

**LSC 33rd Scientific Committee Meeting
November 20-21, 2023
Canfranc Estación, Spain**

Summary, Conclusions and Recommendations

Introduction

The 33rd meeting of the Canfranc Underground Laboratory (LSC) Scientific Committee was held on November 20-21. There were oral presentations by BabyIAXO, TREX-DM, DArT, CaDEX, CROSS and NEXT. The Committee also reviewed written reports from ANAIS and ICRQ and had the opportunity to visit the underground infrastructures.

The director gave an interesting overview on the status of the lab. The team is steadily growing to address the increasing commitments of LSC. Highlights of the last months include the GeRysy germanium detector, the precision of the ICPMS equipment, the contributions to HK, the CPD computer and the inauguration of NEXT-100. The Committee was impressed by the progress in several areas and was glad to hear about new agreements of the lab (with LNGS and with the GADMC collaboration).

On November 7th, a progress meeting of the biology projects in the LSC platform took place at I2SysBio institute in Valencia. The meeting was attended by the members of the BIO subcommittee, the PIs of the projects and many researchers and students from the center. Victoria Ley reported very interesting and lively discussions at the meeting and increasing collaborations among the different biology teams.

The Committee realised that several of the reports were affected by formatting issues making difficult to read them. For this reason, we suggest to submit future reports in pdf format with a maximum length of 6 pages. Please include the sections: status, plans and requests to LSC. If experiments want to submit additional material, we kindly ask to submit that in a separate document.

The next meeting will take place on May 21-22 (2024) and the reports are due on May 10th. The meeting of the BIO platform will take place at LSC on April 29th and the reports for these projects are due on April 19th.

BIO Platform:

A meeting of the Cosmic Silence Biology experiments took place at the I2SysBio Valencia on

November 7th. At this meeting, there were presentations of two of the three BIO projects that have already started (J. Menéndez could not attend due to illness but sent his presentation) and three others that will begin shortly. Below we make a short description of the status of each of them. The meeting was attended by the members of the BIO subcommittee, the PIs of the projects and many researchers and students from the center.

General considerations:

Organizers, Committee and participants agree that these progress meetings are very useful to follow up the results obtained by other projects in the platform, and to discuss experimental approaches or material means that can be useful to various groups. In fact, several PIs are already collaborating with each other on analyses and determinations necessary for their projects. It is also interesting to share the observed phenotypic and genotypic adaptations of the different model organisms to the cosmic silence situation in order to find similarities or differences. In this sense, an interesting discussion arised about what is the adaptation period to low radiation conditions, and what times should be considered “long term” or “short term” experiments for each organism.

Some PIs asked whether the access hours to the underground laboratory could be extended. LSC director explained the security and human resources problems that this could raise, but agreed to try to find solutions, if necessary, in the future.