

IIHE General report

Laurent Favart

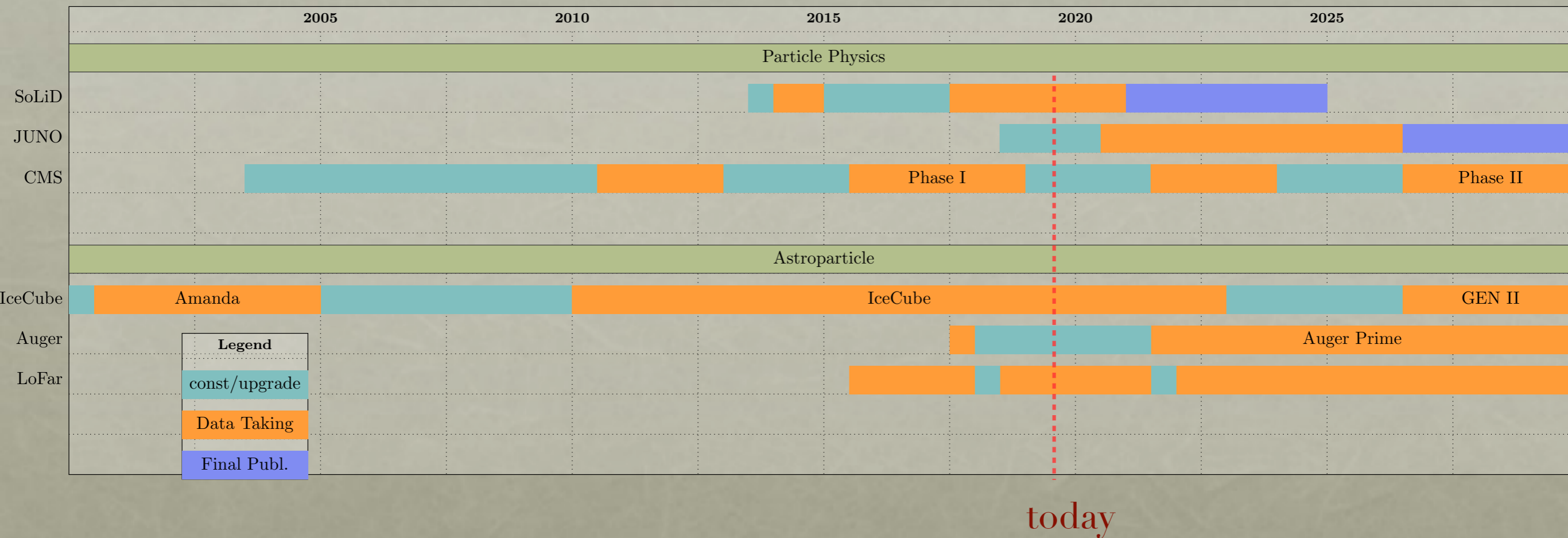
IIHE Annual Meeting - 22th Nov. 2019

Waterloo

IHE mission

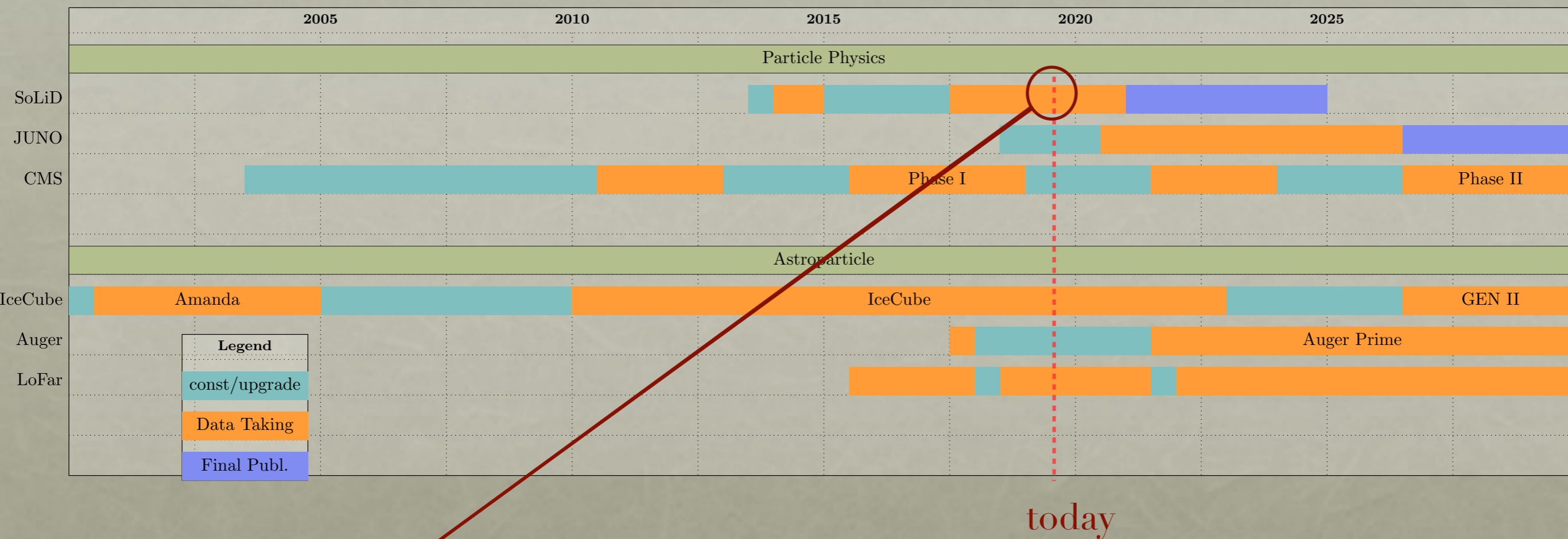
- InterUniversity Institute: ULB+VUB (since 1974 - now 97 members)
- Understanding of :
 - elementary structure of matter
 - fundamental interactions between elementary particles
 - content and structure of our universe
- As an institute we strengthen our research by collaborating within international consortia
- We develop the tools relevant for this research (detection techniques, electronic readout systems, computing infrastructure, software, analysis tools...)

IHE participation to HEP experiments



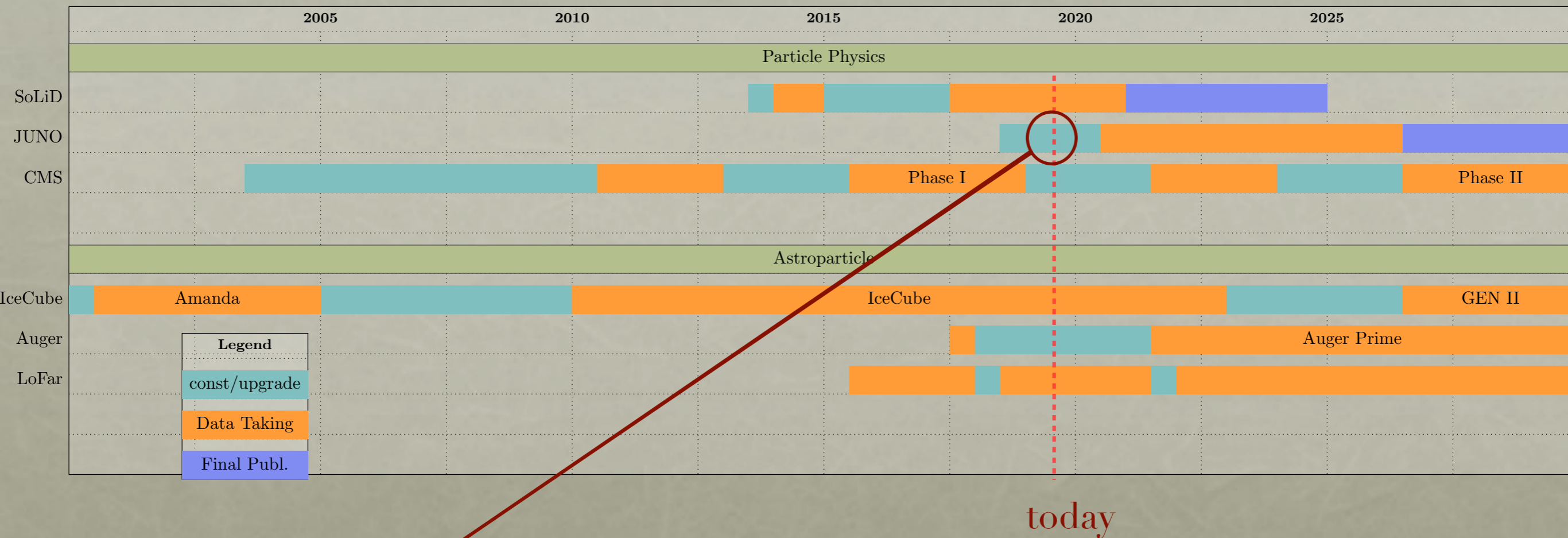
+ Pheno group

IHE participation to HEP experiments



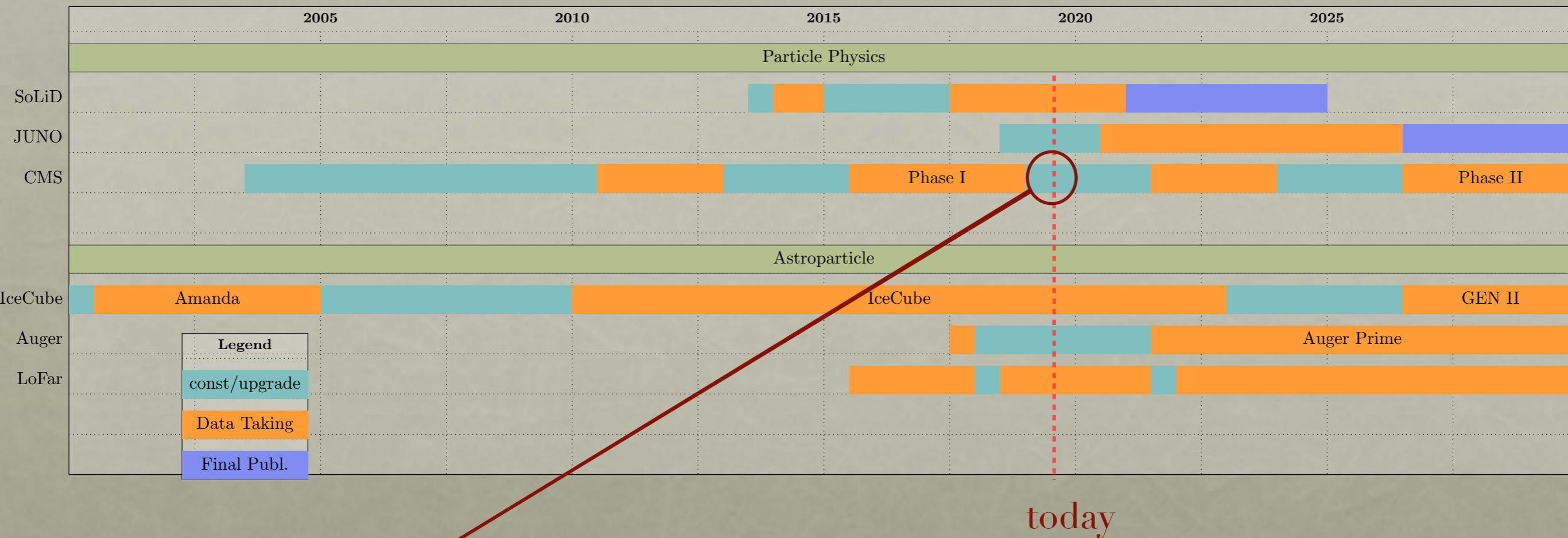
SoLid: commiss., calibration, monitoring of detector

IHE participation to HEP experiments



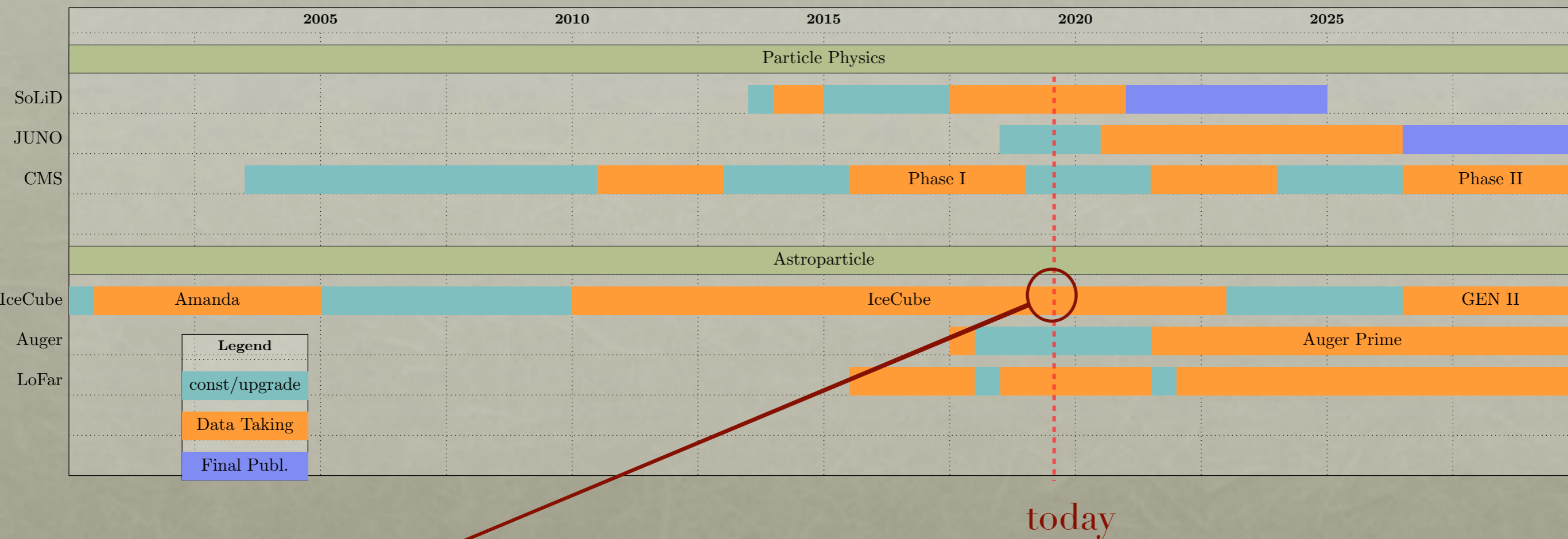
JUNO: Back-end cards (electronic)

IHE participation to HEP experiments



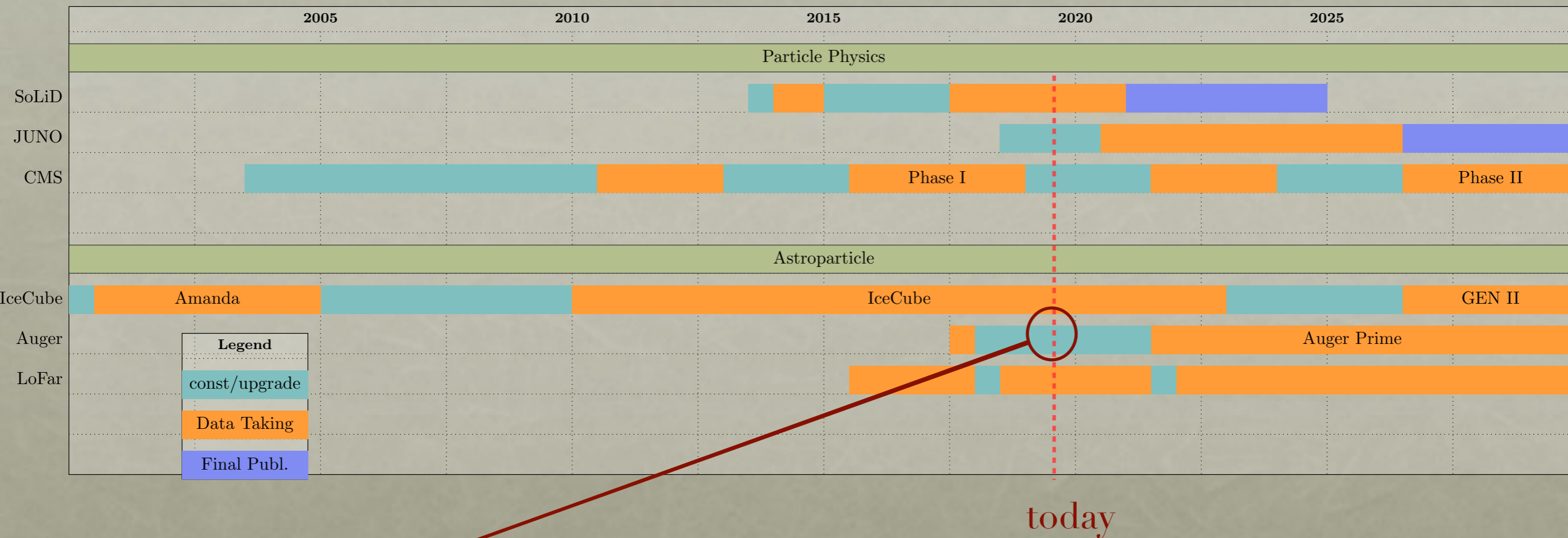
CMS: - Phase II endcap tracker: construction and test
 - GEM: dev + test + com DAQ and Trigger electronics

IHE participation to HEP experiments



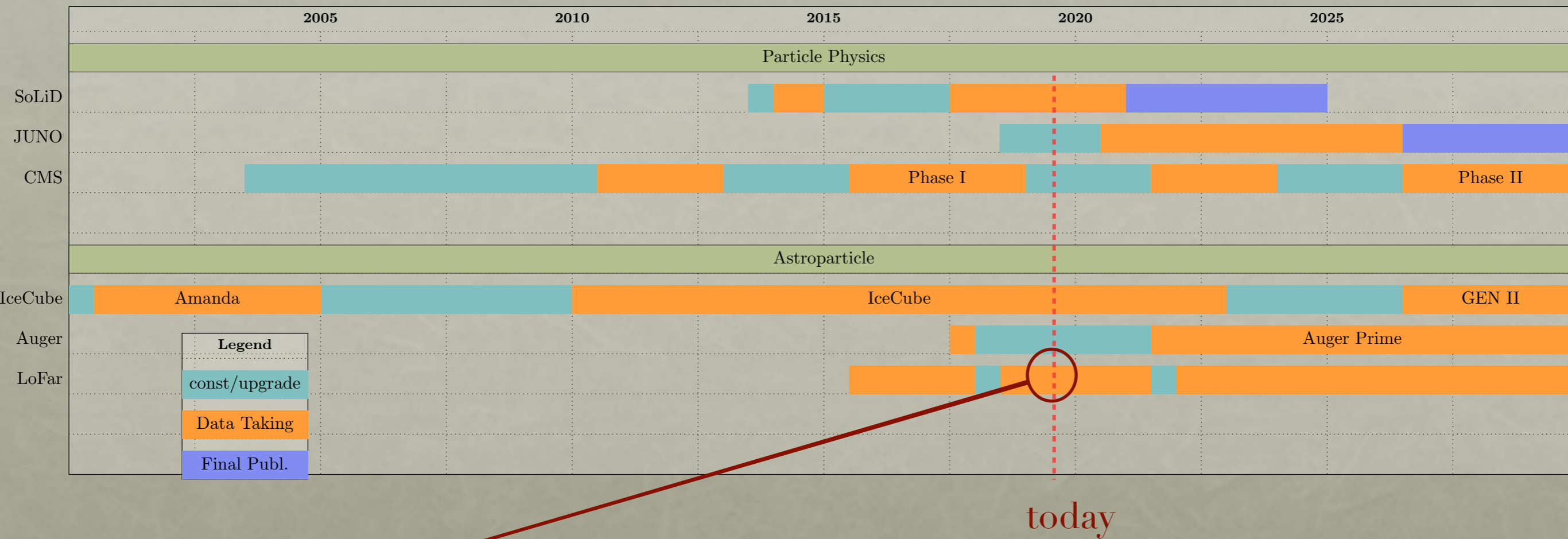
IceCube: leading the neutrino radio detection dev.

IHE participation to HEP experiments



Auger: contribute to scintillator construction + calib

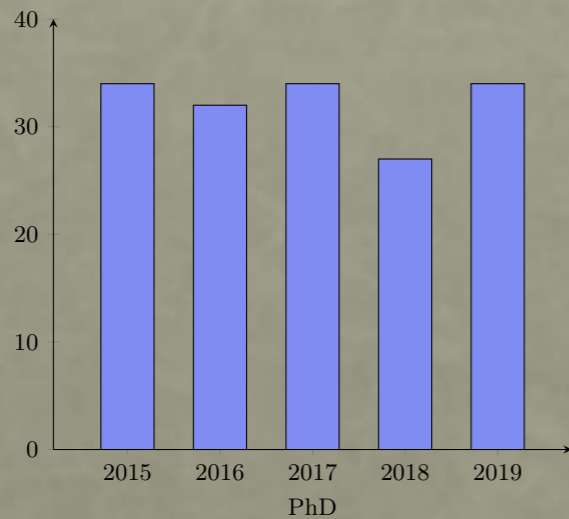
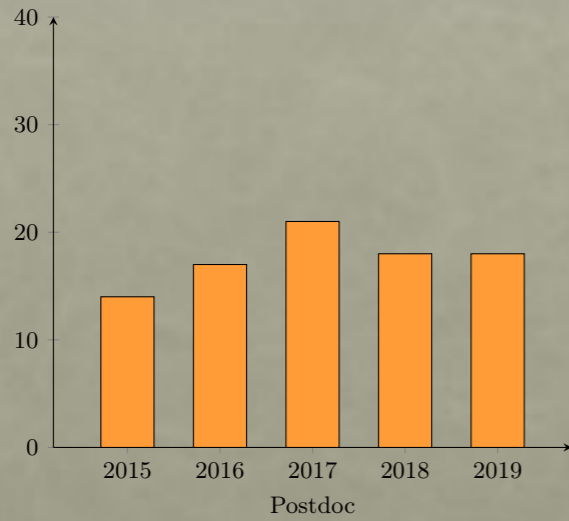
IHE participation to HEP experiments



LoFar: dev. scintillator trigger + calib of antennas

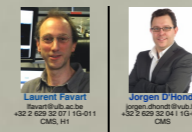
IIHE today

18 postdocs
 34 Phd
 16 tech. support
 13 +6 (perm. staff)



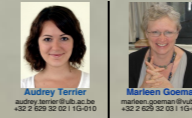
ULB

Directors



VUB

Secretariat



Academic Staff



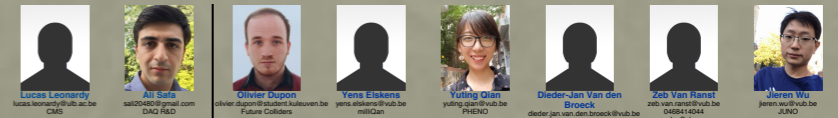
Post docs and Guests



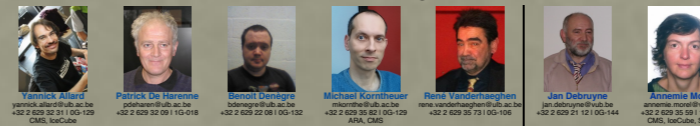
PhD Students



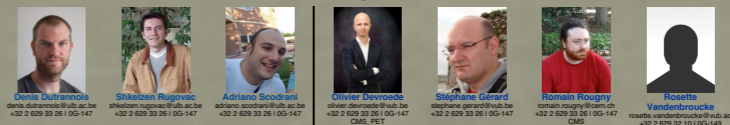
Master Students



Engineers and technical staff



Computing



PhD and Master Thesis

2019

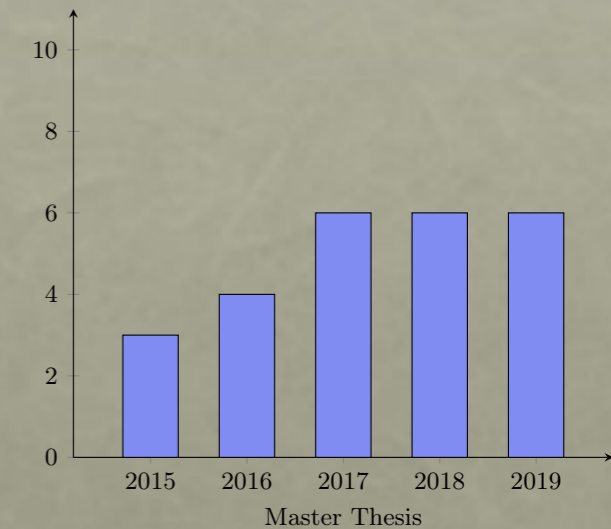
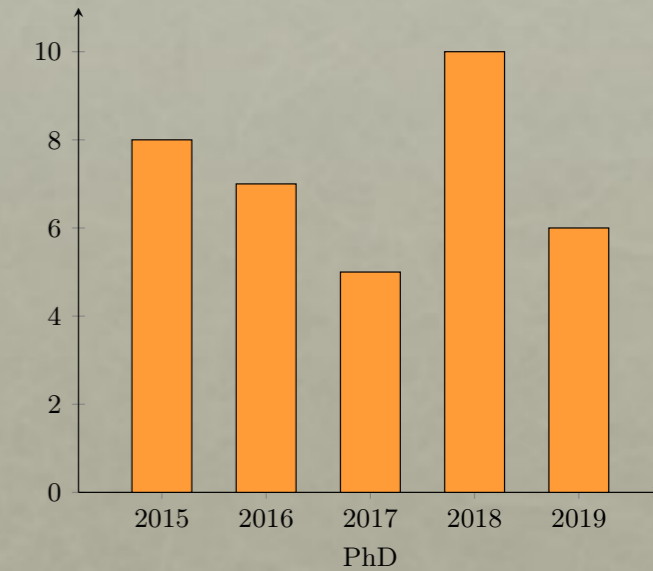
PhD

David Vannerom	Search for new physics in the dark sector with the CMS detector	CMS	ULB
Hugo Delannoy	Search for a heavy scalar boson in the $ZZ \rightarrow 2l2\nu$ channel with the CMS experiment at the LHC using 2016 data at 13 TeV	CMS	ULB
Quentin Python	Search for displaced Supersymmetry in events with two leptons with large impact parameters with the CMS detector at the LHC	CMS	VUB
Seth Moortgat	When charm and beauty adjoin the top: First measurement of the cross section of top quark pair production with additional charm jets with the CMS experiment	CMS	VUB
Wenxing Fang	Search for new physics in dilepton final states at the CMS experiment	CMS	ULB
Xuyang Gao	Search for high mass resonances in electron-electron and electron-muon final states with CMS data and study of exotic states with BESIII data	CMS	ULB

+ some missing ?

Master

Alexandre De Moor	Recherche de production résonante de matière noire à l'expérience CMS	CMS	ULB
Maxence Draguet	Searching for New Physics in Dilepton Events A Study of the Photon-Induced Process	CMS	ULB
Vichayanun Wachirapusanand	Application of Adversarial Networks in search for four top quark production in CMS	CMS	VUB
Quinten Goens	Investigation Of The Precursor Phase Of Gamma-Ray Bursts	IceCube	VUB
Max Vanden Bemden	Study of the Proton Transverse Momentum Distributions with the Parton Branching Method	Pheno	ULB
Mathias Mancini	The top quark pair cross-section at the threshold at the FCC-ee	Future Experiments	VUB



Conclusion

- IIHE is in good shape
- our projects of high scientific interest and funded, getting prepared, being realised, upgrading
- we can expect very exciting time, and important scientific results to come



picture: one year ago: IIHE annual meeting 2018