

## Microbial Bioactive metabolites

- course program -

Date: 4<sup>th</sup> and 18<sup>th</sup> November and 2<sup>nd</sup> December 2023. (*online* lectures)  
11<sup>th</sup> and 12<sup>th</sup> December 2023. (laboratory exercises at University of Novi Sad)  
13<sup>th</sup> December 2023. (seminar work defense at University of Novi Sad))

Timezone: CET

Location: Online and University of Novi Sad

Target Group: EUGLOH Master Students

Host: University of Novi Sad

Registration: (Deadline: 9th September 2023 23:59 CET)

### November 4<sup>th</sup>, 2023

Lectures (*online*):

- ✓ Bacterial - cyanobacterial and algal bioactive metabolites – distribution and classification
- ✓ Fungi and lichens and their bioactive metabolites
- ✓ Microbial bioactive metabolites in medicine and pharmacy (antibiotics, antitumor agents from terrestrial and marine environment, antiviral agents)

### November 18<sup>th</sup>, 2023

Lectures (*online*):

- ✓ Microbial metabolites in treating insomnia, neuroprotection and treating metabolic syndrome (diabetes, obesity, cholesterolemia)
- ✓ Microbial metabolites in treating cardiovascular system: angiotensins, cardiacs, and as coagulants and anticoagulants
- ✓ Microbial metabolites as tonics, sexual attractants and aphrodisiacs

### December 2<sup>nd</sup>, 2023

Lectures (*online*):

- ✓ Microbial metabolites as immuno-modulators (-activators, -suppressors)
- ✓ Microorganisms as the sources of a nutritive agents and healthy and organic food (vitamins, minerals, essential amino acids) and their use in cosmetics,

- ✓ Microbial toxins (bacterial, cyanobacterial, algal and fungal toxins) with harm effects on humans' health; Mycetismus.

### December 11<sup>th</sup>-12<sup>th</sup>, 2023

Exercises (University of Novi Sad):

1. Isolation of microorganism from different environment and detection based on classical and molecular methods
2. Inoculation on media and cultivation procedure, conservation and procedures for culture maintenance
3. Cultivation and optimization of microbial growth in submerged cultivation with different conditions shifting from primary to secondary metabolism
4. Cultural and physiological properties of isolated strains of microorganisms
5. Research in production of antibiotics and antibiogram experiments
6. Research in antioxidative assays regarding microbial products

### December 13<sup>th</sup>, 2023

Seminar work defense (University of Novi Sad):

Team Work:

- ✓ Analyzing the Seminar work defense (PPT presentation in groups of 2 students or alone based on their specific interest in the field)
- ✓ Resolving quick tests for recognition of mushroom species and poisoning symptoms
- ✓ Making a video clip about mushrooms solving the problems of health for humans and for the nature environment

Understanding principles of microbial metabolites and their application will facilitate the mastery of the participants in creating suitable presentation (Ppt or Prezi).