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A Project Aiming to Link Epigenetic Changes to Phenotypic Outcomes in Microalgae, Microcrustaceans and Fish

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CONTEXT

• Epigenetics has the potential of providing reliable biomarkers for Ecological Risk Assessment (**ERA**).

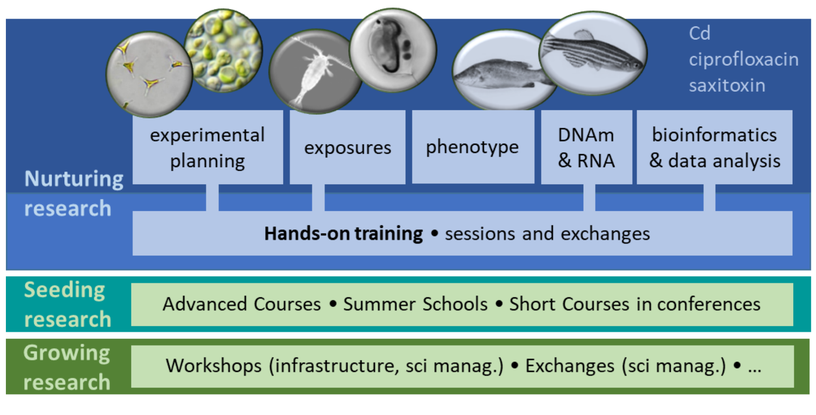
• **Epigenetic modifications** are reliable and stable, likely primary Molecular Initiating Events (**MIE**) in Adverse Outcome Pathways (**AOP**) as per their role in constraining **gene expression**.

• The incorporation of epigenomics into regulatory frameworks through AOP refining is challenging as consistent links to effects at the level of the phenotype are yet largely to be established, as well as are trends and parallels across species.

• EPIBOOST is a Twinning Action focusing on the advanced training of researchers in environmental epigenetics towards its integration in ERA. It specifically addresses **DNA methylation changes** in model **freshwater and marine organisms** (microalgae, microcrustaceans and fish) exposed to three model chemicals that represent persistent or emerging threats nowadays or in the near future (**metals, PPCPs and toxins**).

• Besides allowing hands-on training through the development of a focused research project, EPIBOOST has been providing numerous training and dissemination opportunities to a broader interested audience, with a special emphasis on early-career researchers, to nurture, seed and grow the field for the future.

EPIBOOST OVERVIEW



• Twinning project, coordinated by an Institution in a Widening country (University of Aveiro) and having CSIC and the University of Ghent as Advanced partners supporting the leveraging of excellence in environmental epigenetics.

• Essentially a capacitation project focused on training towards excellence, concerning **research**, but also science management and administration.

• Entails a research project: **Responses of model organisms to relevant environmental contaminants**.

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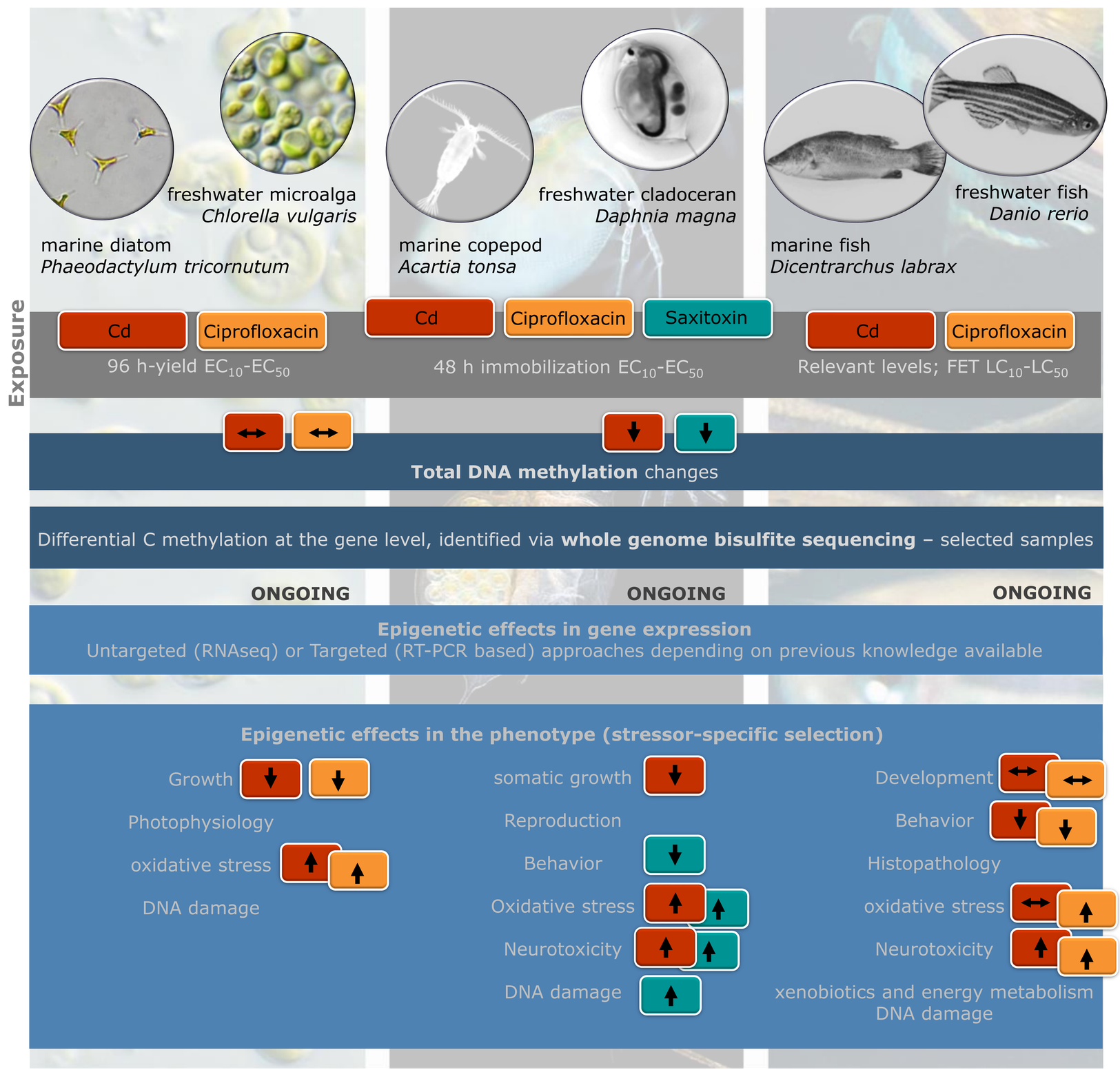
PROGRESS • RESEARCH PROJECT



PROGRESS • Beyond hands-on training