

ENIGMASS



Higher-Education status report :

- ESIPAP
- GraSPA
- Subatomic lab Platform
- AHEAD
- 2016 GIF School

European School of Instrumentation in Particle and Astroparticle Physics

esi
European Scientific Institute

esipap...
European School of Instrumentation
in Particle & Astroparticle Physics

- Mid-term objective :
 - to become the reference European school of instrumentation in the discipline within 3-5 years
 - train 32 master and PhD students per year
2 modules of 4 weeks each



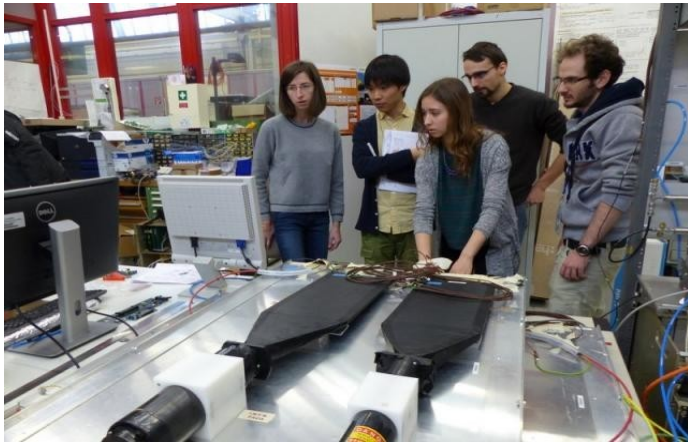
2016 - 2017 status :

Attendance keeps increasing

2 independent 4-week modules ; 210 hours of lectures in all ; ~50 lecturers and lab session tutors.

budget 75 k€ (1/2 ENIGMASS, 1/2 ESI + Technopole Archamps)

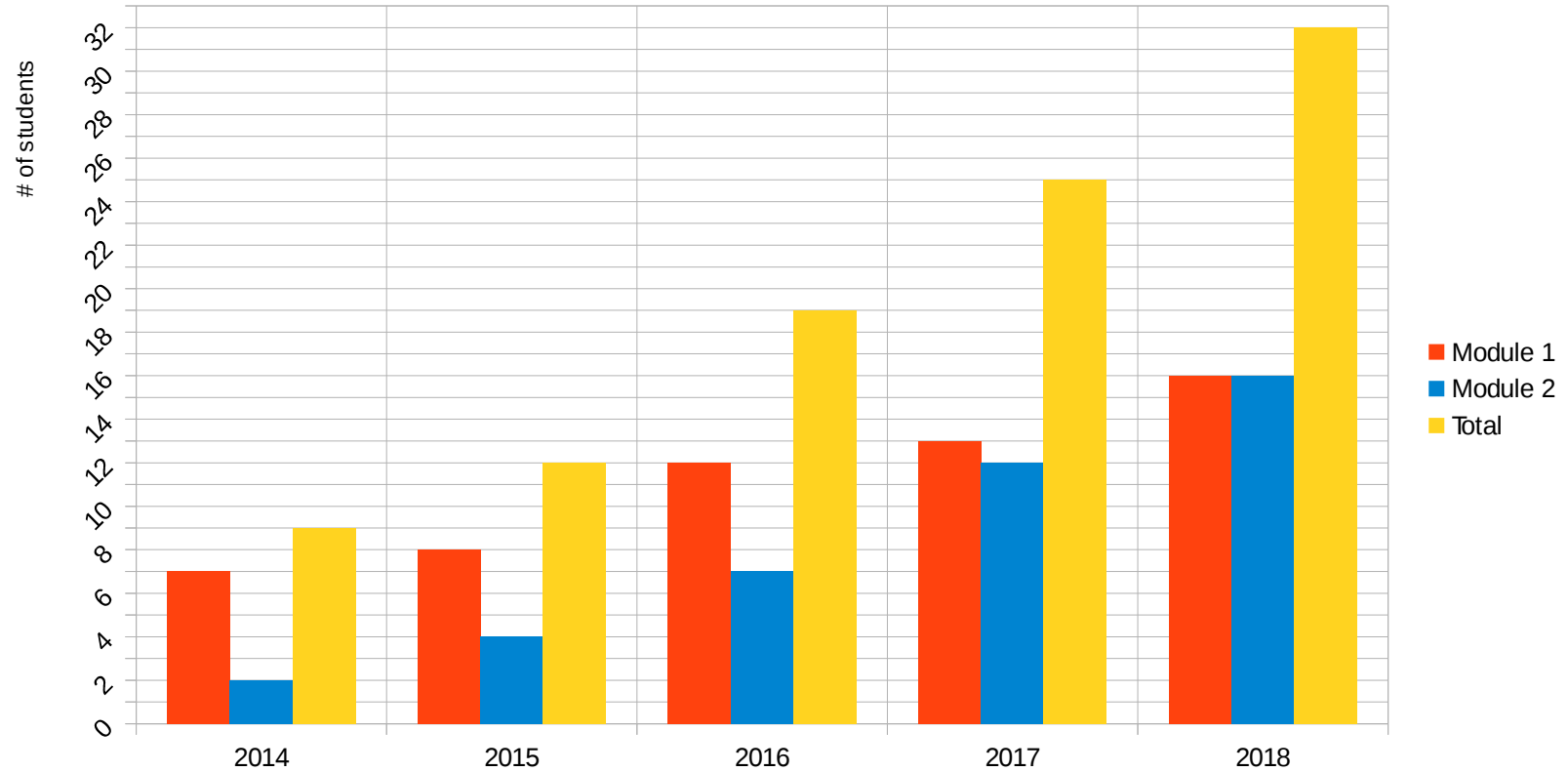
participating institutions : UGA, GINP, USMB, U of Strasbourg, CERN, CPPM, IRFU, U. of Tsukuba, LPSC, LAPP



lab sessions at CERN

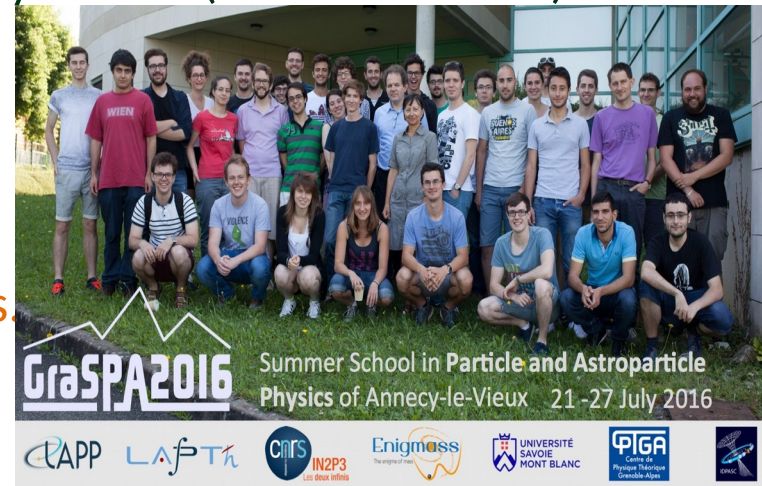
<http://www.esi-archamps.eu/Thematic-Schools/ESIPAP>

Growth of ESIPAP student attendance



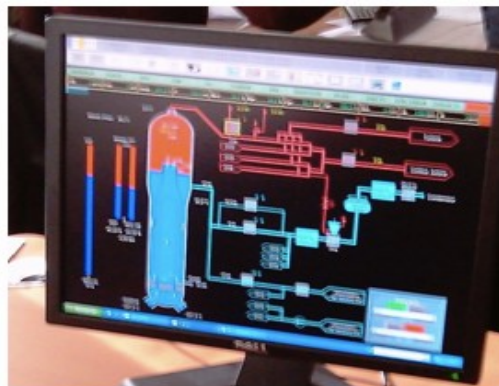
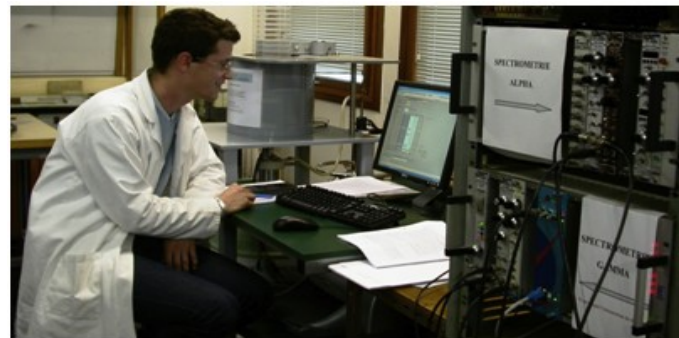
GraSPA Summer School

- **Why?** Decrease in number of Physics students at university \Rightarrow Inspire and help 3rd and 4th year physics students to pursue a career in Particle Physics/Astro/Cosmo \Rightarrow **Summer School!**
- **How?** **30 students, 1 week-long School**, theoretical & experimental introductory courses on few topics: LHC physics, neutrinos, heavy flavours, astroparticles, gravitational waves, computational tools (ROOT), cosmology. Mostly local lecturers, a few high-profile guests. Highly subsidized: accommodation and lunches paid by School (~420 €/student). Would not happen without ENIGMASS support.
- **When :** 21-27 juillet 2016
- **Outcome** Huge success in applications (114 for 27 countries in 2016), very good feedback from students
- **budget :** ~13000 € , 7000 € from ENIGMASS



Subatomic lab platform in Grenoble

- 20 lab setups :
 - nuclear, particle physics and medical applications
 - 500 master students per year
- 2 computing rooms :
 - data analysis
 - pressurized nuclear reactor simulator
- Annual investment :
 - 50 k€ from UJF and Grenoble INP
 - 10-20 k€ from ENIGMASS



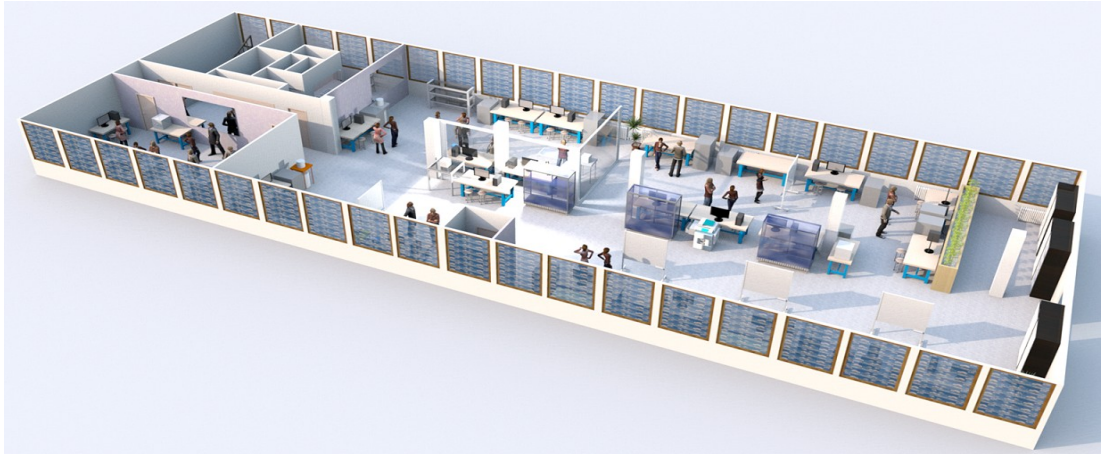
Building restoration & refurbishing

20 dispositifs expérimentaux + 2 salles info sur 240 m²

Budget de 305 k€ dont 150 k€ du LABEX ENIGMASS

Inaugurée le 14/11/2016

L'une des plus importantes plate-formes de TP subatomiques de France



AHEAD

- UHE neutrino air shower detector prototype decommissioned and moved to ESI in Archamps
- set of 5 cosmic stations
- was decommissioned by helicopter thanks to ESI
- will be used as a lab setup for ESIPAP and in outreach programs
- MoU signed between ESI and LPSC
- Budget : ~ 16 k€ paid by ESI
- *New 8-channel fast digital sampler bought in 2016 by ESI*

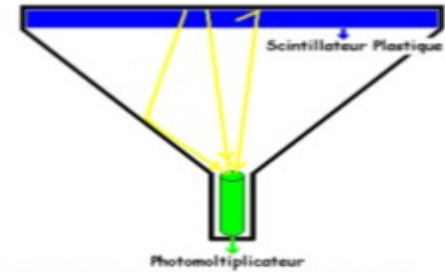
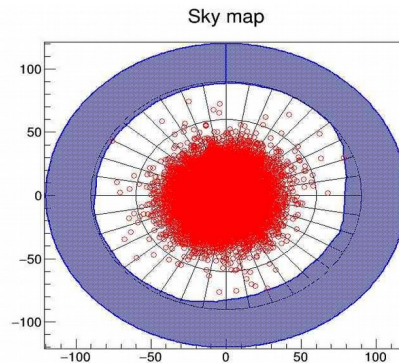


Figure 2 : Principe de fonctionnement d'un détecteur



2016 GIF summer School

La physique souterraine

CAES du CNRS
Centre Paul Langevin
73500 AUSSOIS

48e École de GIF

19 - 23 septembre 2016

Comité d'organisation:

J. Billard (IPNL)
D. Duchesneau (LAPP)
F. Mayet (LPSC)
F. Picquemat (LSM)
A. Remoto (LAPP)
J. Riffault (LPSC)
P. Serpico (LAPTH)
E. Tournefier (LAPP)
B. Trocmé (LPSC)

Conclusion and outlook

- ESIPAP : objective of 32 students per year in view (25 in 2017 from 13 countries)
- GrasPa : visibility is increasing : 114 applications in 2016
- Subatomic lab platform : inauguration of a refurbished plate-forme
Big step for the future
- AHEAD : lab equipment for ESIPAP and outreach actions
- 2016 GIF summer school
- All these actions are cofunded.
- **Need to examine how these actions will survive after end of ENIGMASS (2019)**