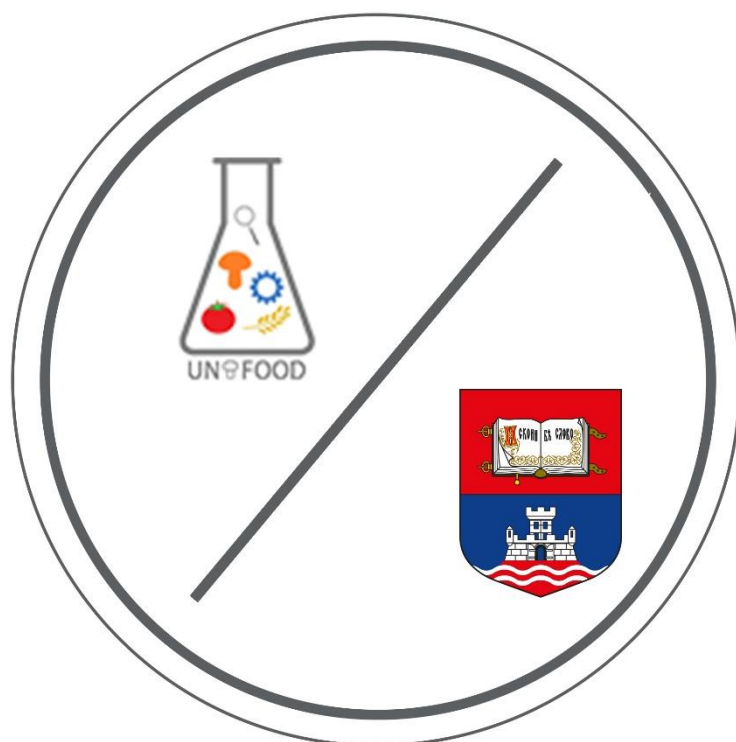


# UNIFOOD CONFERENCE



**University of Belgrade**

## Book of Abstracts

*Belgrade, September 24-25, 2021*

CIP - Kategorizacija u publikaciji Narodna biblioteka Srbije, Beograd

CIP - Каталогизација у публикацији - Народна библиотека Србије, Београд

663/664(048)

UNIFOOD conference (2021 ; Beograd)

Program i zbornik radova = Book of Abstracts / Unifood conference, Belgrade, September 24-25, 2021 ; [editors Mirjana Pešić, Živoslav Tešić].

- Belgrade : University of Belgrade, 2021 (Beograd : Razvojno-istraživački centar Grafičkog inženjerstva TMF).  
- 197 str. ; 30 cm

Tiraž 30.

ISBN 978-86-7522-066-4

a) Храна - Апстракти

COBISS.SR-ID 47517705

UNIFOOD Conference, Belgrade September 24-25 2021

Book of Abstracts

***Published by***

University of Belgrade  
Studentski trg 1  
11000 Belgrade  
www.bg.ac.rs,  
email: kabinet@rect.bg.ac.rs

***For Publisher***

Ivanka Popović, rector

***Editors***

Mirjana Pešić  
Živoslav Tešić

***Cover Design Layout***

Ivana Isaković

***Circulation***

30

ISBN 978-86-7522-066-4

***Print***

Razvojno-istraživački centar Grafičkog inženjerstva  
Faculty of Technology and Metallurgy, Karnegijeva 4, Belgrade

***Published***

2021.



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24<sup>th</sup>-25<sup>th</sup> September 2021 University of Belgrade

## 2<sup>nd</sup> International UNIFood Conference



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## The word of welcome

*Dear colleagues,*

We would like to welcome you to the **2<sup>nd</sup> UNIFood International Conference –UNIFood2021**. We hope that this gathering will engage not only academics, but also the stakeholders from all the relevant industries and business sectors, serving as a meeting point and a platform for proliferation of new ideas and development of new partnerships.

The first UNIFood conference, organized as national, was established 2018. year as one of the events in honor of the **210th Anniversary** celebration of the **University of Belgrade** that ranked at Shanghai list on 35<sup>th</sup> place for the 2017 year in subject *Food Science and Technology*. The University of Belgrade has been recognized as a leading international scientific institution by LERU when it was selected to be a member of CE7, an informal network of seven Central and Eastern European universities collaborating with LERU on key research and education challenges. Furthermore, University of Belgrade joined European University Alliance Circle U. Following the European Commission's launch of the European Universities initiative, a group of research-intensive universities has entered into a Memorandum of Understanding with the intention of establishing a new university alliance: Aarhus University, Humboldt University of Berlin, King's College London, UC Louvain, University of Belgrade, University of Oslo and Université de Paris.

We are pleased that you have decided to take part in this mutual conversation, where many will present their recent work, through poster sessions, oral communications or simply by asking questions. One of the goals of this Conference is cooperation between academia and food industry. Food scientists, technologists, researchers, nutritionists, engineers and entrepreneurs will exchange their knowledge about the latest advances in all aspects of food production, processing, sustainability, safety and security, nutrition and health, hi-tech equipment, ethics and knowledge transfer supporting environment. At this meeting, over 200 participants from 23 countries will take part.

Belgrade, one of the oldest city in the Europe, always young, at the confluence of the Sava and Danube rivers, will be your host. At the confluence of new ideas and experiences we again wish you a warm welcome.

*Sincerely,*

*Prof. Dr Mirjana Pešić*

*President of the Scientific Committee  
of UNIFood2021*

*Prof. Dr Ivanka Popović*

*Rector of the University of Belgrade*

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The conference organizers gratefully acknowledge the generous support provided by the following:

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# UNIFood Conference

Poster presentation within sections  
FOOD PRODUCTION, PROCESSING,  
SUSTAINABILITY, ADDED-VALUE FOOD



## ZETA-POTENTIAL AND PARTICLE SIZE OF FUNCTIONAL ADDITIVES BASED ON GOAT MILK PROTEINS AND *Agaricus blazei* Murill EXTRACTS

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In recent years, the manufacturing of functional food has gained a lot of attention. The most recent studies indicate that bovine milk proteins are suitable carriers for a whole range of bioactive substances, mainly because of their micellar structure.

The aim of our study was to examine the possibility of goat milk proteins (RM - raw skimmed milk and CN - casein fraction) to deliver *A. blazei* extracts (VA - hot water extract and GA - glucan extract) in order to use all the potential health benefits of this mushroom. Furthermore, the effect of thermal treatment (90<sup>0</sup>C, 10 min; TRM – thermally treated RM and TCN - thermally treated CN) on carrier properties was also evaluated. The mixture of different goat milk proteins and *A. blazei* extracts were prepared and zeta-potential and particle size distribution were determined by a laser light-scattering particle size analyzer, using distilled water as a dispersant.

The best results were obtained with the RM and TRM mixtures. It can be concluded that changes in particle size and electric charge of the micellar surface occurring in goat milk after heating have a positive impact on carrier properties. The particle size of TRM mixtures increased by 13.3 to 15.7% compared to the size of TRM particles, whereas the zeta-potential of TRM/VA increased for 6.6% compared to that of TRM. TCNs did not follow this trend. The measurement of CNs particle size distribution showed the presence of significantly different sizes (coefficient of variation >30%), whereas the zeta-potential measurements were stable. These results imply that the measurements of zeta-potential cannot be interpreted without the particle size data.

**Keywords:** goat milk proteins; *Agaricus blazei* Murill; thermal treatment; zeta-potential; particle size

**Acknowledgements:** This work was supported by the Serbian Ministry of Education, Science and Technological Development, Grant No. TR31069 and No. 451-03-9/2021-14/200116