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Universidad  
del País Vasco

Euskal Herriko  
Unibertsitatea

PiE

Plentziako Itsas Estazioa  
Estación Marina de Plentzia



[www.ehu.es/CTA](http://www.ehu.es/CTA)

**INGURUMEN KUTSADURA ETA TOXIKOLOGIA  
CONTAMINACION Y TOXICOLOGIA AMBIENTALES  
ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY  
GRADUONDOKO MASTERRA / MASTER DE POSTGRADO UPV/EHU**

Ref. MO2006-00749 <sup>(1)</sup>



**European Master of Science in  
Marine Environment & Resources**

[www.ehu.es/MER](http://www.ehu.es/MER)

**JOINT EUROPEAN POSTGRADUATE STUDIES**

Ref. MO2006-00744 <sup>(2)</sup>

**9<sup>TH</sup> INTERNATIONAL POSGRADUATE COURSE**

## **HISTOLOGY AND HISTOPATHOLOGY OF AQUATIC ANIMALS \***

**April 24, 27-30 2015, Plentzia Marine Station – Univ. Basque Country (PiE-UPV/EHU)**

Organized by: CTA and MER Masters (CTA & MER Doctorate Programs, UPV/EHU)  
Dept Zoology and Cell Biology, Plentzia Marine Station, Univ Basque Country, Bilbao

### Teaching Staff:

Dr Stephen Feist (CEFAS, Weymouth, UK)  
Dr. Antonio Villalba (Xunta Galicia, Galicia)  
Dr Miren P. Cajaraville (PiE-UPV/EHU)  
Dr. Beñat Zaldibar ((PiE-UPV/EHU)  
Dr. Urtzi Izaguirre ((PiE-UPV/EHU)  
Dr. Larraitz Garmendia (PiE-UPV/EHU)  
Dr Manu Soto (PiE-UPV/EHU) **Coordinator**  
Dr Ionan Marigómez (PiE-UPV/EHU) **Coordinator**

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### Additional information:

MER & CTA Secretariat  
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[www.merconsortium.eu](http://www.merconsortium.eu)

Universidad del País Vasco Euskal Herriko Unibertsitatea

\* UPV/EHU Complementary Course (3 ECTS), and CTA and MER MSc Course (4 ECTS)

### Supporting Institutions:

- University of the Basque Country (Vice-rectorate Graduate & Postgraduate Studies)

(1) Quality Award by Spanish Ministry of Education and Science (2005-2012)

(2) Erasmus Mundus Master Course 2012-2018

(3) Quality Award by Spanish Ministry of Education and Science (2008-2012)

## PROGRAMME

### APRIL 24<sup>th</sup> FRIDAY: INTRODUCTORY REMARKS AND MOLLUSC HISTOLOGY

09:30-10:20; "Introduction to comparative histology of aquatic animals." M. Soto  
10:30-11:20; "Introduction to comparative histology of aquatic animals." (cont.) M Soto

11:40-12:30; "Introduction to comparative histology of aquatic animals." (cont.) M Soto

12:40-13:30; "Normal histology of molluscs." I. Marigómez

15:00-16:00; "Normal histology of molluscs." (cont.) I Marigómez

16:20-18:00; "Practical session 1: Microscopical observation of molluscan tissues." M Soto & U Izagirre

### APRIL 27<sup>th</sup> MONDAY: MOLLUSC HISTOPATHOLOGY

09:30-10:20; "Biopathology and histopathology: basic concepts." I Marigómez

10:30-11:20; "General histopathology of molluscs." A. Villalba

11:40-12:30; "General histopathology of molluscs." (cont.) A. Villalba

12:40-13:30; "General histopathology of molluscs." (cont.) I. Villalba

15:00-16:00; "Toxicopathology in molluscs." MP Cajaraville

16:20-18:00; "Practical session 2: Microscopical observations on general molluscan histopathology."  
A. Villalba & MP Cajaraville

### APRIL 28<sup>th</sup> TUESDAY: MOLLUSC HISTOPATHOLOGY & FISH HISTOLOGY

09:30-10:20; "Neoplastic lesions in molluscs" A. Villalba

10:30-11:20; "Natural variability and temporal trends in histopathological lesions in molluscs." I Marigómez

11:40-12:30; "General normal histology of fishes." M Soto

12:40-13:30; "General normal histology of fishes." (cont.) M Soto

15:00-16:00; "Practical session 3: Microscopical observations on general molluscan histopathology (cont.) and identification of neoplastic lesions." A. Villalba

16:20-18:00; "Practical session 4: Microscopical observation of fish tissues." M Soto & S Feist

### APRIL 29<sup>th</sup> WEDNESDAY: FISH HISTOPATHOLOGY

09:30-10:20; "Introduction of general histopathology in fish." S Feist

10:30-11:20; "Introduction of general histopathology in fish." (cont.) S Feist

11:40-12:30; "Mechanisms of chemical carcinogenesis in fish liver." MP Cajaraville

12:40-13:30; "Carcinogenic lesions in fish." S Feist

15:00-16:00; "Quantitative fish and shellfish histopathology." I Marigómez

16:20-18:00; "Practical session 5: Microscopical observations on fish histopathology." S Feist & M Soto

### APRIL 30<sup>th</sup> THURSDAY: MOLLUSC AND FISH HISTOPATHOLOGY IN ECOSYSTEM HEALTH ASSESSMENT

09:30-10:20; "Fish and bivalve pathology in relation to pollution: quality assurance." S Feist

10:30-11:20; "Histopathology in marine ecosystem health assessment: Mussel Watch and Fish Disease Monitoring programmes." I Marigómez

11:40-13:30; "Practical session 6: Navigating through the web searching databases and images on histopathology of aquatic animals." M Soto

**APRIL 24, 27-30 2015, PiE-UPV/EHU**

## INTRODUCTION

The International Postgraduate Course (3 ECTS\*) will take place the days **April 24, 27-30**.

**\*EXTENSION MODULE (to complete 4 ECTS) FOR REGULAR CTA AND MER MSc STUDENTS:**

- **MARCH 25-27** (15:00-19:00)
- SEMINARS ON HISTOTECHNOLOGY INCLUDING LECTURES AND LAB PRACTICALS  
(B Zaldibar, U Izagirre, L Garmendia)

The course is directed to postgraduate or PhD students aiming to become specialized in the field of environmental toxico(patho)logy, with a focus in fish and shellfish histopathology. All lectures will be held in English. Participants will receive a certificate with indication of lectures and practicals attended.

Students who request it will receive the same academic treatment than the official students enrolled in the CTA and MER Masters and will be given marks after examination (which includes practical notebook and a 10 page report based on the "web-practical"). Thus, together with the attendance certificate, a supplementary certificate indicating the obtained **marks** (and ECTS) will be provided (complete certificate)

## REGISTRATION

The course is limited to 20 participants. The registration fee is **250 €** and includes attendance to all lectures and lab practicals and course documentation. Those student who wish to participate in the Seminars on Histotechnology (March 25-27<sup>th</sup>) to complete 4 ECTS should include additional **100 €**.

For registration, participants should fill in the registration form and send it to PiE-UPV/EHU Masters Secretariat ([sonia.monreal@ehu.es](mailto:sonia.monreal@ehu.es)) before the **17<sup>th</sup> March 2015**, together with a bank check payable to "**HHA15, BCTA (UPV/EHU)**" or a copy of the bank document indicating that a bank transfer has been made to the bank

<b>BANK</b>	<b>BILBAO BIZKAIA KUTXA</b>
BRANCH:	0292 UNIVERSIDADES
Address:	GRAN VIA 30, EDIF. BASKONIA, E-48009 Bilbao, Basque Country (Spain)
Account:	2095 0292 98 3239089479
IBAN:	ES22 2095 0292 9832 3908 9479 BIC/SWIFT: BASKES 2BXXX)

Registrations after this date may be only exceptionally accepted. All participants will receive a receipt of payment and notification of acceptance in the course.

## GRANTS

A limited number of grants covering the registration fee may be offered. Students wishing to be elected must indicate it in the registration form. Those students receiving a grant will be refunded during the course.

### Accommodation:

Contact PiE-UPV/EHU Masters Secretariat  
By email

[Sonia.monreal@ehu.es](mailto:Sonia.monreal@ehu.es)  
Info: [www.ehu.es/PIE](http://www.ehu.es/PIE)





4<sup>TH</sup> INTERNATIONAL  
POSGRADUATE COURSE

HISTOLOGY AND HISTOPATHOLOGY  
OF AQUATIC ANIMALS (3 ECTS)  
April 24, 27-30 2015, Univ Basque Country, Leioa



Registration form: HAA **15** BCTA (UPV/EHU)

Surname.....

Name.....

Title.....

Postal address.....

Postal code.....City/Town.....Country.....

Telephone.....

Fax.....

e-mail.....

I wish to attend the "Seminars in histotechnology" Module (1 ECTS)	YES	NO
I wish to be elected for a grant:	YES	NO
I need accommodation in the student's residence:	YES	NO

SIGNATURE:

PLACE AND DATE:

For registration, participants should fill in the registration form and send it to PiE-UPV/EHU Masters Secretariat ([sonia.monreal@ehu.es](mailto:sonia.monreal@ehu.es)) before the **17<sup>th</sup> March 2015**, together with a bank check payable to "HAA15, BCTA (UPV/EHU)" or a copy of the bank document indicating that a bank transfer has been made to the bank

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University of the Basque Country,  
Tln: 34 946018450; e-mail: [sonia.monreal@ehu.es](mailto:sonia.monreal@ehu.es)