

LARGE SCALE ACCELERATORS AND LASER

ADMISSION CRITERIA

Bachelor degree (180 ECTS or equivalent) in Physics and related topics.

English skills (TOEFL, IELTS or other proof).

SCHOLARSHIPS

Erasmus+: Erasmus Mundus (for 2 years):
up to 33 600 €

Paris-Saclay scholarships (for 2 years):
up to 20 000 €

Lascale partial scholarship (for 2 years):
fee waiving

ABOUT US

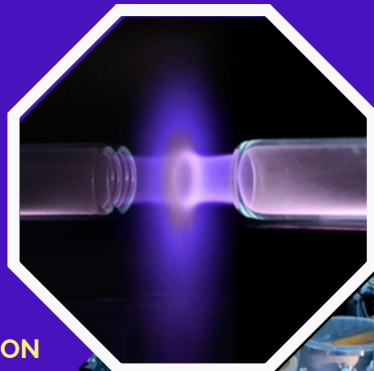
The LASCALE Master's is a two-year international programme run by four leading European universities. It provides advanced training in accelerator physics, high-power laser technologies, laser-plasma interactions, and gravitational wave detectors, with a focus on cross-disciplinary applications such as energy, medicine, and security.

Proposed by 4 european research Universities:

- Paris-Saclay University (France)
- University of Salamanca (Spain)
- Sapienza University of Rome (Italy)
- Lund University (Sweden)

Best features of the Lascale master:

- Mobility experience in up to 4 European universities
- Double or multiple diploma
- Summer school on big science project
- A specialized winter school on Laser-Plasma Interaction, Accelerators or Gravitational waves
- Large network of large scale facilities and companies
- 6 month research internship



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APPLICATION

www.master-lascale.eu

Deadline:
Scholarships:
February of each year

Self-financed students:
May of each year

CONTACT US

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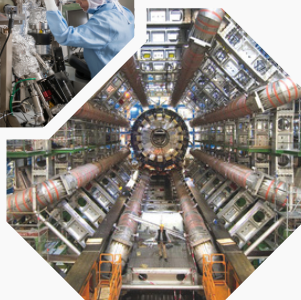
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MOBILITY TRACKS & SPECIALIZATIONS



Create your own master's programme by choosing between the different specializations of our partner universities.

- PATH 1** - Laser, femto and attosecond
- PATH 2** - Accelerators
- PATH 3** - Gravitational wave detectors



YEAR 1		YEAR 2			
SEM1	SEM2	SEM3		SEM4	
Paris-Saclay Fundamentals and methods & General physics Salamanca Fundamentals and methods & General physics	Lund Atomic physics, intense lasers, neutron source Sapienza Accelerators, Particle physics, Gravitational wave detectors	Paris-Saclay Laser/Plasma, Accelerators, Tokamaks, Gravitational wave detectors	Joint Winter schools Gravitational wave detectors Laser plasma Accelerators (JUAS)	Research internship Academia or industry	Joint Master thesis defences
Joint Summer school Management of big science projects					

DOUBLE / MULTIPLE DEGREE

1 academic semester = 1 diploma

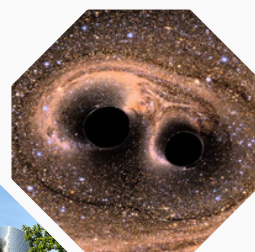
- Master in Physics of Paris-Saclay University
- Master in Photonics of Lund University
- Master in Large Scale Accelerators and Lasers of Salamanca University
- Master in Physics of Sapienza University of Rome

SUMMER AND WINTER SCHOOLS

JOINT WINTER SCHOOLS

A specialized winter school focused on one of the program's core themes:

- **PATH 1 - Laser-Plasma Interaction**, ELI-ALPS, Szeged, Hungary.
- **PATH 2 - JUAS**, ESI, Archamps, France.
- **PATH 3 - Advanced gravitational wave data analysis**, Wigner, Budapest, Hungary.



JOINT SUMMER SCHOOL

Techniques of Oversight in Scientific project Administration (TOSCA) - Archamps, France.

One-week intensive programme on managing large-scale scientific projects (accelerators, lasers, gravitational wave detectors).

- Governance & organization
- Financing & procurement
- Scheduling & quality assurance
- Knowledge transfer & IP
- Sustainability & outreach

SCIENTIFIC AND INDUSTRIAL NETWORKING

Benefit from a full immersion research experience with practicals in research labs, winter schools, on-site visits, seminars and internships proposed by our partners:

- **Research centers:** CLPU (Spain), Elettra Sincrotrone Trieste (Italy), HUN-REN Wigner (Hungary), INFN (Italy), L2A2 (Spain), ELI-ALPS (Hungary), Laserlab Europe (Europe), MAX-IV (Sweden), SOLEIL Synchrotron (France), Central Laser Facility (United Kingdom), Institute of Photonics and Technologies (Taiwan), Structured Light Laboratory (South Africa).
- **Scientific collaboration:** Einstein telescope (Europe), EuPRAXIA (Europe), ECFA (Europe), VIRGO (Europe), LIGO (USA).
- **Companies:** Thales accelerator RF department (France), Thales laser department (France), Amplitude (France).