

Announcement of Opportunity for Large Sponsored Scientific Programs at LBT

The Large Binocular Telescope Observatory is inviting researchers at Member and non-Member institutions to develop proposals for large scientific programs with potential for grant funding, with enabling support provided by the Observatory.

Background. Starting from 2026, a substantial part of LBT observing time (potentially up to 25%, equivalent to approximately 70 nights/year) will be available to scientists and institutions, including those not currently members of the LBT Corporation, upon payment of a per-night fee. Details of the various options are described in an accompanying document.

This mechanism opens the possibility for scientists to develop ambitious science programs linked to large allocations of LBT time if adequate resources are secured through independent funding programs.

The ultimate goal of this announcement is to trigger the execution of transformational science programs that leverage the unique features of the telescope and its instruments.

Scientific Programs While any kind of program with LBT instrumentation can in principle be proposed, projects that are mostly likely to achieve success are those that fit within the capabilities of the facility and factor in limitations imposed by observing conditions and scheduling.

It is recommended to have a broad set of targets to ease scheduling and observability across the year. Time constrained observations are possible, with feasibility related to complexity in the number and timing of visits, and sensitivity to losses due to weather. Seeing at Mt Graham can be excellent, but variation across a single night is common.

As an example of programs that can most benefit of LBT features we mention:

- High resolution ($R \sim 200,000$) spectroscopy with PEPSI of bright targets for stellar/exoplanet characterization.
- Moderate resolution optical-to-infrared spectroscopy of faint targets with MODS and/or LUCI, for transient discovery and characterization.
- High resolution optical-to-IR AO-assisted imaging of sources with the unique suite of AO-fed instruments (LBTI, SHARK-IR and SHARK-VIS)

Information on existing instruments is available on the LBTO website at [this link](#).

To exploit this possibility, we encourage scientists to consider the design of ambitious science programs with LBT instrumentation, backed by a strong team and a plan for seeking financial support to secure observing time and resources for execution.

The ideal program:

- is led by an internationally acknowledged scientist, not necessarily affiliated with a Member of the LBT Corporation.
- is aimed at obtaining transformative results in one or more scientific areas.
- is organized in a wide collaboration with a strong and diverse team.
- is supported by and includes personnel from more than one LBTC Member Institution.
- includes scientific members of non-LBTC Institutions.
- is organized over a multi-semester campaign, to increase the scientific impact and optimize the observational opportunities.

Member Institutions of the LBT Corporation are keen to explore the possibility of contributing to the project with a fraction of their observing time and support of their most experienced LBT users. The LBT Observatory is keen to provide technical support and will ensure that scheduling requirements of the programs are met.

The possibility of executing a fraction or all the observations in Service Mode can also be negotiated with the Observatory.

Data will be stored in the LBT Archive and will be proprietary for one (1) year, potentially extendable if required.

Questions regarding this announcement or technical aspects of the telescope and current instruments, can be sent to LBTO Director Joe Shields, jshields@lbto.org. Early communication is encouraged to facilitate feedback and connection with potential collaborators.