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University of Belgrade
210th Anniversary
OCTOBER 5-6 2018

**PROGRAM
I
ZBORNIK RADOVA**

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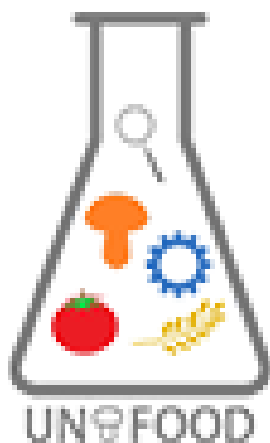
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UNIFood Conference

October 5-6 2018 University of Belgrade **210th Anniversary**



16:55-17:05	<p>Hemijska analiza i analiza botaničkog porekla medova iz Albanije</p> <p>Chemical analysis and evaluation of botanical origin of some Albanian honeys</p>	<p>Hoxha et al.</p> <p>Poljoprivredni Univerzitet u Tirani, Fakultet za biotehnologiju i hranu, Albanija</p> <p>Agricultural University of Tirana, Faculty of Biotechnology and Food, Albania</p>
17:05-17:15	<p>Eksploatacija antocijanina iz ekstrakta <i>Ficus carica</i> L.: optimizacija ekstrakcije, bioaktivnost i primena kao boje za životne namirnice</p> <p><i>Ficus carica</i> L. infructescence exploitation for anthocyanin-rich extracts preparation: optimized extraction, bioactivity, and application as food colorant</p>	<p>Perreira Carla</p> <p>Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Bragança, Portugal</p> <p>Laboratory of Separation and Reaction Engineering – Laboratory of Catalysis and Materials (LSRE-LCM), Polytechnic Institute of Bragança, Bragança, Portugal</p>
17:15-17:25	<p>Biološko profilisanje ekstrakata <i>Saccharina japonica</i> primenom planane hromatografije povezane sa biološkim esejima</p> <p>Bioprofiling of <i>Saccharina japonica</i> extracts by planar chromatography linked with bioassays</p>	<p>Ristivojevic et al.</p> <p>Inovacioni centar Hemijskog fakulteta u Beogradu, Studentski trg 12-16, Beograd, Srbija</p> <p>Inovation Centre of the Faculty of Chemistry Ltd, Studentski trg 12-16, 11000 Belgrade, Serbia</p>
17:25-17:35	<p>Funkcionalizacija ekstrakata <i>Agaricus bisporus</i> u jogurtu putem mikroenkapsulacije primenom “spray-drying” tehnike</p> <p>Functionalization of yogurts with <i>Agaricus bisporus</i> extracts microencapsulated through the spray-drying technique</p>	<p>Heleno et al.</p> <p>Politehnički institut Braganca i direktor Centra za istraživanje (CIMO), Braganca, Portugal. Direktor Mountain Research Centra (CIMO), Bragança, Portugalija</p> <p>Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal</p>



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Functionalization of yogurts with *Agaricus bisporus* extracts microencapsulated through the spray-drying technique

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The extensive use of synthetic additives by the food industry, some of them recognized as carcinogenic substances, has alerted consumers towards the need of adopting healthier habits. Thus, their appetite for functional foods, i.e. foods promoting positive effects on health in addition to their basic nutritional purposes, is progressively increasing. Moreover the food industry has been under high pressure due to legislation restrictions concerning the use of some of these artificial additives.

Mushroom extracts contain bioactive compounds potentially useful to functionalize foodstuffs. In fact, functional foods are integrating the daily diet of consumers and are gaining prominence worldwide. *Agaricus bisporus* is the species with the highest consumption worldwide, showing a great potential to be used to enrich food matrices, mainly due to its high amount of ergosterol. In the present work, alcoholic extracts of *A. bisporus* were studied for their bioactivity and viability as functional ingredients in a food product with high water content (yogurt). Extracts were microencapsulated by spray-drying (to improve their stability and hydrophilicity), using maltodextrin crosslinked with citric acid as the encapsulating material. The effect of thermal treatment (after atomization) on crosslinking and bioactivity of the produced microspheres was tested. The incorporation of free and thermally untreated forms resulted in yogurts with higher initial antioxidant activity (EC_{50} values: 214 and 272 mg/mL) that decreased after 7 days (EC_{50} values: 248 and 314 mg/mL). Contrarily, thermally treated microencapsulated extracts showed higher antioxidant activity after the same period (EC_{50} values, 0 days: 106 mg/mL; 7 days: 48.7 mg/mL), in result of an effective protection provided by microencapsulation with crosslinked maltodextrin and citric acid. Functionalized yogurts showed an overall maintenance of nutritional properties.