



2022  
**Belgrade**

# **FEMS Conference on Microbiology**

in association with  
Serbian Society of Microbiology

**30 June - 2 July**

**2022 • Serbia**

**ELECTRONIC  
ABSTRACT BOOK**

## Scientific Committee

**Hilary Lappin-Scott** / *United Kingdom*  
**Scientific Committee Chairperson, FEMS President**

---

**Dragojlo Obradovic** / *Serbia*  
**Scientific Committee Co-Chairperson, President of Serbian Society of Microbiology**

---

**Roberto Antolovic** / *Croatia*

---

**Dejan Baskić** / *Serbia*

---

**Jelena Begović** / *Serbia*

---

**Helena Bujdáková** / *Slovakia*

---

**Carianne Buurmeijer** / *The Netherlands*

---

**Ivana Dakic** / *Serbia*

---

**Ivica Dimkić** / *Serbia*

---

**Ana Kaftandjieva** / *North Macedonia*

---

**Aleksandra Knezevic** / *Serbia*

---

**Branislava Kocić** / *Serbia*

---

**Konstantinos Kormas** / *Greece*

---

**Özgür Kurt** / *Turkey*

---

**Daniela Marchetti** / *Italy*

---

**Sinisa Markov** / *Serbia*

**Gordana Mijovic** / *Montenegro*

---

**Alexandra-Maria Nășcuțiu** / *Romania*

---

**Jakov Nišavić** / *Serbia*

---

**Dragoslava Radin** / *Serbia*

---

**Galina Satchanska** / *Bulgaria*

---

**Marjanca Starčić Erjavec** / *Slovenia*

---

**Carsten Suhr Jacobsen** / *Denmark*

---

**Nijaz Tihić** / *Bosnia & Herzegovina*

---

**Stefan Tyski** / *Poland*

---

**Antonio Ventosa** / *Spain*

---

**James Williamson** / *United Kingdom*

---

**Ken-ichi Yoshida** / *Japan*

---

**Lixin Zhang** / *China*

## Organizing Committee

**Vaso Taleski** / *North Macedonia*

**Organizing Committee Chairperson, FEMS Director of Events and Internationalization**

---

**Lazar Ranin** / *Serbia*

**Organizing Committee Co-Chairperson, Vice-President Serbian Society of Microbiology**

---

**Ivan M. Jekić** / *Serbia*

---

**Malin Inzinger** / *The Netherlands*

---

**Heather Lawrence** / *United Kingdom*

---

**Ina Gajic** / *Serbia*

---

**Srdjan Miletic** / *Serbia*

---

## Conference Grants Committee

**Jozef Anné** / *Belgium*

**Conference Grants Committee Chairperson, FEMS Grants Director**

---

**Victor Cid** / *Spain*

---

**Trafny Elżbieta** / *Poland*

---

**Alexander Netrusov** / *Russian Federation*

---

**958 / ACTIVITIES OF ANTIOXIDANT ENZYMES IN MYCELIUM  
OF FUNGUS PHYCOMYCES BLAKESLEEANUS****08****Keywords:** *Antioxidant enzymes, fungus***Jovana Lukičić** / University Of Belgrade, Faculty Of Biology, *Serbia***Jovana Lukičić** / University of Belgrade, Faculty of Biology, Department of Physiology and Biophysics, Belgrade, *Serbia***Ivanka Rodić** / Department of Life Sciences, Institute for Multidisciplinary Research, University of Belgrade, Belgrade, *Serbia***Milan Žižić** / Department of Life Sciences, Institute for Multidisciplinary Research, University of Belgrade, Belgrade, *Serbia***Joanna Zakrzewska** / NMR Laboratory, Institute of General and Physical Chemistry, University of Belgrade, Belgrade, *Serbia***Tijana Cvetić Antić** / University of Belgrade, Faculty of Biology, Department of Plant Physiology, Belgrade, *Serbia***Miroslav Živić** / University of Belgrade, Faculty of Biology, Department of Physiology and Biophysics, Belgrade, *Serbia***Marina Stanić** / Department of Life Sciences, Institute for Multidisciplinary Research, University of Belgrade, Serbia, *Belgrade*

*Phycomyces blakesleeanus* is a strict aerobic filamentous fungus often used as a model system in studies of physiology, genetics, environmental sensing, and metabolism. As all other aerobic organisms, this fungus faces the toxic effects of oxygen-reactive species, but data about its antioxidative defense systems are scarce. The aim of this research was to examine the activities of three antioxidant enzymes during different phases of growth. The fungus was grown in two ways, in Petri dishes, and on a shaker in Erlenmeyer flasks. The activities of superoxide dismutase (SOD) and peroxidase (POD) were determined spectrophotometrically, while the activity of catalase (CAT) was determined polarographically with a Clark-type oxygen electrode. The highest activities of SOD were noticed in mycelia grown in Erlenmeyer flasks in the stationary phase of growth. In mycelia grown in Petri dishes, the highest activities of POD (0,014U/mg protein) and CAT (20,63 U/mg protein) were noticed in the early exponential phase. The activities of these two enzymes decreased with mycelial growth. In mycelia grown in Erlenmeyer flasks, POD and CAT showed similar behavior, but differences in activities between exponential and stationary phases were smaller and the highest activities were noticed in the mid-exponential to stationary phase of growth (0,011U/mg protein for POD and 17,21U/mg protein for CAT). High activities of these two enzymes indicated increased production of H<sub>2</sub>O<sub>2</sub> and pointed out the importance of this phase for mycelia grown in this way.

**ACKNOWLEDGEMENTS/REFERENCES**

This study was supported by Grants from the Ministry of Education, Science and Technologic Development of Republic of Serbia, OI-173040