

FURTHER INFORMATION:

<http://www.iac.es/consolider-ingenio-gtc/>

CONTACT PERSON:

Dra. Mercedes Franqueira
mmf@iac.es

PHONE: +34 922 605 238 **FAX:** +34 922 605 210

INSTITUTO DE ASTROFÍSICA DE CANARIAS (IAC)

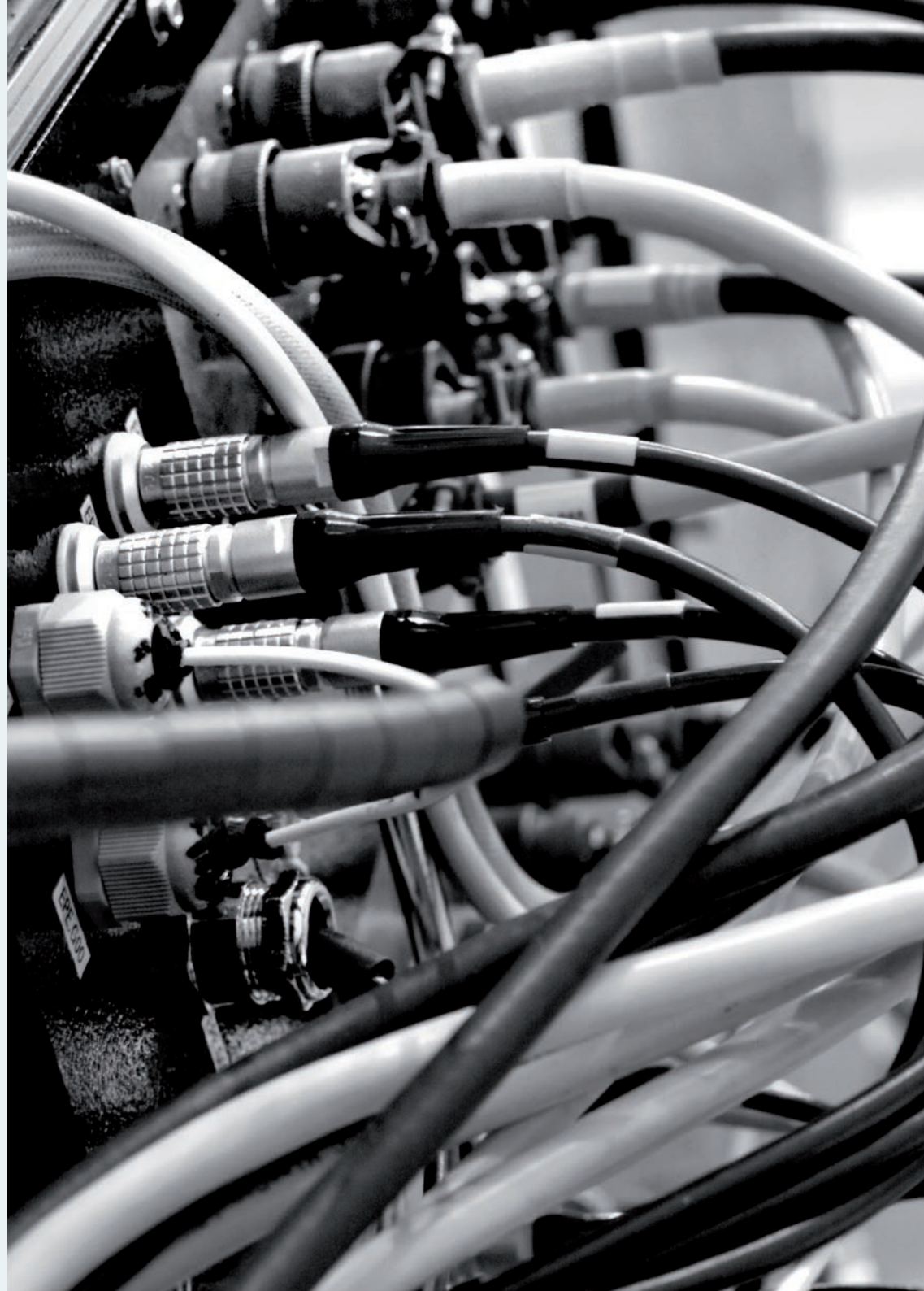
C/ Vía Láctea s/n E-38205 La Laguna, Tenerife (Spain)



MINISTERIO DE EDUCACIÓN



Consolider



ISCAI

THE INTERNATIONAL SCHOOL FOR
ADVANCED INSTRUMENTATION

FUNDED BY CONSOLIDER INGENIO 2010 "FIRST SCIENCE WITH GTC"

ISCAI

THE INTERNATIONAL SCHOOL FOR
ADVANCED INSTRUMENTATION

Students

Students attending the ISCAI-2010 will have access to:

- (i) A highly specialized curriculum of courses related to the construction of frontline scientific instrumentation.
- (ii) Laboratory internships working with world-class instrumentation groups in scientific institutions and high-tech companies.

The ISCAI-2010 will offer the students the knowledge and expertise required to participate in –and eventually lead– the construction of state-of-the-art scientific instruments, including those currently being designed for the new generation of giant ground-based telescopes and space observatories.

The ISCAI-2010 is funded by the Consolider-Ingenio 2010 grant “First Science with the GTC”, under the Consolider Ingenio Programme of the Spanish Ministry of Science and Innovation.

Registration fee and Financial Aid

The ISCAI-2010 registration fee is 300 € per theoretical course. Financial aid may be available to students requesting funds to cover the cost of the registration fee, as well as travel, accommodation and/or living expenses while attending the courses and/or during their visit to the laboratories.

ISCAI - 2010 Programme

The ISCAI offers five weeks of intensive course work, to be held at the headquarters of the IAC in Tenerife (Canary Islands) and a remotely supervised course project. Optionally, students wishing to graduate from the ISCAI 2010 will engage, for two and a half months, in a hands-on laboratory project to be done at a scientific institution or high-tech company assigned to each student.

Schedule

Jun 14-18:	Optics course (20 hours)
Jun 21-25:	Mechanics course (20 hours)
Jun 28-Jul 2:	Software course (20 hours)
Jul 5-9:	Electronics course (20 hours)
Jul 12-16:	Management course (16 hours) Visit to the GTC
Aug 31:	Deadline for submission of class projects
Sep 15-27:	Travel to Laboratory Work centers
Sep 28-Dec 10:	Laboratory work
Dec 10:	Deadline for submission of Lab Report
Dec 14-Dec 15:	Oral presentations by the students. Evaluations by the Board of Directors
Dec 15:	Graduation

In addition to the course work, during the period Jun 14-Jul 16 various complementary activities will take place, including monographic conferences by invited speakers and a visit to the Gran Telescopio Canarias (GTC).

Theoretical courses summary:

Optics: Students will learn the basis of optical design, including how to translate scientific requirements into high-level optical specifications, and to make decisions based on figures of merit and error budget calculations.

Mechanics: Students will learn the basis of mechanical design, including analysis of precision designs for opto-mechanical and robotic systems, both in cryogenic and non-cryogenic conditions.

Electronics: Students will learn the basis of electronic design, including control electronics for devices and low noise read out electronics.

Software: Students will learn the basis of control and data processing software. Students will develop expertise in the latest trends in all aspects of instrumentation software.

Management: Students will learn to describe projects in terms of packages, to impose milestones and deadlines, to control cash flow, and to discuss error budgets with both the scientists and the engineers.

Partner Companies

The ISCAI is open to high-tech companies with expertise in cutting-edge scientific instrumentation interested in participating. As a partner, a company is expected to both propose an internship project and host ISCAI students during their internship to work in its laboratories. Participation in the education of these highly specialized personnel will also facilitate the involvement of those high-tech companies in the partnerships with scientific institutions for building the next generation of scientific instrumentation. Partner Companies and Institutions already confirmed for the ISCAI 2010 are: GMV, Fractal-SLNE, Lidax, NTE-SENER, IDOM, CRISA, INTA and CAB, in Spain.

Founder Institutions

Instituto de Astrofísica de Canarias (IAC, Spain)
Universidad Complutense de Madrid (UCM, Spain)
University of Florida (UF, USA)
Universidad Nacional Autónoma de México (UNAM)
Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

ISCAI Board of Directors

Dr. José Miguel Rodríguez Espinosa (IAC)
Executive Director

Dra. Esperanza Carrasco Licea (INAOE)
Dr. Jesús Gallego Maestro (UCM)
Dr. Ramón García López (IAC)
Dr. Rafael Guzmán (UF)
Dr. Artemio Herrero Davó (IAC)
M. Beatriz Sánchez y Sánchez (UNAM)

The Instituto de Astrofísica de Canarias (IAC) and partner institutions (UCM, UF, UNAM and INAOE) announce a new edition of the “International School for Advanced Instrumentation” (ISCAI).

ISCAI - 2010

The **ISCAI** is a major international initiative in higher education that aims to become a centre of excellence to learn expertise in all areas related to the construction of cutting-edge scientific instrumentation, with a particular emphasis on astronomical instrumentation.

The **ISCAI-2010** offers an intensive programme of courses and laboratory work in key areas related to the design and construction of scientific instrumentation. The laboratory work will be done at various institutions with world-class instrumentation programs and high-tech companies in Europe and America.

The ISCAI-2010 is open to astronomers, physicists and engineers world-wide.