

# A network for improvement of cephalopod welfare and husbandry in research, aquaculture and fisheries (*CephsInAction*)

**Eduardo Almansa Ph.D.**

**Giovanna Ponte, Daniel Osorio  
also on behalf of 36 Members  
of the Management Committee**

Friday , October 17  
aquaculture  
europe 14

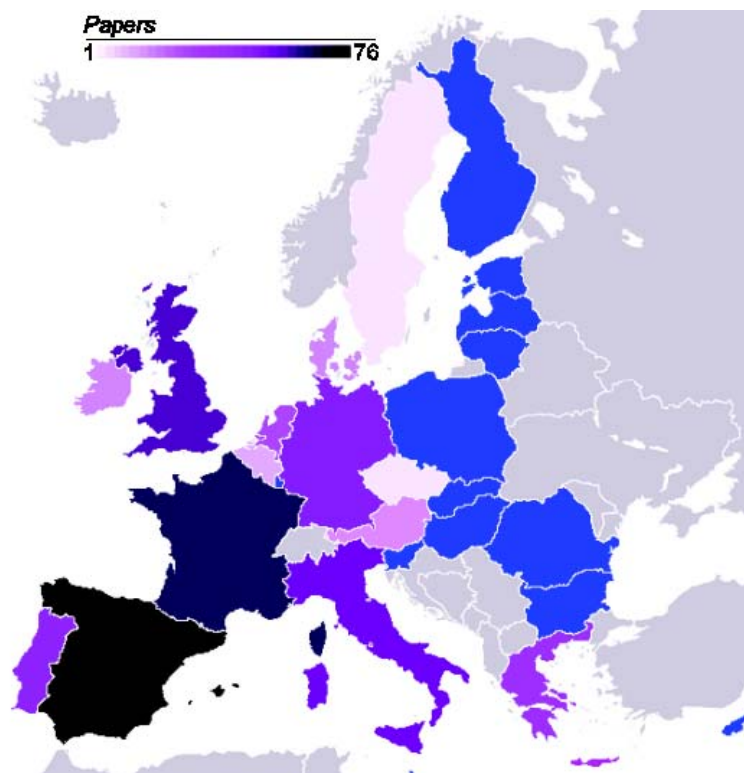


**January 2013**

**Directive 2010/63/EU**

scientific projects involving cephalopods under European jurisdiction are regulated under animal care

Smith et al. 2013 - Last five years; source WoS



**Members of FA1301 COST Action  
in the EA2014**

**M. Pavlidis**

**T. Kristiansen**

**A. Sykes**

**D. Reis (PhD student)**

**B. Costas**

**Transposition (countries)**

AWAITING	PARTIAL NOTIFICATION	FULL NOTIFICATION
2	0	26



## **COST** – What is it?

- An inter-governmental framework for European **CO**-operation in **S**cience and **T**echnology, allowing the coordination of nationally-funded research at the European level.
- Plays a very important role in building an European Research Area (ERA). It anticipates and complements the activities of the EU Framework Programmes, constituting a “bridge” towards the scientific communities ... [www.cost.eu](http://www.cost.eu)

## **COST Actions - TOOLS**

- **Science Management Meetings (MC and WG)**
- **Scientific Workshops and Seminars**
- **Short Term Scientific Missions (STSMs)**
- **Training Schools and Research Conferences**
- **Dissemination (e.g. website, dissemination meeting, public displacement, etc...)**

## **Global – Objectives COST Action FA1301**

- **Implement general guidelines and experimental practices; accumulate data to improve and refine codes of practice for the use of cephalopods in research**
- **Development of new technologies and experimental approaches to promote the 3Rs principle**
- **Coordination of on-going national research projects and new proposals (CoRP)**
- **Provide proper training on experimental practices, procedures also to facilitate Dissemination**

## Global – Tasks

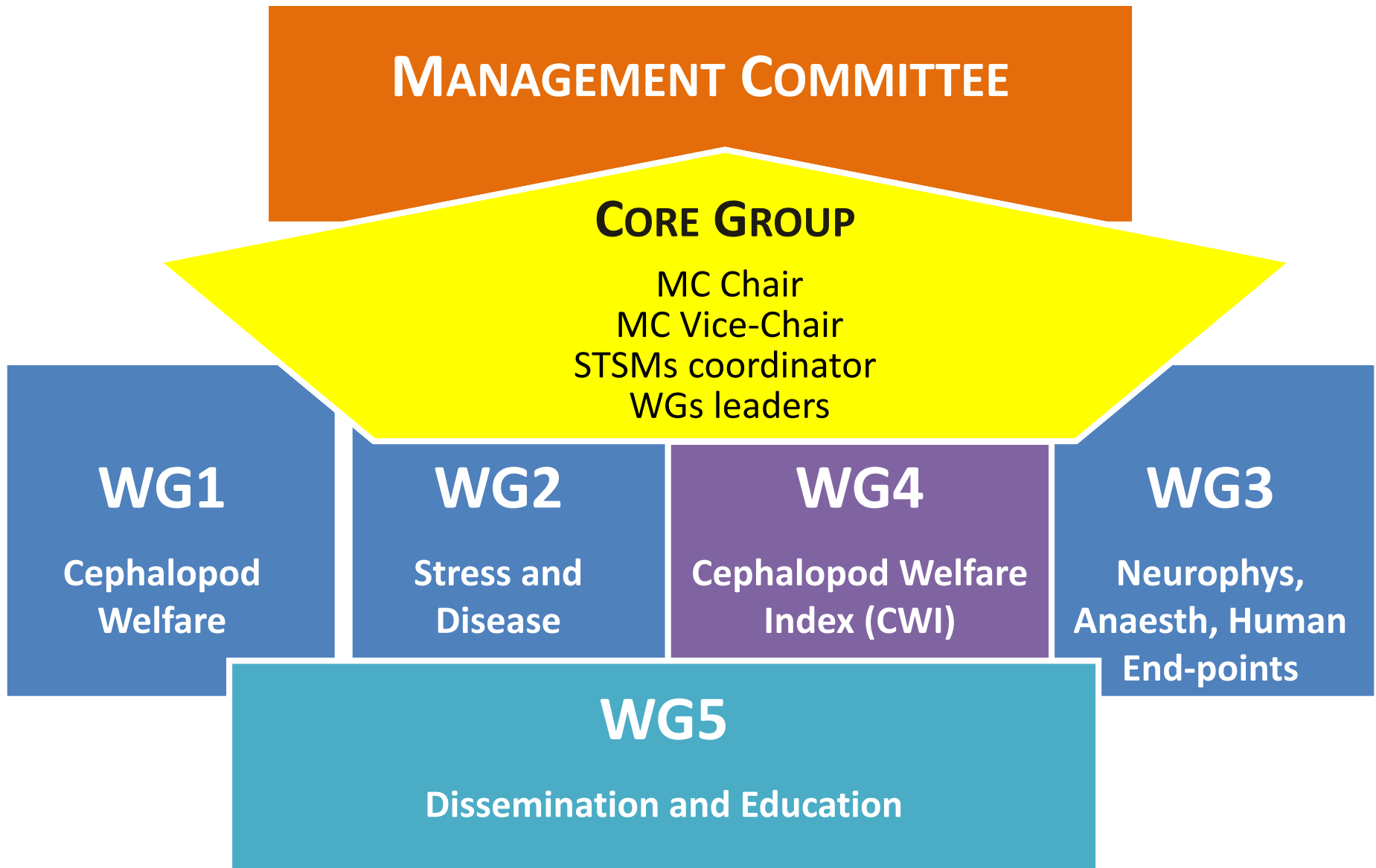
- **Task 1- Guidelines and improvement of experimental practices**
- **Task 2 - Species-specific research procedures**
- **Task 3 - New technologies and experimental approaches to promote the 3Rs principle**
- **Task 4 - Dissemination and Education**

# **Why COST Action FA1301?**

**Our objectives are complex and beyond the scope of individual research efforts**

- 1. Coordination of national research projects**
- 2. Collaboration to develop a comprehensive knowledge of cephalopod welfare**
- 3. Specialized training and sharing of specialized facilities**
- 4. Interaction with expertise on animal welfare**

**Concerted efforts to promote cephalopod welfare & conservation in research, aquaculture, and fisheries**





## **WG1. Research Needs in Cephalopods welfare**

**STSM  
CoRP**

**Assessing best laboratory practice to implement the 3Rs principle to cephalopods for experimental, training and display purposes**

### **Principal Objectives**

- ✓ **Review Optimal and Species-Specific Rearing Conditions**
- ✓ **Environmental Needs for Cephalopod Species. For Limiting Stress and Increase Welfare**

## **WG2. Stress & Disease**

### **Principal Objectives**

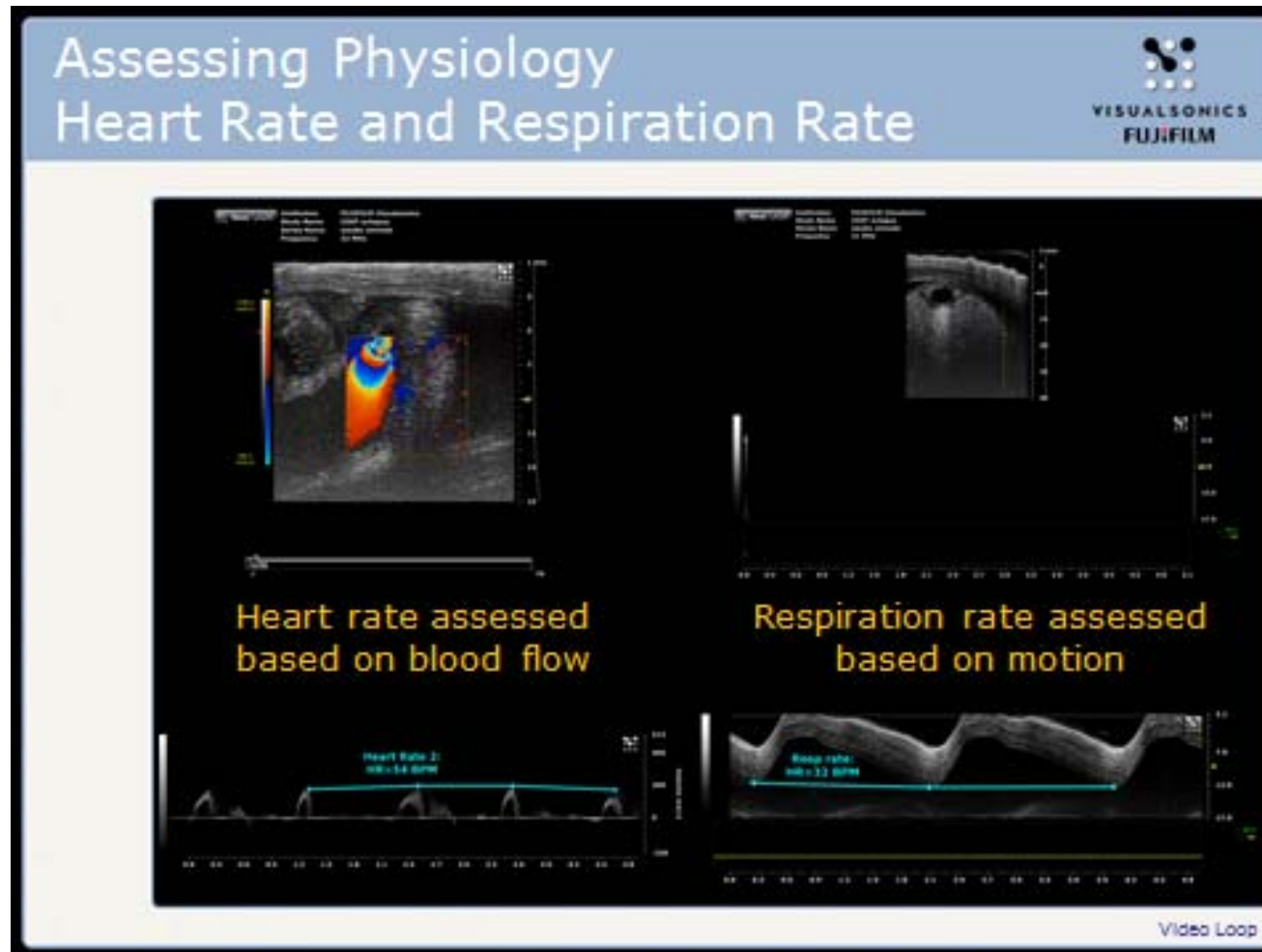
- ✓ **Evaluate Signs and Indicators of Stress, Pain, Suffering and Immune Response**
  - **Assessment of health and well-being**
  - **Parameters for recognition of stress severity**
  - **Distinction between natural processes (e.g. senescence) from unsatisfactory conditions**
- ✓ **Classify, Diagnose and Prevent Diseases in Cephalopods**
  - **To increase knowledge and explore possible prevention**
  - **To limit the effects of ulcerations and lesions**
- ✓ **Exploration of Non-Invasive Methods to Assess the Health Conditions**

## **WG3. Neurophysiology, Anesthesia and Humane End-Point**

### **Principal Objectives**

- ✓ **Evaluate the Existent Protocols in Neurophysiology, Behaviour and Pharmacology to Verify Applicability and Standardize Methodologies**
- ✓ **Promote Research on the Effects of Common Anesthetic Agents and Explore Alternatives**
- ✓ **Evaluate Humane End-Points, Euthanasia Practices and Criteria for Death Confirmation**
- ✓ **Explore Non-Invasive Methods for Assessing Physiological and Behavioral Parameters**

## Non-Invasive Methods (e.g. ultrasound system)



## WG4. Development of a Welfare Index

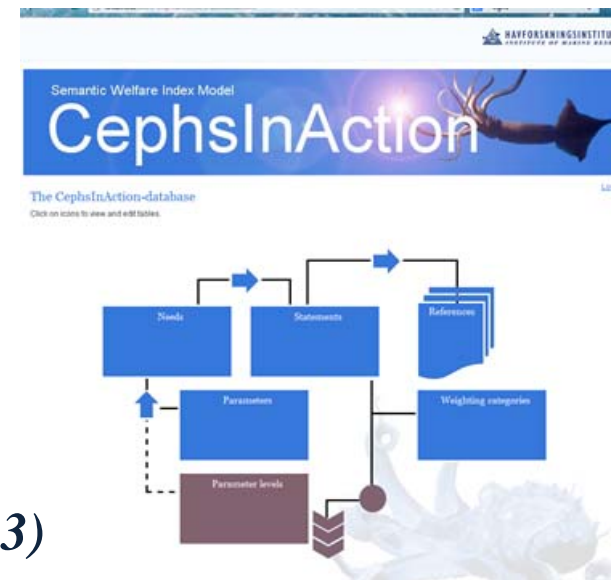
STSM  
CoRP

### Principal Objective

- **Characterization of Welfare Indicators**
  - Integration of data from other WGs
- **Develop Overall Assessment of Welfare (OWA) by semantic modeling to develop a Cephalopod Welfare Index Model (CWIM)**

**Contributions from all Participants  
by an internet based user interface**

*(Stien et al., 2013)*



## **WG5. Education and training**

### **Principal Objective**

**Overview Dissemination and Training based on the Outcome of all WGs**

✓ **Organization of:**

- **Training Schools**
- **Workshops**

✓ **Development of Educational Material Including Audiovisual Alternatives**

**16 COST Member States**  
**1 Near Neighbour Country**  
**NNC**



**180 estimated number of participants**



**Israel (Cooperating State)**

## Possible Impacts

**Advance standardisation and regulation of Cephalopod welfare in research**

**Research** - allow European researchers to comply with the Directive, promote European collaboration, attract international interest

**Fisheries** - improve breeding conditions of cephalopods and provide guidance on welfare-based capture and transport methods

**Society** - increase awareness, promote cephalopod conservation, contribute to European society ethics and animal care, aid Policy makers

**Industry** - establishment of collaborations for use of new technologies (i.e. ultrasound system)



