

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

CICERONE PROGRAM

The Cicerone Program is open to advanced undergraduate students and 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.

Participants in 2021: 29

CURRICULAR AND EXTRACURRICULAR UNIVERSITY PRACTICAL PROGRAM

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

The CNIC has signed collaborative educational agreements with 37 Spanish Universities and 30 foreign Universities.

In 2021 thirty-one students from the following universities completed internships at CNIC on their final degree thesis dissertation (TFG) under the guidance of a CNIC supervisor:

16 students from the Autonomous University of Madrid

4 students from the Polytechnic University of Madrid

4 students from the University Carlos III of Madrid

2 students from the Complutense University of Madrid

2 students from the Francisco de Vitoria University

1 student from the University of Alcalá de Henares

1 student from the Ramón Llull University of Barcelona

1 student from the University Rey Juan Carlos of Madrid

In addition, sixteen Spanish students and twelve students from different international universities completed internships at the Center during 2021 under the guidance of a CNIC supervisor. Amongst the latter students, seven were Erasmus fellowship holders from Italy and Germany, and the other five were from France, Germany, the USA, Peru and Japan.

PROGRAMS FOR MASTER'S AND GRADUATE STUDENTS

MASTER'S FELLOWSHIP PROGRAM CNIC-ACCIONA 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 2021: 19

Other Master Student Internships

In 2021 other twenty-two students from the following universities worked on their final master's thesis dissertation (TFM) under the guidance of a CNIC supervisor:

11 students from the Complutense University of Madrid

8 students from the Autonomous University of Madrid

1 student from the University of Alcalá de Henares

1 student from the University Carlos III of Madrid

1 student from the Autonomous University of Barcelona

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.

Graduate students at the CNIC awarded a PhD degree in 2021: 17

Graduate students studying for a PhD degree at the CNIC in 2021: 108

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 2021: 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 Donostia

Hospital Universitario Nuestra Señora de Candelaria

Hospital Universitario Ramón y Cajal

Hospital Universitario Virgen de las Nieves

Hospital Universitario Virgen del Rocío

Hospital Universitario Virgen Macarena

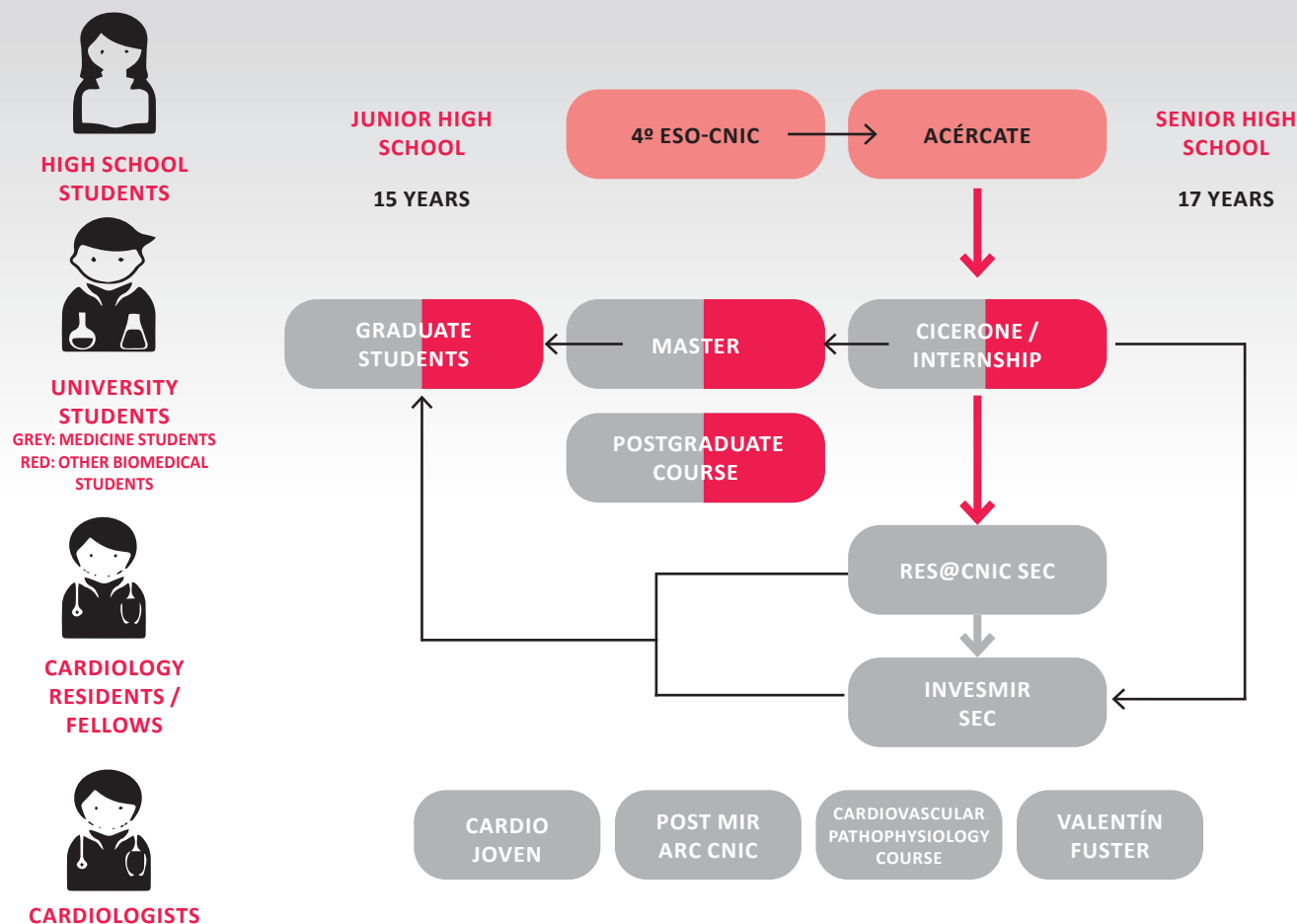
INVESMIR SEC PROGRAM

The INVESMIR SEC Program offers resident medical interns the opportunity during their specialization period to further their training



CNIC JOVEN: CNIC TRAINING PROGRAMS

cnic-Joven



SEC: SPANISH SOCIETY OF CARDIOLOGY
ARC: SEC HEART RHYTHM ASSOCIATION

through a research project in one of the CNIC's laboratories, under the supervision of a CNIC scientist.

An important aim of the program is for participants to establish contacts and collaborations with CNIC researchers that will support them, after completion of their MIR specialization training, in pursuing their own research projects at their centers within the Spanish National Health System. In 2021 one resident cardiologist intern from Hospital Universitario Joan XXIII (Tarragona) participated in this Program. One participant in 2021

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.

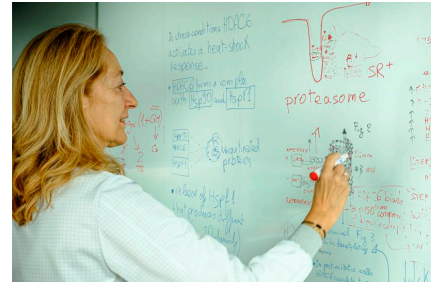
Specific aims:

- To create the figure of the cardiologist-researcher by providing high-quality training in clinical research methods, including statistical analysis and the latest basic research techniques used in cardiovascular biomedicine, as well as opportunities to explore any clinical area of cardiology in greater depth (sub-specialization).

The program is aimed at cardiologists who aspire to carry out advanced clinical and research work at any center within the Spanish National Health System.

- International training. The Program offers a period of training toward a Master's Degree in Epidemiology at the London School of Hygiene and Tropical Medicine (90 ECTS)
 One participant in 2021

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.

One participant in 2021

PRACTICAL TRAINING FOR TECHNICAL SCHOOL STUDENTS

This program attracted in 2021 nineteen technical school students studying “Pathological Anatomy and Cyodiagnosics”, “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, one students of “Diagnostic Imaging and Nuclear Medicine” and two students “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

This course is organized by the CNIC in partnership with the Sociedad Española de Cardiología. Participants receive an overview of the molecular and genetic factors that underlie cardiac diseases and gain an up-to-date vision of cardiac physiology.

Venue: online

Dates: April 13- June 13, 2021

Participants: 149