

Non-Conventional Yeasts for the Production of Bioproducts

Events

4th WG Meeting at University of Bari “Aldo Moro” (Italy)

by **Gennaro Agrimi**

“The meeting has gathered more than 50 participants from 19 countries including one partner-country (Tunisia).”

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On April 26th and 27th 2022, the University of Bari has hosted the 4th WG meeting of the COST Action Yeast4Bio. The meeting has been an excellent opportunity to meet colleagues from all over Europe in a friendly atmosphere. The meeting has gathered more than 50 participants from 19 countries including one partner-country (Tunisia). There has been the possibility to follow the presentations also online through a Microsoft Teams session. 4 scientific sessions have been organized with 28 presentations from both experienced and early-stage researchers. All presentations have been paralleled by intense and fruitful discussions both in the dedicated sessions and during meals and coffee breaks. The meeting has also given the chance to present the next initiatives of the COST action. The scientific program has been paralleled by a nice and relaxing walk in the old town of Bari and by a social dinner which has contributed to strengthen relationships and collaborations within the participants. The meeting was enjoyable and productive; it has been possible also thanks to the contribution of students and researchers from the laboratory of Microbial Biotechnology of the University of Bari that I want to sincerely thank. See you in Prague!



Career development, individual mobility

“In the first call launched in the 3rd GP, 7 applications have been submitted and approved.”

“By the end of May 2021, of these 7 applications approved for STSMs, three visits have already successfully been completed and the other four are running.”

“The STSM of Yeas4Bio scholarship allowed me to support the expenses incurred during my stay in France, as visiting PhD student.”

Short Term Scientific Missions

STSM-Coordinator: **Susana Marques**

Regarding Short Term Scientific Missions (STSMs) in COST Action YEAST4BIO, this activity has been actively running in 2022, once the restrictions due to COVID 19 outbreak have been alleviated. Indeed, in the first call launched in the 3rd GP (ending by October 2022) 7 applications have been submitted and approved, that will spend 54% of the budget foreseen for STSMs in this 3rd GP. Thus, a new call has been opened and it is running. By the end of May 2021, of these 7 applications approved for STSMs, three visits have already successfully been completed and the other four are running.

Experiences of completed STSMs

by **Eugenia Messina**

My name is Eugenia Messina and I'm an Italian PhD student attending the third and last year of doctorate in Functional and Applied Genomic and Proteomic, at University of Bari "Aldo Moro". My PhD project concern the study of microbial transporters involved in the production of industrially-relevant chemicals.

The STSM of Yeas4Bio scholarship allowed me to support the expenses incurred during my stay in France, as visiting PhD student. There, I carried out a project in collaboration between my professor, Gennaro Agrimi, and the chief of BIMLip group, Prof. Jean-Marc Nicaud, at MICALIS Institute of the "Institut National la Recherche pour L'Agriculture, L'Alimentation et L'Environnement" (INRAE). Particularly, I worked on the functional analysis of mitochondrial transporters involved in volatile fatty acids (VFAs) utilization in the non-conventional yeast *Yarrowia lipolytica*.



“I was very lucky to meet fantastic researchers, always available to help me and advise me and with whom, it was really enjoyable to work together.”

It was my second experience abroad as researcher, but the first as PhD student and I felt the responsibility to carry on my own research project and to make proud my Tutor and the Professor who hosted me. The challenge was to learn in a short time as much as possible from my colleagues, in term of new laboratory techniques, and apply what I learned on my work. I was very lucky to meet fantastic researchers, always available to help me and advise me and with whom, it was really enjoyable to work together. It's even thank to them that I reached the objectives and results set before leaving. In fact, I think that the most important aspect of this experience is the possibility to meet people from different countries, compare our respective life experiences and find points in common that can also transform a simple working relationship into a friendship. Furthermore, be a researcher in a new laboratory with other expertises, improved my work skills and made me a more confident person and researcher.

Last but not least, living near Paris, allowed me to transform myself in a tourist during the weekends!!!

ITC Conference Grants

ITC Conference Manager: **Hana Sychrova**

ITC Conference Grants are aimed at supporting PhD students and Early Career Investigators (ECI) from Participating Inclusiveness Target Country (ITC) to attend international science and technology related conferences. For more information on conditions and application procedure, consult <https://yeast4bio.eu/itc-conference-grants/>

Completed ITC Conference Grant

by: **Csaba Fehér**

ITC conference grant allowed me to attend at the 18th International Conference on Renewable Resources and Biorefineries (Bruges, Belgium) and present the work entitled 'Xylitol production by non-conventional yeasts within lignocellulose-based biorefinery processes' as a poster presentation. The presented work summarized the results of a great collaboration between Budapest University of Technology and Economics (Hungary) and Jaén University (Spain) within our COST Action. The conference program was extremely interesting and it fitted well with my research interests as well as with the scope and aims of our Action. The great presentations and excellent scientific discussions resulted in many new ideas for future projects related to yeast-based processes and biorefineries. The presented poster, and thus our Action, received great interests during the whole conference. Many great discussions, excellent suggestions and honest interests for future collaborations were received. In addition, the conference program included excellent social activities and allowed us to discover the beautiful city of Bruges as well as its great beers. I am very grateful for the ITC conference grant!



Dissemination, achievements

“The NC Yeast Series was initiated in January 2022 and it provides a discussion platform to promote the exchange on different crucial traits on non-conventional yeasts and how to successfully implement these processes in a biotechnology industry.”

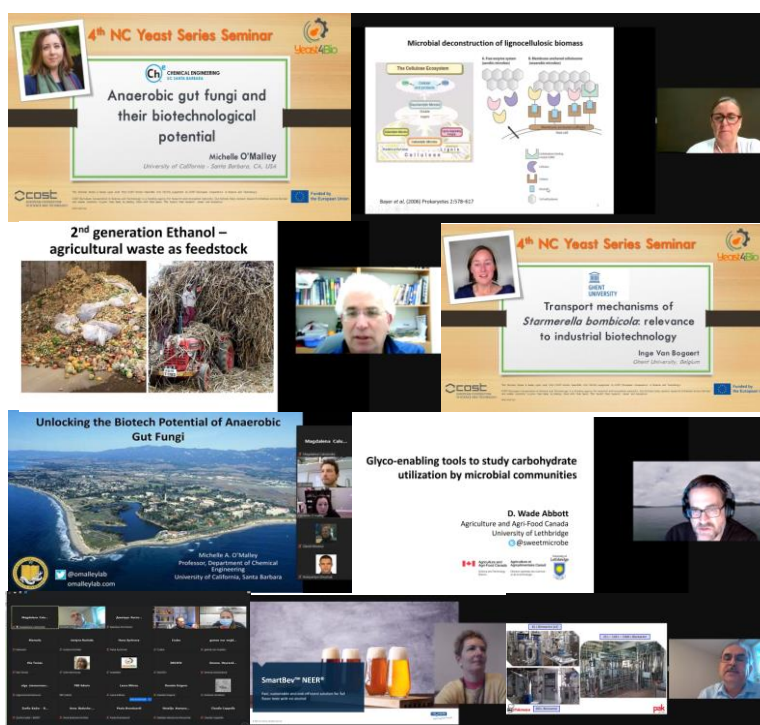
NCYS (Non-Conventional Yeast Series) Seminars

by **Magdalena Calusinska** and **David Moreno**

The NC Yeast Series was initiated in January 2022 and it provides a discussion platform to promote the exchange on different crucial traits on non-conventional yeasts and how to successfully implement these processes in a biotechnology industry. These Series Seminars are organized monthly (the first Thursday of the month) and are public with no registration required. Until now, we have organised five seminars and could get inspired by ten wonderful speakers who are experts in their domains. The Series Seminars was initialised by industrial leaders, Mustafa Turker from Pak Group and Sophie Saerens and Cesar Fonseca from Chr. Hansen who presented us some of their activities and yeast-related products. The second meeting was devoted to microbes and their biomass degrading capacities for biomolecules production, and we welcomed Wade Abbott from Agriculture and Agri-Food Canada and Yoram Gerchman from the Haifa University. In April, we could learn about lignocellulolytic enzymes and their specific applications thanks to two great talks given by Eleonora Campos from Instituto Nacional de Tecnologia Agropecuaria, and Miguel Alcalde from the Institute of Catalysis ICP-CSIC. In May, the understudied group of anaerobic fungi and their huge metabolic potential was presented to us by Michelle O'Malley from the University of California Santa Barbara, while Inge Van Bogaert from the Ghent University uncovered the transport mechanisms of *Starmerella bombicola*. The last seminar before the summer break was related to yeast engineering studies. We thank to Young-Kyoung Park from Imperial College London and Nemailla Bonturi from Tallinn University of Technology for sharing with us their work.

We would like to warmly thank to all the speakers for their talks and inspiring discussions. Lets meet after summer to continue our adventure with the NC Yeast Series.

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Dissemination, achievements

*“The mini review
“What makes
Komagataella phaffii
non-conventional?”,
that is contributed to
the Yeast4Bio
Thematic Issue of
FEMS Yeast
Research, is the winner
of the 2021 Best
Article Award.”*



Dissemination Award

We are very happy to announce that the mini review "What makes *Komagataella phaffii* non-conventional?", that is contributed to the Yeast4Bio Thematic Issue of FEMS Yeast Research, is the winner of the 2021 Best Article Award!

The article is jointly authored by several members of the Yeast4Bio COST action (Özge Ata, Burcu Gündüz Ergün, Patrick Fickers, Lina Heistingner, Diethard Mattanovich, Corinna Rebnegger, and Brigitte Gasser).

You can find more information on the award website:

<https://fems-microbiology.org/communities/fems-yeast-research-article-award-2021/>

Congratulation to the authors for this great achievement!



Special Issues

In February 2022, FEMS Yeast Research (FEMSyr) <https://academic.oup.com/femsyr> published a special issue featuring the Yeast4Bio COST Action. The issue contains seven review articles covering a range of topics related to non-conventional yeast (NCY). These articles in this special issue should be of great interest to the research community and are already acting as an impetus for further collaboration amongst members of the Action.

YEAST4BIO Thematic Series in Biotechnology for Biofuels and Biochemicals is under preparation. In this special collection, articles within YEAST4BIO-related research areas will be presented. The articles will focus on biomass fractionation and hydrolysis, NCY cultivation and fermentation as well as NCY characterization and development through molecular biology, genetics and physiology studies. Collectively, we envision that the articles will show both the breadth and the depth of research within the YEAST4BIO COST Action and exemplify the current challenges, improvements and possibilities within the field. The full scope of the thematic series can be found here: <https://www.biomedcentral.com/collections/yeastbioproducts>. Submission deadline has been extended to 31st of August.

Moments in the Action



Future activities, communication

Planned events

Training School on *Metabolite profiling approaches in non-conventional yeasts* is planned for 7th-9th of September, 2022. It will be organized by Dr. Rodrigo Ledesma-Amaro and Prof. Paul Fraser in Royal Holloway University of London (United Kingdom).

The 5th WG meeting and 4th MC meeting are planned for 21th and 22nd of September, 2022 in Prague (Czech Republic). It will be organized by Dr. Hana Sychrová.

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>



Yeast4Bio

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This information is based upon work and activities from COST Action Yeast4Bio: Non-Conventional Yeasts for the Production of Bioproducts, supported COST (European Cooperation in Science and Technology).

Funded by the European Union.

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.
<https://www.cost.eu/>

