# HeMHAS: A methodological upgrade to assess contamination-driven avoidance behavior by aquatic organisms in chemically heterogeneous landscapes

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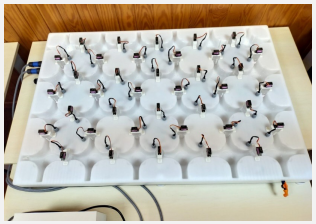
## Introduction

**Behavioral** assessments in ecotoxicological studies have been focused on the changes in the swimming and movement patterns of exposed organisms. Nonetheless, spatial avoidance has been studied from a perspective of displacement along gradients or patches of contamination in a multi-compartmented environment.

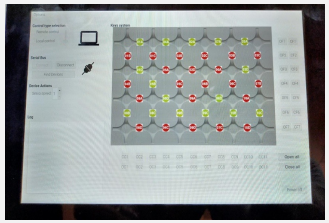
**HeMHAS** (**Heterogeneous Multi-Habitat Assay System**) is a system formed by multiple compartments, which are connected and allow creating different scenarios of contamination.

## HeMHAS – Heterogeneous Multi-Habitat Assay System



**4 x 6 compartments**

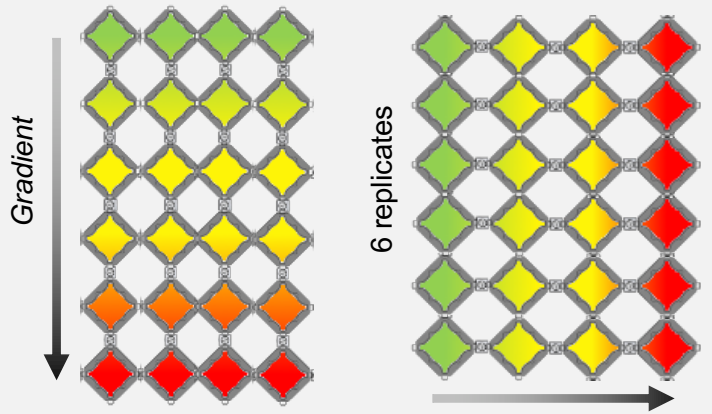
**Automated doors**



**Touch Screen**

**Electronic version**

## Simulation of gradients




## Final Remarks

**HeMHAS** helps clarifying how contaminants might:

**(i)** affect the spatial distribution of populations in a chemically heterogeneous landscape;

**(ii)** increase the loss of local biodiversity and disrupt the functioning of the ecosystems due to evasion of organisms;

**(iii)** change the ecological niche of avoiders/invaders due to the contamination-driven habitat selection.

**Acknowledgments**

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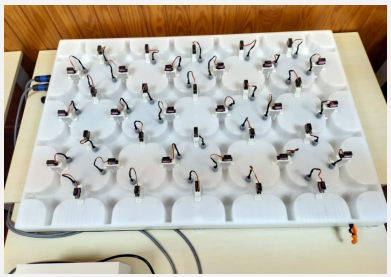

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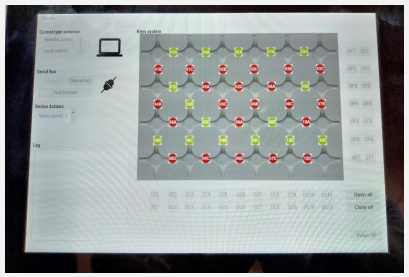

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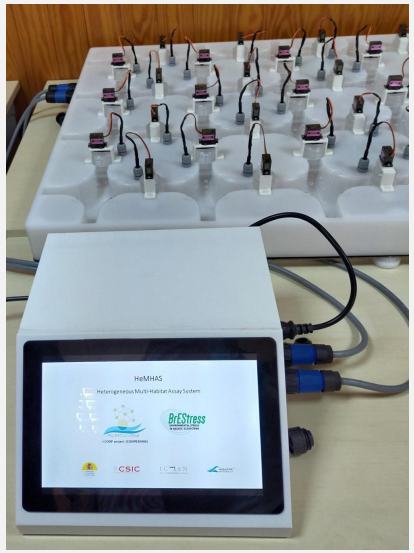

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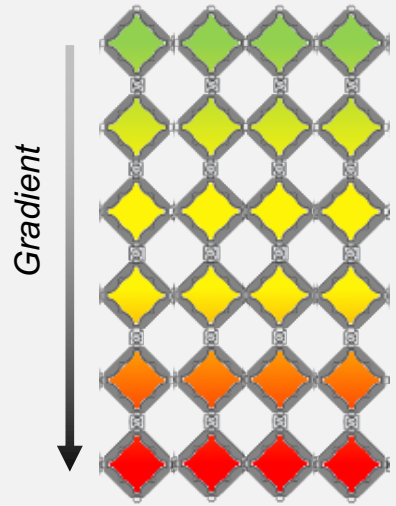


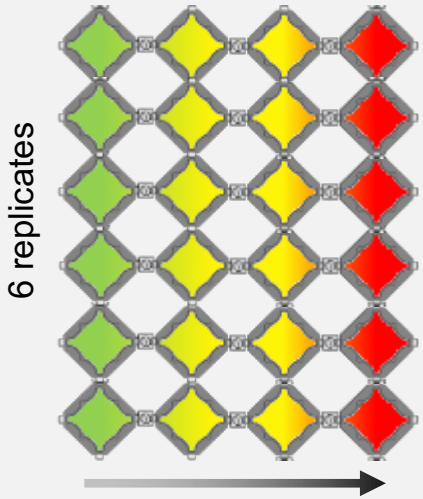

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## Acknowledgments


RUHR UNIVERSITÄT BOCHUM RUB PROMOS

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