



Advanced course on **MARINE ECOTOXICOLOGY**

Institute of Biomedical Sciences of Abel Salazar (ICBAS)
Faculty of Sciences (FCUP)
CIIMAR – Centre of Marine and Environmental Research

University of Porto

26 – 30 April 2010

General information

This advanced course will cover **emerging issues in Marine Ecotoxicology** and will provide updated knowledge and training on new and more classic approaches, methods and tools aimed to protect the marine environment (including estuarine and coastal areas) from pollution and other global stressors such as climate changes and non-native invasive species.

This course, organised in the scope of the *Master on Environmental Contamination and Toxicology* of ICBAS and FCUP of the University of Porto, is intended for post-graduate, PhD and MSc students with an Ecotoxicology background, for scientists working in the field and other professionals involved in decision making and management of marine ecosystems.

All lectures and training sessions will be held in English. The course is limited to 20 participants and laboratorial sessions are limited to 10 students per session.

Teaching Staff

- Prof. Dr. Ketil Hylland, University of Oslo & NIVA, Norway
- Prof. Dr. Dick Vethaak, DELTARES & VU University Amsterdam, The Netherlands
- Dr. Laura Guimarães, CIIMAR, University of Porto, Portugal
- Dr. Carlos Gravato, CIIMAR, University of Porto, Portugal
- Prof. Dr. Lúcia Guilhermino, ICBAS & CIIMAR, University of Porto, Portugal (**Coordinator**)

Course Monitors: Joana Almeida, Alexandra Martins and Aurélie Rodrigues, ICBAS & CIIMAR, University of Porto, Portugal

Main Topics

- Bioassays for assessing the effects of environmental contaminants on the marine environment
- Assessing the biological effects of pollutants *in situ*: biomarkers for the marine environment, integrated assessment of endocrine disrupting effects, application and value of fish diseases and histopathological lesions in environmental monitoring
- Problems related to oil and gas extraction and use
- Interactions among pollution, climate changes and other global stressors
- Toxicological profiling using *in vitro* bioassays
- Macro and micro plastics in the marine environment
- Institutions providing scientific support to decision making and international conventions for protection of the marine environment

Registration, fees and other information

Registration fee: € 500 (includes attendance to all lectures, training sessions, and course documentation).

Reduced fee: € 400 (for members of the following institutions/associations upon confirmation of eligibility: University of Porto, Society of Environmental Contamination and Toxicology (SETAC), Iberoamerican Society of Environmental Contamination and Toxicology (SICTA), Sociedade Portuguesa de Ecologia (SPECO), Ordem dos Biólogos (Portugal).

Certificates: certificate of attendance for all the participants; certificate of approval, including the final mark obtained in a written exam at the end of the course will be provided upon request at the registration form.

Application: candidates should fill in the *registration form* and send it to Prof. Dr. Lúcia Guilhermino by e-mail (lguilher@icbas.up.pt) before the **18th April 2010**.

Registration: after acceptance by e-mail, candidates will have **5 days to process fee payment** by Bank Transfer (details of Bank Account will be provided in the acceptance e-mail); if the transfer is not processed during this period the acceptance will be cancelled.

Additional information

Prof. Dr. Lúcia Guilhermino
CIIMAR,
Rua dos Bragas, 289
4050-123 Porto
Portugal
Tel: (+351) 22 340 1815
Fax: (+351) 22 339 0608
Email: lguilher@icbas.up.pt

PRELIMINAR PROGRAMME

MONDAY, 26 April 2010

9.00 – 9.30h: Reception of the participants, document distribution and introduction to the course.

9.30 – 10.30h: *Ecological risk assessment for the marine environment: what do we have, what do we will need.* (Prof. Dr. L. Guilhermino)

11.00 – 12.30h: *Assessing the effects of oil spills on the marine environment: short and long-term effects.* (Prof. Dr. L. Guilhermino)

14.30 – 18.00h: Laboratory session 1: *Bioassay with marine organisms to assess the effects of environmental contaminants on behaviour (swimming velocity).* (Dr. C. Gravato)

TUESDAY, 27 April 2010

9.00 – 12.30h: Laboratory session 2: *Preparation of biological samples for biomarkers determination.* (Dr. C. Gravato).

14.00 – 16.00h: *Biomarker responses in fish: identifying contaminant-related effects.* (Prof. Dr. K. Hylland)

16.00 – 18.00h: *Integrated field monitoring and assessment of endocrine disrupting chemicals.* (Prof. Dr. D. Vethaak)

WEDNESDAY, 28 April 2010

9.00 – 12.30h: Laboratory session 3: *Assessment of neurotoxic effects of pollutants on marine organisms using cholinesterase activity as biomarker.* (Dr. C. Gravato)

14.00 – 16.00h: *Application and value of fish diseases and histopathological lesions in environmental monitoring and assessment.* (Prof. Dr. D. Vethaak)

16.00 – 18.00h: *Offshore oil and gas activities: environmental impacts, problem characterisation and monitoring.* (Prof. Dr. K. Hylland)

Thursday, 29 April 2010

9.00 – 10.45h: *Some new challenges in ecotoxicology: from macroplastics to toxicological profiling using in vitro bioassays.* (Prof. Dr. D. Vethaak)

11.00 – 13.00h: *Using primary cell cultures from invertebrates and fish to identify mechanisms of toxicity.* (Prof. Dr. K. Hylland)

14.30 – 18.00h: Laboratory session 4: Determination of EROD activity. (Dr. C. Gravato)

FRIDAY, 30 April 2010

9.00 –10.30h: *Institutions providing scientific support to decision making and international conventions for protection of the marine environment – part I: search for information and preparation for discussion.* (Prof. Dr. L. Guilhermino)

11.00 – 12.30h: *Institutions providing scientific support to decision making and international conventions for protection of the marine environment – part II: round-table discussion.* (Prof. Drs. K. Hylland, D. Vethaak and L. Guilhermino).

14.00 – 17.00h: Laboratory session 5: *Determination of PAHs bile metabolites.* (Dr. C. Gravato)

17.30-18.30h: Exam (optional)

REGISTRATION FORM

Name _____

Title _____

Institution / Company _____

Postal address _____

Postal code _____ City _____ Country _____

Telephone _____ Fax _____ e-mail _____

Normal fee (500 €) _____ Reduced fee (400 €) _____

Invoice to

Name _____

Postal address _____

Postal code _____ Town _____ Country _____

NIF / VAT number _____

To be sent to Prof. Dr. Lúcia Guilhermino (e-mail: lguilher@icbas.up.pt; Fax: +351 22 339 0608,) no later than the **18th April 2010**.