esi
European Scientific Institute

history

founded 1994 by CERN and European Universities to administrate specialised schools

main partners: CERN, Conseil Générale de Haute-Savoie, European universities, ENIGMASS

applied science and technology formation and training

accelerators, their technologies and applications (1994)
medical physics (1998)
(astro-)particle physics instrumentation (2014)
CNAM courses (conservatoire national des arts et métiers)
bio-informatics with Grenoble,
. . . .

international vocation

mainly focused on European and neighbouring countries
international advisory boards for each school
European credits recognised by partner universities and organisations

campus

students and teachers working and living together

juas Joint Universities Accelerator School

esmp European School of Medical Physics

esipap European School of Instrumentation in Particle & Astroparticle Physics

Intensive program for Master & Doctoral students

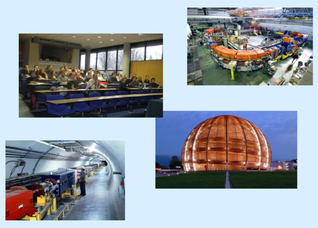
Modular Courses for Professionals

Accredited by partner Universities (ECTS)

TWO COURSES ON PARTICLE ACCELERATORS
JUAS 2014
6 January to 14 March

Course 1. SCIENCES & PHYSICS (January 6th to February 7th)

Course 2. TECHNOLOGY & APPLICATIONS (February 10th to March 14th)



Information : ESI - JUAS
Centre Universitaire de Formation et de Recherche
Bâtiment le Salève - 155, rue Ada Byron
Archamps Technopôle
F-74166 Saint-Julien-en-Genevois Cedex

Contact
Phone: +33 (0)4 50 31 50 10
juas@esi-archamps.eu

www.cern.ch/juas

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ESMP was founded together with EFOMP, the European Federation of Organisations for Medical Physics

EFOMP

ESMP has numerous university and university hospital partners.
ESMP has changed direction and is re-organising
Its subjects are:

- medical imaging
- informatics for medicine
- radiotherapy
- brachytherapy
- radioprotection
- ....

Two Modules on Particle & Astroparticle Detectors
(from January to March)

MODULE 1 (4 weeks) : Physics of Particle & Astroparticle Detectors

- Experimental subatomic physics
- Experimental astroparticle physics & cosmology
- Interaction of particles with matter
- Statistical & stochastic aspects
- Hands-on C++ programming
- Detector simulation
- Calorimetry
- Tracking
- Muon detection
- Particle identification
- Imaging & Cherenkov detectors
- Lab sessions at CERN

MODULE 2 (4 weeks) : Technological aspects

- Detector Technologies
- Advanced electronics and signal processing
- Advanced mechanics and new materials
- Magnets for particle detectors
- Triggering and data acquisition
- Advanced computing (C++,python,Grid, ROOT...)
- Low energy and nuclear applications
- Medical applications
- Project management
- Specific aspects for space projects
- Lab sessions at CERN

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Tél: +33 (0)4 50 31 50 10
Contact us : contact@esi-archamps.eu
www.cern.ch/ESI-Haute-Savoie