



2022
Belgrade

FEMS Conference on Microbiology

in association with
Serbian Society of Microbiology

30 June - 2 July

2022 • Serbia

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Message from the organizers

Dear colleagues and friends,

The 1st FEMS Belgrade Conference on Microbiology in collaboration with Serbian Society for Microbiology was held from 30 June to 2 July 2022.

A large number of high-quality scientific contributions was presented at the Conference. We are delighted to have been able to put them together and send you the FEMS Conference Abstract Book. With thanks to your contributions, we can now proudly present an abstract book that both reflects the scientific abundance of the conference and serves as a memento of an event worth remembering. We thank all participants and in particular the presenters of these abstracts for making this happen!

This conference was a pioneering endeavour, one of the largest and most important microbiology events in East Europe in 2022. As in 2020, when we had to pursue the first conference online due to the COVID-19 pandemic, this conference faced challenging times but could luckily be held both onsite and online.

Again, in 2022, we were faced with the great challenges as it was the case back in 2020, and yet again, a brave decision to move ahead has been made and it paid off.

You showed large interest to become part of the Conference and our joint history. Almost 1.000 scientific contributions were submitted, and more than 870 were approved. This showcases not only the large interest to be part of the conference, but also it is the reason this event was such a success.

We are thankful and proud to have welcomed almost 600 microbiologists from 40 European countries and another 20 countries worldwide, almost 200 more participants online. With ten core scientific sessions, including one session with the best grant alumni presentations, three plenary lecture and a COVID-19 round table, six industry lectures and a satellite symposium, the total of invited lectures amounted to 60. In addition, six thematic sessions with over 120 short oral/e-poster presentations of selected participants-authors in the main program Finally, over 400 e-posters/presentations on demand, in total over 600 presentational items, uploaded on the Conference ONLINE platform and accessible to participants until the 31 December 2022.

We thank the pharmaceutical, lab and biomedical industry partners from Serbia, the South East Europe region and worldwide for their recognition of the importance of the event, their participation and their support.

We hope that you enjoyed the content and all the other aspects of the Conference. If you missed anything, you can catch up by watching the recordings, presentations or have a detailed look at the posters.

We warmly wish you health, love and happiness and are looking forward to the new encounters, coming up next: FEMS 2023 Congress in Hamburg, FEMS 2024 Conference in Tallinn and numerous events of the SSM in Serbia and South East Europe region.

Sincerely



Hilary Lappin-Scott

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Prof. Hilary Lappin-Scott
Scientific Committee Chairperson,
FEMS President



Vaso Taleski

.....

Prof. Vaso Taleski
Organizing Committee Chairperson,
FEMS Director of Events and Internationalization



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Prof. Lazar Ranin
Organizing Committee Co-Chairperson,
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**764 / ANTIMICROBIAL AND CYTOTOXIC ACTIVITY OF PIGMENTED
STREPTOMYCES SPP. CULTURE EXTRACTS****05****Keywords:** *bacterial pigments, antimicrobial, cytotoxic, Streptomyces***Vukašin Janković** / Institute Of Molecular Genetics And Genetic Engineering, University Of Belgrade, *Serbia***Vukašin Janković** / Institute Of Molecular Genetics And Genetic Engineering, University Of Belgrade, Belgrade, *Serbia***Jasmina Nikodinović-Runić** / Institute Of Molecular Genetics And Genetic Engineering, University Of Belgrade, Belgrade, *Serbia***Dušan Milivojević** / Institute Of Molecular Genetics And Genetic Engineering, University Of Belgrade, Belgrade, *Serbia***Milena Stevanović** / Institute Of Molecular Genetics And Genetic Engineering, University Of Belgrade, Belgrade, *Serbia***Tatjana Ilić-Tomić** / Institute Of Molecular Genetics And Genetic Engineering, University Of Belgrade, Belgrade, *Serbia***BACKGROUND**

Pigments from microbial origin have promising applications in food, cosmetics, textiles and therapeutics. Compared to other natural sources pigments from bacteria are more stable, safer, and could be cheaper to produce and extract. Bacterial genus *Streptomyces* has been known as a source of biologically active pigments that exhibit several effects such as antimicrobial and cytotoxic.

OBJECTIVES

The aim of this study was the isolation of pigment-producing *Streptomyces* strain from soil, optimization of growth parameters for pigment production and evaluation of antimicrobial and cytotoxic activity of extracted bacterial pigments.

METHODS

Isolation and characterization of pigment-producing *Streptomyces* strain from soil was done following the standard microbiological protocol, using four different growth media. The pigments were extracted by solvent extraction using ethyl acetate. Antimicrobial activity was analyzed using the disc diffusion test. Cytotoxic activity was tested on the HaCaT cell line following the standard protocol.

RESULTS

Extraction of pigments by solvent extraction resulted in crude pigment extracts with antimicrobial activities. In total pigments from 14 bacterial strains have been extracted. Antimicrobial activity was evident on Gram + bacteria *Staphylococcus aureus* (6 mm of inhibition zone at concentration 8.4 µg/ml and 4 mm of inhibition zone at concentration 1.1 µg/ml) as well as on the fungus *Candida albicans* (4 mm of inhibition zone at concentration 13 µg/ml). Pigments showed dose-dependent inhibition of proliferation of HaCaT cells, with the lowest concentration at 25 µg/ml.

ACKNOWLEDGEMENTS/REFERENCES

Bio Innovation of a Circular Economy for Plastics (BioCEP) Project H2020-870292, 2020-2023 and Ministry of Education, Science and Technological Development of the Republic of Serbia, 451-03-9/2021-14/200042, 2021