

## **BAGECO15: 15<sup>th</sup> Symposium on Bacterial Genetics and Ecology, May 26<sup>th</sup> – 30<sup>th</sup>, 2019**

### **Meeting Report**

The 15<sup>th</sup> Symposium on Bacterial Genetics and Ecology (BAGECO 15) was held in Lisbon, Portugal, from May 26<sup>th</sup> – 30<sup>th</sup>, 2019. The Symposium was attended by 245 participants from 40 countries. More than 50% of participants were PhD students or postdocs.

A total of 308 abstracts were submitted, from 40 countries, and these were assessed by members of the Scientific Committee to determine whether they were of suitable quality and which would be presented as oral or poster presentations. This process resulted in acceptance of 306 abstracts, although approximately 10% of submitted abstracts were subsequently withdrawn. Forty-two abstracts were chosen for oral presentation.

The Scientific Programme comprised an opening lecture (60 min), 14 invited keynote lectures (30 min) and the 42 contributed oral presentations mentioned above, which varied between 12, 15 or 20 min in length depending on the session. The majority of the latter were from early career researchers (postgraduate students or postdoctoral researchers). Among oral speakers (invited and selected from abstracts), 59% were female and 41% male. Posters were displayed throughout the meeting with 2 x 3-hour dedicated poster-viewing sessions, in addition to viewings during refreshment and lunch breaks.

The meeting operated in a single session following its tradition, creating a 'community' atmosphere, facilitating and encouraging discussion and interaction between the participants. All talks attracted interesting questions and active discussion and the majority of keynote speakers attended the whole conference, contributing significantly to the discussions.

The scientific programme focused on the fundamental roles played by microorganisms in the functioning of natural and man-made ecosystems in a rapidly changing environment. Moreover, the programme was designed to elicit discussion on the appropriate use of microorganisms and their remarkable physiological and adaptive features as engines boosting a future, circular economy. Further attempts were made to increase awareness of modern approaches and technologies that can be employed to bridge fundamental knowledge of microbial communities to their potential applicability across sectors of societal, economical and public health interest, from habitat restoration to the biological control of diseases to the development of "green", multitrophic agri- and aquaculture ecosystems. Keynote speakers were therefore chosen whose background and expertise lay in the study of microorganisms but whose research focused on palpable issues of relevance to the sustainable use of natural resources, ecosystem functioning and human health.

The opening lecture (by Nikos Kyrpides) raised the issue of how intertwined Data Science and Microbial Ecology have become in recent years, providing an overview of data analysis-driven studies which sharply changed our views of the microbial world, with emphasis on the wealth of novel metabolic pathways, microbial lineages and viral diversity that emerged recently owing to our ability to assemble genomes from metagenomes and assess the viromes of Earth's ecosystems in a cultivation-independent manner. The programme followed with sessions on horizontal gene transfer and antibiotic resistance, microbial biodiversity in a changing climate, host-microbe interactions (with two sessions focussing on co-evolution and ecosystem functioning, respectively), microbial ecology in agroecosystems, microbial ecology in aquaculture, microorganisms in bioremediation and ecosystem

recovery, the “wonders” of microbial secondary metabolism, microbiology in the built environment, metagenomics and the novel tree of life, and modern microbial ecology theory. In contrast with previous BAGECO symposia, during BAGECO15 two roundtables were organized, one on the use of beneficial symbionts to improve host fitness in artificial or impacted ecosystems (promoted by the BMMO international network – Beneficial Microbes for Marine Organisms), and the second on the control of human pathogenic microorganisms in plant production systems (promoted by the EU-financed Cost Action HUPLANTcontrol). Both roundtables were very well received by the audience, and further roundtables are to be carried out in future BAGECO editions. Overall, the engagement of the audience across all sessions and roundtables was remarkable. The keynote lectures were more than often considered excellent by attendees and were generally perceived to have provided a refreshingly different programme of talks that focused on attempts to address scientific questions and explain phenomena rather than focusing on techniques.

We are indebted to ISME for the Meetings Grant, which was used to support six early career postdocs and postgraduate students with poster (4) and oral (2) presentations. Furthermore, BAGECO15 received further sponsorship from ISME through the society’s Ambassadors Programme, which this year provided support to cover the travel expenses of opening lecturer Dr. Nikos Kyrpides (DOE-JGI, USA). ISME’s Ambassadors Programme enjoyed special visibility during the opening lecture, but the programme has been anyway spontaneously and very well disseminated throughout BAGECO15 owing to the attendance of several ISME Ambassadors (e.g. both senior and young ambassadors from Brazil and Portugal plus ambassadors from Puerto Rico, Chile, Israel and Denmark, to name some representatives). Particularly, the 1<sup>st</sup> ISME Latin America received considerable attention, being highlighted in oral presentations by speakers from Chile and Puerto Rico and announced during all breaks via slide presentations on the venue’s main screen. Altogether, ISME sponsorship and the Ambassadors Programme were highlighted on the Conference website, in the Programme Booklet, in the opening and closing addresses by the Conference Chair (Rodrigo Costa) and in a PowerPoint presentation operating during all breaks. As an annex to this report, please consider herein the closing presentation by the Conference Chair, which provides an overview of the scientific and social programmes of BAGECO15 and numerous pictures of the event.

Yours faithfully,



Rodrigo Costa

Conference Chair