



COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: MANUELA PANIĆ

Type (Academic or Industrial): Academic

Country: CROATIA

Leadership position in the COST: Participant

Working Group in which you are involved: WG2, WG3, WG4

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Laboratory/Company:

University of Zagreb, Faculty of Food Technology and Biotechnology, Department of Biochemical Engineering, **Laboratory for Cell Culture Technology and Biotransformations**, Pierottijeva 6, 10000 Zagreb, Croatia

Laboratory/Company info (limited to 400 characters):

Current scientific research of the Laboratory for Cell Culture Technology and Biotransformations includes: preparation, characterization and implementation of deep eutectic solvents in food technology, biotechnology, pharmacy and chemical technology; biocatalysis in obtaining enantiomeric pure compounds; assessment of protein hydrolysates of plant origin as partial substituent of proteins contained in animal serum.

Link to the home page of the Laboratory/Company:

http://www.pbf.unizg.hr/en/departments/department_of_biochemical_engineering/laboratory_for_cell_culture_technology_and_biotransformations

Fields of expertise (limited to 400 characters):

- Preparation and characterisation of natural deep eutectic solvents (NADES)
- Application of natural deep eutectic solvents in extraction
- Application of natural deep eutectic solvents in biocatalysis
- Biological activity of plant extracts
- Development of up- and down- biocatalytic and extraction processes with NADES on bigger scale

5 Main publications or patents:

- **Panić, M.,** Radić Stojković, M., Kraljić, K., Škevin, D., Radojčić Redovniković, I., Gaurina Srček, V., Radošević, K. (2019) Ready-to-use green polyphenolic extracts from food byproducts. *Food Chemistry* 283, 628-636.
- **Panić, M.,** Drakula, S., Cravotto, G., Verpoorte, R., Hruškar, M., Radojčić Redovniković, I., Radošević, K. (2020) Biological activity and sensory evaluation of cocoa by-products NADES extracts used in food fortification. *Innov. Food. Sci. Emerg.* doi.org/10.1016/j.ifset.2020.102514



- **M. Panić**, M. Cvjetko Bubalo, I. Radojčić Redovniković, Designing a biocatalytic process involving deep eutectic solvents, *J. Chem. Technol. Biotechnol.* (2020). doi.org/10.1002/jctb.6545
- **Panić, M.**, Gunjević, V., Cravotto, G., Radojčić Redovniković, I. (2019) Enabling technologies for the extraction of grape-pomace anthocyanins using natural deep eutectic solvents in up-to-half-litre batches. *Food Chem.*, 300, 125185.
- **Panić, M.**, Majerić Elenkov, M., Roje, M., Cvjetko Bubalo, M., Radojčić Redovniković, I. (2018) Plant-mediated stereoselective biotransformations in natural deep eutectic solvents. *Process Biochem.* 66, 133-139.

Collaborations:

- Bilateral Austrian (Universität Graz)-Croatian scientific project "Natural deep eutectic solvents for the preparation of chiral synthons using alcohol dehydrogenases" - team member (2020-2022)
- Bilateral Chinese (School of Chemistry and Chemical Engineering, Anhui University of Technology)-Croatian scientific project "Phenolic compounds green extraction from plant-endophytes using natural deep eutectic solvents" (2020-2022)
- Vio Chemicals AG, Zürich, Switzerland (collaborators at Croatian Science Foundation project "Rational design of deep eutectic solvents for chiral drug preparation" 2020-2024)
- Dipartimento di Scienza e Tecnologia del Farmaco, University of Turin, Italy (collaborators at PRECIOUS project, University of Turin/Procemsa Pharmaceuticals Spa/Reynaldi Srl-team member 2019.; Croatian Science Foundation project "Rational design of deep eutectic solvents for chiral drug preparation" 2020-2024)

Facilities:

- Equipment for cultivation of animal cell cultures (incubators, laminar flow chamber, inverted microscope, microscope, Muse[®] Cell Analyzer as simple flow cytometry, orbital shakers)
- Analytical equipment (HPLC-DAD, GCMS, spectrophotometer, spectrofluorimeter)
- Equipment for performing biocatalytic reactions (laminar flow chamber, incubators, shaker, enzymes, whole cells)
- Equipment for extraction (microwave-ultrasound reactor, shakers)
- Software (Biovia COSMOSuite)