



Welcome to Graspa



- **A joint research unit**

- IN2P3/CNRS
- University of Savoie Mont-Blanc



- **LAPP is about 150 people :**

- ~ 30 full-time researchers
- ~ 10 teachers-researchers
- ~ 80 administrative, engineering and technical staff
- ~ 15 PhD students
- ~ 15 Post-docs
- + visitors

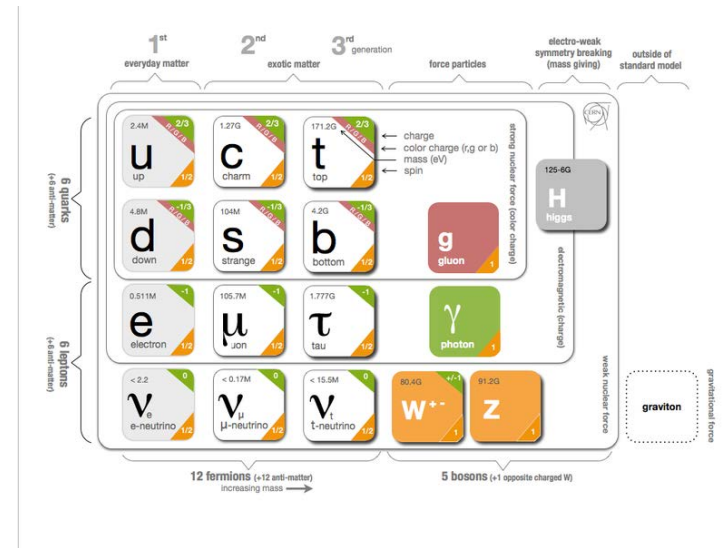


The departments :

- Mechanics
- Electronics
- IT
- Administration

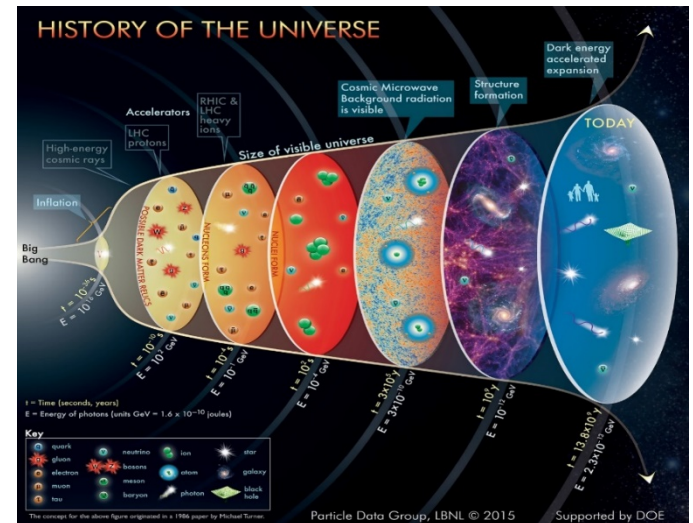
Particle physics :

- Particle constituents in matter and beyond
- Fundamental interactions
- **Objects produced by human beings**



Messengers from Universe

- Astroparticles, cosmology and gravitational waves
- Evolution of the Universe
- Composition of the Universe
- **Objects produced in the universe**



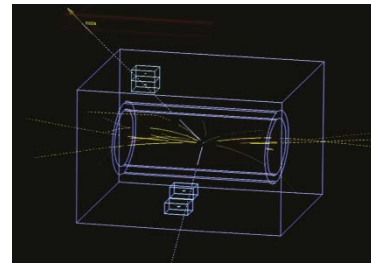


1976

Creation of
the LAPP

Neutrino oscillation
(Bugey, NOMAD, Chooz)

1980



1983

Discovery of the W and
Z bosons (CERN)
mediators of the weak
interaction (UA1)



ALEPH and L3
at the LEP collider (CERN)

1989

ALEPH and L3 at the LEP collider (CERN)

1989



CP violation and Kobayashi-Maskawa mechanism

2001



1995



AMS : search for dark matter and antimatter in space

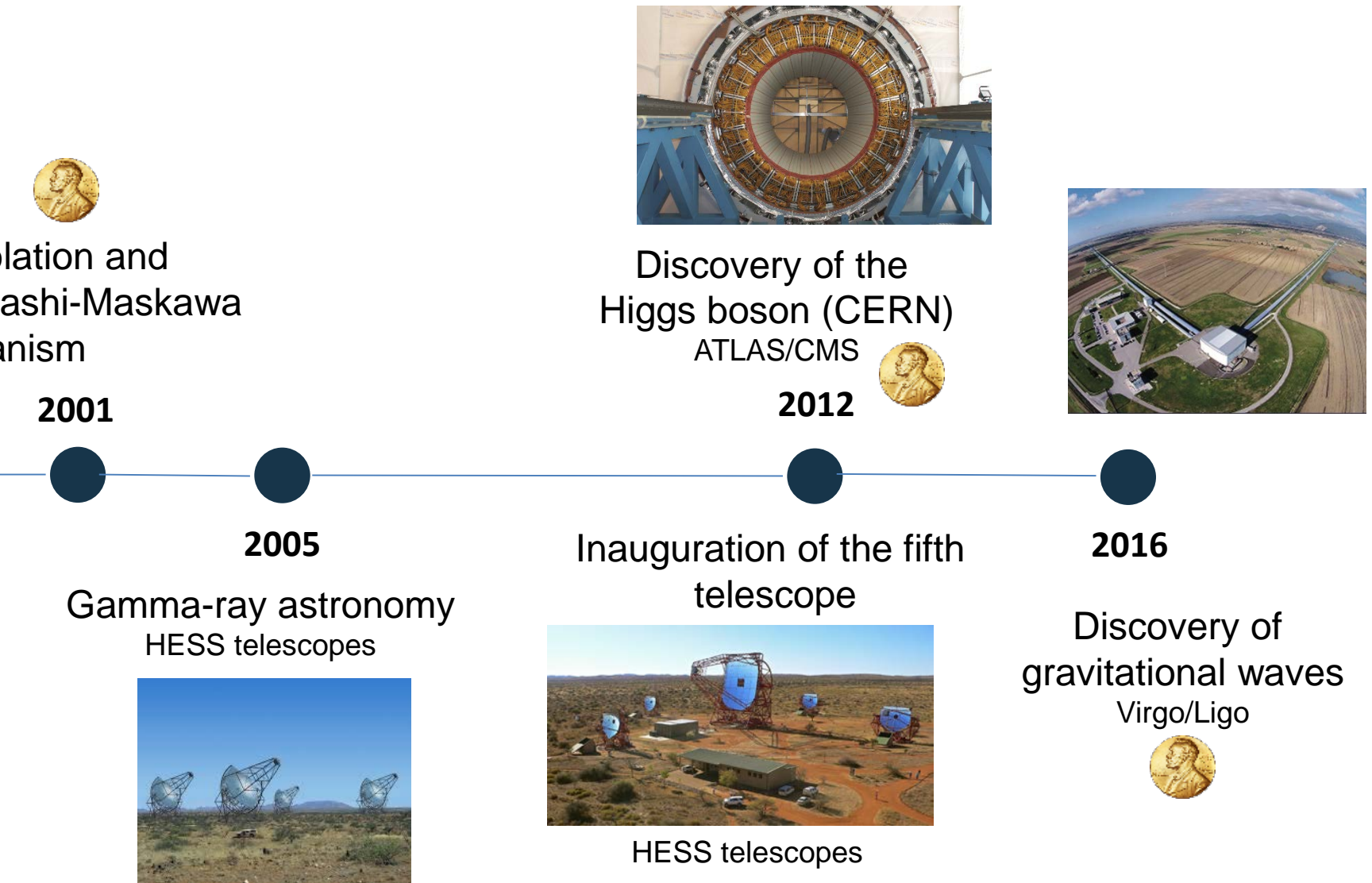


2005



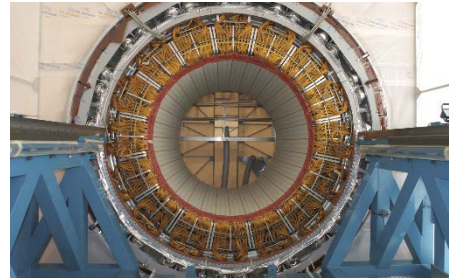
Gamma-ray astronomy
HESS telescopes





Observation and discovery of the top quark and the Higgs-Mechanism

2001



Discovery of the Higgs boson (CERN) by ATLAS/CMS

2012



2016

Discovery of gravitational waves by Virgo/LIGO



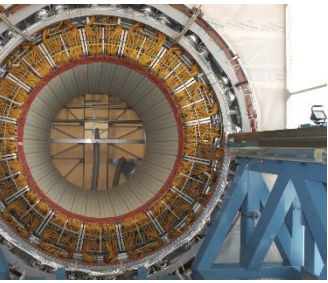
Gamma-ray astronomy with HESS telescopes



Inauguration of the fifth HESS telescope



HESS telescopes



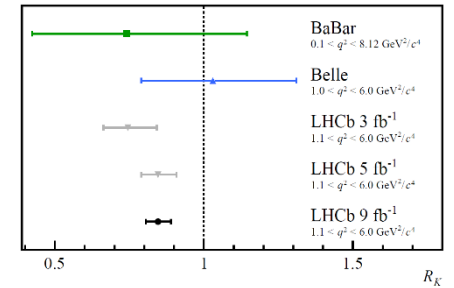
Discovery of the Higgs boson (CERN)
ATLAS
2012



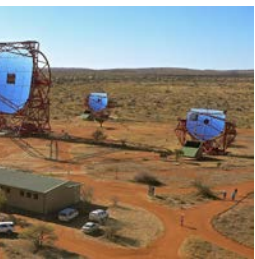
2016
Discovery of gravitational waves
Virgo



2018
CTA's first large telescope

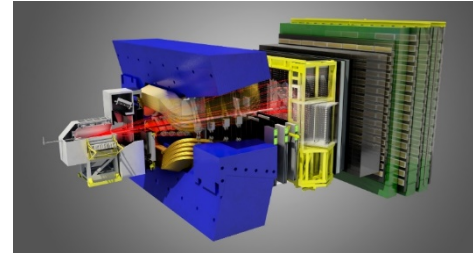
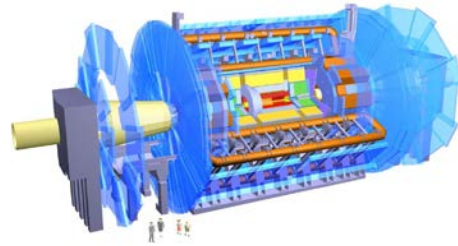


2021
LHCb (@LHC) excess ?
New physics ?

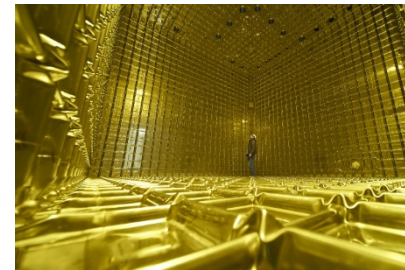


telescopes

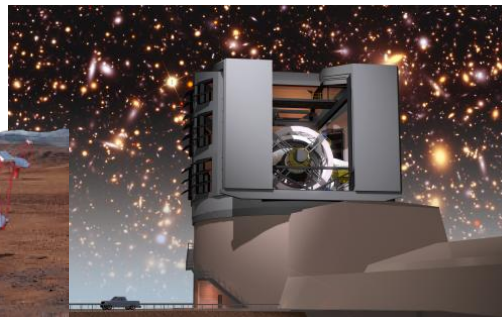
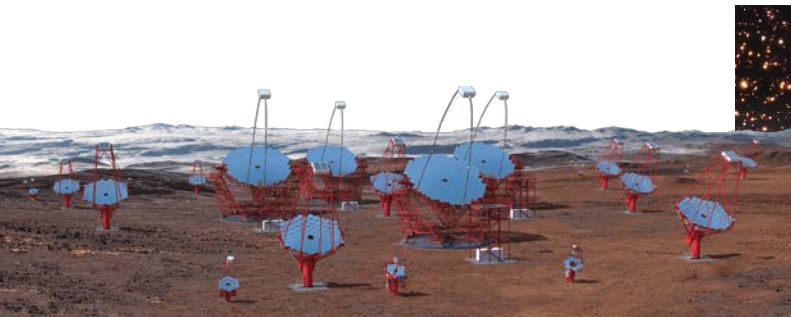
- Particle physics and Standard Model : ATLAS, LHCb, R&D sensor/accelerator

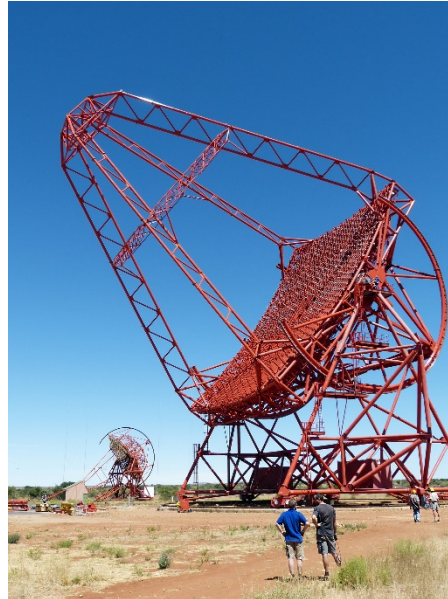
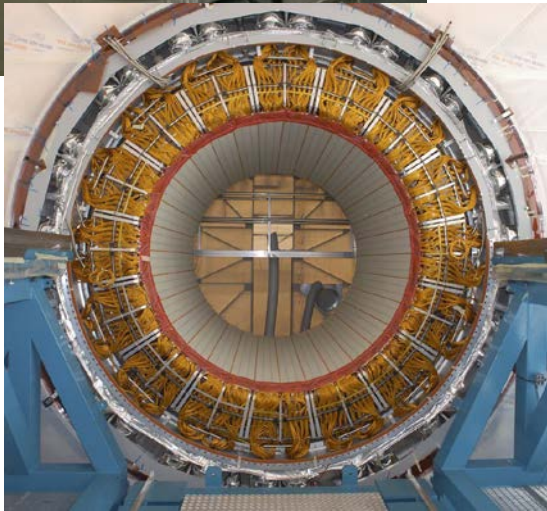
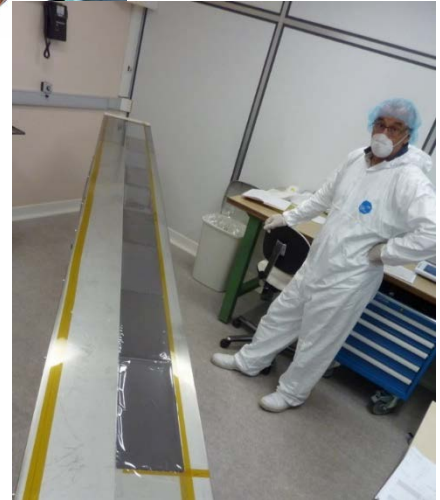
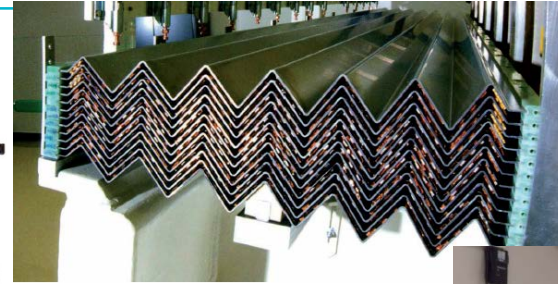
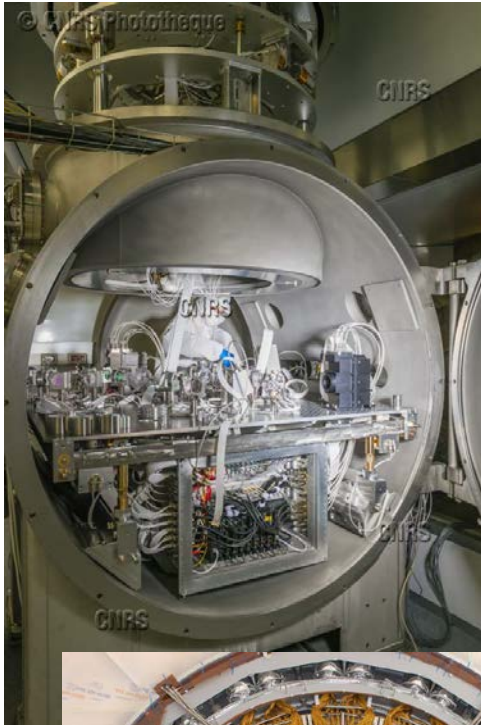


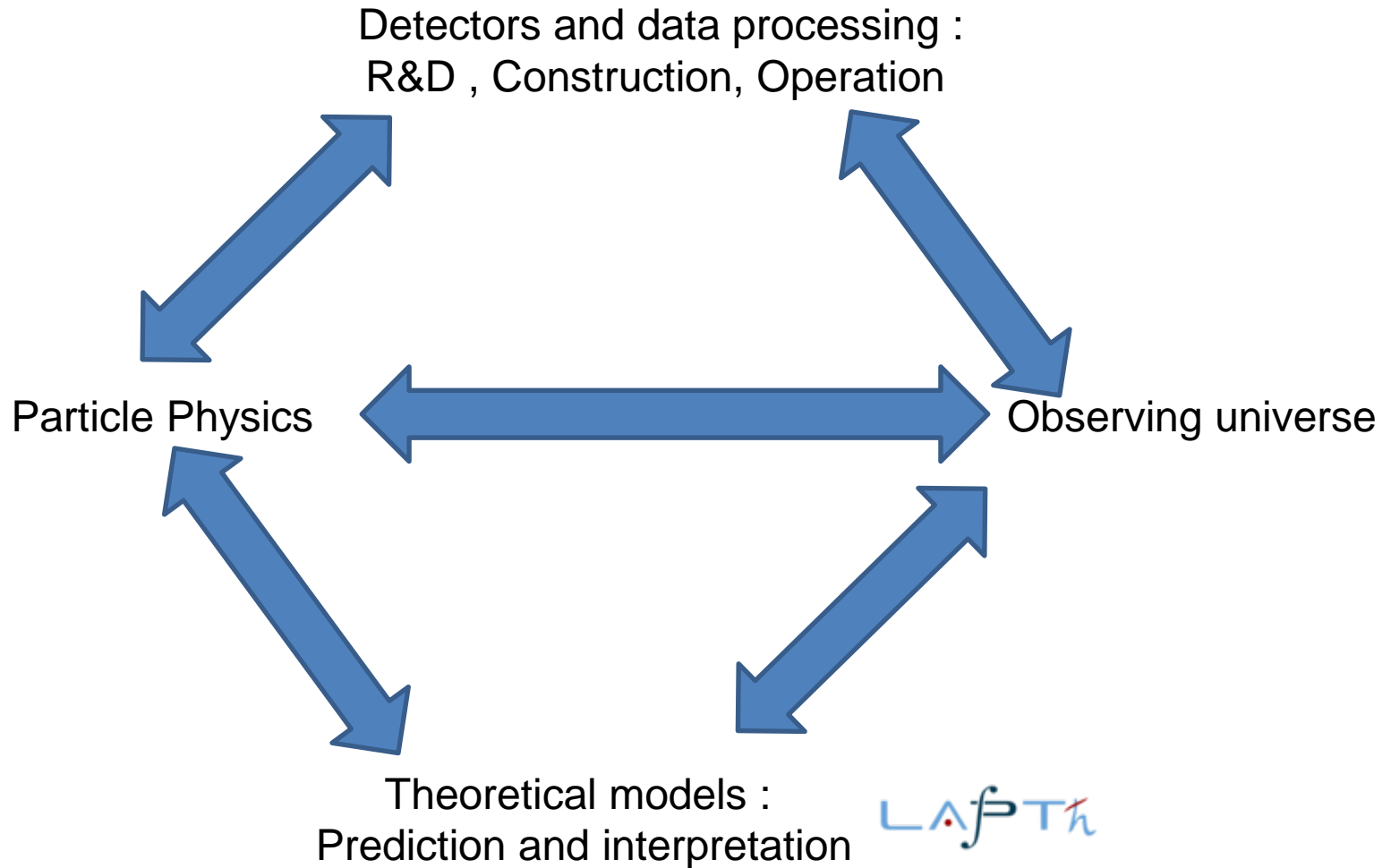
- Neutrino physics : DUNE, SuperNEMO



- Astroparticles and cosmology : HESS/CTA, LSST, Virgo







Welcome to LAPP!