

LSC



Directors Meeting at TAUP

# Experience from European Underground Labs

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## Early collaborations

Driven by scientists with interest in services/space in underground labs.

ILIAS - Integrated large infrastructures for astroparticle science - 2004-2009 (Coord. Gerbier).

DULIA - Deep Underground Laboratories Integrated Activities (not funded in various calls).

## Difficulties

No dedicated budget. Underground Labs are 100% supported by host country.

Joint participation in EU calls failed or not prioritized by community (APPEC).

Coordination is understood as a requirement (and as an advantage) to address future challenges, but not seeing as an essential request from our community.



# Currently Working Members

## Underground Labs

**LNGS**, Ezio Previtalli and Aldo Ianni (also in APPEC JS)

**LSC**, Carlos Peña Garay (also in APPEC GA and JS)

**LSM**, Jules Gascon; **LSBB**, Ignacio Lázaro

**Boulby**, Sean Paling

**CallioLab**, Julia Puputti

**VIRGO**, Massimo Carpinelli

## Institutions:

**Germany**: Daniel Bemmerer (Felsenkeller). **Portugal**: Cristina Maria Bernardes Monteiro (LIBPhys-UC ). **Romania**: Alexandru Gherghel-Lascu (IFIN-HH ). **Poland**: Leszek Roszkowski (Copernicus Astronomical Center); Grzegorz Zuzel (Jagiellonian University). **Czech Republic**: Ivan Stekel (Technical University Prague ); Marie Davidková (National Radiation Protection Institute). **Ukraine**: Fedor Danevich (Institute for Nuclear Research). **Slovakia**: Fedor Simkovic (Faculty of Mathematics, Physics and Informatics, Bratislava); Martin Plesch (Institute of Physics, Bratislava). **Serbia**: Dejan Joković (Institute of Physics Belgrade)



## GOALS

establish a robust **cooperation and coordination in key services**

establish a **European trans-national (TA) access** policy

coordinate existing facilities to support research by a **Virtual Coordination Office**

**coordinate** ULs strategy for **future investments**

## ACTIONS

1st common Workshop at LNGS in 2022

Joint participation in EU calls (APOGEIA, ...)

**NEW.** Joint proposal submitted to 2023 COST Action

**NEW.** Coordinated activities by ULs worldwide

- Frontiers: Science and Technology in ULs

**NEW.** Establish TA and Research Coordination agreements between Laboratories.



# Investments and Operation Costs for EULs

DUL	Infrastructures and services [M€]	Operational costs (infrastructures and personnel) [M€/yr]	Operational costs (infrastructures no personnel) [M€/yr]
Boulby	4.52*	1.5	0.7
CallioLab	0.1 (Clab)/2.5 (entire underground infrastructure)**	0.3	0.05
LSC	10.7*	1.6	0.6
LNGS	38.0*	13.6	5.4
LSBB	6.450*	0.77	0.12
LSM	0.7*	0.75	0.25
<b>TOTAL</b>	<b>62.87</b>	<b>18.5</b>	<b>7.12</b>

\*Investments in new plants and facilities since 2017

\*\*Research space is rented from mine reuse operator on a project-basis. Upkeep of entire underground infrastructure approx. 2.5M€, responsibility of mine reuse operator.

## OUR WORK WITHIN APPEC

1. Prioritize the European Underground Laboratories coordination (research in services and transnational access) within the APPEC strategy.
2. Activate support from APPEC within the consortium and with EU Institutions. Prepare and present a dedicated portfolio on the EULs coordination project.
3. Get APPEC prioritization to financially support DUL coordination.

Laboratorio Subterráneo Canfranc



# Bold DULs

