

**7th Postgraduate Course on**

**CELL BIOLOGY IN ENVIRONMENTAL TOXICOLOGY**

**5<sup>th</sup> -9<sup>th</sup> June 2006, Bilbao.**

Organized by:

Laboratory of Cell Biology and Histology  
Department of Zoology and Cell Biology  
Faculty of Sciences and Technology  
University of the Basque Country, Bilbao

Supported by:

Basque Government, Dept Industry  
Spanish Ministry of Education and Science (Quality mention to PhD  
programmes)  
Spanish Society of Cell Biology SEBC

For more information contact Prof. Miren P. Cajaraville at the above address.

Telf: 34 946012697

Fax: 34 944648500

e-mail: [miren.p.cajaraville@ehu.es](mailto:miren.p.cajaraville@ehu.es)

www:<http://www.ehu.es/GrupoBCTA>

## **Introduction**

The course is the 7<sup>th</sup> edition of the postgraduate course "Cell Biology in Environmental Toxicology", held first in 1994. It will run for one week, from 5<sup>th</sup> to 9<sup>th</sup> June 2006 and will consist of both lectures and laboratory practicals. A total of 12 lectures and 16 hours practicals have been planned (34 hours in total). All lectures will be held in english.

The course is directed to postgraduate or PhD students aiming to become specialized in the field of environmental toxicology, with a focus in cell and molecular biology tools and concepts.

Participants will receive a certificate with indication of lectures and practicals attended.

## **Registration**

The course is limited to 20 participants. The registration fee is 275 € and includes attendance to all lectures and lab practicals and course documentation. For registration, participants should fill in the registration form and send it to Prof. M.P. Cajaraville before the 18<sup>th</sup> May 2006, together with a cheque payable to "CBET Course UPV/EHU". Registrations will not be accepted after the 18<sup>th</sup> of May. 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 are offered by the Spanish Society of Cell Biology SEBC. Students wishing to be elected must indicate it in the registration form. Those students receiving a grant will be refunded during the course.

## **Accommodation**

Accommodation has been booked at the student's residence "Colegio Mayor Miguel de Unamuno". This is located in the center of Bilbao, close to a metro station and is connected by bus to the campus of Leioa, where the course will take place.

Rooms are offered at a price of 41 € per night including breakfast. The rooms have individual bathroom inside, television and room service. Price for dinner is 7 €. Lunches will take place at the campus (about 4-5 €).

Participants wishing to get accommodation in the Residence Unamuno should fill in the application form available at [www.ehu.es/Unamuno](http://www.ehu.es/Unamuno) and send the application form (preferably by fax and giving the reference of "CBET course 06") to the following address:

Colegio Mayor Miguel de Unamuno  
Avda. Lehendakari Agirre, 140  
48015 Bilbao  
tfno: 94-6017499  
Fax: 944764147  
e-mail: unamuno@lg.ehu.es  
<http://www.ehu.es/unamuno/general.html>

Other student's residences available are "Residencia Universitaria Blas de Otero" in Bilbao and "Residencia de estudiantes de Plentzia" in the small coastal town of Plentzia. You can get more information on these and other student's residences in the web page of the university ([www.ehu.es](http://www.ehu.es), student information, servicio de alojamiento).

### List of lecturers

Miren P. Cajaraville, A. Orbea, M. Ortiz-Zarragoitia and M. Soto. Laboratory of Cell Biology and Histology, University of the Basque Country, Bilbao.

Mike N. Moore. Plymouth Marine Laboratory, Plymouth.

Jean Francois Narbonne. Toxicologie biochimique, Université Bordeaux I, Bordeaux.

Francesco Regoli. Istituto di Biologia e Genetica, Università Politecnica delle Marche, Ancona.

Paola Venier. Dipartimento di Biologia, Università di Padova, Padova.

Aldo Viarengo. Dipartimento di Scienze e Tecnologie Avanzate, Università del Piemonte Orientale Amedeo Avogadro, Alessandria.

### Programme:

#### Monday, 5<sup>th</sup> June.

9:30-11:00: Welcome and introduction to the course. LECTURE: Cellular and molecular biomarkers of pollution: a step forward in environmental monitoring and risk assessment. *M.P. Cajaraville (UPV/EHU)*.

11:30-13:00: LECTURE: Potential of the biomarker approach to uncover estrogenic and androgenic effects of environmental pollutants. *M Ortiz-Zarragoitia (UPV/EHU)*.

14:30-16:00: LECTURE: Toxicant-caused DNA damage and repair: basic processes and methods of detection. *P. Venier (Univ Padova)*.

16:30-18:30: PRACTICAL: Genotoxicity assessment.

#### Tuesday, 6<sup>th</sup> June.

9:30-11:00: LECTURE: System biology applied to molecular ecotoxicology: sublethal mercury-induced responses in the social amoeba *Dictyostelium discoideum*. *A Viarengo (Univ. Alessandria)*.

11:30-13:00: LECTURE: Toxicity of metallic pollutants in relation with cellular accumulation and storage processes. *M. Soto (UPV/EHU)*.

14:30-18:30: LAB PRACTICAL: Biomarkers of exposure to metals.

#### Wednesday, 7<sup>th</sup> June.

9:30-11:00: LECTURE: Formation of oxyradicals and oxidative stress in marine organisms. *F Regoli (Univ Ancona)*.

11:30-13:00: LECTURE: Cellular biomarkers as “distress signals” from the environment. *MN Moore (Plymouth Marine Lab)*.

14:30-18:30: LAB PRACTICAL: Lysosomal biomarkers.

**Thursday, 8th June.**

9:30-11:00: LECTURE: Predictive modelling of pollutant stress with computational cellular simulations. *MN Moore. (Plymouth Marine Lab)*.

11:30-13:00: LECTURE: Mechanisms of pollutant-induced peroxisome proliferation and rationale for use as biomarker in environmental pollution assessment. *M.P. Cajaraville (UPV/EHU)*.

14:30-18:30: LAB PRACTICAL: Peroxisome proliferation.

**Friday, 9th June.**

9:30-11:00: LECTURE: A new 2 tier biomarker approach for utilization in large scale biomonitoring programmes. *A. Viarengo (Univ Alessandria)*.

11:00-13:00: LECTURE: Integrative biomarker indices in Ecotoxicology: tools for risk evaluation and management. *J.F. Narbonne (Univ Bordeaux)*.

14:30-16:00: LECTURE: Biological effect measurements in oil spill situations: lessons learned from the Prestige oil spill. *A. Orbea (UPV/EHU)*.

16:30-18:30: PRACTICAL: Case studies on biomarker application, discussion.

**Registration form: CBET Course 2006**

Surname.....
First name.....
Title.....
Mailing address.....
.....
Zip code.....City.....Country.....
Telephone.....
Fax.....
e-mail.....
I wish to be elected for a grant: YES NO
I need accommodation in the student's residence: YES NO

This form should be filled in and returned to Prof. MP Cajaraville **before 18<sup>th</sup> May 2006**. Registrations will not be accepted after this date. The registration form should be accompanied by a cheque for 275 € payable to "CBET Course UPV/EHU". If bank transfer is preferred, please ask for details.

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