2022 Belgrade

FEMS Conference on Microbiology

in association with
Serbian Society of Microbiology

30 June - 2 July

2022 • Serbia

ELECTRONIC ABSTRACT BOOK

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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

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

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

Prof. Dragojlo Obradović
Scientific Committee Co-Chairperson,
President of Serbian Society of Microbiology

Prof. Lazar Ranin
Organizing Committee Co-Chairperson,
Vice-President of Serbian Society of Microbiology

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Scientific Committee Chairperson, FEMS President

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

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Alexander Netrusov / *Russian Federation*

PLANT MICROBIOLOGY 09

397 / PSEUDOMONAS SPP. VS. TUMORIGENIC RHIZOBIUM SP. – BIOCONTROL OF CROWN GALL DISEASE

Keywords: *Biological control, Pseudomonas, Bacillus, crown gall*

Tamara Janakiev / University Of Belgrade, Faculty Of Biology, Department Of Biochemistry And Molecular Biology, Serbia, ***Serbia***

Tamara Janakiev / University Of Belgrade, Faculty Of Biology, Department Of Biochemistry And Molecular Biology, Belgrade, ***Serbia***

Aleksandra Jelušić / University of Belgrade, Institute for Multidisciplinary Research, Belgrade, ***Serbia***

Nemanja Kuzmanović / Federal Research Centre for Cultivated Plants (JKI), Institute for Plant Protection in Horticulture and Forests, Julius Kühn-Ins, Braunschweig, ***Germany***

Djordje Fira / University of Belgrade, Faculty of Biology, Department of Biochemistry and Molecular Biology, Belgrade, ***Serbia***

Ivica Dimkić / University of Belgrade, Faculty of Biology, Department of Biochemistry and Molecular Biology, Belgrade, ***Serbia***

Tamara Janakiev[1], Aleksandra Jelušić[2], Nemanja Kuzmanović[3], Djordje Fira[1], Ivica Dimkić[1]

1 University of Belgrade, Faculty of Biology, Department of Biochemistry and Molecular Biology, ***Serbia***
2 University of Belgrade, Institute for Multidisciplinary Research, ***Serbia***
3 Julius Kühn-Institut (JKI), Federal Research Centre for Cultivated Plants, Institute for Plant Protection in Horticulture and Forests, Braunschweig, ***Germany***

BACKGROUND

Atypical Rhizobium sp. were identified as a causative agent of crown gall on rhododendron and blueberry in Germany. Considering the lack of efficient measures against crown gall disease, evaluation of innovative biocontrol measures would greatly contribute to sustainable agriculture.

OBJECTIVES

Identification of candidate bacterial strains that could be employed for biological control of the novel crown gall bacteria belonging to the "tumorigenes" clade.

METHODS

Antimicrobial activity of six antagonistic Pseudomonas and Bacillus strains were tested in vitro and in vivo against pathogenic strain Rhizobium sp. rho-6.2. The in vivo experiment, using co-inoculation and preventive inoculation strategies, was performed in controlled greenhouse conditions on tomato plants as a model system in four replicas and randomized.

RESULTS

The whole cultures of two antagonistic Pseudomonas strains were the most efficient against pathogenic Rhizobium sp. rho-6.2 in co-inoculation strategy with reducing tumor size of 92.86%. Contrary, in the preventive treatment same Pseudomonas strains were less efficient (15.38 and 30.77%). Despite the high in vitro antimicrobial activity of Bacillus strains their in vivo activity was less pronounced in preventive treatment (up to 15.38%), while in co-inoculation strategy was more prominent (42.86%). Consortium based on Bacillus and Pseudomonas strains, was increased biocontrol activity up to 38.6% of tumor's reduction. The selected Pseudomonas strains could be further tested as an alternative strategy for the biocontrol of crown gall disease and potential involvement of quorum quenching mechanism will be determined.

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