COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: MARINA CVJETKO BUBALO
Type (Academic or Industrial): Academic
Country: CROATIA
Leadership position in the COST: -
Working Group in which you are involved: Work Group 2
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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):

- Implementation of green chemistry principles into biotechnological processes (green solvents, biocatalysis and alternatiove energy sources)
- Preparation and characterisation of ionic liquids and deep eutectic solvents
- Enantioselective biocatalysis using whole cells and isolated enzymes
- Extraction and identification of biologically active compounds

5 Main publications or patents:

- Panić, M., Delač, D., Roje, M., Radojčić Redovniković, I., Cvjetko Bubalo, M. (2018) Green asymmetric reduction of acetophenone derivatives: *Saccharomyces cerevisiae* and aqueous natural deep eutectic solvent. *Biotechnology letters* 41, 253-262. doi:10.1007/s10529-018-2631-3 (međunarodna recenzija, članak, znanstveni)
- Cvjetko Bubalo, M., Vidović, S., Radojčić Redovniković, I., Jokić S. (2018) New perspective in extraction of plant biologically active compounds by green solvents. *Food and bioproducts processing* 109, 52-73
- **Cvjetko Bubalo, M**., Vidović, S., Radojčić Redovniković, I., Jokić, S. (2015) Green solvents for green technologies. *Journal of chemical technology and biotechnology* 90, 1631-1639.

- Radosevic, K., **Bubalo Cvjetko, M**.; Srcek Gaurina, V.; et al. (2015) Evaluation of toxicity and biodegradability of choline chloride based deep eutectic solvents. *Ecotoxicology and Environmental Safety* 112, 46-53.
- **Bubalo Cvjetko, M**.; Radosevic, K.; Redovnikovic Radojcic, I.; et al. (2014) A brief overview of the potential environmental hazards of ionic liquids. *Ecotoxicology and Environmental Safety* 99, 1-12.

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)
- Bilateral project Serbia-Croatia “Biological potential of subcritical extracts from plant waste” (2016-2018)
- Vio Chemicals AG, Zürich, Switzerland (collaborators at Croatian Science Foundation project “Rational design of deep eutectic solvents for chiral drug preparation” 2020-2024)
- prof. Giancarlo Cravotto from Dipartimento di Scienza e Tecnologia del Farmaco, University of Turin, Italy (collaborators at 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)