



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

WELCOME TO ESIPAP 2018

Objectives

To create THE reference school in HEP instrumentation in the vicinity of CERN, the world agora of the HEP community

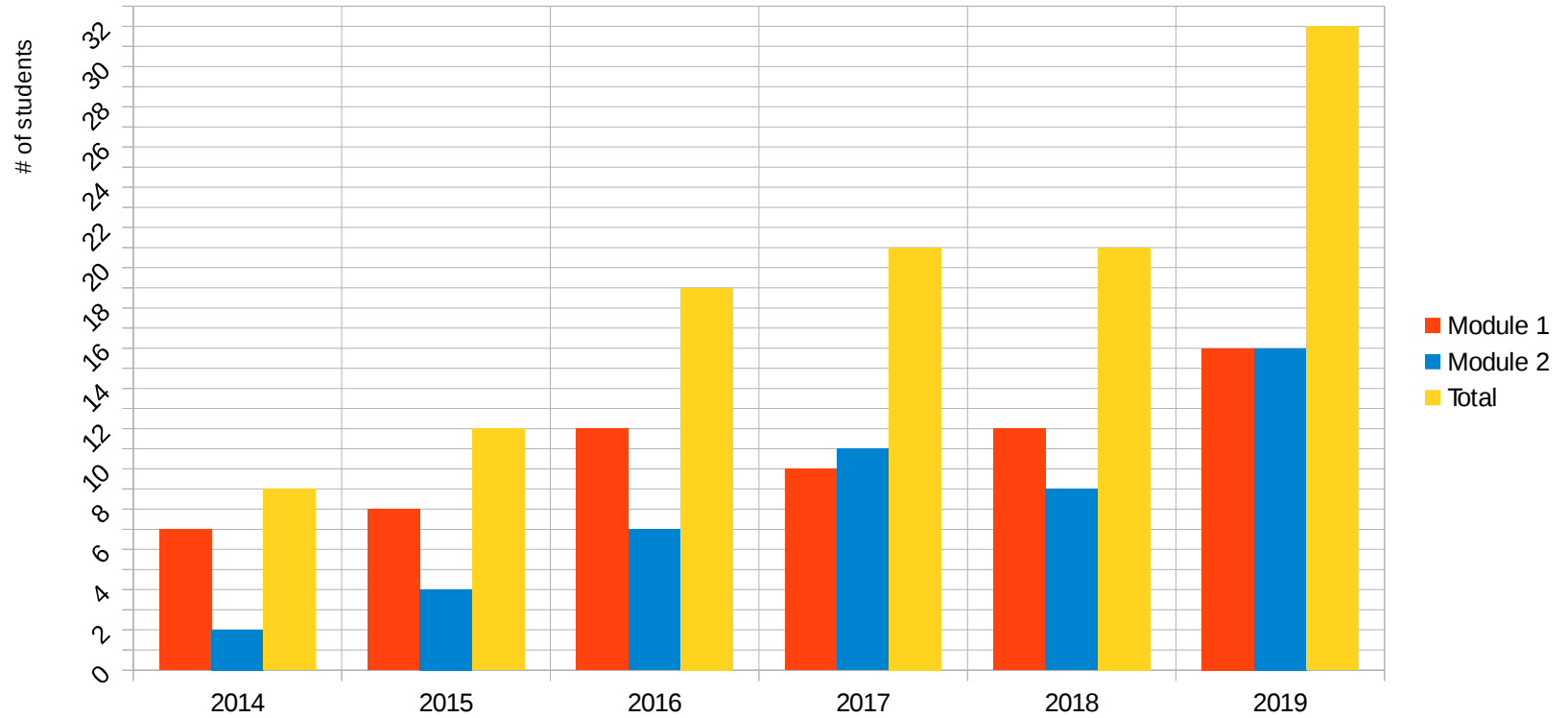
To prepare the next generation of young physicists who will carry out HL-LHC upgrades, major experimental programs in neutrino physics, astroparticle physics, cosmology, and later on new collider projects.

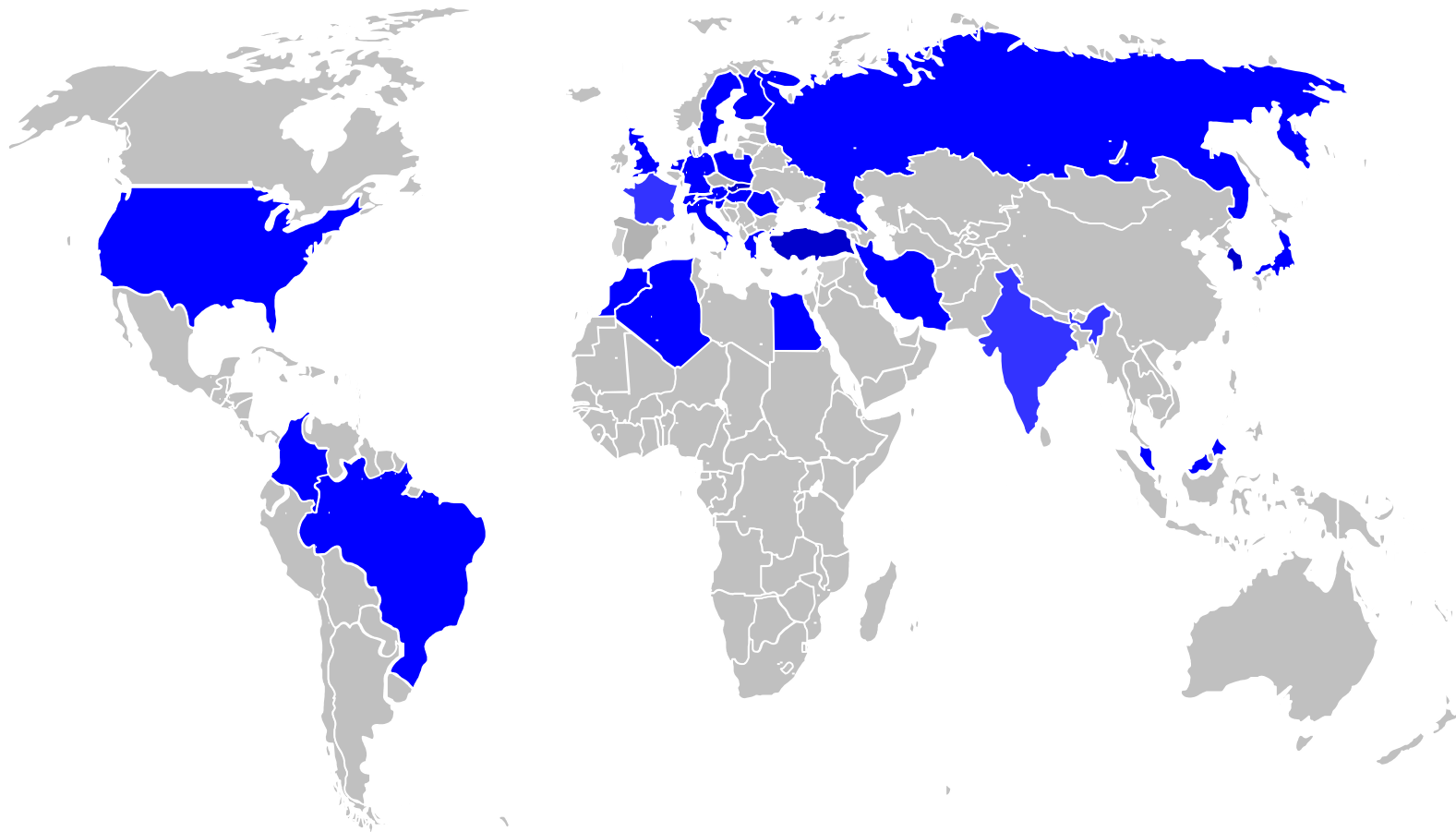
Very broad & intensive school with REAL exams : ECTS

5-year target : recruit 2 x 16 students per year at international level

To mix Master & PhD students

Attendance growth





Residence countries (26 in total) of ESIPAP alumni
First school book will be edited this year

Already 4 years of experience

2014



2015



2016



2017



We just celebrated our 5th anniversary (Feb 15th)



Schedule 2018	Monday Feb 19 th	Tuesday Feb 20 th	Wednesday Feb 21 st	Thursday Feb 22 nd	Friday Feb 23 rd
09:00	Arrival	Signal Processing and Electronics Daniel Dzahini	Low Temperature Detectors Martino Calvo	Signal Processing and Electronics Daniel Dzahini	Signal Processing and Electronics Daniel Dzahini
10:30		Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:45		Signal Processing and Electronics Daniel Dzahini	Detector Technologies Jean-Marie Brom <i>IPHC Strasbourg</i>	Signal Processing and Electronics Daniel Dzahini	Detector Technologies noble liquid detectors Johann Collot <i>LPSC Grenoble</i>
12:15		12:00 OFFICIAL OPENING (welcome & building visit)	BREAK	BREAK	BREAK
14:00	13:00 WELCOME LUNCH	Detector Technologies Jean-Marie Brom <i>IPHC Strasbourg</i>	Signal Processing and Electronics Daniel Dzahini	Detector Technologies Jean-Marie Brom <i>IPHC Strasbourg</i>	Detector Technologies tutorials Johann Collot <i>LPSC Grenoble</i>
15:30	14:30 Presentation of ESIPAP & Presentation of students	Detector Technologies Jean-Marie Brom <i>IPHC Strasbourg</i>	Signal Processing and Electronics Daniel Dzahini	Signal Processing and Electronics Daniel Dzahini	Gravitational wave detection Romain Gouaty <i>LAPP</i>
15:45	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
17:15	Reminder on Particle Interaction with Matter Johann Collot <i>LPSC Grenoble</i>	Detector Technologies Jean-Marie Brom <i>IPHC Strasbourg</i>	Signal Processing and Electronics Daniel Dzahini	Signal Processing and Electronics Daniel Dzahini	Gravitational wave detection Romain Gouaty <i>LAPP</i>
	CHECK-IN AT THE RESIDENCE & SHOPPING FOR GROCERIES				

Schedule 2018	Monday Feb 26 th	Tuesday Feb 27 th	Wednesday Feb 28 th	Thursday March 1 st	Friday March 2 nd
09:00	Ultra Cold Neutrons Guillaume Pignol <i>LPSC Grenoble</i>	Ultra Cold Neutrons Guillaume Pignol <i>LPSC Grenoble</i>	Project Management Pierre Bonnal <i>CERN</i>	<i>Bus leaves at 7:00 from ESIPAP</i> (Lunch at CERN) Lab Training Sessions at CERN <i>Return scheduled at 18:00</i>	Data Handling Technologies Alberto Pace <i>CERN</i>
10:30	Coffee Break	Coffee Break	Coffee Break		Coffee Break
10:45	Ultra Cold Neutrons Guillaume Pignol <i>LPSC Grenoble</i>	Ultra Cold Neutrons Guillaume Pignol <i>LPSC Grenoble</i>	Project Management Pierre Bonnal <i>CERN</i>		Data Handling Technologies Alberto Pace
12:15	WORKING LUNCH	BREAK	BREAK		BREAK
14:00	Practical on equipment François Montanet	Trigger Francesca Pastore <i>University of London</i>	Data Handling Technologies Alberto Pace <i>CERN</i>		Exam : SPE
15:30	Coffee Break	Coffee Break	Coffee Break		Coffee Break
15:45	Practical on equipment François Montanet	Trigger and Data Acquisition Software Enrico Pasqualucci <i>INFN</i>	Data Handling Technologies Alberto Pace <i>CERN</i>		Exam : DT
17:15		FPGA Hannes Sakulin <i>CERN</i>	Building Large Accelerators JUAS Seminar Philippe Lebrun		
			AFTER WORK AT ESI		

Schedule 2018	Monday March 5 th	Tuesday March 6 th	Wednesday March 7 th	Thursday March 8 th	Friday March 9 th
09:00	Composite Materials for Particle Detectors Éric Anderssen <i>LBNL</i>	Medical Applications Ziad El-Bitar <i>IPHC Strasbourg</i>	Photon Counting Imaging Christian Morel	<i>Bus leaves at 7:00 from ESIPAP</i> (Lunch at LPSC) Lab Training Sessions in Grenoble (Night in Grenoble)	(Lunch at LPSC) Lab Training Sessions in Grenoble <i>Return scheduled at 19:00</i>
10:30	Coffee Break	Coffee Break	Coffee Break		
10:45	Composite Materials for Particle Detectors Éric Anderssen <i>LBNL</i>	Medical Applications Ziad El-Bitar <i>IPHC Strasbourg</i>	Medical Radioisotopes Ulli Koester <i>ILL Grenoble</i>		
12:15	WORKING LUNCH	BREAK	BREAK		
14:00	Medical Applications Ziad El-Bitar <i>IPHC Strasbourg</i>	Additive Printing Marc Krauth <i>IPHC Strasbourg</i>	Project Management Pierre Bonnal <i>CERN</i>		
15:30	Coffee Break	Coffee Break	Coffee Break		
15:45	Medical Applications Ziad El-Bitar <i>IPHC Strasbourg</i>	Additive Printing Projet Marc Krauth <i>IPHC Strasbourg</i>	Project Management Pierre Bonnal <i>CERN</i>		
17:15					

Schedule 2018	Monday March 12 th	Tuesday March 13 th	Wednesday March 14 th	Thursday March 15 th	Friday March 16 th
09:00	Exam : UCN	C++ Programming Sébastien Ponce <i>CERN</i>	C++ Programming Sébastien Ponce <i>CERN</i>	C++ Programming Sébastien Ponce <i>CERN</i>	Space Projects Seminar Isabelle Rongier <i>ASL</i> & Jan Droz <i>CNES</i>
10:30	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:45	Magnets for Particle Detectors Herman Ten Kate <i>CERN</i>	C++ Programming Sébastien Ponce <i>CERN</i>	C++ Programming Sébastien Ponce <i>CERN</i>	C++ Programming Sébastien Ponce <i>CERN</i>	Space Projects Seminar Isabelle Rongier <i>ASL</i> & Jan Droz <i>CNES</i>
12:15	WORKING LUNCH	BREAK	BREAK	CLOSING JUAS LUNCH OFFERED BY ESI	CLOSING RECEPTION LUNCH OFFERED BY ESI
14:00	Magnets for Particle Detectors Herman Ten Kate <i>CERN</i>	Python Programming Jérôme Odier <i>CNRS</i>	Grid Computing Catherine Biscarat <i>LPSC Grenoble</i>	Exam : MA	Space Projects Seminar Isabelle Rongier <i>ASL</i> & Jan Droz <i>CNES</i>
15:30	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
15:45	Magnets for Particle Detectors Herman Ten Kate <i>CERN</i>	Python Programming Jérôme Odier <i>CNRS</i>	Grid Computing Catherine Biscarat <i>LPSC Grenoble</i>	Exam : MPD	END OF ESIPAP 2018
17:15					

Exams are not mandatory for all, but they are a nice incentive to make progress in acquiring knowledge, and for social group building.

Tutorials will prepare you to the exams

French evaluation mark scale

- **Linear mark scale, proportional to accomplishment & knowledge acquisition**
- **minimum 0 maximum 20**
- **< 10 fail (FX ECTS grade)**
- **≥ 10 pass (E grade)**
- **12 qualified (C grade)**
- **14 good (B grade)**
- **16 very good (A grade)**
- **18 excellent**
- **20 maximum**

- **All lecturers have made their best to deliver the state-of-the-art view of their field - As a reward, they simply expect you to attend their courses.**
- **lecture slides will be available the day before through indico.**
- **Take advantage to meet some of the best specialists in their field to ask questions during lectures and/or during breaks**
- **We are a family-style school ! If you have suggestions to improve please tell us. We always managed to react and most of the times to solve the problems.**



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