

Nikhef



WELCOME TO #LLP2018

Searching for long-lived particles at the LHC:
Fourth workshop of the LHC LLP Community

BASIC FACTS



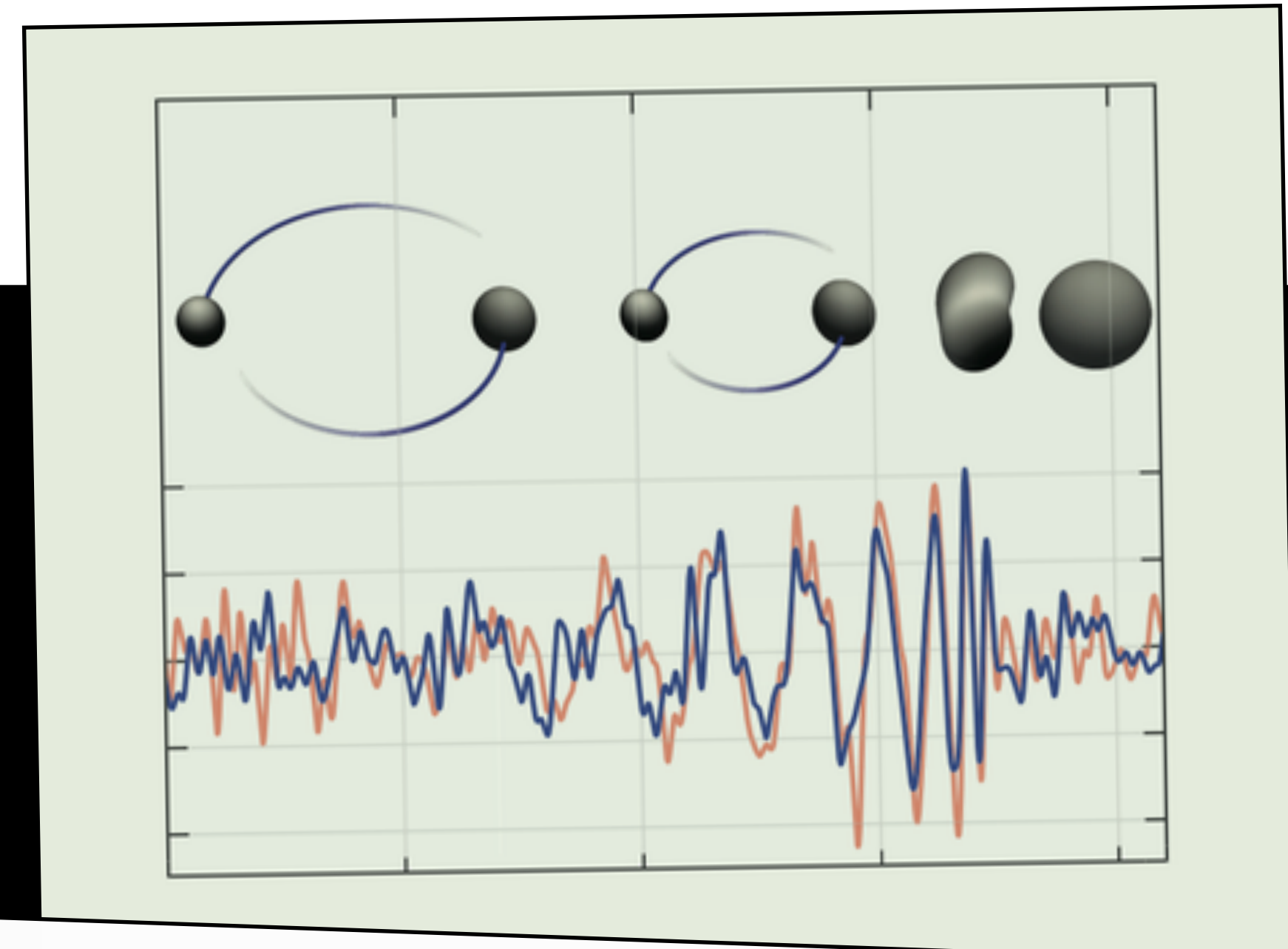
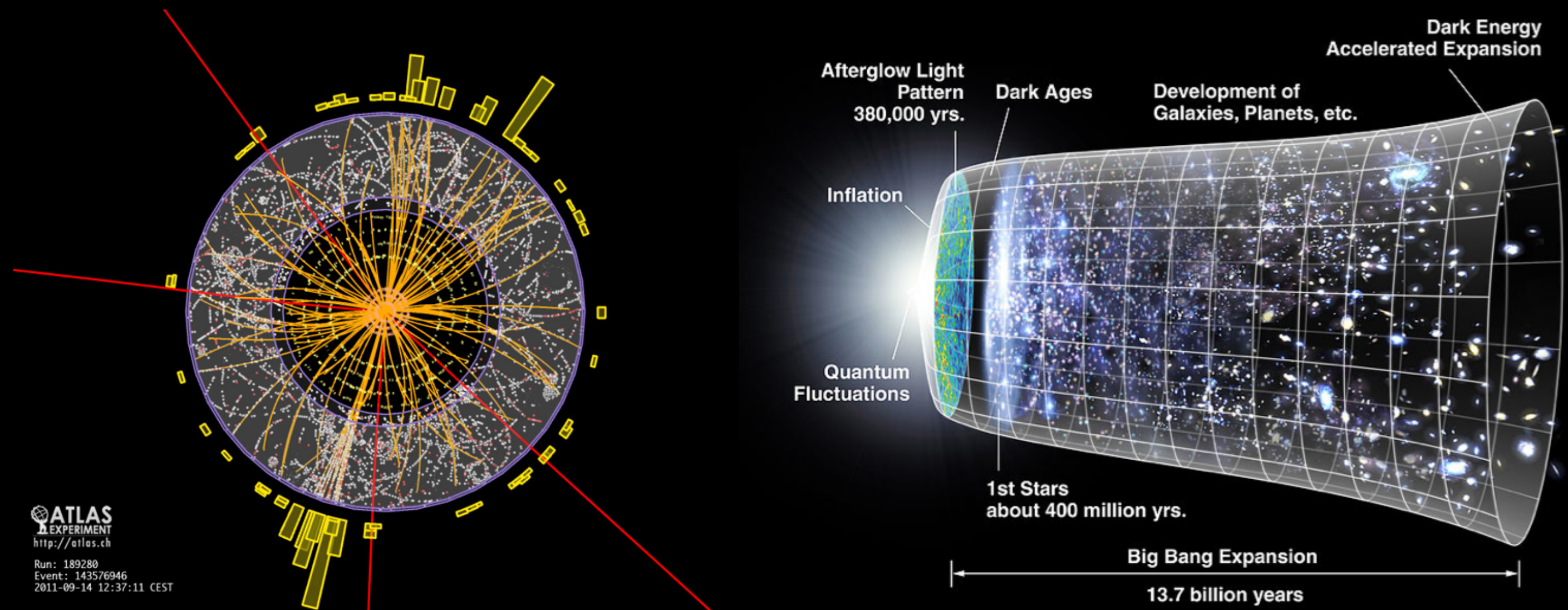
Kingdom of the Netherlands

- ~17 million inhabitants
 - 41.543 km² surface
 - 509 inhabitants/km²
- GDP
 - 50.961 \$/inhabitant
 - Rank 7 in world (OECD)
- Innovation and R&D
 - 2.01% of GDP
 - Rank 12 in EU
- Founder of CERN
 - Dutch contribution 4.6%
 - 52MCHF annual

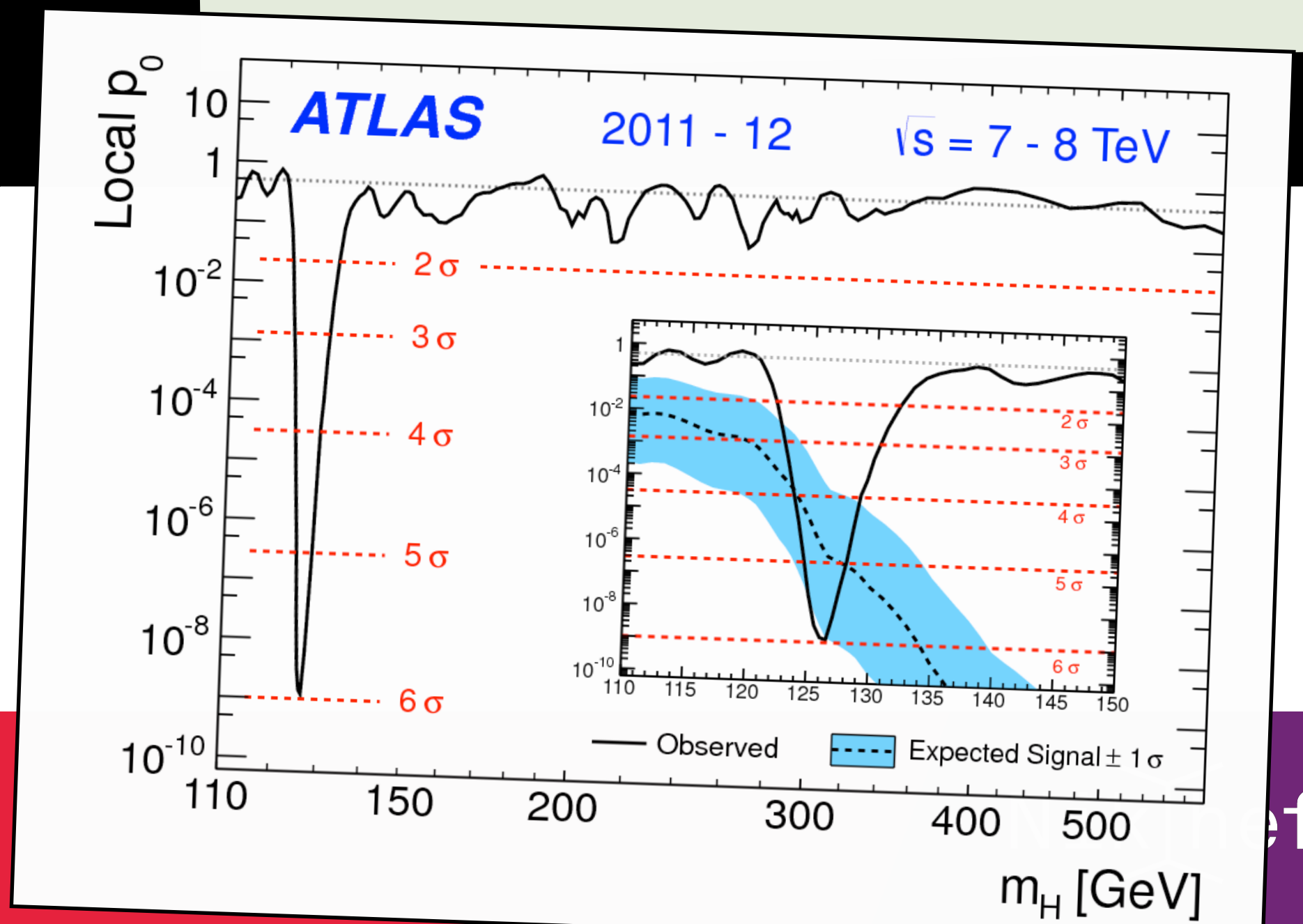


NATIONAL INSTITUTE FOR SUBATOMIC PHYSICS

Interaction and structure of elementary particles



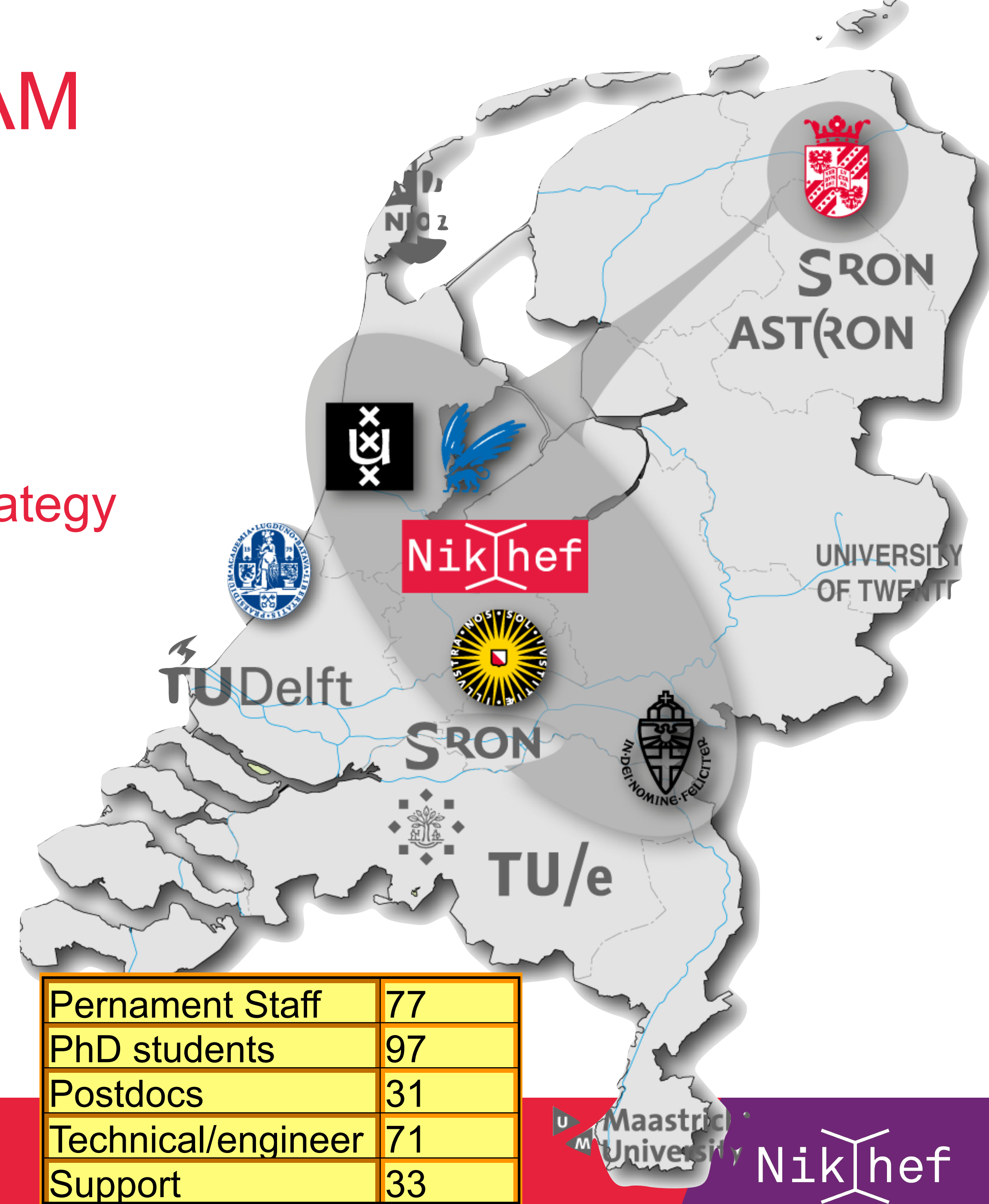
- Accelerator physics - CERN
 - Astro-Particle physics
- Knowledge and technology transfer



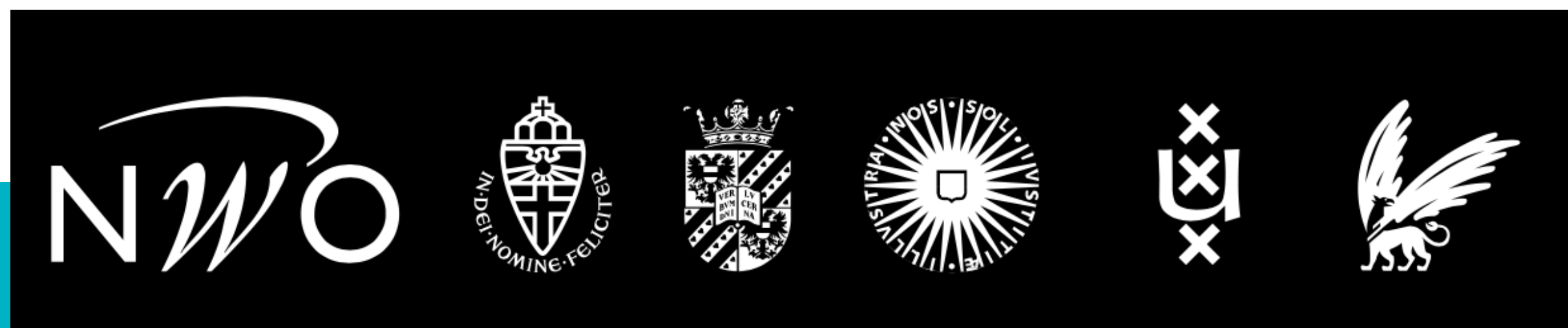
NATIONAL SCIENCE PROGRAM

NWO Institute and University partners

- Universities are essential for Nikhef
 - Leaders of the science programs
 - Together we make the Nikhef National Strategy
- Added value of Nikhef Institute
 - Technical competence and support
 - Large computing infrastructure
 - Long term strategy & commitment
- Nikhef is more than sum of parts-

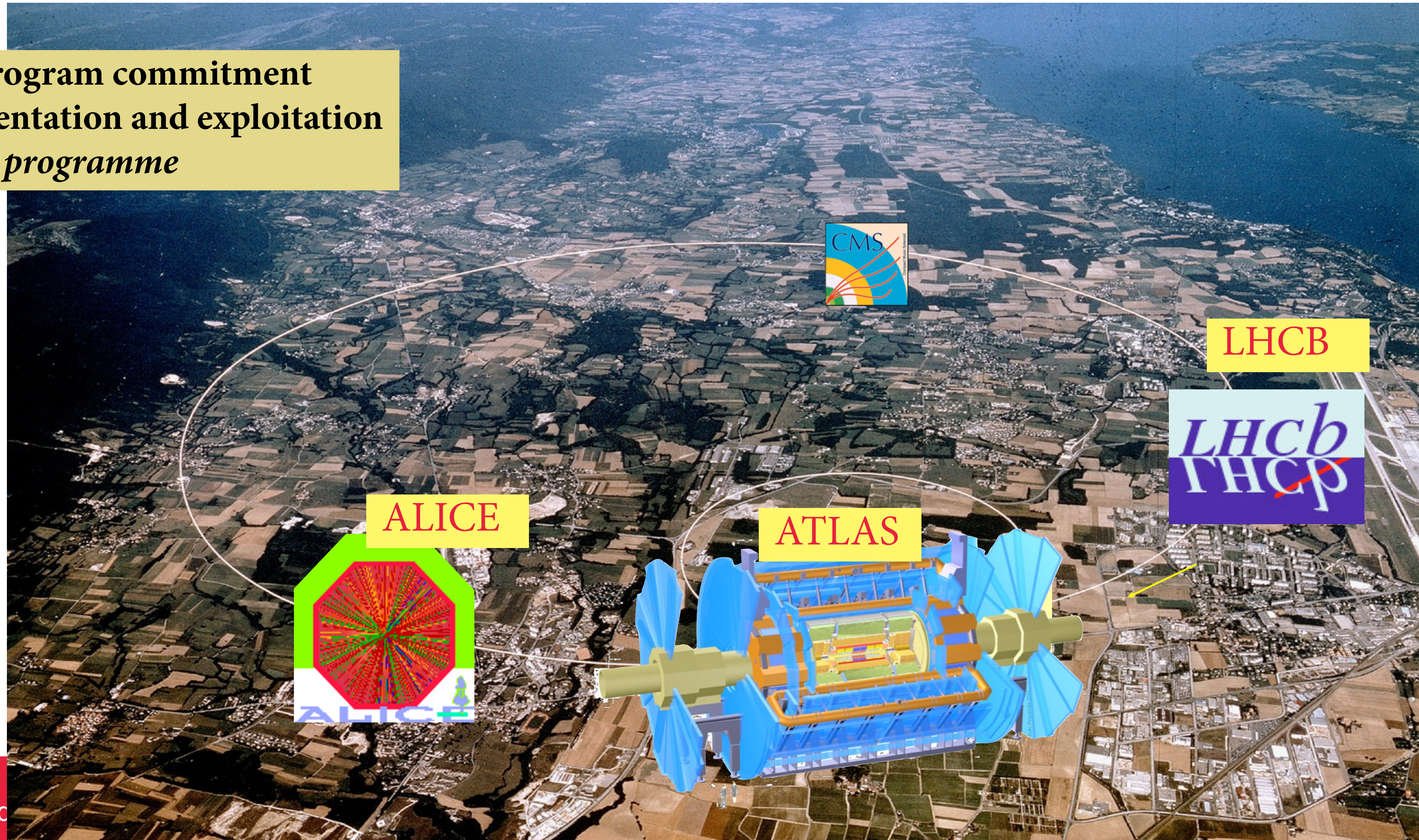


Permanent Staff	77
PhD students	97
Postdocs	31
Technical/engineer	71
Support	33

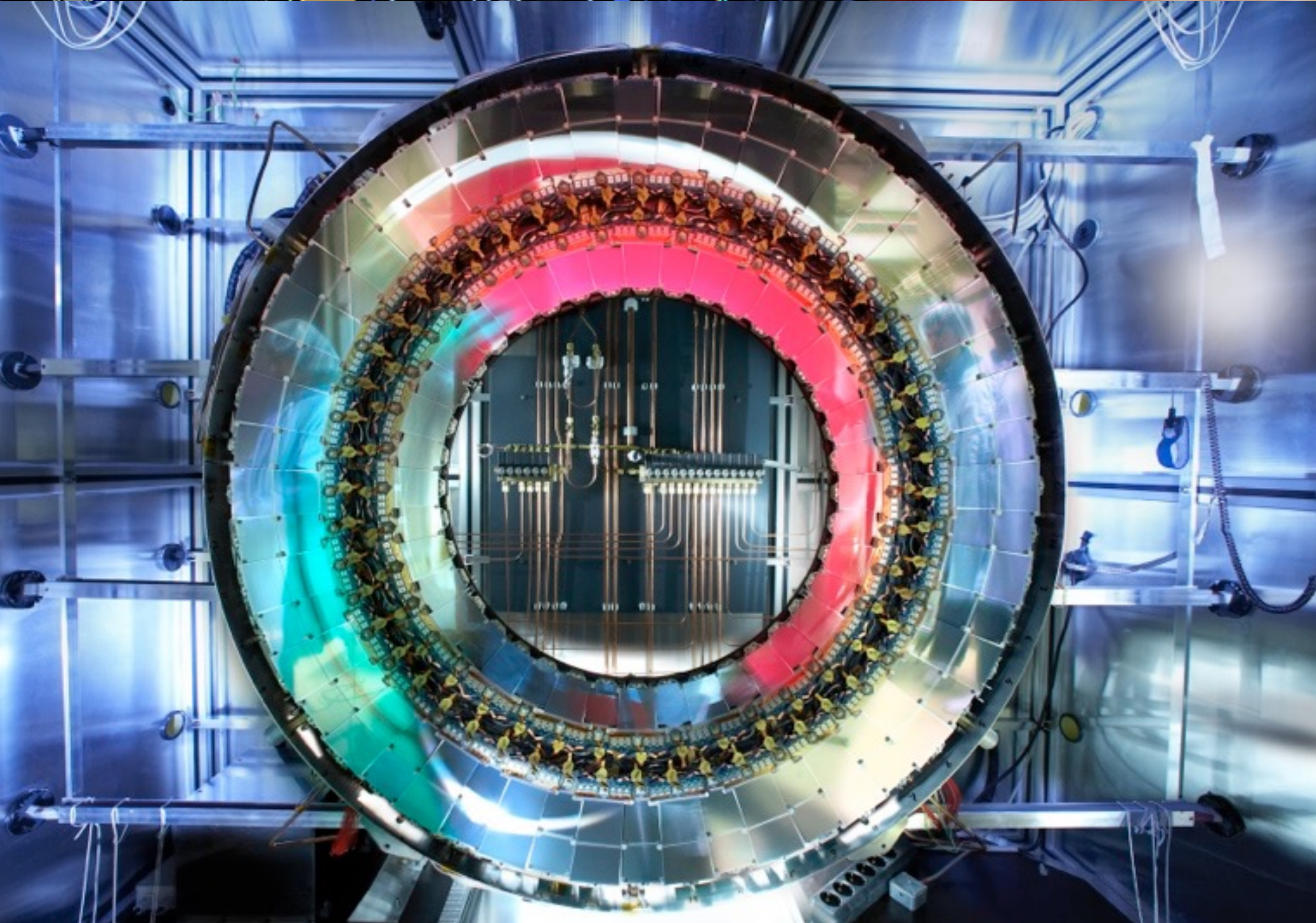
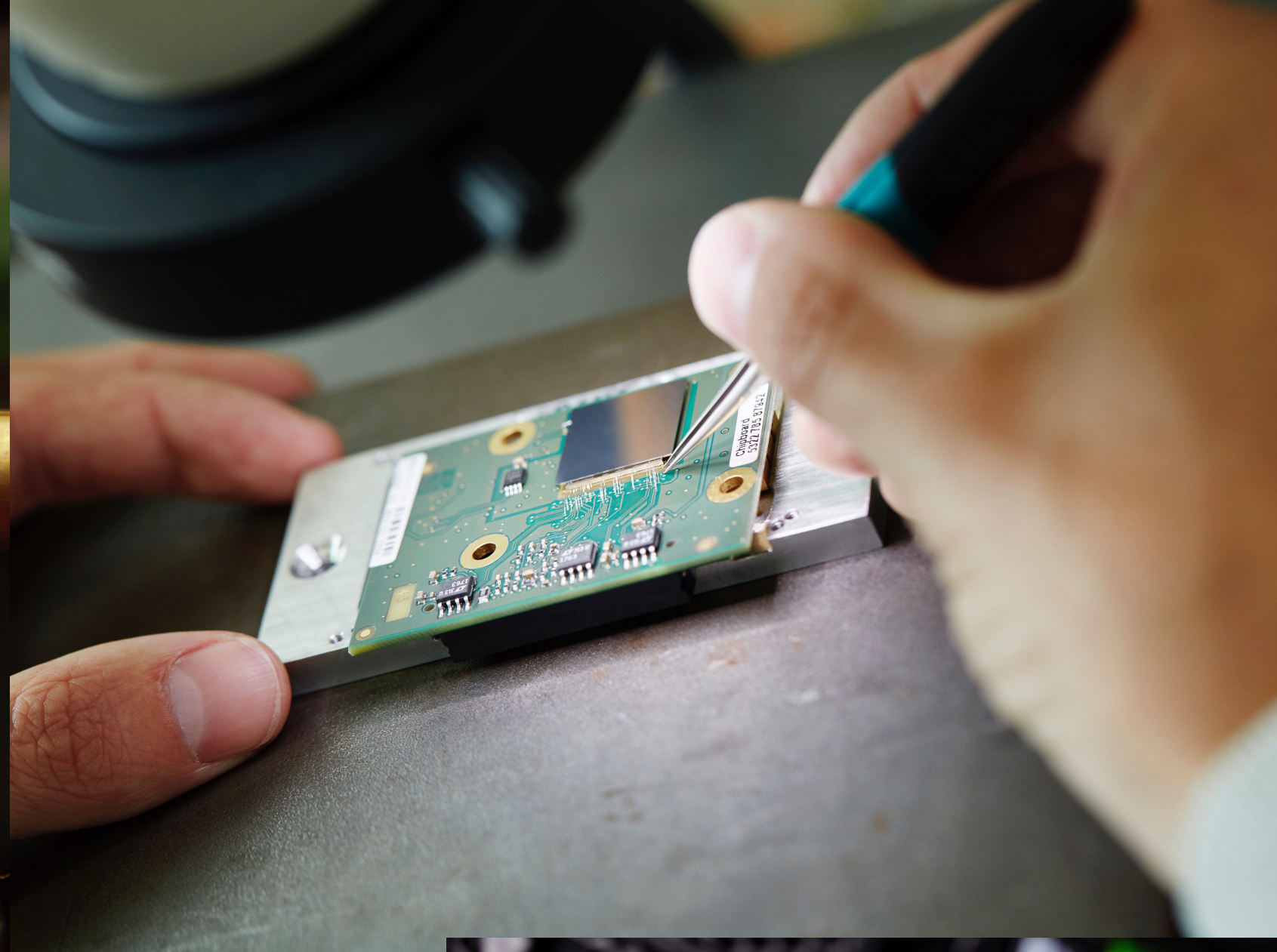
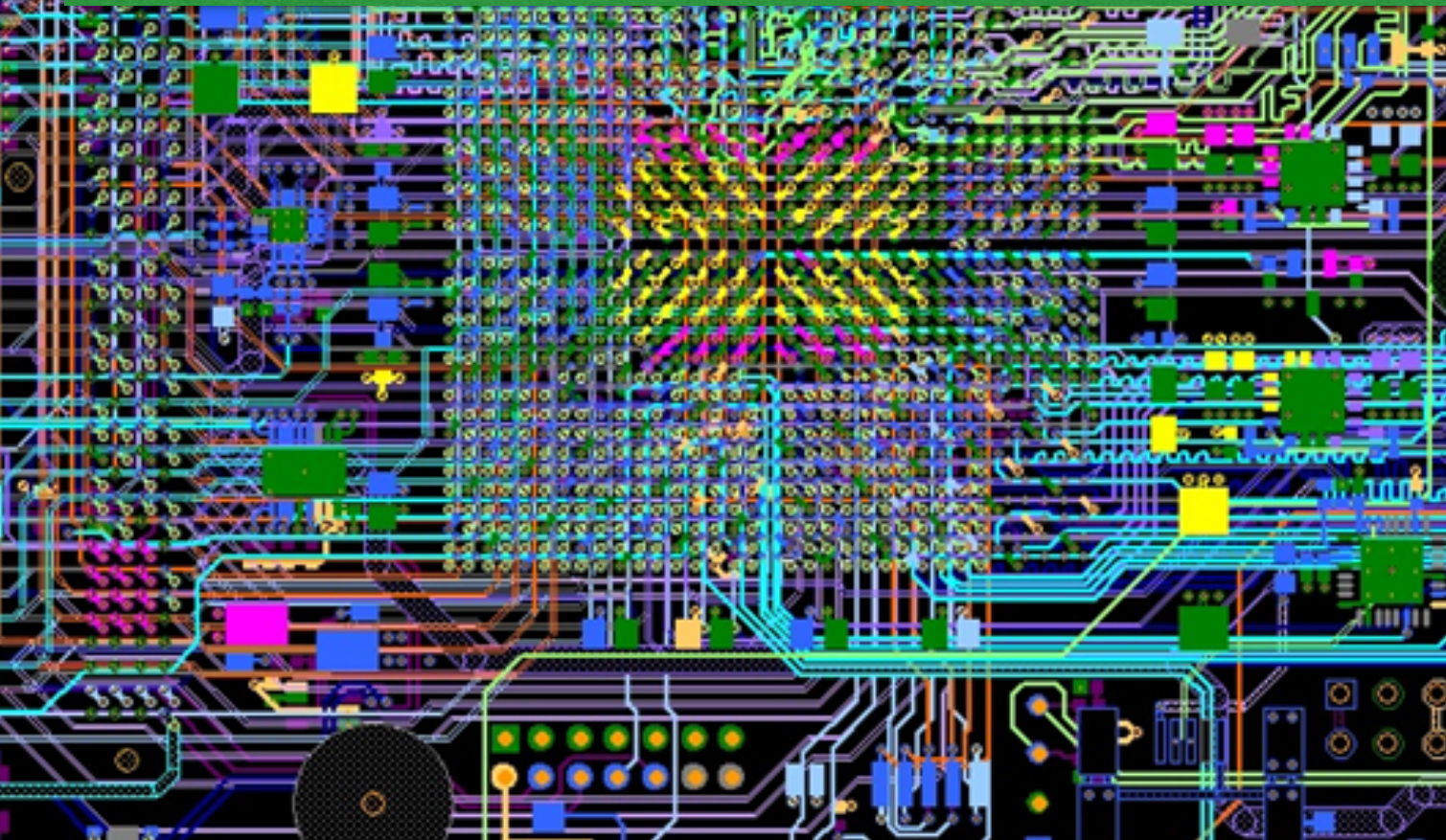


LHC PROGRAMME - DUTCH @ CERN

Long term LHC program commitment
Upgrade: instrumentation and exploitation
Excellent scientific programme



Nikhef technical groups



NIKHEF - LHC: MANY YEARS TO COME

Installation upgrades ATLAS, LHCb en ALICE

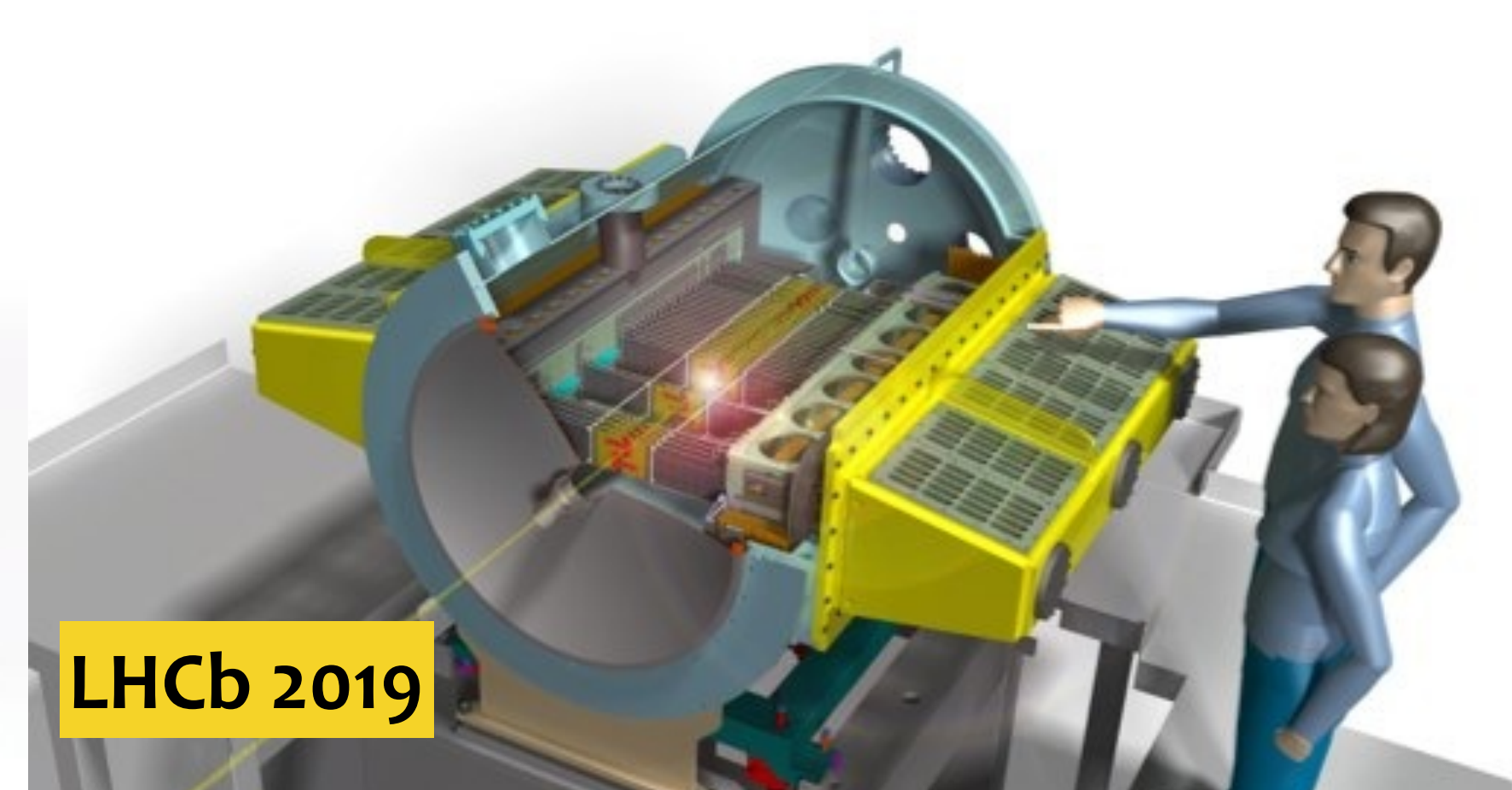
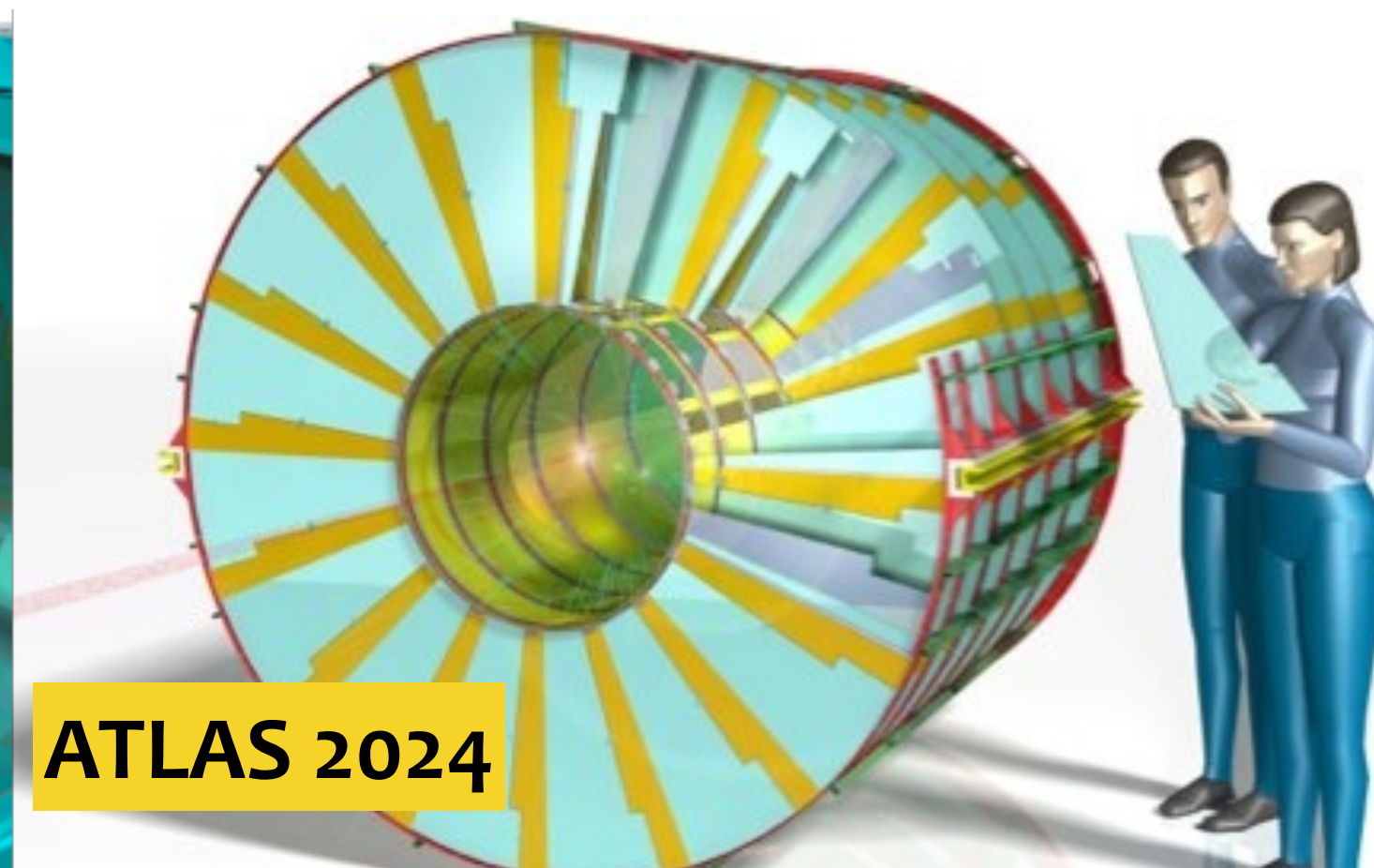
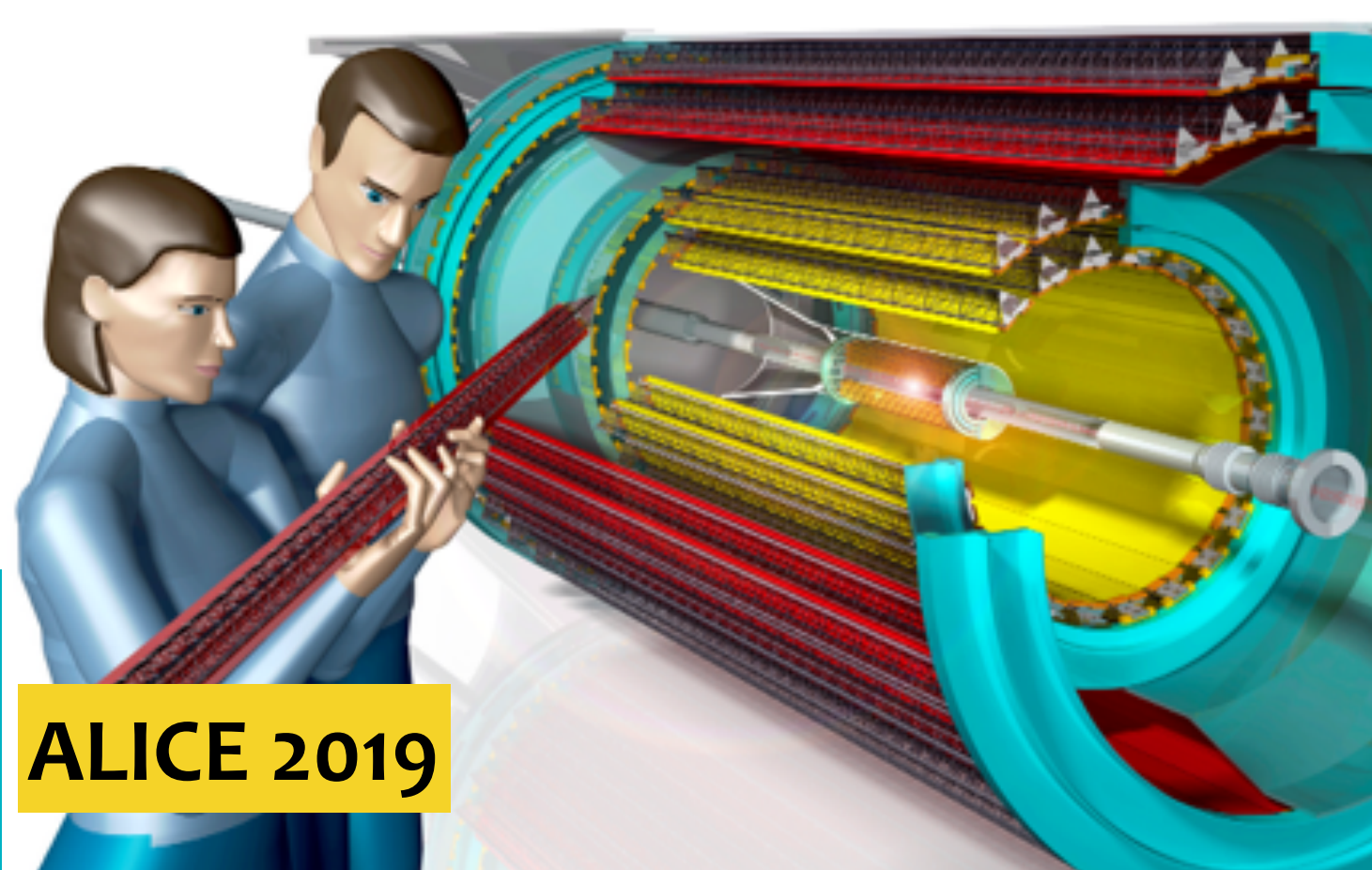
- Top priority for LHC - connected to R&D activities
 - Build complete parts of (tracking) detectors for ALICE, ATLAS & LHCb

Computing infrastructure

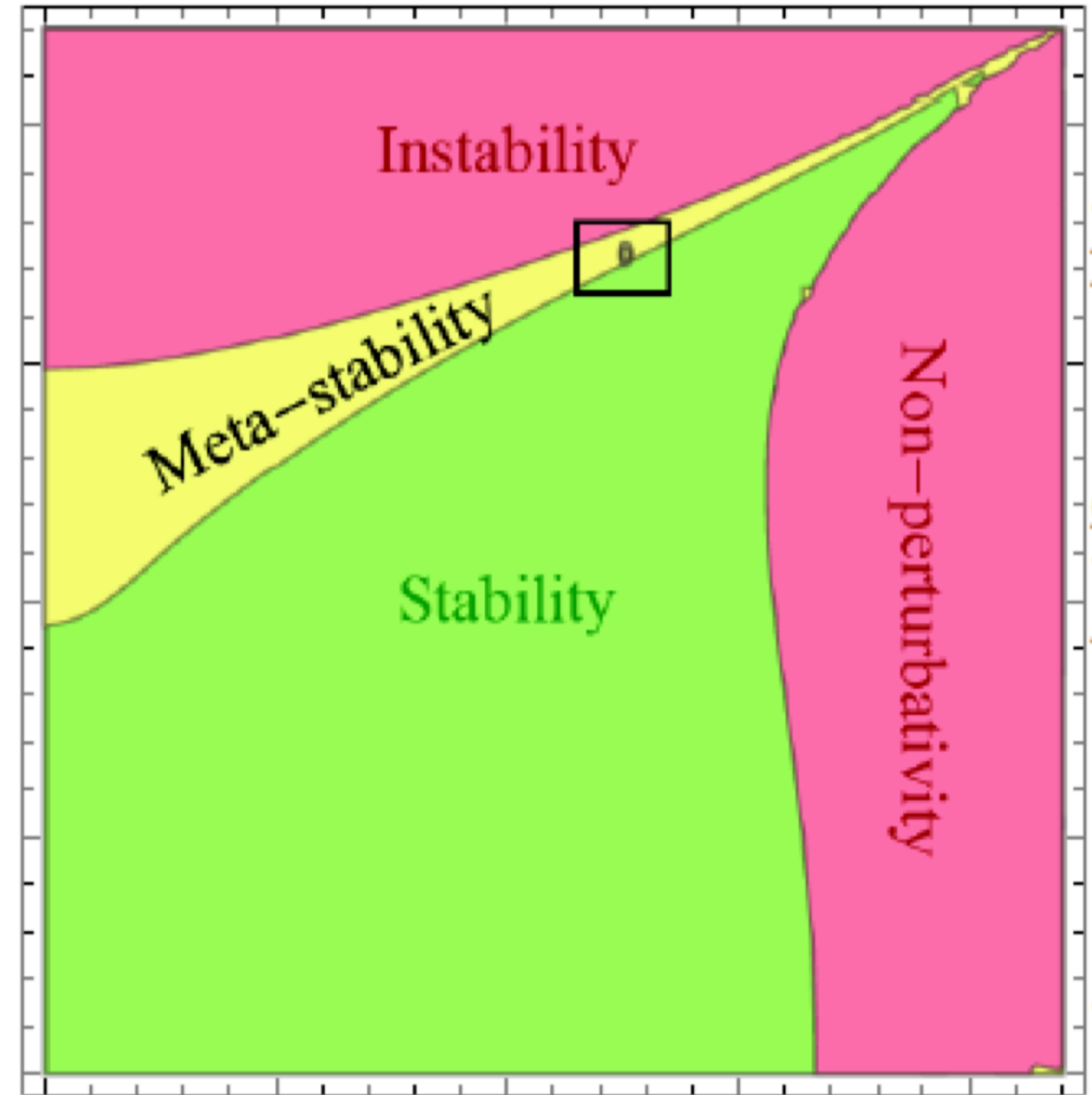
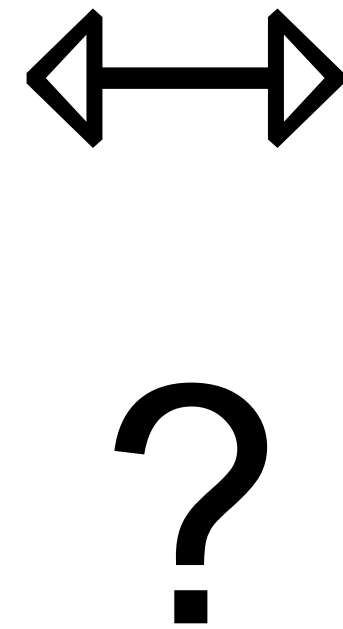
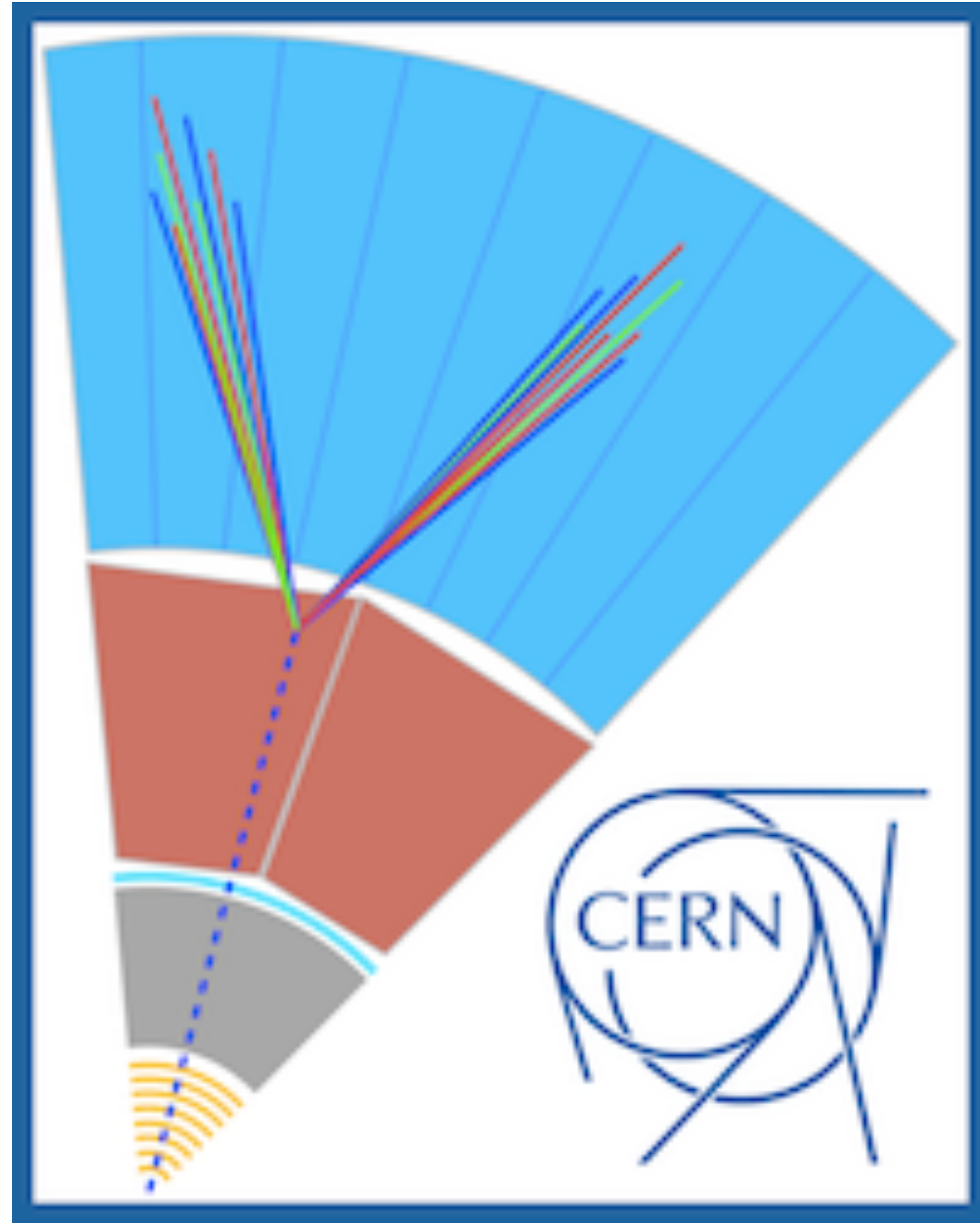
- Extension of Tier-1 infrastructure - increase efficiency algorithms

Physics exploitation - exciting and very relevant!

- Explore the unknown - Physics of flavors - Searches - LLP



PHYSICS OF LONG-LIVED PARTICLES



MULTI-MESSENGER ASTROPARTICLE PHYSICS

European Strategy for
Astroparticle Physics

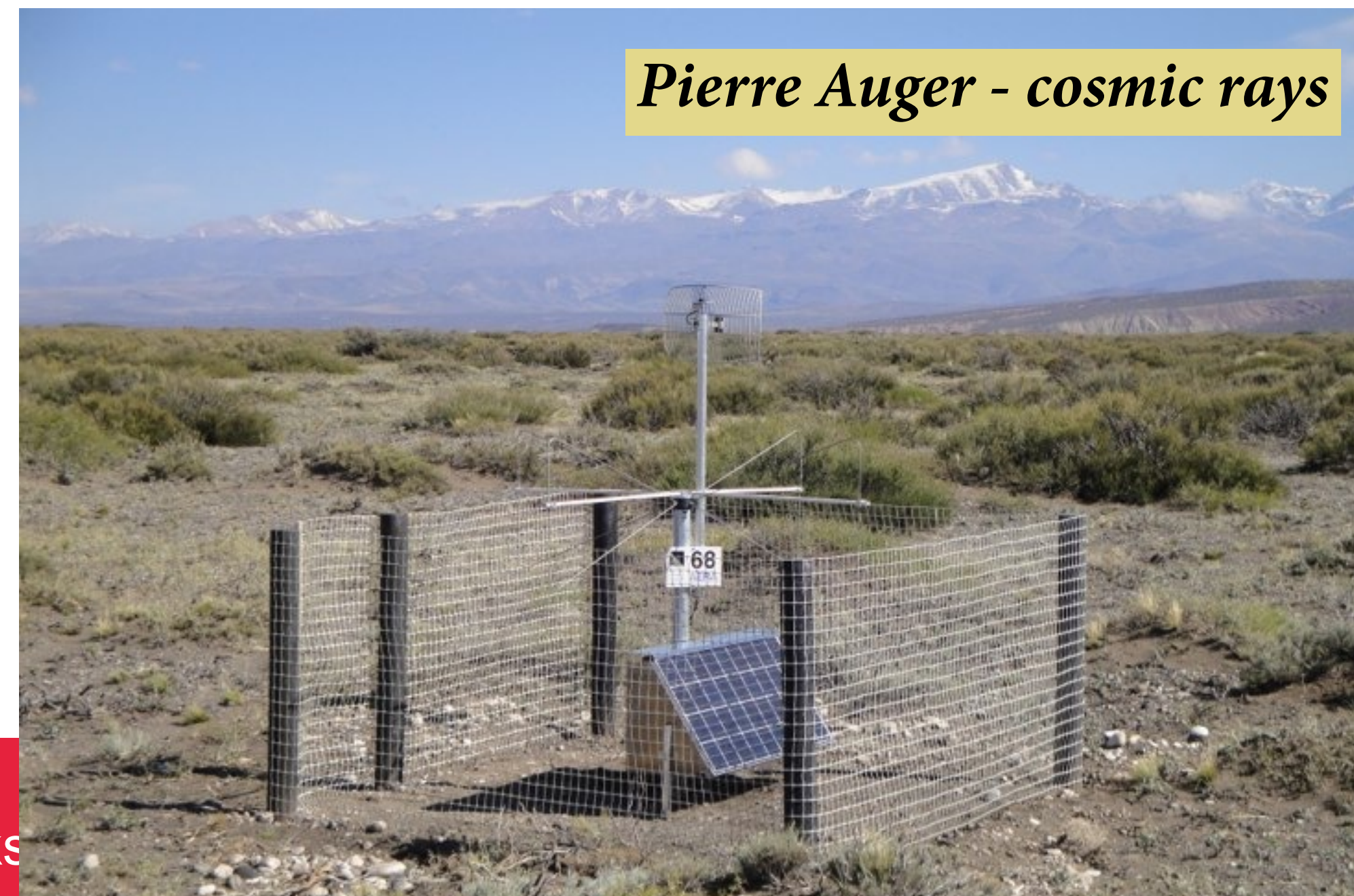
APPEC - Astroparticle Physics European Consortium



KM3NeT - neutrino detection



aVIRGO - Gravitational Waves



Pierre Auger - cosmic rays

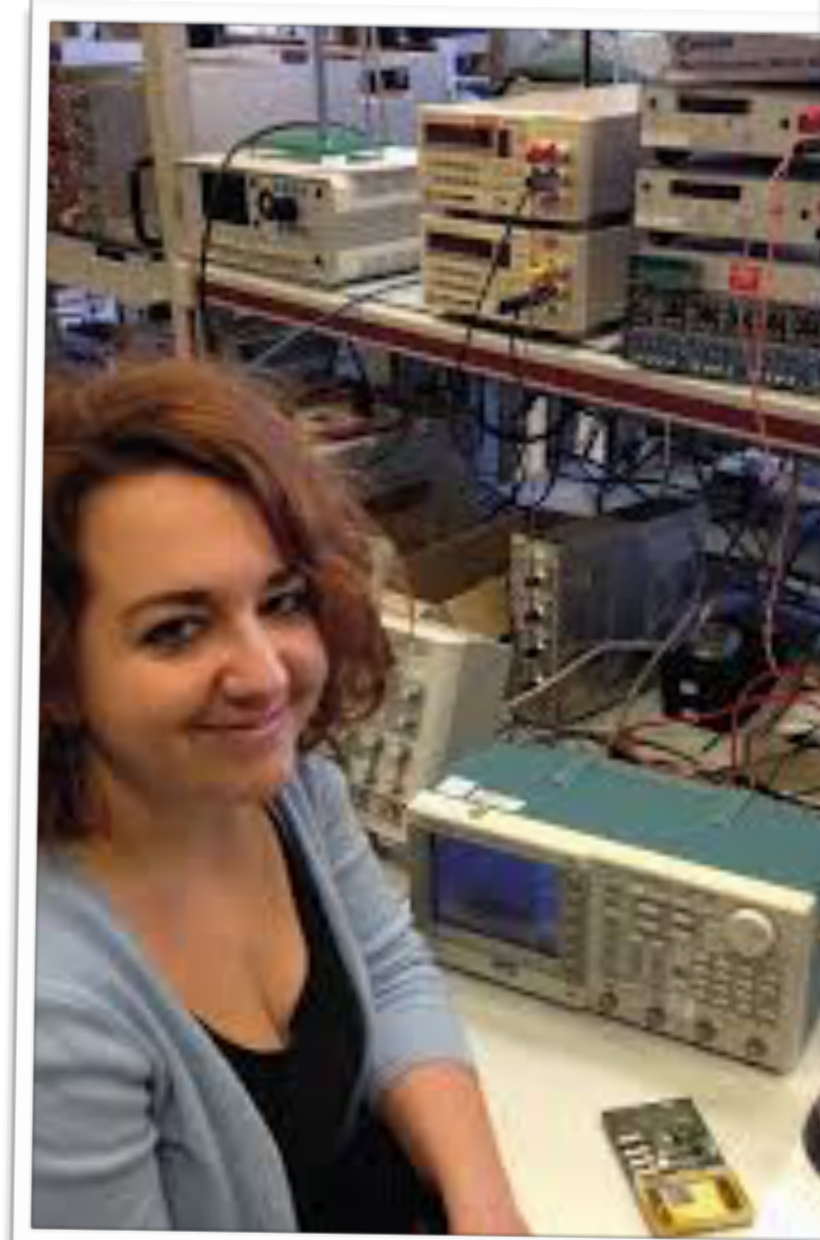


Xenon1T - Dark Matter

#LLP2018 ORGANISATION

Community organisers (lhc-llp-coordination@cern.ch)

- LHCb: Carlos Vázquez Sierra, Elena Dall'Occo (Nikhef),
- ATLAS: James Beacham (Duke U.), Ryu Sawada (U. Tokyo),
- CMS: Steven Lowette (VUB), Alberto Escalante del Valle (HEPHY),
- Theory: José Zurita (KIT), Pedro Schwaller (U. Mainz).



Local organisers (llp2018-nikhef@cern.ch)

- Joan Berger (Nikhef - **secretary**),
- Igor Kostiuk (Nikhef),
- Elena Dall'Occo (Nikhef),
- Wouter Hulsbergen (Nikhef),
- Marcel Merk (Nikhef),
- Carlos Vázquez Sierra (Nikhef).



ENJOY #LLP2018 !



HIGGS
TOPS
BEAUTY

WHAT'S
THE
MATTER?

SPACETIME
WAVES
AT YOU