

ENIGMASS



Higher-Education status report :

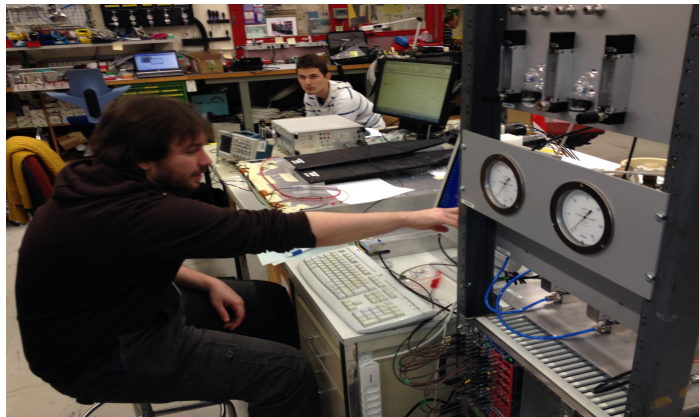
- ESIPAP
- GraSPA
- Subatomic lab Platform
- AHEAD

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 students per year 2 modules of 4 weeks each



lab sessions at CERN

2015 - 2016 status :

8 students in 2014, 12 in 2015 and 7 countries, 21 students and 13 countries for 2016

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

budget 70 k€ (1/2 ENIGMASS, 1/2 ESI + Technopole Archamps + Haute-Savoie Council)

participating institutes : UGA, USMB, U of Strasbourg, CERN, CPPM, IRFU, U. of Tsukuba

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

GraSPA Summer School

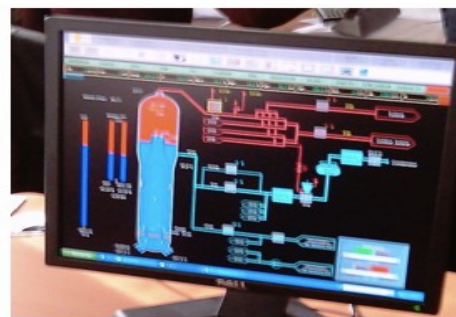
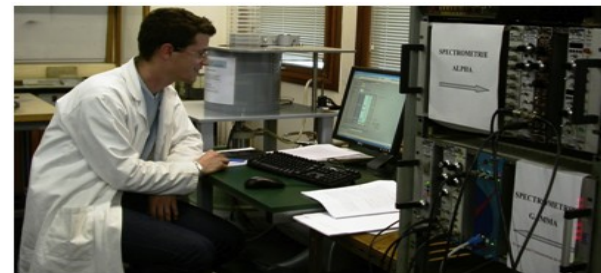
- **Why?** Decrease in number of Physics students at university \Rightarrow Inspire and help 3rd and 4th year physics students to pursue a career in Particle Physics/Astro/Cosmo \Rightarrow **Summer School!**
- **How?** **30 students, 1 week-long School**, theoretical & experimental introductory courses 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 :** July 2013, 2014, 16-22 juillet 2015
- **Outcome** Huge success in applications (187 for 30 places in 2015), very good feedback from students.
- **budget :** ~12000 € , 7000 € from ENIGMASS



Subatomic lab platform in Grenoble

- 19 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 work since 2015
till end of 2016 : global budget 280 k€



Open space in the
nuclear lab area

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

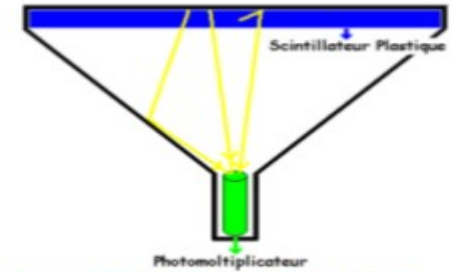
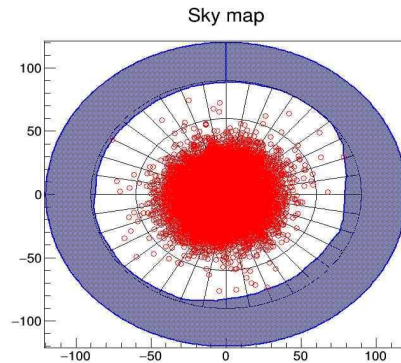


Figure 2 : Principe de fonctionnement d'un détecteur



Conclusion and outlook

- ESIPAP : objective of 32 students per year in view (21 in 2016 from 13 countries)
- GrasPa : visibility is increasing : 187 applications in 2015
- Subatomic lab platform : major planned building upgrade for end of 2016
- AHEAD : lab equipment for ESIPAP and outreach actions
- All these actions are cofunded.
- Need to examine how these actions will survive after end of ENIGMASS (2019)