

# NEWSLETTER

## Understanding and Exploiting the Impacts of Low pH on Micro-organisms

### Acidic Friday

Since December 2020, our COST Action has coordinated 22 sessions as part of the Acidic Friday series. Researchers from around the world presented studies on microorganisms' response to low pH conditions across diverse disciplines. If you are curious to know what topics we dealt, visit our [Events](#) page.

### Publications

In line with the objectives of the COST Action and to promote collaboration between researchers and industries, our members have authored several scientific articles. Specifically, within the EuroMicroPH COST Action, we have to date published 19 articles, along with 9 associated articles. Additional manuscript are currently under consideration for publication. For a comprehensive list of our publications, please visit our [website](#).

We remind you to let the Action chair know about any **publications** and **grant proposals** arising directly or indirectly from the Action. Thank you!

### STSM and ITC Conference Grants

Our COST Action is proud to have supported 23 researchers with Short-Term Scientific Missions (STSM) for their research visits in other labs and 6 researchers from inclusive target countries (ITCs) for conference participation.

## Thank you all!

Dear Action members,

It was a great pleasure to meet so many of you at the Final Open Meeting in Vienna (see a brief report on the next page). Sadly, a few colleagues, who had intended to come, were unable to make it. We missed them! The atmosphere at the Meeting was absolutely great! Much time was dedicated to networking and the scientific program was rich with contributions. We worked together for two intense days during which we learned about a lot of new research and were inspired by our 27 speakers. We would like to thank all of them for contributing to the success of the Meeting. A special thank you goes to Matthias Steiger who arranged the perfect organization that helped make the meeting so fruitful. Our thanks go also to the Staff that assisted us on all the little details.

October 16 is the date on which our Action officially ends, but none of us feel that this will be the real end. We have created a strong community that is made of people and expertise: a **human capital** that can make the difference! In our work we are used to being constantly evaluated and sometimes we are only numbers (i.e., how much we publish, how much we are cited, etc.). While this is understandable (because employers and agencies need figures that provide an objective way to evaluate the path of a researcher and the progression in his/her career), at the same time real scientists know that it is their experience and enthusiasm that make the difference and sometimes this difference is not measurable in terms of immediate results: rather it can be the longer term transfer of knowledge and training to new generations of scientists, the passionate work to design/invent experiments and deepen our knowledge, the perseverance and the openness to share and collaborate without borders. The 2023 Nobel prize for Medicine was recently awarded to the Hungarian biochemist Katalin Kirikò and the American immunologist Drew Weissman. Dr. Karikò's studies laid the ground for mRNA vaccines, but this was not without overcoming obstacles and skepticism in the scientific community. Her first interview, after she was informed of the Nobel Prize, reminds us that to go from A to B in science is sometimes more like a zig-zag, and what seems niche research can lead to breakthroughs for human kind and the planet.

We hearty wish that our community remains solid and supportive: we are a young plant that will grow in many directions. Wishing you the best of success and once again thank you for working together in the last 4.5 years!

*Daniela De Biase (Action chair) – Peter Lund (Action vice-chair)*

## Training School in Athens

On June 28, 2023, the Department of Chemistry at the National and Kapodistrian University of Athens in Athens, Greece, organized a three-day training school titled "Modelling the effects of low pH and other stresses on food-borne micro-organisms to improve food and drink quality". The training school aimed to impart practical knowledge in applied modeling, statistics, and recent advancements in Food Science. Participants gained a solid understanding of empirical and theoretical modeling concepts for quantifying responses in acidic food environments. They also benefited from the interdisciplinary expertise of the instructors, enabling them to initiate independent studies on complex food systems and critically assess the broader implications of Predictive Modelling. Notably, 20 participants received financial support from the COST action, while an additional 6 local researchers took advantage of the activities without external funding.



## EuroMicroPH Final Open Meeting



Years of collaborative effort within the scientific community culminated at the final COST action EuroMicroPH meeting. With 27 scientific presentations and a poster session, this event united 77 experts from across Europe, emphasizing their dedication to microbiology, pH regulation,

and acid stress responses. Speakers hailed from the UK to Israel, Armenia to Portugal, highlighting EuroMicroPH's global reach and extensive European network.

The presentations covered diverse microbiological topics, showcased cutting-edge EuroMicroPH research and fostered collaboration among European experts. Kirsten Jung explored *Escherichia coli*'s adaptable response to acid stress. Stefano Pagliara addressed antibiotic resistance linked to bacterial pH regulation in the same micro-organism. James Mason presented NMR metabolomic studies on clinically relevant bacteria in relation to pH. Nicoletta Guaragnella examined acetic acid stress responses in the yeast *Saccharomyces cerevisiae*. Pirjo Spuul discussed the interplay between *Lactobacillus salivarius* and *Helicobacter pylori*. David Barrie Johnson explored metal extraction using extreme acidophiles from mineral ores and electronic wastes. Mustafa Türker discussed the importance as well as the pros and cons of propionic acid bioproduction. Lisa Gödtke presented a case study on preserving pea protein meat alternatives with lactic acid and lactate blends. Peter Lund showed the potential of transposon-directed insertion sequencing (TraDIS) in deepening our understanding on microbial responses at low pH. Conor O'Byrne showed the unique regulation of acid tolerance in *Listeria monocytogenes* by a regulator identified by comparative genomics. Hana Sychrová showed how upon malfunctioning of potassium uptake systems, yeast cells do not survive various stresses, including acidic stress. The full program of the Open Meeting as well as the Abstract Book are available at: <https://euromicroph.eu/events/open-meeting-vienna>.

This EuroMicroPH concluding meeting demonstrated that an active scientific community is committed to advancing the field of microbiology within the context of pH regulation and acid stress responses. Daniela De Biase's closing remarks emphasized the value of interdisciplinary collaboration and knowledge exchange within our Action, concluding the event on a thoughtful note.