



EXTENDED PROGRAMME

Monday, 23rd of April 2018

10:00 - 13:30 *Registration on site (Actons Hotel, Kinsale)*

14:00 - 14:15 *Local Organisers' Welcome address*

Session 1: Stress at the Systems and Structural Level

Chair: Daniela De Biase and Conor O'Byrne

14:15 - 15:00 The phospho-kiss of death: revealing a specific phospho-signal that serves as degradation tag

EMBO Keynote lecture: Tim Clausen (Institute of Molecular Pathology, Austria)

15:00 - 15:20 Bacterial answers to polyproline mediated translational stress
Jürgen Lassak (Ludwig-Maximilians-Universität, Germany)

15:20 - 15:35 Applications of the Cryo-EM revolution – Structures, drugs, and AMR

Arthur Neuberger (University of Cambridge, UK)

15:35 - 15:50 Unravelling the regulatory role of the σ^B -dependent non-coding RNA Rli47 in *Listeria monocytogenes*

Catarina Marinho (INRA Dijon, France and National University of Ireland, Galway, Ireland)

15:50 - 16:20 *Coffee Break*

16:20 - 16:40 The periplasmic methionine sulfoxide reductase system of *Campylobacter jejuni*

Aidan J Taylor (University of Sheffield, UK)

16:40 - 17:00 Mineral scaffolds are actively produced by the biofilm cells to protect the inner cell mass from hostile environments

Ilana Kolodkin-Gal (Weizmann Institute of Science, Israel)



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Session 1: Stress at the Systems and Structural Level

Chair: Daniela De Biase and Conor O'Byrne

17:00 - 17:15 The *Escherichia coli* cold-shock protein CspA promotes the movement of the ribosome during translation at low temperature.

Anna Maria Giuliodori (University of Camerino, Italy)

17:15 - 17:45 ***Flash Poster Presentations* – Chaired by: Catarina Marinho & Duarte Guerreiro**

17:45 - 19:30 *Poster Session 1 and Welcome reception*



Tuesday, 24th of April 2018

Session 2: Responses to Osmotic and Acid Stress

Chair: Paola Branduardi and Michael Sauer

09:00 - 09:40 Ribosome surface properties may impose limits on the nature of the cytoplasmic proteome

Bert Poolman (University of Groningen, Netherlands)

09:40 - 10:00 The bacterial family of MscS mechanosensitive channels

Samantha Miller (University of Aberdeen, UK)

10:00 - 10:15 Translation stress positively regulates MscL-dependent excretion of cytoplasmic proteins

Neil Dixon (University of Manchester, UK)

10:15 - 10:30 The Characterisation of a Complex Stress Transcription Regulators that Response to N-Ethylmaleimide and Sodium Hypochlorite in *Pseudomonas aeruginosa*

Punyawee Dulyayangkul (Chulabhorn Graduate Institute, Bangkok, Bangkok, Thailand)

10:30 - 11:00 *Coffee Break*

11:00 - 11:40 Non-canonical activation of OmpR drives acid and osmotic stress responses in single bacterial cells

Linda Kenney (National University of Singapore & University of Illinois-Chicago, USA)

11:40 - 12:00 A systems-based approach to determine underlying mechanisms of multiple stress resistance in *Listeria monocytogenes* variants

Tjakkoo Abee (Wageningen University, the Netherlands)

12:00 - 12:15 The glutaminase-dependent system confers extreme acid resistance to new species and atypical strains of *Brucella*.

Luca Freddi (CNRS - University Montpellier, France)

12:15 - 12:30 Application of high throughput approaches to study the laboratory-based evolution of *E. coli* for enhanced growth at low pH

Mathew Milner (University of Birmingham, UK)



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12:30 - 14:00 *Lunch*

Session 3: Stress responses in single cells

Chair: Linda Kenney and Jan Willem Sanders

14:00 - 14:40 Origins of bacterial growth rate changes at high external osmolarities
Teuta Pilizota (University of Edinburgh, UK)

14:40 - 15:00 Stress sensor variants in *Bacillus subtilis* mediate distinct downstream responses
Matthew Cabeen (Oklahoma State University, USA)

15:00 - 15:15 Radiation resistance in the cyanobacterium *Arthrospira*
Anu Yadav (Belgian Nuclear Research Centre, Belgium)

15:15 - 15:30 Stress responses coordinated by sigma factor regulatory network in *Corynebacterium glutamicum*
Miroslav Pátek (Institute of Microbiology of the CAS, v. v. i., Prague, Czech Republic)

15:30 - 16:00 *Coffee Break*

16:00 - 16:40 No bacterium is an island – the role of interspecies interactions in determining antibiotic susceptibility in polymicrobial infection
Brian Conlon (University of North Carolina, USA)

16:40 - 17:00 Persister induction in a population of AIEC *E. coli* growing within macrophages
Gaëlle Demarre (Centre for Interdisciplinary Research in Biology, Paris, France)

17:00 - 17:30 **Flash Poster Presentations - Chaired by: Algirdas Miksys & Vanessa Las Heras**

17:30 - 19:30 *Poster Session 2*



Wednesday, 25th of April 2018

Session 4: Stress in host-pathogen interactions

Chair: Teuta Pilizota and Peter Lund

- 09:00 - 09:40 Functional genomics of stress responses in the human pathogen *Candida glabrata*
Frédéric Devaux (Université Pierre et Marie Curie, France)
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- 09:40 - 10:00 Comparative Genomic and Transcriptomic Analyses Unveil Novel Features of Azole Resistance and Adaptation to the Human Host in *Candida glabrata*
Nuno P Mira (iBB, Universidade de Lisboa, Portugal)
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- 10:00 - 10:15 The small regulatory RNAs LhrC1-5 contribute to the response of *Listeria monocytogenes* to heme stress
Patrícia Teixeira dos Santos (University of Southern Denmark, Denmark)
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- 10:15 - 10:30 Sigma factor-mediated stress response has a major role in *Mycobacterium tuberculosis* drug tolerance and persistence
Francesca Boldrin (University of Padova, Italy)
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- 10:30 - 11:00 *Coffee Break*
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- 11:00 - 11:40 Stress sensing in the intracellular pathogen *Listeria monocytogenes*
Jörgen Johansson (Umea University, Sweden)
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- 11:40 - 12:00 Mutations in the biosynthesis of an exopolysaccharide rescues outer membrane defects in *tol-pal* mutants in *Escherichia coli*
Xiang'er Jiang (National University of Singapore, Singapore)
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- 12:00 - 12:15 Genetic Adaptive Mechanisms Mediating Response/Tolerance to Acetic Acid Stress in the Pathogen *Candida glabrata*: Role of the CgHaa1-dependent Signaling Pathway
Sara Barbosa Salazar (iBB, Universidade de Lisboa, Portugal)



Wednesday, 25th of April 2018

Session 4: Stress in host-pathogen interactions

Chair: Teuta Pilizota and Peter Lund

12:15 - 12:30 A high fat diet influences host susceptibility to *Listeria monocytogenes* infection in a murine disease model
Vanessa Las Heras (University College Cork, Ireland)

12:30 - 14:00 *Lunch*

Session 5: Biotechnological optimisation of microorganisms through engineering and evolution

Chair: Nuno Mira and John Morrissey

14:00 - 14:40 Build strains for industrial fermentation processes
Wanda Dischert (Metabolic explorer, France)

14:40 - 15:00 Improving the stress tolerance of the oleaginous yeast *Lipomyces starkeyi* for industrial purposes
Francesca Martani (University of Milano – Bicocca, Italy)

15:00 - 15:15 Monitoring the unfolded protein response (UPR) in *Pichia pastoris* overproducing different recombinant proteins
Hana Raschmanová (University of Chemistry and Technology Prague, Czech Republic)

15:15 - 15:30 Bacteria response to exposure to hydrophobic pollutants – a case of chloroaromatic solvents
Wojciech Smutek (Poznan University of Technology, Poland)

15:30 - 16:00 *Coffee Break*

16:00 - 16:20 Paralogs in different families of molecular chaperones in the cyanobacterium *Synechococcus elongatus*: neofunctionalization of chaperone paralogs in photoautotrophic cyanobacteria
Hitoshi Nakamoto (Saitama University, Japan)



Wednesday, 25th of April 2018

Session 5: Biotechnological optimisation of microorganisms through engineering and evolution

Chair: Nuno Mira and John Morrissey

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| 16:20 - 16:35 | Alleviating 3-hydroxypropionic acid production related stresses through an integrated process strategy
Florence de Fouchécour (INRA, Université Paris-Saclay, France) |
| 16:35 - 16:50 | Microbial stresses during scale-up and industrial production of probiotic and starter cultures
Anisha Goel (Chr. Hansen A/S, Denmark) |
| 16:50 - 17:30 | Cell-to-cell variation in the <i>Saccharomyces cerevisiae</i> transcriptional response to environmental stress
Audrey Gasch (University of Wisconsin-Madison, USA) |
| 17:30 | <i>Meeting closing Remarks</i> |
| 20:00 - 22:00 | <i>Conference Dinner (Actons Hotel)</i> |