir Aldžić*

**15:35 – 15:45** **AGRO-INDUSTRIAL PLANT PROTEIN HYDROLYSATES IN CULTIVATED MEAT PRODUCTION**  
*Igor Slivac*

**15:45 – 15:55** **THE EFFECT OF LACTIC ACID BACTERIUM AND NON-CONVENTIONAL YEAST ON BREWERS' SPENT GRAIN FERMENTATION**  
*Anita Lalić, Jolita Jagelavičiūtė, Tonči Rezić, Zorana Trivunović, Loreta Bašinskienė*

**15:55 – 16:05** **THE POTENTIAL OF BIVALVE SHELLS AS VALUABLE AQUACULTURE BY-PRODUCT**  
*Kristina Kvirgić, Natalija Džafić, Jelka Pleadin*

**16:05 – 16:15** **IMPACT OF DIFFERENT VINIFICATION TECHNOLOGIES ON PHENOLIC COMPOSITION OF WINE LEES FROM TERAN RED GRAPE VARIETY (*Vitis vinifera* L.)**  
*Fumica Orbanjić, Sara Rossi, Ena Bestulić, Ivana Horvat, Ana Jeromel, Sanja Radeka*

**16:15 – 16:30** **Discussion and conclusions / Rasprava i zaključci**

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**20:00** **Conference dinner / Zajednička večera**

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**Friday, 7 June 2024 / Petak, 7. lipnja 2024.**

**9:30 – 10:00** *Registration of participants*  
**Prijava i registracija sudionika**

*Plenary lecture and Invited lectures /*  
**Plenarno predavanje i pozvana predavanja**  
*Moderators / Moderatori:*  
*Marina Tišma, Marija Banožić*

**Plenary lecture / Plenarno predavanje**

**10:00 – 10:25** **BIOTECHNOLOGY IN CIRCULAR ECONOMY – LAB-GROWN FOOD OF ANIMAL AND PLANT ORIGIN**  
*Blaženka Kos, Jagoda Šušković, Jasna Novak, Andreja Leboš Pavunc, Martina Banić, Katarina Butorac, Nina Čuljak*

**Invited lectures / Pozvana predavanja**

**10:25 – 10:40** **APPLICATION OF ULTRASOUND ASSISTED EXTRACTION WITH AIM TO VALORIZE BY-PRODUCTS OF THE AGRO-FOOD INDUSTRY**  
*Aleksandra Gavarić, Senka Vidović, Stela Jokić, Krunoslav Aladić, Mirjana Sulejmanović, Slađana Krivošija, Ioannis Mourtzinou, Anastasia Kyriakoudi*

**10:40 – 10:55** **BIOREFINERY APPROACH FOR USE OF SUGAR BEET COSSETTES FOR PRODUCTION OF HIGH ADDED VALUE CHEMICALS AND BIOFUELS**  
*Nenad Marđetko, Mario Novak, Antonija Trontel, Mladen Pavlečić, Vlatka Petravić Tominac, Božidar Šantek*

**10:55 – 11:00** *Discussion and conclusions / Rasprava i zaključci*

**11:00 – 11:30** *Coffee Break, Poster Session*  
**Pauza za kavu, razgledavanje postera**

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*Invited lectures and Oral presentations /  
Pozvana predavanja i usmena priopćenja  
Moderators / Moderatori:  
Ante Lončarić, Domagoj Šubarić*

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**Invited lectures / Pozvana predavanja**

**11:30 – 11:45** **AVOCADO PEEL DRYING: EFFECT OF DRYING PROCESS ON SOME PHYSICO-CHEMICAL PROPERTIES**  
*Marija Badanjak Sabolović, Suzana Rimac Brnčić, Roko Marović, Mirna Tadić, Mladen Brnčić*

**11:45 – 12:00** **APPLICATION OF DEEP EUTECTIC SOLVENTS IN THE EXTRACTION OF BIOACTIVE COMPOUNDS FROM FOOD INDUSTRY BY-PRODUCTS**  
*Mario Komar, Martina Jakovljević Kovač, Maja Molnar*

**Oral presentations / Usmena priopćenja**

**12:00 – 12:10** **BIOECONOMY EXCELLENCE ALLIANCE FOR STIMULATING INNOVATIVE AND INCLUSIVE GREEN TRANSITION**  
*Marina Tišma*

**12:10 – 12:20** **SAFETY ASPECT OF USING FOOD WASTE AS ANIMAL FEED WITHIN THE CIRCULAR ECONOMY**  
*Brigita Hengl, Andrea Gross-Bošković, Jasenka Petrić*

**12:20 – 12:30** **CARBON FARMING: HOW TO SUPPORT STAKEHOLDERS FOR BETTER AGROINDUSTRIAL WASTE MANAGEMENT PRACTICES**  
*Marija Banožić*

**12:30 – 12:40** **INFLUENCE OF PRE-TREATMENT AND DRYING PROCESSES ON THE CHEMICAL PROFILE OF PUMPKIN BY-PRODUCTS**  
*Antonela Ninčević Grassino, Suzana Rimac Brnčić, Mirna Tadić, Sven Karlović, Filip Dujmić, Mladen Brnčić*

**12:40 – 12:50** **BUCKWHEAT HULL BIOCHAR AS BIOSORBENT FOR THE REMOVAL OF MALACHITE GREEN FROM WASTEWATER**  
*Maja Adamović, Marija Ćosić, Marija Stjepanović, Marek Wrobel, Marcin Jewiarz, Natalija Velić*

**12:50 – 13:00** *Discussion and conclusions / Rasprava i zaključci*

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**13:00 – 13:15** *Conclusions and Conference closing  
Zaključci i zatvaranje Skupa*

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**Altium – PTFOS Workshop / Altium – PTFOS radionica**

**ONLY FOR REGISTERED PARTICIPANTS /  
SAMO ZA PRIJAVLJENE SUDIONIKE**

**Venue / Mjesto održavanja:**

**Faculty of Food Technology Osijek / Prehrambeno-tehnološki fakultet Osijek  
Franje Kuhača 18, 31000 Osijek**

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**UPOZNAJTE TEKUĆINSKU I PLINSKU KROMATOGRAFIJU U  
PRAKSI**

**Workshop Leaders / Voditelji radionice:**

**doc. dr. sc. Krunoslav Aladić, Prehrambeno-tehnološki fakultet Osijek**

**14:00 – 16:30**

**Tomislav Gregorić, Application and Service Engineer za tekućinsku  
kromatografiju, Altium International**

**Barbara Vučić, Sales Application Engineer za plinsku kromatografiju,  
Altium International**

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## POSTER PRESENTATIONS / POSTERSKA PRIOPĆENJA

- P-01 FOOD INDUSTRY BY-PRODUCTS UTILIZATION IN DAIRY PRODUCTS FORTIFICATION: AN OVERVIEW**  
*Mirela Lučan Čolić, Martina Antunović, Jasmina Lukinac*
- P-02 ENCAPSULATION OF BIOACTIVE COMPOUNDS FROM CITRUS POMACE**  
*Marija Banožić, Anita Ivanković, Jozo Ištuk, Mario Kovač, Krunoslav Aladić, Stela Jokić*
- P-03 NEW VALORIZATION OF MALT SPROUTS, BY-PRODUCT OF MALTED BARLEY GRAINS**  
*Sunčica Beluhan, Nataša Cerovečki, Božidar Šantek, Mirela Ivančić Šantek*
- P-04 SMART AGRICULTURE IN A COMBINATION WITH ADVANCED TECHNOLOGIES AND ITS MULTIFUNCTIONALITY**  
*Marijana Blažić, Ines Cindrić, Elizabeta Zandona, Martina Stvorić, Karmen Matković Melki*
- P-05 WHEY-BASED FUNCTIONAL BEVERAGE AND FREEZE-DRIED FORMULATION RICH IN BIOACTIVE PEPTIDES**  
*Katarina Butorac, Martina Banić, Andreja Leboš Pavunc, Jasna Novak, Katarina Tonković, Ana Butorac, Marija Lovrić, Jagoda Šušković, Blaženka Kos*
- P-06 PREBIOTIC EFFECT OF BY-PRODUCT DIETARY FIBERS FORMULATED FOR FOODS FOR SPECIAL MEDICAL PURPOSES**  
*Katarina Butorac, Lenkica Penava, Andreja Leboš Pavunc, Martina Banić, Nina Čuljak, Jasna Novak, Marijana Ceilinger, Jelena Miličević, Ivanka Jerić, Jagoda Šušković, Blaženka Kos*
- P-07 SUBCRITICAL WATER EXTRACTION OF PHENOLIC COMPOUNDS FROM CHAMOMILE WASTE**  
*Nela Drača, Krunoslav Aladić, Marija Banožić, Stela Jokić, Snježana Keleković, Ivana Nemet*
- P-08 HYDROLYZED OILSEED MEAL PROTEINS IN DIFFERENTIATION AND ATROPHY OF C2C12 MYOBLASTS**  
*Višnja Gaurina Srček, Anja Damjanović, Kristina Radošević, Igor Slivac*
- P-09 UNUSED APPLES AFTER STORAGE CAN BE A VALUABLE BY-PRODUCT RICH IN BIOACTIVE COMPOUNDS**  
*Ana-Marija Gotal Skoko, Antun Jozinović, Martina Skendrović Babojelić, Ante Lončarić*

- P-10 GREEN SYNTHESIS OF SILVER NANOPARTICLES USING WALNUT FRUIT SEPTUM EXTRACTS**  
*Vlatka Gvozdić, Valentina Pavić, Elvira Kovač Andrić, Klara Kirchbauer, Domagoj Vidosavljević, Zvonimir Užarević*
- P-11 EXTRACTION OF TARGETED BIOACTIVE COMPONENTS FROM THE WALNUT SEPTUM USING GREEN SOLVENTS**  
*Stela Jokić, Anamarija Burilo, Krunoslav Aladić, Ivana Flanjak, Huska Jukić, Ema Pavičić*
- P-12 UTILIZING OF BY-PRODUCT ARONIA POMACE USING INNOVATIVE EXTRACTION TECHNIQUES**  
*Tomislav Jurendić, Krunoslav Aladić, Ante Lončarić, Antun Jozinović, Đurđica Ačkar, Drago Šubarić, Jurislav Babić, Stela Jokić*
- P-13 FROM WASTE TO WEALTH: THE NUTRITIONAL COMPONENTS OF COFFEE GROUNDS AND THEIR EXPLOITATION**  
*Nikolina Kajić, Marija Banožić, Leona Puljić, Mario Kovač, Antun Jozinović, Đurđica Ačkar, Jurislav Babić*
- P-14 PREPARATION AND CHARACTERIZATION OF SOLUBLE DEXTRIN FIBER FROM POTATO STARCH OBTAINED ON SEMI-INDUSTRIAL SCALE**  
*Kamila Kapusniak, Malwina Wojcik, Arkadiusz Zarski, Janusz Kapusniak*
- P-15 USE OF BENTONITE IN THE PRODUCTION OF CLEAR FRUIT AND VEGETABLE JUICE**  
*Emina Kovačević, Husejin Keran, Ema Obralić, Hanka Rizvanović, Damir Aličić, Melisa Ahmetović*
- P-16 EGGSHELL – BIO-WASTE AS A SIGNIFICANT SOURCE OF MINERALS**  
*Nina Kudumija, Goran Kiš, Tina Lešić, Ana Vulić, Zlatko Janječić, Dalibor Bedeković, Jelka Pleadin*
- P-17 ANTIOXIDANT AND PHYSICOCHEMICAL PROPERTIES OF CHOKEBERRY POMACE AS VALUABLE FOOD INDUSTRY BY-PRODUCT**  
*Amela Kusur, Amel Selimović, Dijana Miličević, Ljilja Bojanović*
- P-18 REUSE OF BREWERS' SPENT GRAIN AS INGREDIENT FOR PRODUCTION OF RED ČUPTER, TRADITIONAL HERZEGOVINIAN PRODUCT**  
*Andrea Karlović, Ivana Šimić, Anita Lalić*
- P-19 NON-THERMAL PLASMA TECHNOLOGY – A POTENTIAL SOLUTION FOR ENHANCEMENT OF PLANT STRESS TOLERANCE**  
*Tihana Marček*



- P-20 EFFECTIVENESS OF FRUIT PROCESSING BY-PRODUCTS IN TREATMENT OF HEAVY METAL-CONTAMINATED WATER**  
*Sunčica Mileta, Ivona Nuić, Nina Jolić, Marin Ugrina, Ana Palčić, Sanja Perinović Jozić*
- P-21 THE INFLUENCE OF CONDITIONING AND SUNFLOWER SHELL ADDITION ON THE PRODUCTION OF EDIBLE PLUM KERNEL OIL**  
*Tihomir Moslavac, Drago Šubarić, Dora Veselovac, Benjamin Čaušević, Antun Jozinović*
- P-22 CHEMICAL COMPOSITION OF BLACK RASPBERRY (*Rubus occidentalis* L.) FRUITS AND POMACE: COMPARATIVE ANALYSIS**  
*Nemanja Krgović, Zorana Mutavski, Jelena Živković, Milica Radan, Katarina Šavikin, Milan Ilić, Nebojša Menković, Nada Čujić Nikolić, Jelena Mudrić*
- P-23 TOMATO WASTE: FROM THE ROLE OF NEW TECHNOLOGIES TO THE POTENTIAL FOR CREATING SUSTAINABLE SOLUTIONS**  
*Nela Nedić Tiban, Hrvoje Pavlović, Fabijan Šiškić*
- P-24 CLOSING BIOMASS MATERIAL AND ENERGY FLOWS: SCENARIOS FOR SLOVENIAN AGRIFOOD CHAINS**  
*Ilja Gasan Osojnik Črnivec, Sabina Berne, Rok Mihelič, Primož Oven, Luka Juvančič*
- P-25 CHICKEN EGG WHITE LYSOZYME**  
*Marta Ostojčić, Marija Stjepanović, Mirna Brekalo, Ivica Strelec, Sandra Budžaki, Drago Šubarić*
- P-26 THE BIOPOTENTIAL OF BERRY POMACE**  
*Sandra Pedisić, Ivona Elez Garofulić, Maja Repajić, Branka Levaj, Ana Dobrinčić, Zoran Zorić, Sandra Albino, Verica Dragović-Uzelac*
- P-27 SAFETY AND SENSORY PROPERTIES OF COOKED SAUSAGES WITH THE ADDITION OF MOIST BREWER'S SPENT GRAIN**  
*Irena Perković, Krešimir Mastanjević, Dragan Kovačević, Kristina Habschied, Hrvoje Krajina, Mario Škrivanko*
- P-28 SCREENING FOR POTENTIAL NUTRACEUTICAL RESOURCES IN WINE PRODUCTION WASTE**  
*Vedran Poljak, Marijana Franičević, Ivica Ljubenkov, Boris Antunović*
- P-29 BIOACTIVE PEPTIDES FROM MEAT BY-PRODUCTS**  
*Leona Puljić, Nikolina Kajić, Marija Banožić, Krešimir Mastanjević*

- P-30**     **APPLICATION OF ULTRASOUND-ASSISTED EXTRACTION AFTER SUPERCRITICAL CARBON DIOXIDE EXTRACTION FOR THE INCREASE IN BIOACTIVITY OF ELDERBERRY FLOWERS EXTRACTS**  
*Siniša Simić, Senka Vidović, Mirjana Sulejmanović, Aleksandra Gavarić, Stela Jokić, Krunoslav Aladić*
- P-31**     **POSSIBILITIES OF USING THE RESIDUES GENERATED IN THE PROCESSING OF STONE FRUITS AND OLIVES IN THE BIO-ENERGY PRODUCTION**  
*Tomislav Soldo, Nebojša Kojić, Ante Lončarić, Midhat Jašić*
- P-32**     **VALORIZATION OF TABLE OLIVE PROCESSING WASTEWATER**  
*Mladenka Šarolić, Zvonimir Marijanović, Žana Delić, Marko Šuste, Tomislav Svalina*
- P-33**     **DETECTION OF METAL PARTICLES AS CONTAMINANTS IN CHOCOLATE PRODUCTION**  
*Svjetlana Škrabal, Maja Ergović Ravančić, Valentina Obradović, Helena Marčetić, Borislav Miličević*
- P-34**     **POSSIBILITIES OF USING THE FOOD INDUSTRY BY-PRODUCTS FOR BIOSTIMULATORS, BIOFERTILIZERS AND BIOPESTICIDES PRODUCTION**  
*Tihana Marček, Monika Marković, Marija Ravlić, Antonija Kojić, Natalija Velić*
- P-35**     **UPCYCLING OF TOMATO PRODUCTION RESIDUES THROUGH CASCADING EXTRACTION AND FIBRE VALORISATION**  
*Filipa A. Vicente, Ilja Gasan Osojnik Črnivec, Javier Nión Fieira, Mija Sežun*
- P-36**     **THE POTENTIAL OF COMMON REED (*Phragmites australis* L.) AS A NON-DIETARY SOURCE OF POLYPHENOLS**  
*Aleksandra Vojvodić Cebin, Karla Zrnić, Mateja Budisavljević, Danijela Šeremet, Ana Mandura Jarić, Božidar Šantek, Draženka Komes*
- P-37**     **WHEAT GERM UTILIZATION: THE INFLUENCE OF EXTRUDED WHEAT GERM ON COOKIES' COLOUR AND DIMENSIONS**  
*Jovana Petrović, Biljana Pajin, Ivana Lončarević, Antun Jozinović, Dragana Šoronja-Simović, Jana Zahorec, Zita Šereš, Nikola Maravić*
- P-38**     **POTENTIAL OF BEETROOT POMACE AS SOURCE OF FIBER AND MINERALS IN CEREAL BASED DIET ENRICHMENT**  
*Snežana Zlatanović, Margarita Dodevska, Darko Micić, Ferenc Pastor, Stanislava Gorjanović*



IV. FIB CONFERENCE, 2024