

Standardised and innovative ecotoxicology module

Project Idea	Support the measurement of environmental safety aspects for industrial partners by linking the for- and non-profit sectors. We provide exceptional research infrastructure in the field of ecotoxicology to validate environmental safety and sustainability of newly developed products or processes.
Organization name, town and country	Hungarian University of Agriculture and Life Sciences (MATE) Institute of Aquaculture and Environmental Safety Gödöllő HUNGARY
Addressed topic(s)	HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-36 HORIZON-CL4-2025-05-MATERIALS-51-two-stage HORIZON-CL6-2025-01-CIRCBIO-02 HORIZON-CL6-2025-01-CIRCBIO-03

Do not cover this space - reserved for organizers





MATE, Institute of Aquaculture and Environmental Safety



- **Six Departments at five Campuses** : Aquaculture, Environmental Safety, Environmental Toxicology, Freshwater Fish Ecology, Molecular Ecology, Applied Fish Biology
- **Research Centre for Fisheries and Aquaculture (HAKI)**;
- Over 110 employees and PhD students;
- **Extensive educational portfolio** (BSc, MSc, and PhD) and adult learning;
- **Main research results of the Institute** (in the last 5 years): 341 publications, 2175 citations; 5 closed and 8 running international projects;
- Awarded as **Centre of Excellence of the Hungarian Academy of Sciences**;
- **Measurements of environmental safety aspects** for industrial partners.
- **Exceptional research infrastructure** in the field of ecotoxicology to validate environmental safety of newly developed products or processes.

REPURPOSE

SCAN ME



TAPAS – 678396 (H2020 - MSCA)	EATFish – 956697 (H2020 - MSCA)	iFishIENCI – 818036 (H2020 - IA)	MEASURES – DTP2-038-2.3 Interreg
AQUAEXCEL3.0 – 871108 (H2020-TNA)	AQUASERVE – 101131121 (HE-TNA)	ActFast – 101181159 (HE – IA)	LIFE Boat 4 Sturgeon LIFE-2021-SAP-NAT
WaterGreenTreat (COFUND-WATER4ALL)	REPurpose – 101057971 (HE – RIA)	BioTreatED (COFUND-WATER4ALL)	PFAquatic - 2024-1.2.3-HU-RIZONT-2024-00100
SaveGREEN – DTP3-314-2.3 Interreg	AGRIGEP – 101094158 (HE- CSA)		

Do not cover this space - reserved for organizers

Modular connection points

- Complex **ecotoxicological evaluation** from microbes to fish.
- Ecotoxicological methods to evaluate **complex effects** (process, products, mixes)
- Environmentally friendly solutions for **biodegradation and biodetoxification**
- Ecotoxicological monitoring of (waste) water quality.
- Early warning and risk evaluation
- Analysing the **toxicity of newly developed compounds and side streams** (hormonal effects, microplastics, pharmaceutical residues)
- **Molecular ecology, environmental microbiology, microbiome**
- Innovative, sustainable and circular **aquaculture technologies** (e.g., feeding, nutrition, fish health & welfare; reproductive biology; genetics & biotechnology)
- SSbD

Do not cover this space - reserved for organizers

Competences

Evaluate the **toxicological effect of environmental samples and newly developed materials**, in acute or chronic schemes, with *in vitro and in vivo* OECD or ISO freshwater toxicity tests (pre-REACH):

1. *Aliivibrio fischeri* acute (30min, ISO 11348-3:2007) and chronic toxicity
2. OECD 201 Algae, 72h - short-term algae
3. OECD 202, 211 Daphnia sp., short (48h) and long-term (21d) invertebrate
4. OECD 203 Zebrafish acute (96h) adult toxicity – short-term fish
5. OECD 210 Zebrafish Early-Life Stage (FELS)
6. OECD 236 Zebrafish acute embryo test

- **Embryo injection** is used as a professionally applied practical method to measure direct toxicity.
- **Estrogenic effect of environmental samples** can be measured with our self-developed bioindicator zebrafish line (*Tg(vtg1:mCherry)*).

„From microbes to fish“

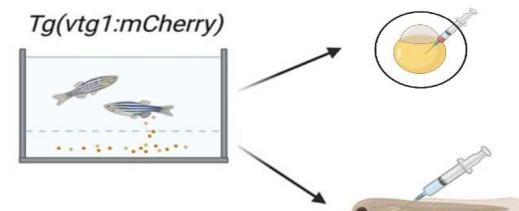
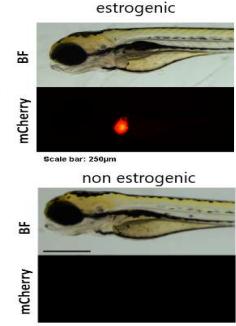


Figure 1. Schematic model of microinjection based zebrafish embryo test for the detection of estrogenic substances (Csenki et al. 2022, *Agric. Water Manag.* **272**, 107830)



Do not cover this space - restricted for organizers

Contact details

Contact person

István Szabó, PhD

**Organisation:**

Institute of Aquaculture and Environmental Safety
(Hungarian University of Agriculture and Life Sciences)

Address:

Páter Károly utca 1., Gödöllő, HUNGARY

Phone:

+36 30 560-3017

E-mail

szabo.istvan.temi@uni-mate.hu, kobolak.julianna@uni-mate.hu

B2Match profile

[contact profile on the B2Match website]

**LinkedIn/Twitter**

<https://www.linkedin.com/in/istv%C3%A1n-szab%C3%A1-043195106/>

Do not cover this space - reserved for organizers

