

5

TRAINING PROGRAMS



Training is one of the CNIC's core activities, and the Center has devised a comprehensive training plan, the CNIC-Joven Training Plan. This global plan includes programs for participants at all levels, from high-school students to postdoctoral researchers and MDs. The CNIC-Joven Training Plan aims to fulfill the personal goal of Valentín Fuster "to attract and train the brightest young people from the earliest ages to create a pool of researchers of excellence in the field of cardiovascular research."

PROGRAMS FOR UNDERGRADUATE STUDENTS

INTERNSHIPS ARE OFFERED TO UNIVERSITY STUDENTS IN THE FOLLOWING PROGRAMS:

CICERONE PROGRAM

The Cicerone Program is open to advanced undergraduate students (and also to Master's students) in biomedicine-related disciplines. Participants extend their scientific training through hands-on experience of laboratory-based biomedical research during the summer recess. In addition to carrying out a supervised research project, the students also attend CNIC seminars and workshops. The aim of the program is to give students first-hand knowledge of biomedical research so that they can make informed choices about the possibility of pursuing a scientific career.

Fellowships in 2022: 29

CURRICULAR AND EXTRACURRICULAR UNIVERSITY PRACTICAL PROGRAM

The CNIC offers practical training in cardiovascular research to visiting undergraduate students.

The CNIC has signed educational collaborative agreements with 62

universities, 35 of them are foreign universities.

In 2022 twenty-two students from the following universities completed internships at CNIC on their final degree thesis dissertation (TFG) under the guidance of a CNIC supervisor:

- 12 students from the Autonomous University of Madrid*
- 3 students from the University Carlos III of Madrid*
- 2 students from the Complutense University of Madrid*
- 1 student from the Polytechnic University of Madrid*
- 1 student from the University Rey Juan Carlos of Madrid*
- 1 student from the University of Lleida*
- 1 student from the University of Valencia*

In addition, thirty-two students from Spanish and international universities completed other types of university internships at the Center during 2022 under the guidance of a CNIC supervisor: 16 students from Spanish Universities, 9 Erasmus students from Italy, Germany, France and Poland, 5 students from UK, Argentina and Peru, and 2 students from USA holding a Fulbright fellowship.



PROGRAMS FOR MASTER'S AND GRADUATE STUDENTS

MASTER'S FELLOWSHIP CNIC-ACCIONA PROGRAM AND FUNDACIÓN CAROLINA BBVA-CNIC MASTER'S FELLOWSHIP PROGRAM

These grants provide funding for students studying for a master's degree at a Spanish university to carry out their experimental project (TFM) in a CNIC laboratory.

Fellowships in 2022: 15

Other Master Student Internships

In 2022 other sixteen students from the following universities worked on their final master's thesis dissertation (TFM) under the guidance of a CNIC supervisor:

- 7 students from the Complutense University of Madrid
- 7 students from the Autonomous University of Madrid
- 1 student from the Polytechnic University of Madrid
- 1 student from the University Oberta of Cataluña

PREDOCTORAL (PhD) PROGRAM

The Predoctoral Program provides a unified framework for all CNIC researchers who are working toward a doctoral degree. All predoctoral researchers are signed up to this program, irrespective of their funding source.

The aims of the program are to ensure uniform quality of predoctoral training at the CNIC and further to ensure fair and equal access of predoctoral researchers to training opportunities.

The Program schedules regular meetings between the predoctoral fellow and his or her thesis committee, composed of the thesis director, another CNIC group leader, and an external expert.

During 2022 the PhD Office organized the above the scientific and career motivational seminars.

Graduate students at the CNIC awarded a PhD degree in 2022: 17
Graduate students studying for a PhD degree at the CNIC in 2022: 108

CNIC's PhD Office is the forum for scientific support, guidance and growth of all PhD students enrolled in CNIC's Predoctoral Program, independently of their university affiliation or funding source. The office is coordinated by a Group Leader appointed by CNIC's direction.

This office also includes two permanent members (Head of CNIC's Scientific Management office and a manager of the Research Office), and one senior and one junior PhD students, who are elected by CNIC's PhD students.

Frontiers in Cardiovascular Research Master's Module

This postgraduate course is run by the CNIC as part of the Universidad Autónoma de Madrid (UAM) Molecular Biosciences Master's Program. This optional module provides a broad overview of cardiovascular biology, including perspectives from basic, clinical, and translational research. Attendants to this course are enrolled UAM Master's students, CNIC predoctoral researchers, and participants of the Res@CNIC SEC Program (see below).

UAM Master's students: 7

PROGRAMS FOR RESIDENT MEDICAL INTERNS

RES@CNIC PROGRAM

The Res@CNIC-SEC Program (in collaboration with the Spanish Society of Cardiology, SEC) offers resident medical interns the opportunity during the first years of their specialization period to learn about the latest techniques in cardiovascular research being used in the CNIC's laboratories, under the guidance of a CNIC scientist. Residents participating in RES@CNIC also receive training in theoretical aspects of cardiovascular research through an expert-led taught module. The Program also seeks to create links and collaborations so that on

conclusion of their MIR specialization period, these professionals will have the chance to undertake research projects in their respective Hospitals in partnership with CNIC scientists.

Participants in 2022: 25 from the following hospitals:

- Complejo Asistencial Universitario de León
- Hospital Clínico San Carlos
- Hospital Universitario Central de Asturias
- Hospital Universitario Cruces
- Hospital Universitario de Navarra
- Hospital Universitario Ramón y Cajal
- Hospital Universitario Virgen de las Nieves
- Hospital Universitario Virgen del Rocío
- Hospital Universitario Cabueñes
- Hospital Universitario Fundación Jiménez Díaz

PROGRAMS FOR RESEARCHERS

CARDIO JOVEN PROGRAM

The aim of this Program (also organized in collaboration with the SEC)

is to foster high-quality translational research in the cardiovascular area in Spanish National Health System centers through training programs providing theory and practical training for one cardiologist with a research vocation.

POST MIR ARC CNIC PROGRAM

This program offers 1- or 2-year contract for research into electrophysiology or arrhythmias. This contract is available to a physician completing their resident intern specialization (MIR) in cardiology and to members of the SEC Sección de Electrofisiología y Arritmias.

PRACTICAL TRAINING FOR TECHNICAL SCHOOL STUDENTS

This program attracted in 2022 fourteen technical school students studying “Pathological Anatomy and Cytodiagnosics”, “Clinical and Biomedical Science” and “Diagnostic Imaging and Nuclear Medicine” to gain practical curricular experience in the CNIC’s laboratories over a three-month period.

Moreover, two students of “Diagnostic Imaging and Nuclear Medicine”





and one student “Clinical and Biomedical Science” started in September their 10-month internship at the CNIC as part of the DUAL technical study program in which the second course is 100% devoted to practical training in a laboratory.

The CNIC has collaborative agreements for this kind of internships with 19 technical training educational Centers and with both DUAL Centers in Madrid offering courses in the Biomedicine field: Instituto de Educación Secundaria Moratalaz for and “Clinical and Biomedical Laboratory” and Instituto de Educación Secundaria San Juan de la Cruz for “Diagnostic Imaging and Nuclear Medicine”.

CNIC CONTINUING EDUCATION PROGRAM

CARDIOVASCULAR PATHOPHYSIOLOGY COURSE: FROM SYMPTOMS TO GENES

Organized by the CNIC and the SEC, this course is aimed at R3, R4, and R5 residents in cardiology and other specialties related to cardiovascular disease, as well as translational researchers in the field of cardiology.

Participants receive an overview of the molecular and genetic factors that underlie cardiac diseases and gain an up-to-date vision of cardiac physiology. The XV edition of this course was held in the CNIC Auditorium on December 2, 2022.