

Report on the organization of the first IUBMB focused meeting on extremophilic fungi FUN-EX

19-22 September, 2023, Ljubljana, Slovenia

Nowadays we know that most environments that in the past were considered to be too extreme to be populated by any living form, can harbor life. Initially the prevailing conviction was that only prokaryotic cells, Bacteria and Archaea, are able to sustain the most extreme conditions and that eukaryotic cells, in particular fungi, are too complex to survive under such harsh conditions. In recent decades, however, fungi have been found to be an integral part of extreme microbial communities. Unlike their prokaryotic counterparts most fungi adapt to a wide range of an extreme condition, e.g. from no salt to saturation with salt, from low to high pH. They display a typical fungal strategy in adaptations – extremotolerance or even poly-extremotolerance - rather than extremophily. Extremotolerant fungi can be so adapted to multiple environment that they perceive a broad range of extreme conditions as optimal for their growth. Who are these fungi? Where can we find them? How did they evolve and how do they survive in some of the most extraordinary conditions we find on our planet? Which unique solutions to universal problems of adaptations they have evolved in comparison with prokaryotes? Can we use them in practical applications? Do they adapt to global climate change? Can they give us some astrobiological answers? These were the main questions that were addressed at the first IUBMB focused conference on extremophilic fungi (FUN-EX), that was organized in Ljubljana, Slovenia, from 19-22 September 2023. The venue was the Biotechnical Faculty of the University of Ljubljana. The conference brought together, for the first time ever, 112 world-renowned experts on extremophilic and extremotolerant fungi, young scientists, and students, originating from 26 countries and five continents.

Already at the end of the conference it was decided, that this will not be only a first-time event, helping to usher mycology in the next era of extreme mycology, but that it will become a traditional event in the years to come. The next meeting will be organized in two years in Spain and the following one in four years in Italy.

ISME was represented on the official web page of the meeting as gold sponsor with official logo (<https://www.fun-ex.si/sponsors/>). Logo was used also in Abstract Book and in the Program of the meeting. Logo was added among gold sponsors on A0 poster and was presented in the meeting hall during the event. Additionally, a slide with ISME promotional news was shown during every coffee- and lunch breaks of the meeting.

Nina Gunde – Cimerman

Chair of FUN-EX organizing committee

Ljubljana, 17th October, 2023

Fig. 1 – Participants of the First IUBMB focused meeting on extremophilic fungi FUN-EX. Picture: Janez Kotar

