

# Non-Conventional Yeasts for the Production of Bioproducts

## Events

### 6th WG Meeting at Faculty of Chemical and Food Technology, Slovak University of Technology in Bratislava (Slovak Republic)

by **Milan Čertík**

The 6<sup>th</sup> Yeast4Bio working group meeting was organized in Bratislava during May 15<sup>th</sup>-16<sup>th</sup>, 2023. It was hosted by the Faculty of Chemical and Food Technology, Slovak University of Technology in Bratislava, Slovak Republic. Totally 29 participants from 14 countries spent two days in friendly atmosphere. The meeting was opened by the main organizer followed by dean of the Faculty and the COST action leader.

Then Peter Biely provided interesting lecture about the birthplace of yeast research in Slovakia. After that scientific program consisted of many productive lectures in all working groups with intense discussions. Dissemination and training plans were discussed in the last session of the meeting as well as introduction to the next activities of the COST action and proposed future collaborations were provided. All participants also enjoyed a social dinner in the famous restaurant with a tasty meal and local „yeast product“ beer. Moreover, introduction by beer master how the local beer is produced together with a show of brewery tanks directly in the restaurant multiplied this special atmosphere. The meeting was enjoyable, and all participants expressed a wish to join the next Yeast4Bio meeting. So, see you in Lisbon in October 2023!

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## Career development, individual mobility

*“Researchers have been strongly adhering to Short Term Scientific Missions (STSMs) in COST Action YEAST4BIO throughout 2022.”*

*“I also took advantage of my visit to participate in the 8th Conference on Physiology of Yeast and Filamentous Fungus where I could show my results with a poster and I met a lot of international researchers in my field.”*

## Short Term Scientific Missions

STSM-Coordinator: **Susana Marques**

Researchers have kept strongly adhering to Short Term Scientific Missions (STSMs) in COST Action YEAST4BIO throughout the running 4<sup>th</sup> Grant Period (ending by 31<sup>st</sup> October 2023), with the approval of 15 grants under 2 calls. After 9 visits have successfully been completed, 6 of these visits are still running.

## Experiences of completed STSMs

**Manuel Francisco Blanco** (Advanced Biofuels and Bioproducts Unit at Research Centre of Energy, Environment and Technology, Spain)

Thanks to the CostAction Yeast4Bio, I could visit the lab of Professor John Morrissey at the Microbiology department at University College Cork, in Ireland where I was able to learn the latest genetics improvement techniques applied to *Kluyveromyces marxianus*. For 9 weeks, I learned the protocol for genome editing CRISPR/Cas9 and the plasmid construction for gene overexpression with the GoldenGate protocol. These techniques will allow me to address the study different genes and metabolic pathways related to cell robustness and achieve a more efficient lignocellulose fermentation method.

I also took advantage of my visit to participate in the 8th Conference on Physiology of Yeast and Filamentous Fungus where I could show my results with a poster and I met a lot of international researchers in my field.

Furthermore, it was a really grateful personal experience. It was my first time on a long stay abroad, and I met a lot of wonderful people in the lab, who were always willing to help me, teach me all the techniques, and meet with me after work. I also took advantage of visiting amazing places on weekends in Ireland and discovering its gastronomy and customs.

To conclude I really appreciate the opportunity that brought me the Cost Action Yeast4Bio with the scholarship, and Professor John Morrissey and the colleagues of the lab for teaching me all the techniques that will contribute to the development of my thesis.



*“I couldn’t recommend such an experience more!”*

**Vittorio Giorgio Senatore** (University of Milano Bicocca, Italy)

I am a third-year PhD student at the University of Milano Bicocca (IT) with a project focusing on the upcycling of plastic and agrifood waste. Thanks to the STSMs grant I had the opportunity to spend 3 months in Tallinn (Estonia) at the BioEngineering lab of Prof. Petri-Jaan Lahtvee. There, I focused on the fermentation of the oleaginous yeast *Rhodotorula toruloides* and the xylose-fermenting yeast *Scheffersomyces stipitis* for the bioconversion of organic waste (ethylene glycol) and lignocellulosic biomasses. During these 3 months, I learned how to operate bioreactors and how to proceed with the data analysis. Moreover, I had the opportunity to learn how to sample for omics data (e.g., transcriptomics, proteomics, metabolomics), as well as pick up the basics of constraint-based modeling of the metabolism of *R. toruloides*. All in all, I managed to gather a lot of very interesting data about the unexpected behavior of these two non-*Saccharomyces* yeasts, as well as realize the need for a consensus in silico model for *R. toruloides*.

This was my first experience abroad as a researcher and while the weekdays were really busy, I had the opportunity to explore the amazing city of Tallinn on the weekends.

I think these grants are an invaluable resource for PhD students, as they are an excellent opportunity to learn new techniques and foster technology transfer. Most importantly, they are a chance to meet new amazing scientists from all over the world and thus widen the research network, allowing the sharing of the know-how within the context of bioproduct productions by non-conventional yeasts. I couldn’t recommend such an experience more!

*“This was my first experience abroad as a researcher and while the weekdays were really busy, I had the opportunity to explore the amazing city of Tallinn on the weekends.”*



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## Planned events

7<sup>th</sup> WG meeting and 5<sup>th</sup> MC meeting will take place in Portugal 17<sup>th</sup> and 18<sup>th</sup> October 2023. It is organized by Susana Marques.

## Future activities, communication



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## How to find us

Science Communication Manager: **Csaba Fehér**

For more information about the Yeast4Bio COST Action, please visit our website and follow our social media profiles.

Webpage: <https://yeast4bio.eu/>

Twitter: <https://twitter.com/yeast4bio>

LinkedIn: <https://www.linkedin.com/company/yeast4bio-project>

### Grant Holder Institution

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#### **COST** description

COST (**European Cooperation** in Science and Technology) is a funding agency for research and innovation networks. Our Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This **boosts their research, career and innovation**.  
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