

# **Nutraceuticals in balancing redox status in ageing and age-related diseases**

**WGs Meeting of the NutRedOx COST Action CA16112  
Belgrade, March 2-3, 2020**



## **Book of Abstracts**

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## The word of welcome

*Dear colleagues,*

We would like to welcome you to the 3<sup>rd</sup> Group meeting within the NutRedOx CA16112 COST Action, which is entitled: “Nutraceuticals in balancing redox status in ageing and age-related diseases”. We hope that this gathering will enable us to shed more light on the healing nature of proper nutrition. Since ancient times, food was regarded as something more than a fuel for survival. The Greek doctor Hippocrates once said: “Let food be thy medicine and medicine be thy food.” Nutraceuticals or “nutritional medicines” could be the answer to difficulties encountered during aging, without neglect of official medications. In a society living longer than ever, health has become one of the most valuable assets. It would be comforting to know that in the near future old age is not associated with deteriorating quality of life.

This COST action was initiated in 2017, as a consortium of countries and scientists whose primary goal was to “focus on the impact of redox active compounds in food on healthy ageing, chemoprevention and redox control in the context of major age-related diseases”. By now, 34 COST participating countries and 6 Near Neighborhood Countries took part in this project, showing that there is great interest in this problem.

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 action is cooperation between laboratories by short term scientific missions, so we look forward hearing the results of these encounters. Although we are approaching the end of this joint venture, it is satisfying to know that participants are not yet tired, which is supported by the number of registrations and abstracts that will be presented. On this meeting 67 participants from 24 countries will take part.

Belgrade, an old city which is always young, embraced by two rivers, will be your host. We hope that you will enjoy its rugged charm and warm hospitality, its streets, restaurants and cultural heritage.

At the confluence of new ideas and experiences we again wish you a warm welcome.

*Your Local Organising Committee*



University of Belgrade

## INVITED LECTURES

## **P12. LAETIPORUS SULPHUREUS LECTIN INHIBITS ANGIOGENESIS AND TUMOR DEVELOPMENT IN THE ZEBRAFISH XENOGRFT MODELS OF COLORECTAL CARCINOMA AND MELANOMA**

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*Laetiporus sulphureus*, an edible mushroom, for centuries has been used in traditional European and Asian ethno-medicine. Its therapeutic properties have been attributed to different types of biologically active compounds, such as terpenes, polysaccharides, steroids, proteins and lectins. Recently, mushroom lectins emerged as very potent macromolecules with antiproliferative, cytotoxic, antiviral and immunostimulatory activities. Therefore, we isolated lectin from *L. sulphureus* (LSL) and evaluated its anti-angiogenic and anticancer activity *in vivo*, using the zebrafish model. We found that LSL is not toxic at high doses up to 400-500 µg/mL, while it effectively inhibited angiogenesis and cancer development at much lower doses. Compared to sunitinib-malate, cardiotoxic and myelosuppressive anti-angiogenic drug of clinical relevance, therapeutic potential of LSL was 378-fold higher. Wound healing and MTT assays were employed to examine antimigratory effect and endothelial cytotoxicity. Surprisingly, LSL affected human colorectal carcinoma and mouse melanoma cell lines, by almost completely diminishing their growth, neovascularization and metastasis. Moreover, in comparison to the used control (cisplatin), LSL showed markedly greater activity, while its potency turned out to be 8-fold higher towards colorectal carcinoma than melanoma. These encouraging data strongly imply that LSL can be considered for the application as supporting agent in chemotherapy against colorectal carcinoma and melanoma or used in pharmaceutical industry.