

Education and Training Panel

Discussion Questions



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Education and Training Panel

Discussion Questions

- What is the career development of a scientist using ELI?
- What kind of education and training programmes does ELI offer?
- What role does Laserlab-Europe play in developing and promoting education and training activities in the field of lasers and photonics?
- Which local academic programmes train the future ELI users and staff?
- Future ambitions: Development of a European Masters programme

ELI Education and Training Activities

Recruiting staff

- Various positions requires different approaches, online, job fairs, universities, etc.
- <https://www.eli-beams.eu/careers/>

ELI Internships

- More than 25 paid internships, 2-6 months, Erasmus+, IAESTE, cooperation with universities

ELISS 2022

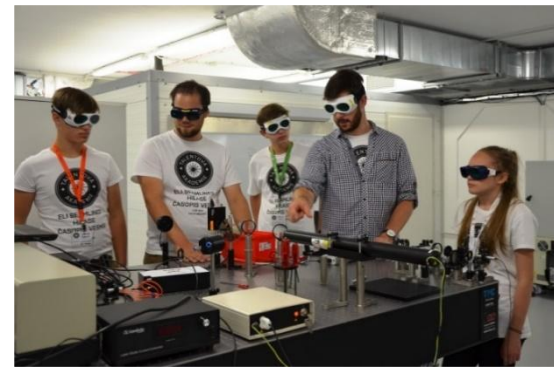
- 30 Aug – 2 Sep hosted at ELI ALPS, Szeged Hungary
- Target group: Uni students, PhDs, postdocs, junior researchers
- Topics: laser physics, PW lasers, plasma physics, particle acceleration, astrophysics etc.
- <https://indico.eli-laser.eu/e/ELISS2022>



ELISS2022
ELI Summer School | 30 Aug – 2 Sep 2022
Szeged, Hungary

Educational competition for secondary school students

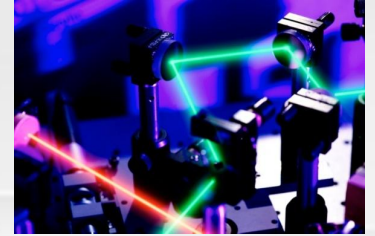
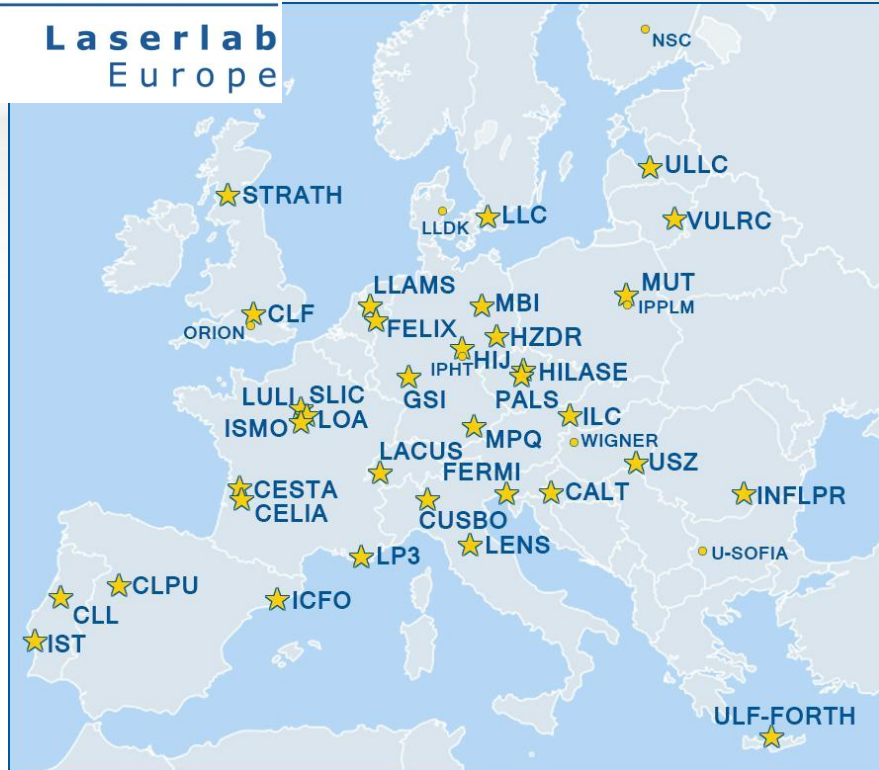
- Talent academy
- Science Challenge



The Integrated Initiative of European Laser Laboratories

EU H2020 Framework Programme and Pan-European infrastructure

34 partners from 22 European countries, 4 subcontractors, 4 associates



• Transnational Access

- providing access to top-quality European laser research facilities for scientists from all over the world
- access management and monitoring infrastructure-users connections

□ Apply through www.laserlab-europe.eu/transnational-access

• Joint Research

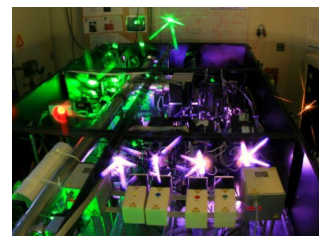
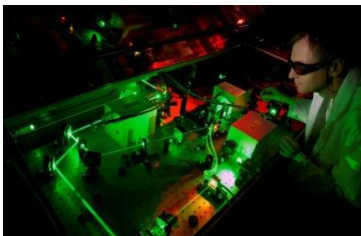
- Primary and Secondary Sources (bottlenecks, metrology, diagnostics tools) and advanced application workstations – **PRISES**
- Advanced Laser-based Techniques for Imaging and Spectroscopy in material science and biomedicine – **ALTIS**

□ www.laserlab-europe.eu/research

• Networking Activities

- joint publicity and dissemination, e.g. Laserlab Newsletter
- fostering collaboration, best practices and exchanges
- user training for researchers and technical staff
- event support for various conferences and seminars
- relations with professional networks in/outside Europe
- foresight workshops
- user meetings

□ www.laserlab-europe.eu/networking



1. PUBLIC RELATIONS

- Public outreach, exhibitions, shows
- News and web-content

2. USER TRAINING

- User training schools and workshops
- User meetings, fostering collaboration

3. EMPLOYEE TRAINING

- Different needs for academy / access providing infrastructures / industry
- 'Best practice' technical workshops
- Staff exchange and mobility actions

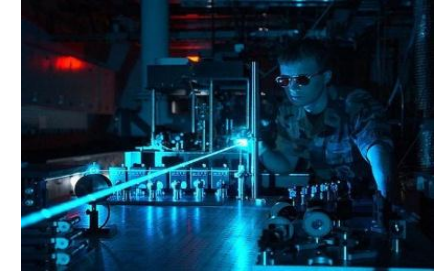
4. TRAINING of INFRASTRUCTURE MANAGEMENT

- Soft skills for effective RI utilization
- Planning the future of the field: Foresight workshops

Europe is comprised of an ecosystem of R&D institutes, labs and companies at different scales and hierarchical levels

- Different areas and organisation levels have particular needs for human resources
- Different types of training and education necessary

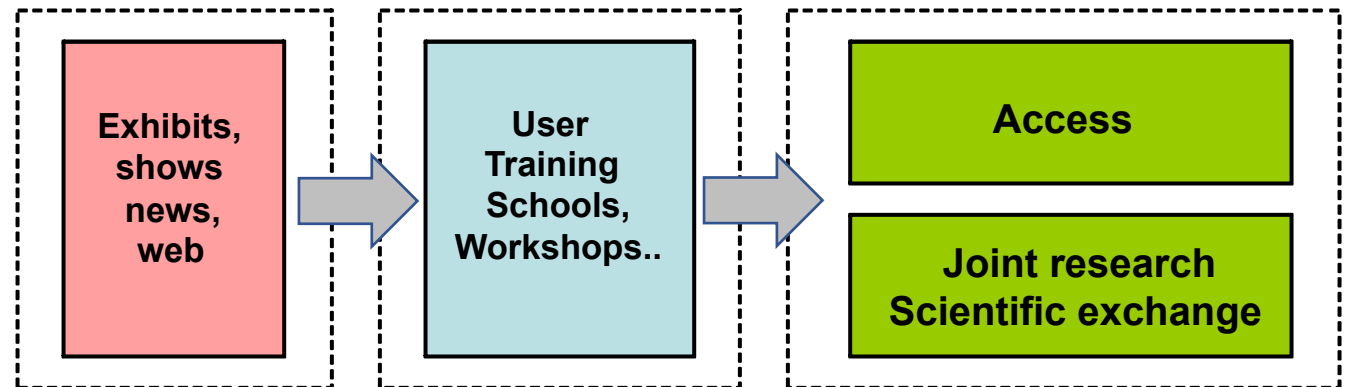
Career development of a scientist using laser infrastructure



PR phase

Training phase

Research phase



Various laser infrastructures and why do we need them?

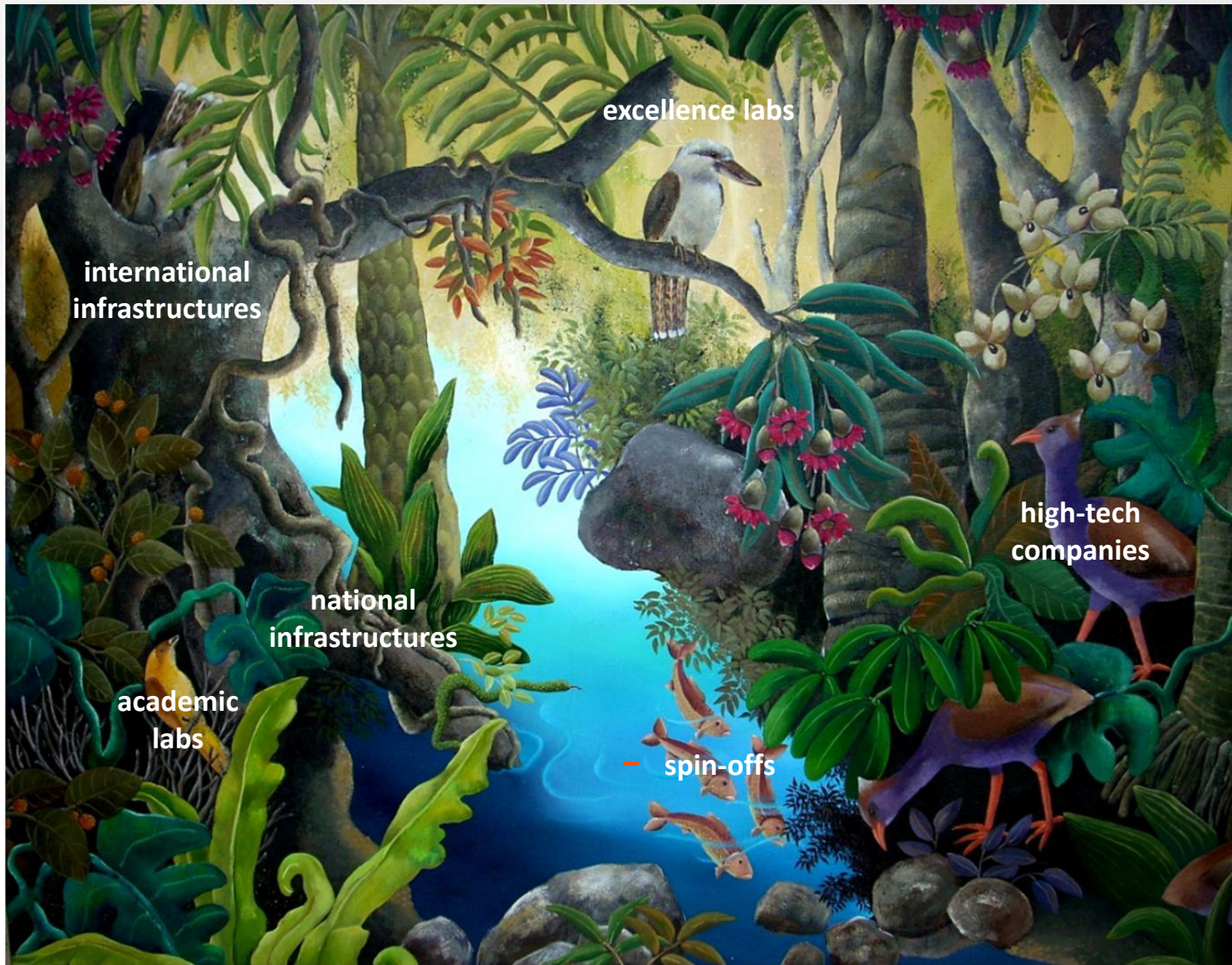
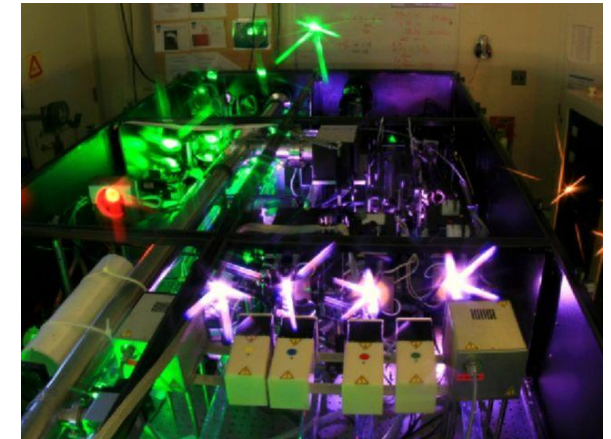


Image © Johanna Hildebrandt - Emerald Lake

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University of Salamanca (USAL) Training Offer Related to Laser Physics and collaborations with CLPU

USAL Study Programme Offer

- Bachelor and Master in Physics and Mathematics (Applied Physics, Theoretical Physics, Mathematics)
- Master in Physics and Technology of Lasers
- PhD Program in Applied Physics and Technology
- PhD Program in Fundamental Physics and Mathematics

Direct Collaboration with CLPU

- Laser Plasma Chair at the USAL (hold by Dr. Luca Volpe), created in 2014
- Main goals: To promote Laser Plasma Physics in USAL and support the experimental activities in Laser VEGA CLPU
- Implementation: systematic and defined programme for BS, MS, and PhD students from USAL to do Internships; Teaching of MA courses in Physics and Technology of Lasers (2 ECTS); Direction of 6 PhD Students in the Applied Physics and Technology PhD Program and 3 PhD Students in the Fundamental Physics and Mathematics PhD Program

Organisation of Summer Schools

- 3rd and 4th of Experimental methods in high-intensity laser-plasma processes 2020-2021(>100 students)
- 2nd Experimental methods for Laser-Plasma Physics 2019 (30 students from all over the world)
- 1st Diagnostic techniques for Laser-Plasma experiments @ HRR 2018 (online 100)
- ERASMUS+ – PowerlaPs training school (March 2019): Laser Plasma Diagnostics - Theory and Experiments

Critical mass in Optics courses

- Universities with specific training in Photonics have been identified
- Networks have been established (**POF – Portuguese Optical Society** www.optica.pt)
- Training opportunities in PT infrastructures

National PhD program in Photonics

- Proposed gather National PhD program around ELI
- Secondments at ELI infrastructures for 1 year
- Such Doctoral Programmes have been highly successful in the past (ex: APPLAUSE at IST)
- Special funding will be sought

Other programmes:

- Masters students funded through IMPULSE – currently 4 at IST, to be widened to whole PT community in next year
- Interest in participating in Erasmus+
- Training of adults (mid career skills conversion): some experience identified in Instrumentation and Electronics