

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

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 33 Spanish Universities and 25 European Universities.

Sixteen students from the following universities worked on their final degree thesis dissertation (TFG) under the guidance of a CNIC supervisor:

*10 students from the Autonomous University of Madrid;
2 students from the University Alcalá de Henares;
2 students from the University Politécnica of Madrid;
1 student from the University Francisco de Vitoria of Madrid;
1 student from the University Rey Juan Carlos of Madrid.*

Seven students from the following universities completed an extracurricular internship at the Center under the guidance of a CNIC supervisor:

*4 students from the University Carlos III of Madrid;
3 students from the Autonomous University of Madrid.*

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 2020: 11

OTHER MASTER'S STUDENT INTERNSHIPS

Thirty-four students from the following universities worked on their final master's thesis dissertation (TFM) under the guidance of a CNIC supervisor:

*16 students from the Autonomous University of Madrid;
9 students from the Complutense University of Madrid;
2 students from the University San Pablo CEU, Madrid;
2 students from the University Alcalá de Henares;
2 students from the University Politécnica of Madrid;
1 student from the University Carlos III of Madrid;
1 student from the University Pompeu Fabra, Barcelona;
1 student from the University Oberta of Catalonia.*

INSIGHTS INTO RESEARCH IN CARDIOVASCULAR DISEASE 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 on this course are enrolled UAM Master's students, CNIC predoctoral researchers, and participants of the Res@CNIC SEC Program (see below).

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 2020: 15

Graduate students studying for a PhD degree at the CNIC in 2020: 111



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 2020: 17 from the following hospitals:

Complejo Asistencia Universitario de León;
Complejo Hospitalario de Navarra;
Hospital Clínico San Carlos;
Hospital General Universitario de Alicante;
Hospital Universitari Germans Trias i Pujol;
Hospital Universitario Central de Asturias;
Hospital Universitario de Cabueñes (Gijón);
Hospital Universitario Fundación Jiménez Díaz;
Hospital Universitario Miguel Servet.

INVESMIR SEC PROGRAM

The INVESMIR SEC Program offers resident medical interns the opportunity during their specialization period to further their training 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 2020 two resident cardiologist interns participated in this Program from Hospital Universitario de Getafe (Madrid) and Hospital Universitario Joan XXIII (Tarragona).



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:

a) 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.

b) 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)

POST MIR SEA 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

In the fall of 2020, this program brought eight technical school students studying "Pathological and Cyto-diagnostic Anatomy" and "Clinical and Biomedical Laboratory Science" to gain practical curricular experience in the CNIC's laboratories over a three-month period.

Moreover, in September four students studying "Diagnostic Imaging and Nuclear Medicine" and "Clinical and Biomedical Laboratory" began their 10-month internship at the CNIC as part of the DUAL technical study program, in which the second course is devoted 100% to practical laboratory-based training.

The CNIC has signed collaborative agreements for this type of internship with 19 technical training educational centers and with both DUAL Centers in Madrid offering courses in Biomedicine: the Instituto de Educación Secundaria Moratalaz for "Clinical and Biomedical Laboratory Science" and the Instituto de Educación Secundaria San Juan de la Cruz for "Diagnostic Imaging and Nuclear Medicine".