

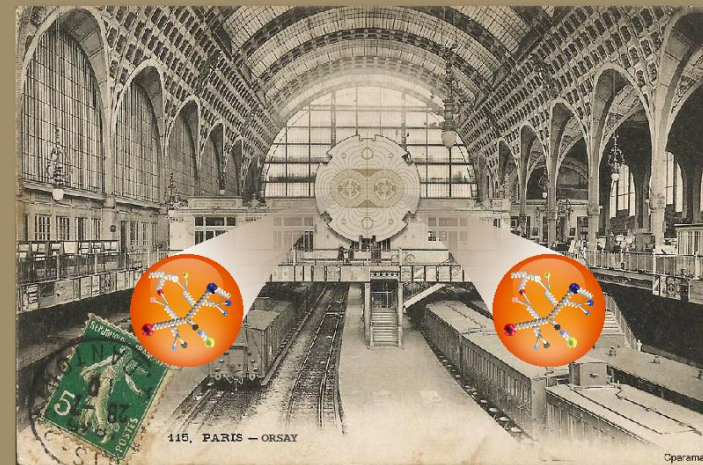
Welcome to IJCLab
for the

Workshop QCD@LHC2022

QCD@LHC2022
28th November 2022 to 2nd December 2022
IJCLab Orsay, France

**INTERNATIONAL
ADVISORY
COMMITTEE:**

- S. Alekhin (IHEP PROTIVNO)
- J. Blümlein (DESY)
- C. Duhr (Bonn)
- R. K. Ellis (FPP Durham)
- T. Gehrmann (Univ. Zürich)
- E.W. N. Glover (FPP Durham)
- J. Huston (MSU)
- J. Kalzy (DESY)
- F. Maltoni (UCLouvain & Bologna)
- M. Mangano (CERN)
- Z. Nagy (DESY)
- E. Rievi (Queen Mary)
- F. Siegert (Dresden)
- D. Stöckinger (Dresden)
- Z. Trocsanyi (Budapest)
- D. Weckerath (Buffalo)
- C. Williams (Buffalo)



**LOCAL
ORGANISING
COMMITTEE:**

- J.P. Lansberg (IJCLab Orsay, Chair)
- H.S. Shao (LPTHE Paris, co-chair)
- S. Wallon (IJCLab Orsay, co-chair)
- A. Abdul Hameed (LPTHE Paris & IJCLab Orsay)
- E. Choubey (INFN Torino & LPTHE Paris)
- C. Flatt (Jyväskylä & IJCLab Orsay)
- K. Lynch (UC Dublin & IJCLab Orsay)
- L. Massacrier (IJCLab Orsay)
- S. Nabeebaccus (IJCLab Orsay)
- Y. Yedukhin (IJCLab Orsay & UC Dublin)

indico.cern.ch/e/QCDatLHC2022

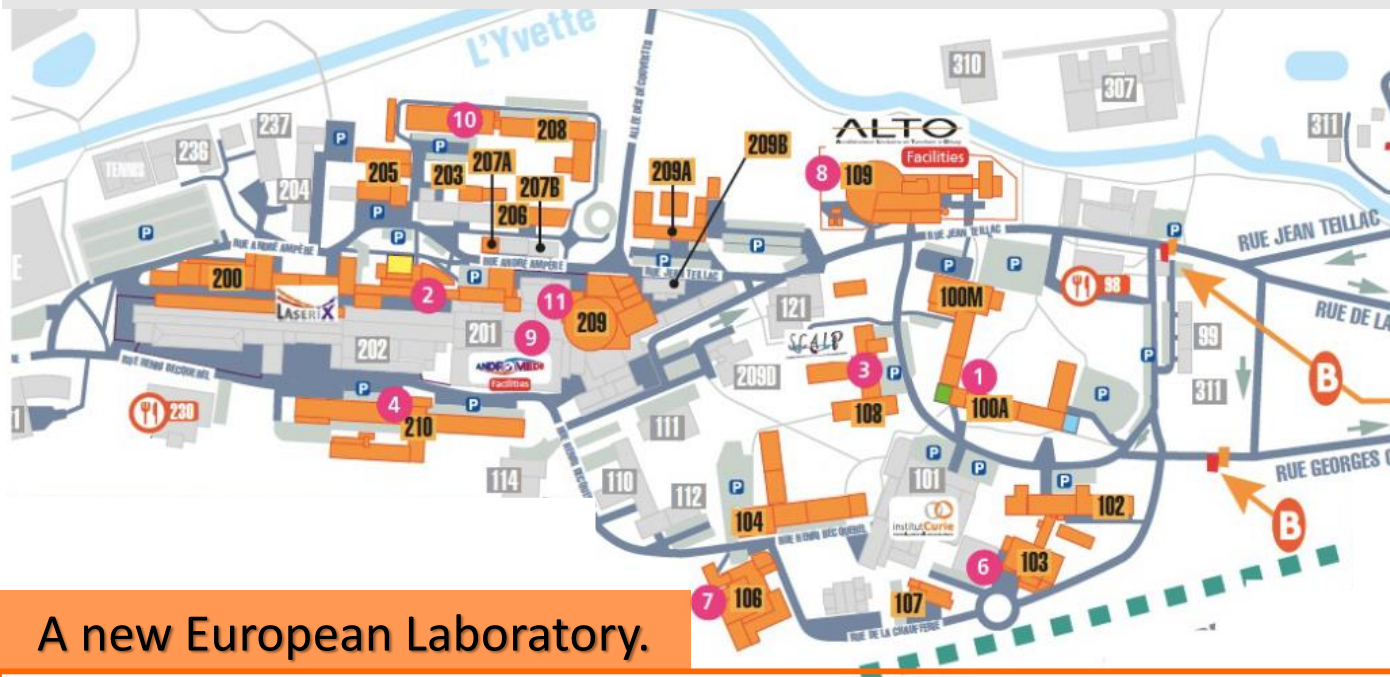




IJCLab : Located in Orsay Campus, 30 Km South-Paris, Campus Paris-Saclay



IJCLab is occupying a large part of the Orsay Campus (~50000m²)



A new European Laboratory.

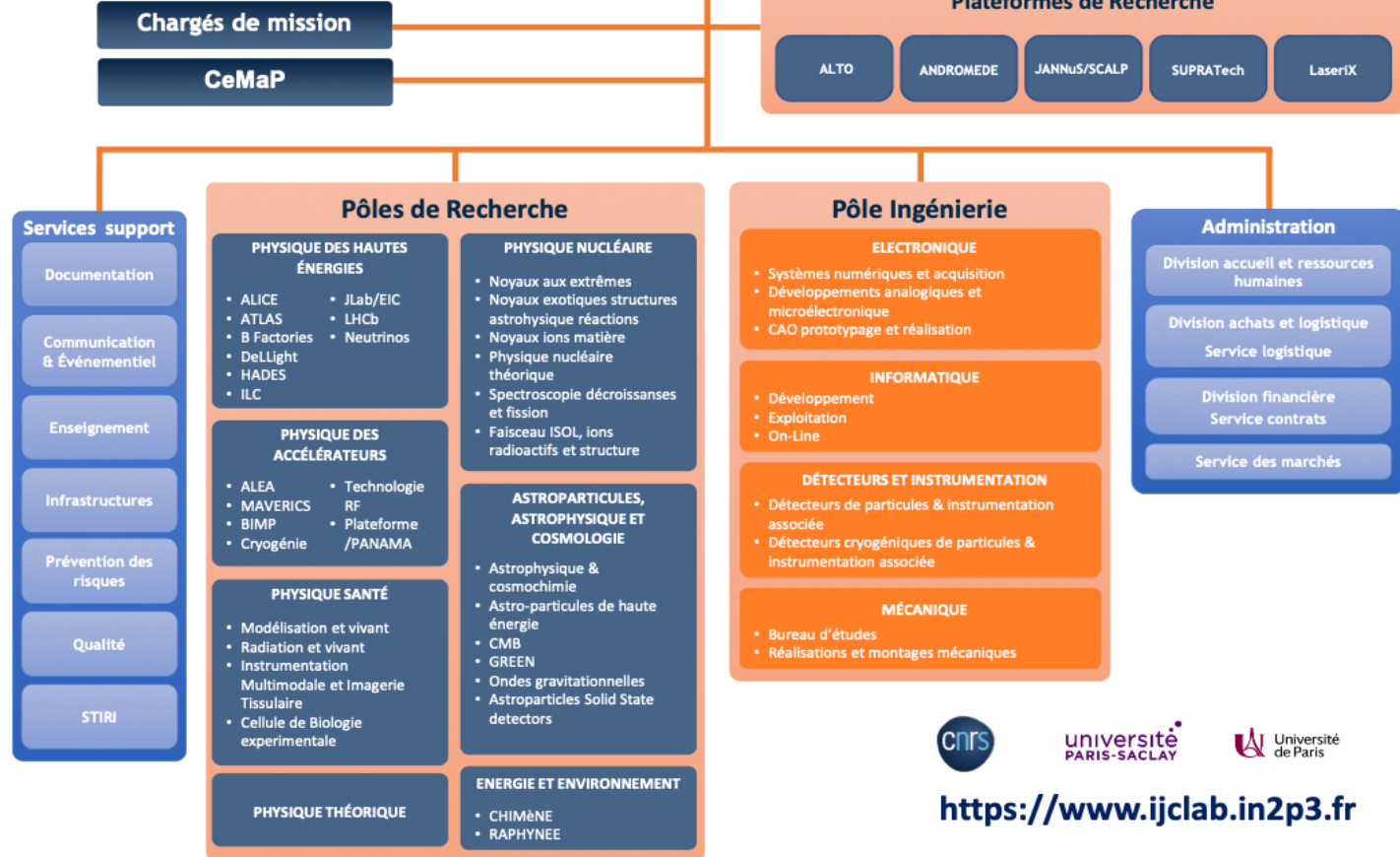
Formed on 2020 by the merging of 5 Laboratories in Orsay-France

CSNSM
IPN
IMNC
LAL
LPT

Centre de Sciences Nucléaires et de Sciences de la Matière
Institut de Physique Nucléaire
Imagerie et Modélisation en Neurobiologie et Cancérologie
Laboratoire de l'Accélérateur Linéaire
Laboratoire de Physique Théorique



IJCLab in a nutshell - I



~720 membres (530 permanents)
 One of the biggest laboratory in
 CNRS / Paris-Saclay / Université de Paris
 In the network of major European laboratories (LDG)

7 Research Poles
 31 research teams et 2 services

1 Engineering Pole
 4 Departments with 11 Services

1 Administration Pole
 3 Divisions + 1 Service

8 Support Services

5 Platforms (with external users)
 + several technical platforms



<https://www.ijclab.in2p3.fr>



The ensemble of all the themes of “the physics of the two infinities” with the presence of strong historical/existing poles, of emerging poles and of activities at the interfaces

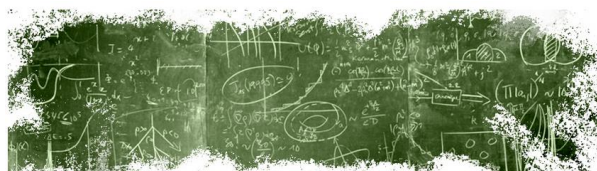
PHYSIQUE NUCLÉAIRE
NUCLEAR PHYSICS

A2C Astroparticles, Astrophysics & Cosmology

Accelerator Physics

Including RF and cryogenic services

Théorie



Santé



Energie et Environnement

116 PHD student
@october 2022

PHE Physique des Hautes Energies
High Energy Physics



~180 staff members

4 Departments :

Electronics / Computing
Instrumentation / Mechanics
with 10 Services

IJClab in a nutshell – III : Technical Skills

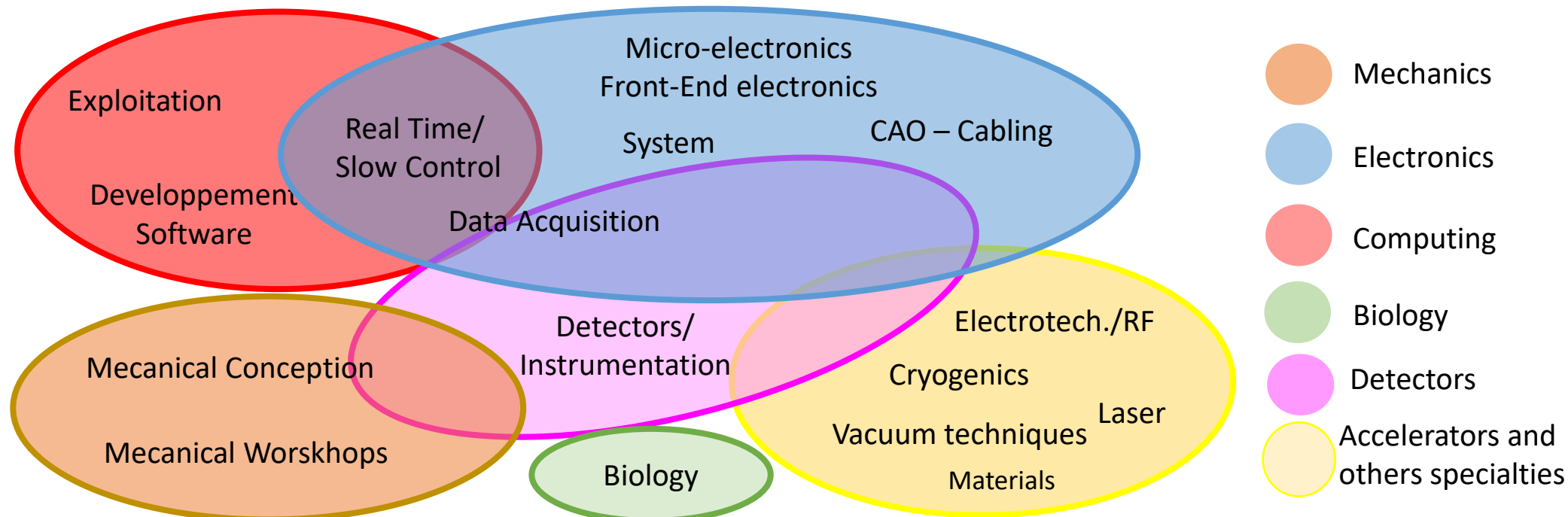
Services in accelerator Pole

- RF
 - Cryogenics
- ~30 staff members

Technical staff with technical skills/expertise

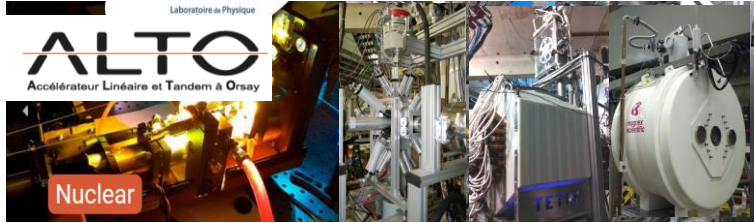
essential pillars for the laboratory to design, draw and build instruments.

- Technical services are fuelled by the challenges of research (R&D and projects)
- The proximity of technical and research teams (integrated teams)
- The ability to combine and make coexist versatility and specialization





IJClab in a nutshell – IV : The Platforms



- **15 MV Tandem** (from proton to aggregates)
- **electron linac** -> radioactive beams by photofission

Nuclear, Health physics, Irradiation

Opened to external users



Several MeV protons, multicharged atomic ions, gold molecules and nanoparticles

Nuclear/A2C, Health physics, Irradiation

Opened to external users



Ion irradiation / implantation and *in situ* characterization techniques (TEM, IBA)

Energy, nuclear materials, Health physics, Irradiation physics and chemistry

Opened to external users

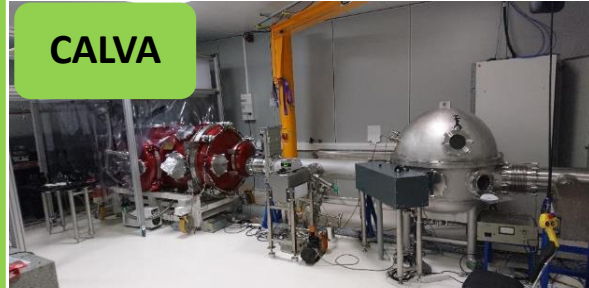
Semiconductor Platform :

Silicon Detector
Characterisation/Production



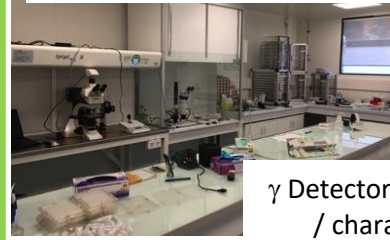
A2C Research themes

CALVA



Cavity locking/Squeezing for VIRGO and ET

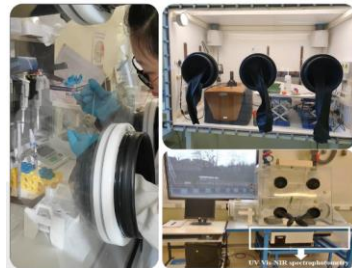
Micrometeorite Preparation/analysis



Myrtho

γ Detectors development / characterization

Radiochemistry laboratory Actinides - Bat 107



IJClub in a nutshell – V : The Platforms

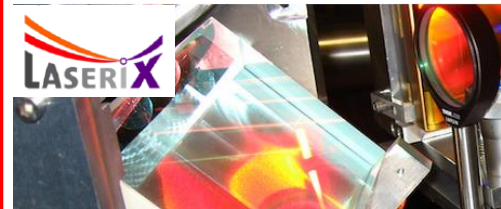
Accelerators research themes/technologies

Opening to Materials, atomic physics, detectors



SUPRATECH

R&D on the superconducting cavities (prepare, package, assemble & test of the superconducting RF cavities).



LaseriX

coherent, intense, brief (50fs to 10 ps) sources in near-infrared (800nm) and EUV (30 to 90 eV)



Vide et Surfaces
In construction

VIRTUAL DATA

Advanced computing
resources infrastructure
Grid / Cloud



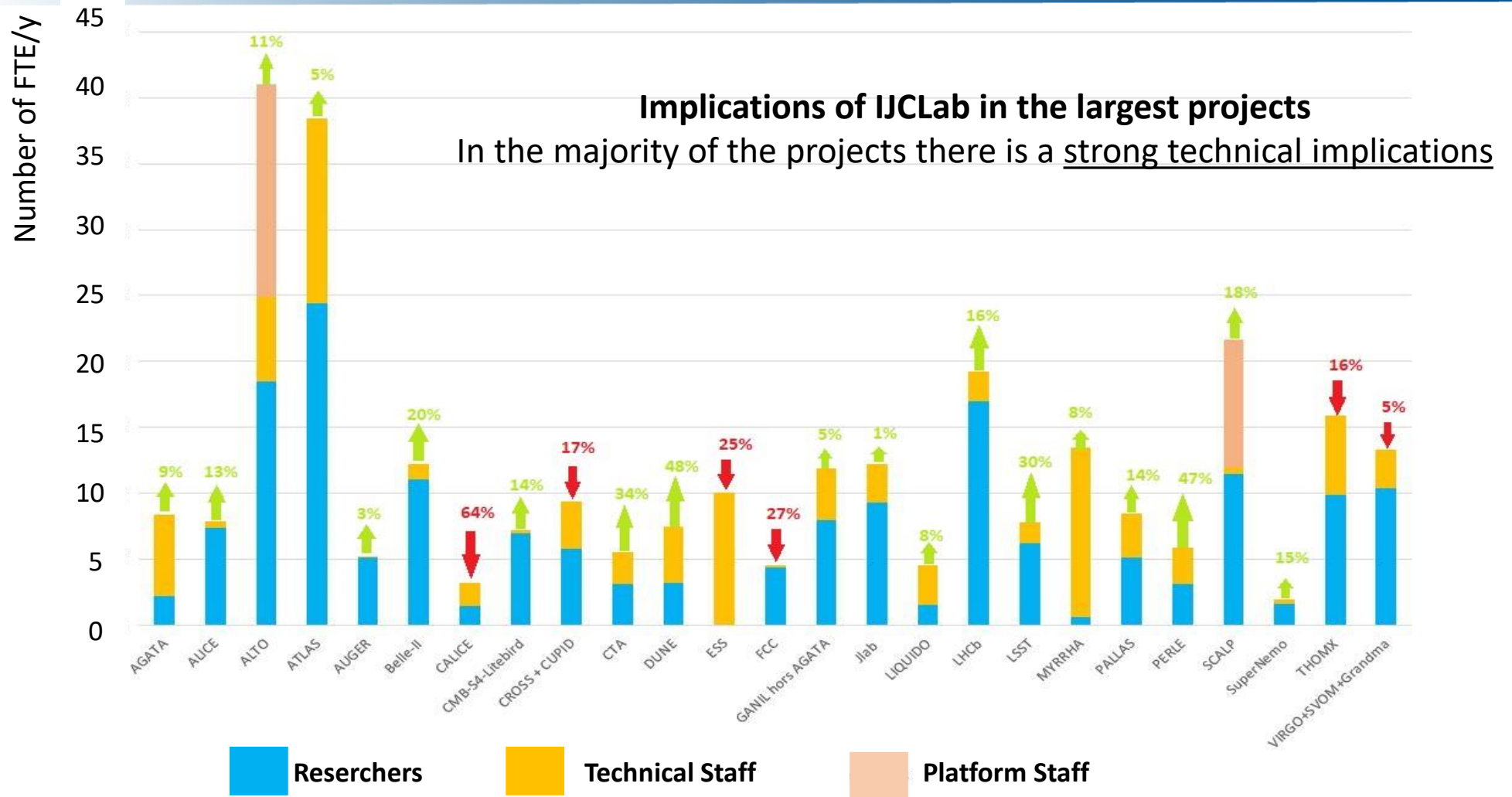
Health research themes



non linear optical biphotonique imaging



IJCLab in the projects





IJCLab has been created for :

- **Contributing to projects at all stages:** proposal, design, construction, operation, data analysis, theory
- **Playing a major role in the conception, design and construction of current and future accelerators.**
- **Developing and operating research infrastructures and technological platforms** supporting these research areas as well as original research in health physics and energy
- **Promoting the development of new technologies for science for the benefit of society** and thus supporting national and European industrial competitiveness
- **Welcoming students that the laboratory trains through and for research** in the heart of a world-class academic environment.



Welcome to IJCLab

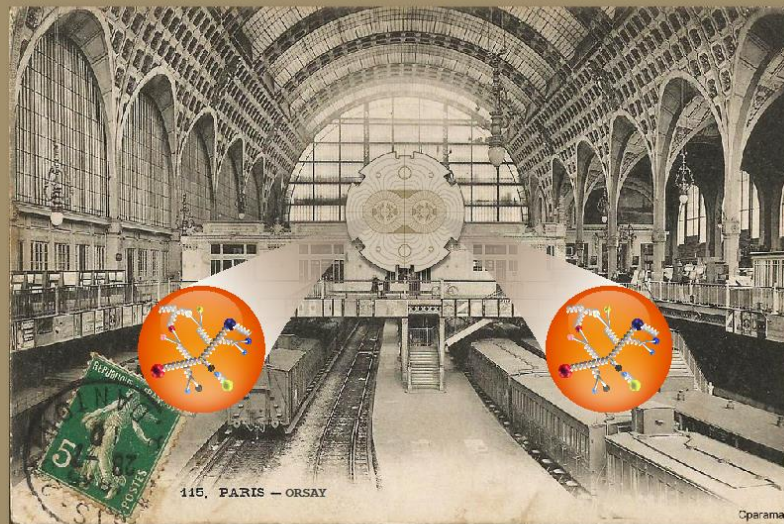
for this workshop
that I hope will be
productive
and fruitful

QCD@LHC2022

28th November 2022 to 2nd December 2022
IJCLab Orsay, France

INTERNATIONAL ADVISORY COMMITTEE:

- S. Alekhin (IHEP Protvino)
- J. Blümlein (DESY)
- C. Duhr (Bonn)
- R. K. Ellis (IPPP Durham)
- T. Gehrmann (Univ. Zürich)
- E.W. N. Glover (IPPP Durham)
- J. Huston (MSU)
- J. Katzy (DESY)
- F. Maltoni (UCLouvain & Bologna)
- M. Mangano (CERN)
- Z. Nagy (DESY)
- E. Rizvi (Queen Mary)
- F. Siegert (Dresden)
- D. Stöckinger (Dresden)
- Z. Trócsányi (Budapest)
- D. Wackerath (Buffalo)
- C. Williams (Buffalo)



indico.cern.ch/e/QCDatLHC2022

LOCAL ORGANISING COMMITTEE:

- J.P. Lansberg (IJCLab Orsay, Chair)
- H.S. Shao (LPTHE Paris, co-chair)
- S. Wallon (IJCLab Orsay, co-chair)
- A. Abdul Hameed (LPTHE Paris & IJCLab Orsay)
- E. Chaubey (INFN Torino & LPTHE Paris)
- C. Flott (Jyväskylä & IJCLab Orsay)
- K. Lynch (UC Dublin & IJCLab Orsay)
- L. Massaric (IJCLab Orsay)
- S. Nabebeccus (IJCLab Orsay)
- Y. Yedelkina (IJCLab Orsay & UC Dublin)

