Lascala – Erasmus mundus master

https://master-lascala.eu/

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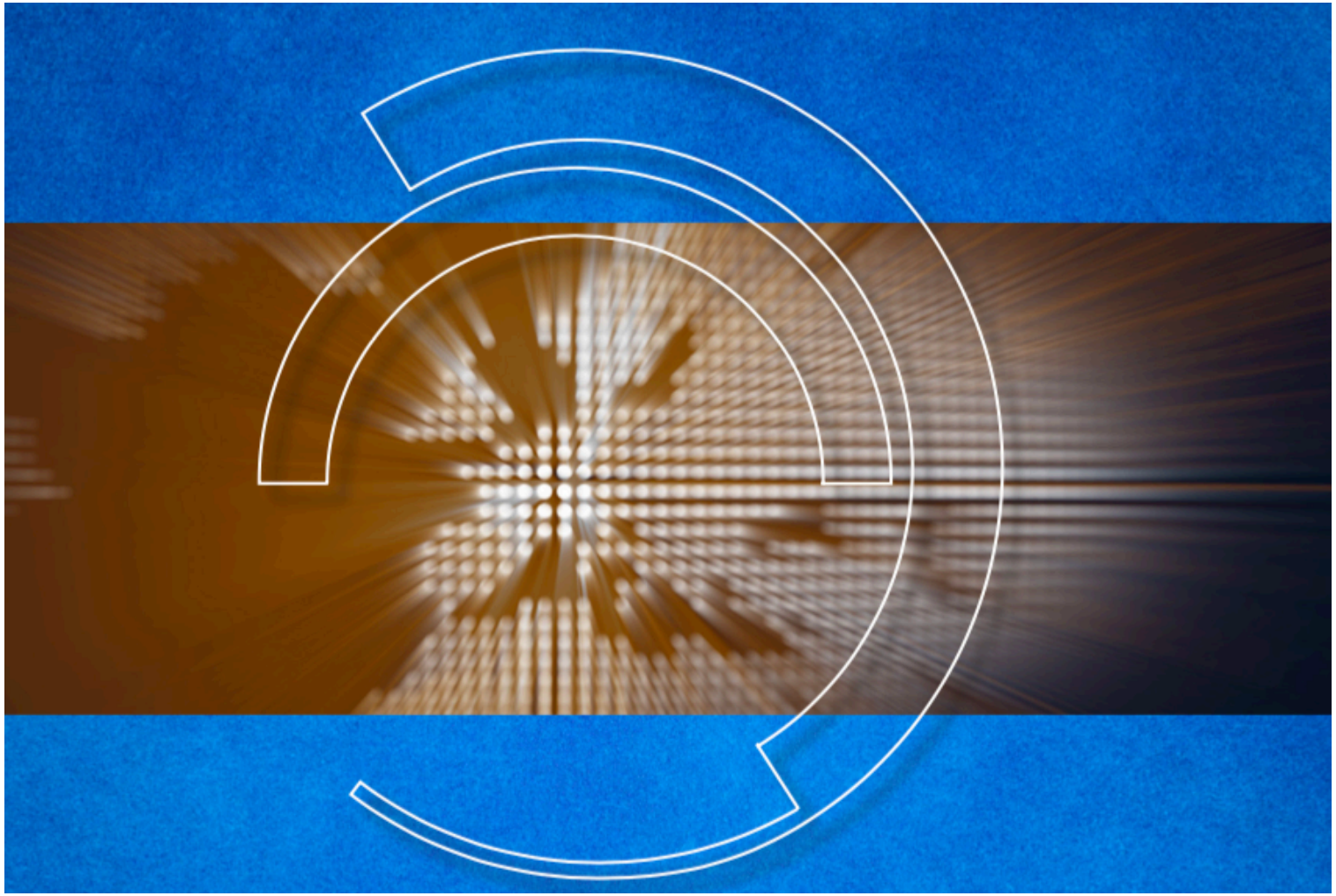


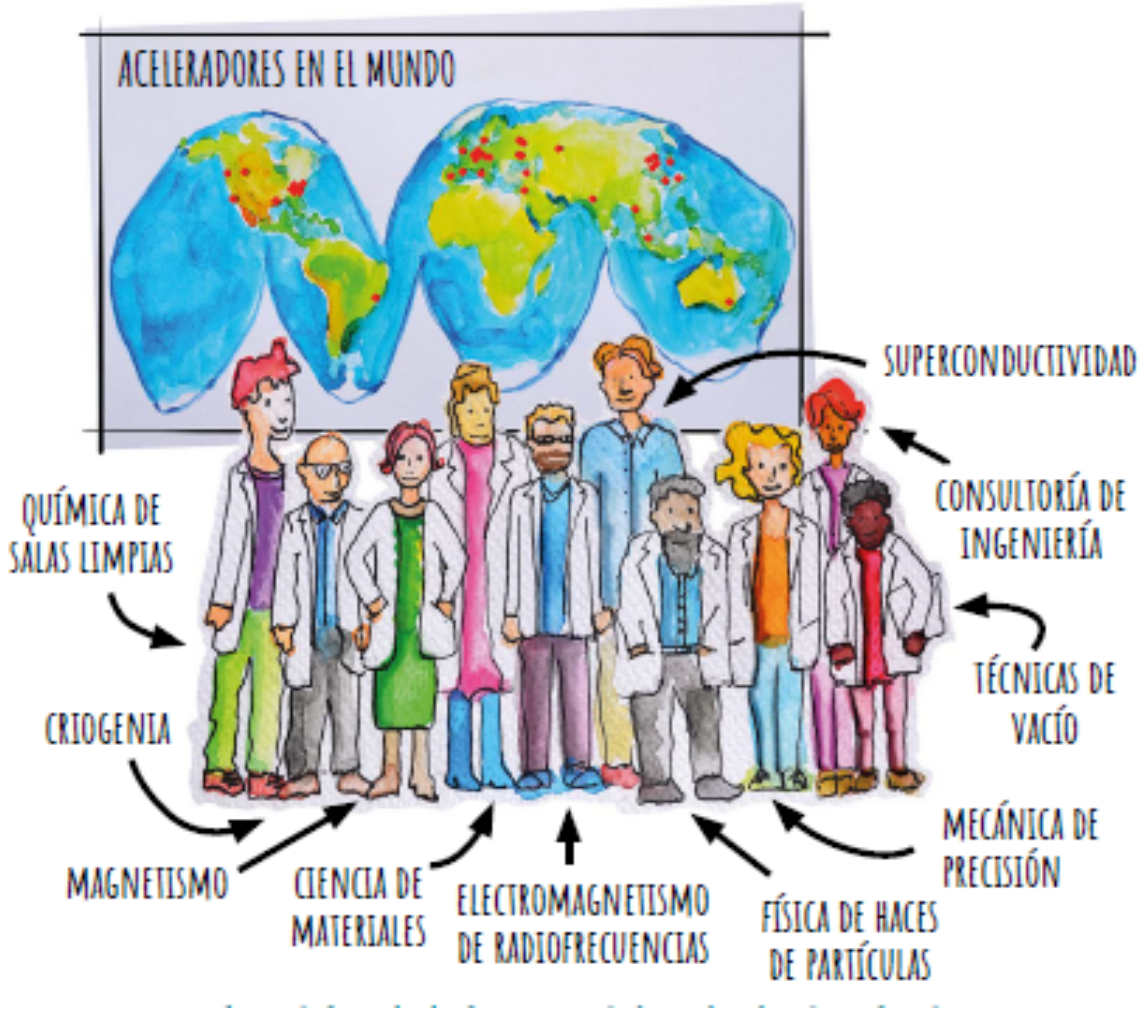
European Strategy for Future Accelerators

A long journey to the Future Circular Collider

Requires an entire generation of experts

Several discipline in one !

- Mechanical engineering
- Superconductivity
- Electromagnetism (radio-frequency)
- Material science
- Particle Physics
- Magnetism
- Cryogenic
- Ultra-high vacuum



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B. Particle physics, with its fundamental questions and technological innovations, attracts bright young minds. Their education and training are crucial for the needs of the field and of society at large. ***For early-career researchers to thrive, the particle physics community should place strong emphasis on their supervision and training.***

Emphasis on the education and the career of young students.

Environmental and societal impact

Lascala : Large scala accelerator and laser

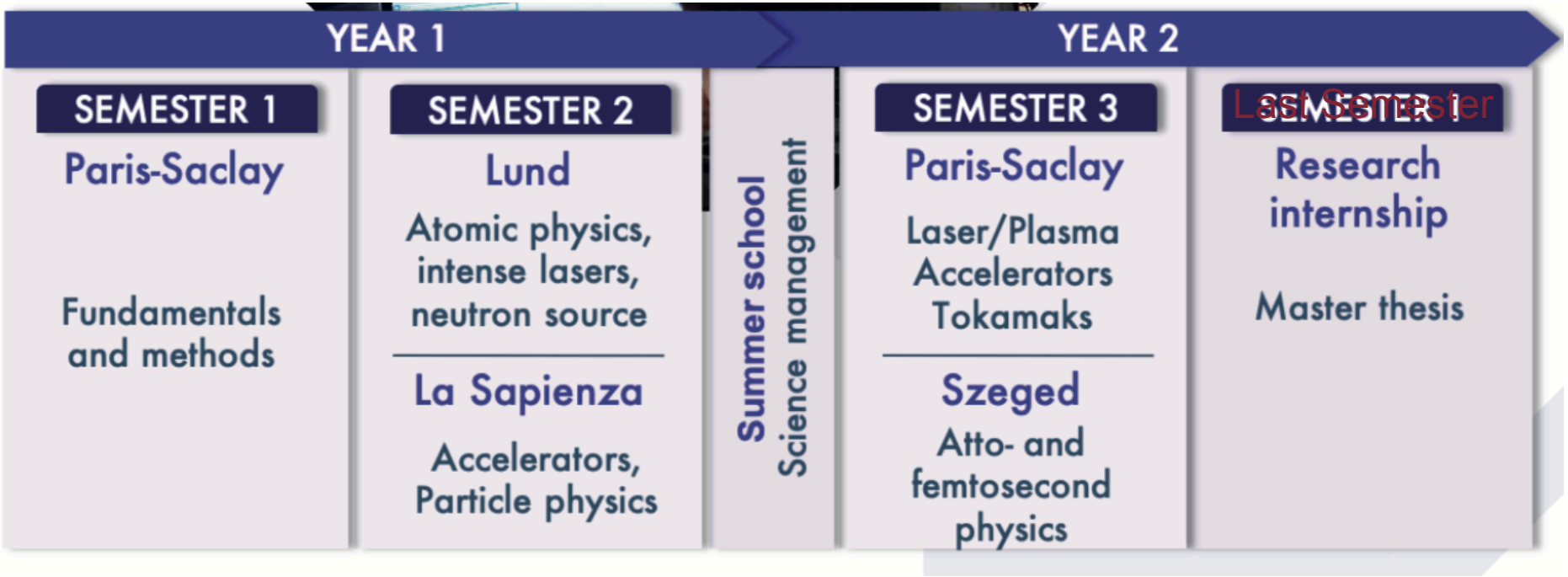
université PARIS-SACLAY · SAPIENZA UNIVERSITÀ DI ROMA · SZTE UNIVERSITY OF SZEGED · LUND UNIVERSITY

Lascala
Erasmus Mundus Master

- To grow **experts** in accelerators, high power lasers and associated advanced sources.
- Training includes **laboratories** and hands-on activity in large scala facilities (Paris research area, INFN LNF, …).
- Summer/winter school to foster students enterpreneurial skills.
- Contact with SME and research and innovation centers.

Here in Roma you will focus on particle physics and accelerator

Mobility of students



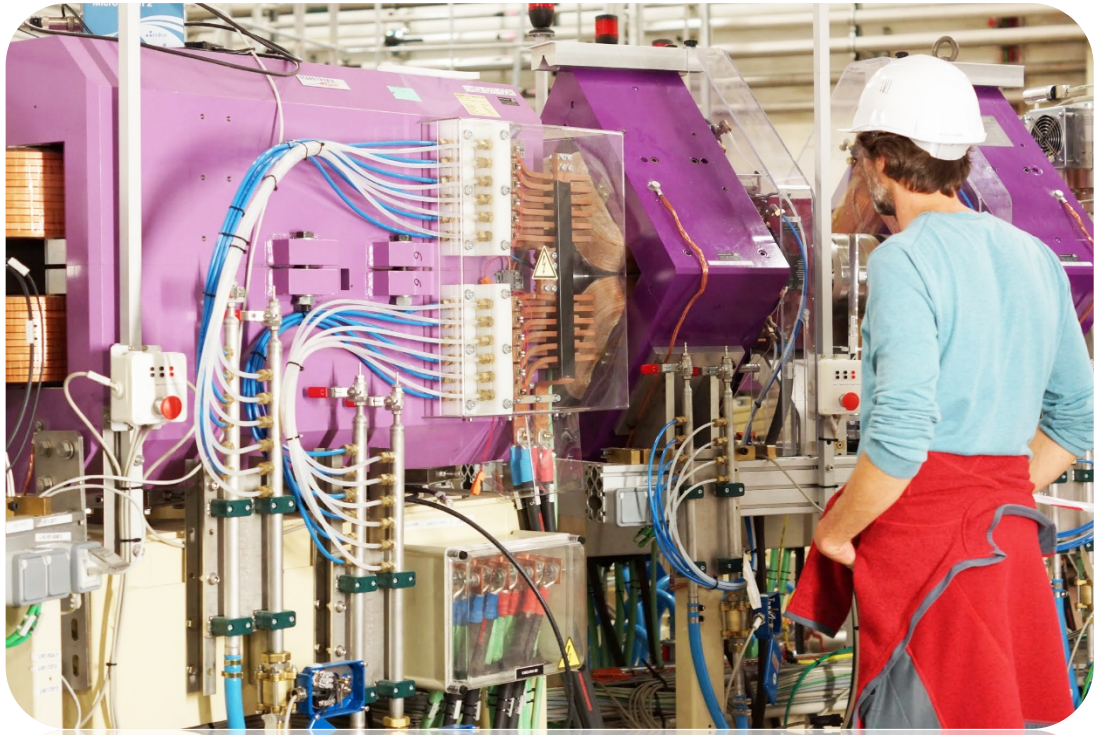
- Naturally connected to our Fundamental Interactions : theory and experiments

In Sapienza we have Ph.D. school in Accelerator Physics

Collaborations

- Access to **CERN**,
  ITER (Cadarache), **Soleil** synchrotron, **ELI** (Hungary), **LNF** (Italy).
- Partrner
  Princeton Univ (USA),
  Weizmann Inst (Israel),

- Summer school at ESI
  in Archamps (FR) close to CERN
  on Big Science management



Courses at Sapienza for Lascala students

Compulsory courses (21 ECTS):

- **Physics laboratory II *(9)***
  - *a real hands-on lab*
    also at INFN LNF at Frascati
- **Particle Physics (6)**
  - *Modern particle physics, need background of quantum mechanics, rel. kinematics*
- **Detectors and accelerators in particle physics** *(6).*

Courses for Lascala students – free choice (12 ECTS)

- **Accelerator Physics and relativistic electrodynamics (6 ECTS)**

- Plasma Physics and Nuclear Fusion (6 ECTS)
- Optics (6 ECTS)
- Laser fundamentals (6 ECTS)

- Advanced Machine Learning for Physics (6 ECTS)
- Computer Architecture for Physics (6 ECTS)

- Nuclear physics (6 ECTS)
- Methods in experimental particle physics (6 ECTS)

- Freely choose two out of this list
- Grouped exams of similar type
- I warmly invite you to take “Accelerator…”

Accelerator Physics and relativistic electrodynamics

New course, especially tailored for Lascala students