

# **Symposium: Crustaceans welfare**

## **Organizing committee**

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## **Potential topics\*:**

\* Potential topics do not mean that these sections will be the sessions in the symposium. These one will be decided early 2025 while revising the early bird abstracts presented for the symposium

### **1. Crustacean Sentience and Pain Perception**

- Exploring scientific evidence for pain perception and sentience in crustaceans.
- Antinociception and unconsciousness.

### **2. Welfare indicators**

- Direct: Neurophysiological; Biochemical and molecular; Behavioural.
- Indirect environmental based: Use of sensors, artificial intelligence.

### **3. Improve methods for crustacean production**

- Best practices for habitat enrichment (tank design, substrate, and shelter provision to enhance well-being).
- The role of water quality in maintaining crustacean health and welfare.
- The relationship between nutrition, growth, and welfare outcomes in crustacean species.
- Sustainable and welfare-friendly feed alternatives in crustacean aquaculture (reduce the use of fish meals).
- Understanding the role of limb regeneration in crustacean biology and its implications for welfare in capture and farming.
- The role of nutrition in improving spawning of captive crustaceans.

### **4. Improve methods for crustacean transport, harvest and experimentation practices**

- Best practices for tank design and maintain water quality.
- Monitoring systems during transport.

- Emergency killing.
- Managing invasive crustacean populations with welfare in mind.
- Optimising stunning methods (Chemical; Mechanical; Electrical).
- Optimisation of holding conditions including enrichment.
- Optimisation experimental procedures (anaesthesia and analgesia, haemolymph extraction, tissue removal and dismembering).
- Use of anaesthesia during handling procedures to improve welfare of captive crustaceans.
- Using genetics to improve disease resistance and welfare traits.

## **5. Improved practices in broodstock management**

- Alternative methods to eyestalk ablation and dismembering.
- Ethical considerations in breeding programs for welfare enhancement.
- Understanding crustacean endocrinology to improve spawning of captive crustaceans.

## **6. Crustacean Welfare Standards, Regulations, Policy Development and Public Perception**

- Ethical implications for crustacean farming and fisheries.
- Developing guidelines for humane handling, transport, and harvest practices for farmers and fisheries.
- Overview of existing legislation and certification schemes and future directions in crustacean welfare regulation.
- Exploring consumer attitudes toward crustacean welfare.