

Ecotoxicology and pathophysiology of aquatic organisms

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We research organism responses and pathophysiology across levels of biological organization

- Gene expression profiling
- Histopathology
- Behavior
- Reproduction

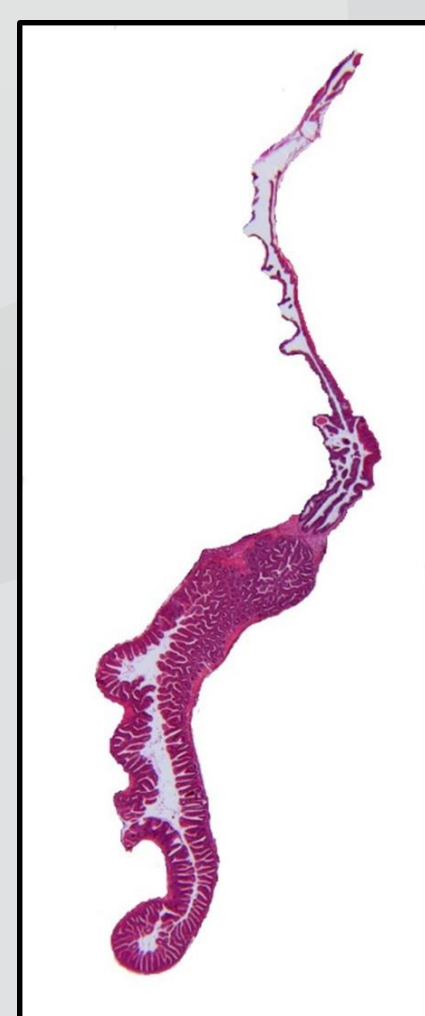
Highlight Projects

- Distinguishing realistic environmental risks of nanoplastics by investigating toxicology in real-world scenarios
- Effects of ingestion of manufactured nanoparticles on endogenous microbiota and pathogen resistance in fish
- Extensive and Ubiquitous role of polycyclic aromatic hydrocarbons in space



Plastic particles present on seashore. Release of plastics and fragmentation generate particles that pose risks to marine organisms.

Histological section of zebrafish gut. Ingestion of manufactured nanomaterials can alter endogenous microbiota with consequences on overall organism health and pathogen resistance



Research Model Organisms

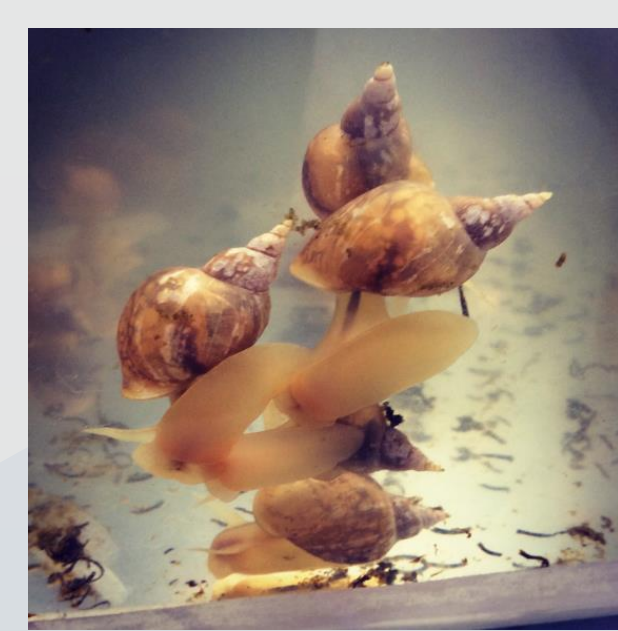


Zebrafish model

Research conducted in HWU Zebrafish Research Facility

Marine mussel model

Model for assessment of contamination of oceans by microplastics



Freshwater snail model

Neurotoxicology, learning, memory, behavior

Estuarine amphipod model

Ecotoxicology assessment of vulnerable tropical estuaries



International engagement

- Development of native model organisms for ecotoxicity of Brazilian surface waters
- Development of bioluminescent zebrafish as indicators of surface water contamination
- Investigation of Environment Health and Ecological Safety