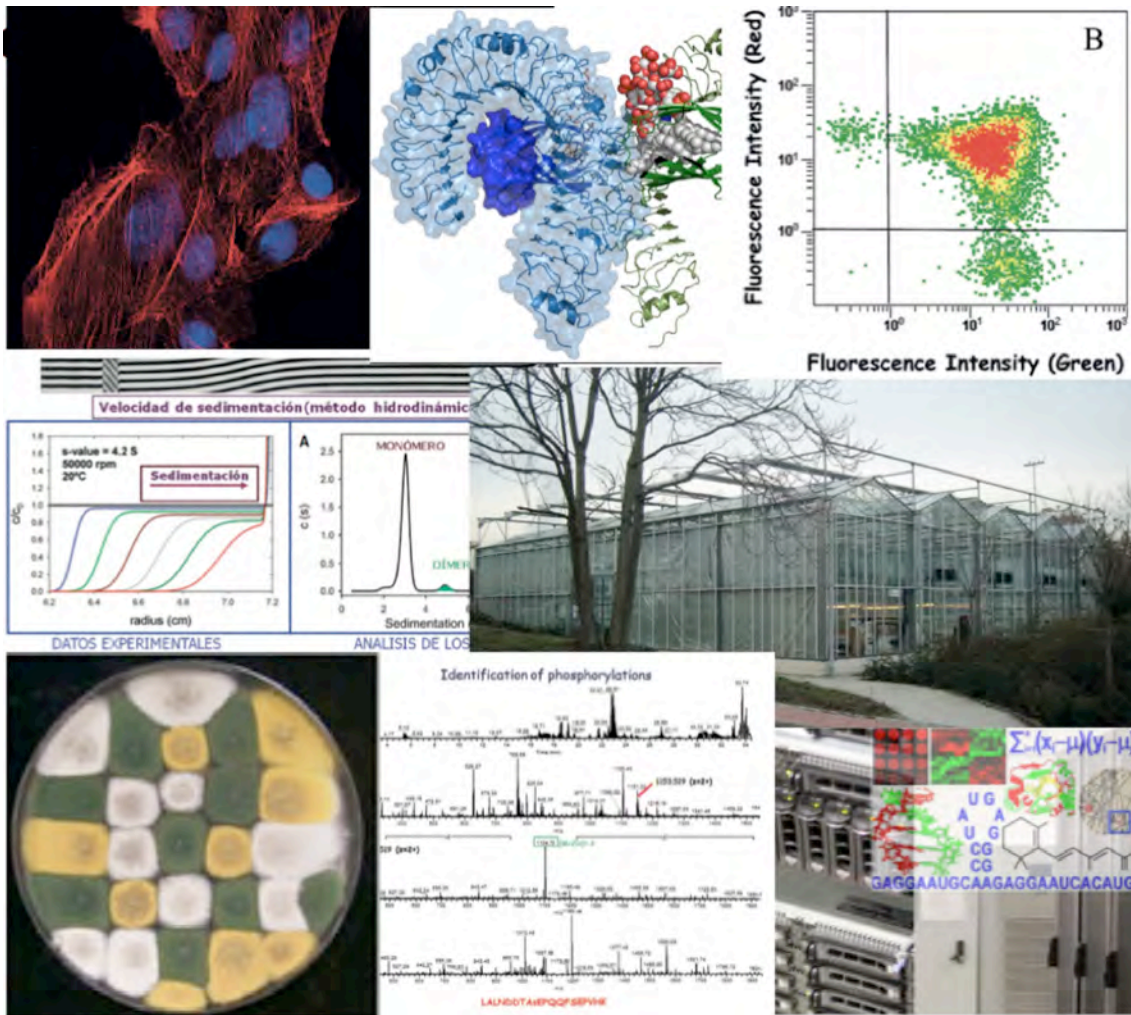




Master in Molecular and Cellular Integrative Biology

OFFICIAL UNIVERSITY DEGREE
Master/90 ECTS
Madrid



MCIB

Master in Molecular and Cellular Integrative Biology

Official University Degree

Postgraduate Programme

3 semesters

(October to March of second year)

Location

Centro de Investigaciones Biológicas (CIB-CSIC)

Ramiro de Maeztu, 9

28040 Madrid, Spain

The Master MCIB will provide an advanced training in molecular and cellular life sciences to graduate students in a cutting-edge scientific environment. The school, co-organized by the Spanish National Research Council (CSIC) and the International University Menéndez Pelayo (UIMP), will focus on training the students in Molecular and Cellular Integrative Biology.

MCIB integrates innovative experimental and/or computational technologies to characterise biological systems at the molecular, cellular, and tissue levels, in order to understand how component properties at one level in the dimensional scale (nano to macro) determine system behaviour at a higher level of complexity. These integrated studies, with natural and minimal synthetic systems, will help to elucidate fundamental principles of biological function and provide a basis for novel biotechnological and biomedical applications.

MCIB is organised at a single CSIC location (CIB), establishing a unique -pioneer-in-house research training experience. This novel concept will integrate both students and CIB scientists as a collective action of the whole research centre, bringing together a wide range of experimental expertise and know-how. Students will be exposed to the scientific activities developed in-house, based on synergies among research programs in molecular and cellular biosciences, using front-line technologies and research strategies (i.e., chemical, molecular/cellular and synthetic approaches) to study essential processes and systems with environmental or medical relevance.

MCIB is based on the Max Planck International Research School for Molecular and Cellular Life Sciences established at the Martinsried campus, which has been adapted and scaled to the Spanish research system.

Objectives

The MCIB students will achieve advanced training in a number of topics related to fundamental biology and front-line technologies, environmental biology and biomedicine, which will be analyzed within an integrated research program -the hallmark of MCIB- combining chemical structural, molecular, cellular, synthetic and systemic approaches.

Structure and Timing

The Master will run for 3 academic semesters starting in October until March of the second year. It comprises **90 ECTS credits**, organised in 3 different academic modules, a master research project and a final dissertation/exam.

MCIB will adopt an **innovative format** in which the students will progress rapidly from intensive course instruction to research in their master projects. Most of the MCIB activities will be in English, although Spanish will also be used, as required.

The program will begin with a **course semester** in which the students will be exposed to a broad spectrum of scientific questions and front-line technologies covering areas from fundamental (chemical, structural, molecular and cellular biology) and environmental biology to molecular medicine.

Scientific training will be complemented by a variety of opportunities including lecture series, seminars, courses and participation in research conferences. In addition, a comprehensive **training program in transferable skills** will also be organized to prepare the graduate students for the challenges of a professional career in academia, industry or elsewhere.

This general interdisciplinary training will be combined with a **degree of specialization taking place at the supervisor's laboratory** thereby providing both a broad and an in depth training to the students.

Teaching Programme

* Module I: **Foundations of MCIB** (30 ECTS; semester 1)

A) Research Topics and Programs in MCIB (15 ECTS)

B) Advanced Methods in MCIB (10 ECTS). Introduction to frontier techniques in MCIB.

C) Laboratory Rotations (5 ECTS)

* Module II: **Frontiers at MCIB** (15 ECTS; semesters 1, 2 and 3)

Special Seminars and Workshops (15 ECTS)

* Module III: **Career Development and Technology Transfer Skills Program** (15 ECTS; semesters 1, 2 and 3)

Career Development and Technology Transfer Skills Program (15 ECTS)

* Module IV: **Master Research Project (TFM)** (30 ECTS, semesters 2 and 3)

Master Research Project (TFM) (30 ECTS)

Management Board

The practical organization and teaching of MCIB is coordinated within the Centro de Investigaciones Biológicas (CIB) and supervised by the Spanish National Research Council (CSIC) and the International University Menéndez Pelayo (UIMP).

MCIB Directors

Rafael Giraldo Suárez
CSIC Research Professor

Germán Rivas Caballero
CSIC Research Professor

FOR MORE INFO:

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