

Environmental epigenetics and risk assessment

This short course is organized under the scope of the Horizon Europe Twinning project EPIBOOST (<http://epiboost.web.ua.pt/>). It offers advanced theoretical lectures in environmental epigenetics. Epigenetics is an emergent field in environmental assessment provided that epigenetic changes can be seen as meaningful molecular initiating events of adverse outcome pathways in different organisms. Despite epigenetic changes have been validated in medical fields, they are only starting to be recognized as important targets for the development of biomarkers to improve our mechanistic understanding of the ecological impacts of environmental challenges.

The short course will be held online and it is composed of theoretical lectures, where the relevant concepts and techniques in epigenetics research will be presented and critically discussed, focusing on environmental models and case studies shared by the authors with the audience. All sessions will have Q&A opportunities via chat or live according to the preferences of speakers and participants.

TARGET AUDIENCE • The course is targeted to post-graduation students, early career researchers or more senior researchers that are interested in investing in environmental epigenetics in their projects, as well as professionals interested in the field.

CALENDAR

Registration (see dedicated section below for details) deadline: 15 February 2024

Remote online sessions: 29/02/2024, 01/03/2024 and 07/03/2024 in the morning; 08/03/2024 (full day)

FORMAT

All sessions will be held in English and online (live videoconference). Attendance will be recorded in all online sessions for the purposes of (i) project reporting to the funding agency; (ii) certificate of attendance emission.

COORDINATORS (and lecturers)

Dr. Joana Luísa Pereira, CESAM and Department of Biology, University of Aveiro, Portugal.

Prof. Jana Asselman, Blue Growth Research Lab, Ghent University, Belgium.

Dr. Laia Navarro Martin, IDAEA-CSIC, Spain.

LECTURERS

Dr. Bruno Campos, Unilever, United Kingdom.

Dr. Eduarda Santos, University of Exeter, United Kingdom.

Dr. Gabriela Moura, iBiMED and Dept. Medical Sciences, University of Aveiro, Portugal.

Dr. João Barbosa, Blue Growth Research Lab, Ghent University, Belgium.

Dr. Janan Gawra, IDAEA-CSIC, Spain.

Dr. Lotte Janssens, Blue Growth Research Lab, Ghent University, Belgium.

Dr. Maja Šrut, University of Innsbruck, Austria.

Dr. Noelia Diaz, ICM-CSIC, Spain.

Dr. Ramji Bhandari, University of Missouri, USA.

REGISTRATION AND CERTIFICATES

Registration deadline: **15 February 2024, 17:00 CET**

Link(s) to the sessions will be sent via email within five working days after the registration deadline.

The course has no fees, but registration is mandatory.

Certificate of attendance will be provided to all participants attending the sessions.

Ready to Register for the Course? Please fill the form available in the following link:

<https://forms.ua.pt/index.php?r=survey/index&sid=951157&lang=en>

DETAILED COURSE PROGRAMME

Thursday, February 29th 2024

10:00-10:30 CET – Welcome to participants, context of the course and presentations.
10:30-11:30 CET – Epigenetics: history, general theory and applications (UAVR).
11:30-12:00 CET – Break
12:00-13:30 CET – The main epigenetic mechanisms and their activity (CSIC).

Friday, March 1st 2024

10:00-11:00 CET – Genomic biomarkers in environmental assessment (CSIC).
11:00-12:15 CET – Integration of epigenetics in environmental risk assessment (UGent).
12:15-12:30 CET – Break
12:30-13:45 CET – Adverse outcome pathways (UGent).

Thursday, March 7th 2024

10:00-10:30 CET – Global methylation assessment (UGent).
10:30-11:30 CET – Untargeted DNA methylation assessment (UGent).
11:30-11:45 CET – Break
11:45-12:45 CET – Targeted DNA methylation assessment (CSIC).
12:45-14:00 CET – Techniques and technologies regarding other epigenetic mechanisms (CSIC).

Friday, March 8th 2024 | *speakers order and specific topic is yet to be confirmed*

10:00-11:00 CET – *Epigenetic studies with invertebrates* (Maja Šrut, U. Innsbruck, Austria)
11:00-12:00 CET – *TBD* (CSIC)
12:00-12:30 CET – Break
12:30-13:30 CET – *OMICS integration in Ecological Risk Assessment* (Bruno Campos, Unilever)
13:30-14:30 CET – *Effects of exposure on a fish model across generations* (E. Santos, U. Exeter)
14:30-15:30 CET – Break
15:30-16:30 CET – *Studying human methylomes with DNA microarrays* (Gabriela Moura, iBiMED-UA)
16:30-17:10 CET – *Transgenerational effects in copepods* (Lotte Janssens, U. Ghent)
17:10-18:10 CET – *Epigenomic edition* (Ramji Bhandari, U. Missouri, USA)

CONTACT FOR FURTHER INFORMATION OR CLARIFICATION: cesam-epiboost@ua.pt

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Disclaimer: Views and opinions expressed in the Course are those of the authors only and do not necessarily reflect those of the European Union or the Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.



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