



COST Action CA18113

EuroMicroPh

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



1st Open Meeting

BOOK OF ABSTRACTS

12th-14th February, 2020, Lisbon, Portugal



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Dear colleagues,

It is our great pleasure to host the 1st Open Meeting of the COST action EuroMicropH, devoted to the study of how low pH impacts microbial physiology and with that how it modulates many issues in our daily life ranging from biotechnology, to food and health. We hope that this might be a time of fruitful scientific discussions that might foster new interactions, new discoveries and new projects. You can follow all the aspects related with the action and with the meeting at the <https://euromicroph.eu> website and on social media of the action.

Welcome to Lisbon,

On behalf of the organizing committee,

Nuno P Mira and Ana Mendes-Ferreira

Organizing Committee

Nuno P Mira, Instituto Superior Técnico, Chair of the Conference
Ana Alexandra Mendes-Ferreira, UTAD, Vice-Chair of the conference
Pete Lund, University of Birmingham, Chair of the EuroMicropHAction
Daniela De Biase, Sapienza University, Vice-chair of the action
Maria João Tavares, Instituto Superior Técnico
Patrícia Lage, UTAD
Isabel Seixas, UTAD
Maria Joana Pinheiro, Instituto Superior Técnico
Nuno Alexandre Pedro, Instituto Superior Técnico

Abstracts

P35. General Stress Response of *Salmonella enterica* Typhimurium to Environmental Stress

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Salmonella enterica Typhimurium is an enteric pathogen and etiological agent in bacterial food-borne diseases. The ability of *Salmonella* to survive in the food chain is due, in part, to its ability to respond effectively to environmental changes. *S. enterica* Typhimurium response to wide variety of environmental stresses is a result of highly complex and tightly regulated process of gene expression. The stress-induced changes in *S. enterica* Typhimurium bacterial cells were analyzed at the level of gene expression. For that purpose, the simultaneous analysis of gene expression of a set of 369 genes directly or indirectly involved in regulatory mechanisms and in virulence was performed by PCR-based microarray technique. Expression profile of bacterial cells submitted to oligotrophic stress (24 hours incubation in distilled water) was compared with expression profile of bacterial cells in exponential growth phase, considered as control condition. A number of induced genes under studied stress conditions, which ratio of gene expression (stress condition/control condition) had a value above 1.05 were genes that mediate in a general stress response. In fact, general stress response renders bacterial cells broadly stress resistant in a way in which damage is rather to be avoided than to be repaired.

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