



2022
Belgrade

FEMS Conference on Microbiology

in association with
Serbian Society of Microbiology

30 June - 2 July

2022 • Serbia

**ELECTRONIC
ABSTRACT BOOK**

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

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



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Wastewater based epidemiology in countries with poor wastewater treatment - epidemiological indicator function of SARS-CoV-2 RNA in surface waters

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Background

Wastewater-based epidemiology surveillance of COVID-19 and other outbreaks in the future is a challenge for developing countries, as the majority of households are not connected to sewerage systems. In December 2019, we have detected SARS-CoV-2 RNA in the Danube River at a site that is severely affected by wastewater of Belgrade. Considering that rivers are much more complex systems in comparison to wastewater, additional efforts are needed to address all the factors which might influence the adoption of WBE as an alternative of targeting raw wastewater.

Objectives

The major objective of this study was to provide a more detailed insight in the potential of SARS-CoV-2 surveillance in Serbian surface waters under consideration of epidemiological, microbiological, physico-chemical and hydro-morphological parameters for epidemiological purposes.

Methodology

Water samples were collected at 12 sites at Sava and Danube Rivers in the Belgrade city area during the fourth COVID-19 wave in Serbia that started in late February 2021.

SARS-CoV-2 RNA was quantified using RT-qPCR with primer sets targeting nucleocapsid (N1 and N2) and envelope (E) protein genes. Microbiological (standard fecal indicator bacteria and microbial faecal source tracking markers), epidemiological, physico-chemical and hydro-morphological parameters were analysed in parallel.

Results

Out of 44 samples analyzed, 31 were positive for at least one of the target regions of SARS-CoV-2. The results indicated that surveillance of SARS-CoV-2 RNA in surface waters in context with the large amount of epidemiological and environmental metadata can be used as epidemiological early-warning tool in countries with poor wastewater treatment.