Mountain Visit Logistics and Planning

Large Binocular Telescope Observatory

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Topics Covered in this Section

• What to bring & travel planning
• MGIO Base Camp
• Electronic tag board: Simple In/Out
• Radio communication
• MGIO Access Road and gate locking
• Arriving on site
• Telescope & site general rules and information
What to Bring...

• Medications (extra in case of emergency extended stay due to weather, fire, etc.)
• Healthy Food (we have a self-service kitchen) & water bottle
  • Healthy complex carbohydrates and proteins provide sustained energy.
• Warm clothes and footwear, regardless of time of year
• Sandals for use in the shower and common areas
• Safety shoes and other personal protective equipment (PPE) needed for the job (e.g. hardhat, safety glasses, work gloves, fall harness, sun glasses, etc.)
• Certification cards for any equipment you will need to operate
• Flashlight with spare batteries
• Other Medical items/equipment
  • Asthma Inhalers, epi pens
  • CPAP, sleep aids
  • Accessibility devices
  • Please notify your sponsor/supervisor if you have specific health concerns.
Travel Planning

• Before traveling, LBTO Tucson Staff and Working Visitors must coordinate all travel plans with their supervisor/LBTO Sponsor.

• Working Visitors (non-LBT) staff must pre-register for their visit online ideally 3 weeks prior to departure. See Ch. 4.17 “Working Visitor Registration and Safety Training.”

• Complete Site Safety Orientation training prior to your trip. First time visitors require a walkthrough by Manager on Duty (or designee) upon arrival.

• Schedule work using the scheduling request tools (“Work & Parts Requests” slide to follow).

• Plan for the weather, as roads are rough, and weather can be extreme. Seasonal vehicle requirements are in effect.

• Full LBTO Vehicle Travel Safety Requirements M004s00312
  • Details covered later in “Mountain and Site Safety” module.

Make the safe choice...
MGIO Base Camp

• MGIO Base Camp is the checkpoint when traveling to/from the telescope.

• MGIO crew are responsible (along with ADOT) for road maintenance, facility services (electrical, communications, water, waste), and custodial services.

• Directions to MGIO Base Camp:
  • [https://mgio.arizona.edu/directions-mgio-base-camp](https://mgio.arizona.edu/directions-mgio-base-camp)

• MGIO Information for Observers, Staff, and Contractors:
  • [https://mgio.arizona.edu/observers-staff-and-contractors-0](https://mgio.arizona.edu/observers-staff-and-contractors-0)
  • PLEASE READ “ORIENTATION” and “SAFETY” documents on the MGIO page.

• When stopping at base camp:
  • Utilize the Simple In/Out electronic tag board system (more later).
  • Acquire/verify vehicle emergency kit with contact cards, MGIO Radio, & gate key.
  • Check vehicle fuel and fluid levels, tire pressure, and spare tire kit.

*Note: First time visitors must read/sign the squirrel permit in the office.*
Electronic Tag Board
“Simple In/Out”

• Contact admin@lbto.org for an account if you have not been assigned one during registration. Then log in:
  • https://www.simpleinout.com/en/list
  • Android and iOS (iPhone) apps available in app stores.

• Once you pass MGIO Base Camp (“on the mountain”), you must keep your location up-to-date on Simple In/Out electronic tag board. (Statuses to the right)
  • Use “SR366” for the road, and “LBTO” for telescope. You will continue using the white magnet board while in the building.

• There are multiple statuses including the road and the buildings, so be sure to keep your status up to date as you travel (see status list to the right).

• Be sure to be accurate. This system will be used:
  • In an emergency for roll call
  • To better locate you if you go missing while driving
Radio Communication

• Always perform a radio test to be sure your radio is sending/receiving properly.

• There are 2 types of radios in use on-site:
  1. “MGIO Radio” (Outdoors)
     • Used from base camp traveling to LBT.
     • Set to “MGIO Rptr” (repeater)
     • Call for uphill/downhill traffic on the access road.
     • Take with you on walks, call for clearance on access road.
     • Use for emergencies while on the road/trail.
  2. “LBT radio” (Indoors, once you are inside LBT)
     • Used once at/inside LBT
     • Set to Ch. 12
     • Used to communicate for work inside LBT
     • Used for emergencies while inside LBT

• Required: Carry a working MGIO radio at all times while traveling in a vehicle or outside of the LBTO building.

• Required: Carry a working LBT Radio with you at all times while indoors.
MGIO Access Road

• The MGIO Access Road is a right-hand turn off of SR-366 (dirt portion) at milepost 142.3 (26.7 miles from MGIO Base Camp).

• The Access Road is narrow, steep, and winding, only safely allowing 1 car at a time. Encountering oncoming traffic could result in getting stuck.

• **Radio Clearance is Required before traveling up or down the access road.**
  - FROM MGIO “ORIENTATION” DOCUMENT:
    “One (?) vehicle(s) to proceed up the access road – downhill traffic advise.” If there is no response you then say “One (?) vehicle(s) proceeding up the access road.” You would use the same text for going downhill, just reverse the directions. Be aware, there may still be traffic on the access road. Drive with extreme caution. Be sure to “squawk” your radio identification code at the end of transmission – FCC regulation!

• Access Gates: There are 2 gates, but only 1 in use at a time, depending on the season. Regardless, please correctly re-lock whichever gate you come through.

*Make the safe choice...*
MGIO Access Road Gate: Notice that if you were to unlock ANY of the 3 locks, you would be able to open the gate. This condition must ALWAYS be maintained so that the other groups can enter. In the picture, the blue master lock is our MGIO Lock.
End-Of-Pavement Gate: To be properly closed, the sliding rod must be to the right, the pin goes through the hole in the sliding rod, and the 2-lock holder slides through the bottom of the pin. Notice how if you remove EITHER of the TWO locks, you can open the gate. This condition must ALWAYS be maintained so that the other groups can enter.
Arriving at the LBTO

Front Door:

- If door is open, come in...
- If door is locked, use the code to open the lock box in the lobby and retrieve the key.
  - The code is the same as the base camp code.
  - Return key to lock box and scramble the #s.
- If you do not have the code, pick up the phone, press line 1, and dial 626-1466. This is the main # for the mountain.

Make the safe choice...
Arriving at the LBTO

Each time you arrive:

1. **Check in:** Write name on whiteboard, and indicate “in” with magnet. Change Simple In/Out status to “LBTO”

2. **Get & test an LBT radio** from lobby or kitchen. Set to ch. 12.

3. **Notify Manager immediately** of your arrival over the radio or in person.

When your stay is over, reverse it: Say goodbye, drop off your radio, and check out.

*Make the safe choice...*
Emergency Response Document Binders

- Emergency response documents (current versions) are in hard copy binders located:
  - Level 1: Lobby, in the podium
  - Level 2: Kitchen, on the shelf
  - Level 5: Aux Control Room (on shelf by AED)

- What’s included:
  - Phone, Radio, Maps
  - Site Evacuation Plan
  - Forest and Structure Fire Plans
  - MGIO Emergency Response Plan
  - Administering Oxygen Procedure
  - Fall Rescue Plan

Make the safe choice...
# Mountain Management

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
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<tbody>
<tr>
<td>Acting “Manager on Duty” MoD</td>
<td>Varies* (look at whiteboard in lobby for person with pink magnet labeled “MGR”)</td>
</tr>
<tr>
<td>Assistant Observatory Manager</td>
<td>Michael Wagner</td>
</tr>
<tr>
<td>Associate Observatory Managers</td>
<td>Bruce Bingham</td>
</tr>
<tr>
<td></td>
<td>Rick Hansen</td>
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<td></td>
<td>Jay Prothro</td>
</tr>
<tr>
<td>Safety Manager/Engineer</td>
<td>David Carroll</td>
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*LBT staff, such as mountain technician, engineer or other observatory management member, can be assigned “Manager on Duty” on site. Always ask who is manager when you arrive, or check the white board for the “MGR” Magnet.*
Manager on Duty (MoD)

- The “Manager on Duty” (MoD, or acting manager) has the final say in all decisions regarding operations and safety while on site, unless the issue is escalated to a member of senior management.
- There is always an MoD at the observatory. The Manager on Duty is indicated by pink “MGR” magnet on whiteboard.
- At night, the Telescope Operator (Observatory Support Associate) takes over these duties while the MoD sleeps.
- MoD can be woken up by knocking on their dormitory door, or by calling them at their dorm room emergency number: 928-828-0001.
Access & General Rules

- First-time visitors are to complete a walkthrough training with the manager on duty (or designee) soon after arrival at the observatory.
- Please stay in designated, pre-defined work/living areas. *Observers please do not venture past living quarters and control room without a manager’s escort.*
- Always carry a flashlight and indoor LBT radio. Perform a radio test.
- Obey all safety signage.
- Closed-toe shoes are required in all areas.
  - Exception: Sandals are ok in living quarters, kitchen/TV room, and control room.
  - No bare feet outside your dorm room/bathroom!
- Daytime sleepers are among us. Please be quiet in the living quarters and avoid the NW Staircase.
- Never work on, or operate, the telescope or any equipment within the facility after consuming alcohol or drugs that could impair your ability to operate them safely.
- Access Onto the Telescope:
  - Manager pre-authorization is required. The telescope could be in use.
  - Lock out is required before going on. Telescope and rotators are controlled remotely.
  - Individuals with reason to be on the telescope must first be shown in-person how to safely lockout the telescope (walkthrough training).
Walking Outside of the Observatory

• Beyond Yellow Rope is off limits
  • Never cross over the yellow ropes surrounding the buildings/road.
  • Crossing is a violation per US forest service and will result in a fine.
  • Do not hike in forest above 10k feet.

• When Walking Outside...
  • **Notify the Manager** – Notify the Manager when you leave and when you return.
  • **Use the White Board** – Write where you are going on the white board: “@walk” “@VATT” or “@SMT”
  • **Take MGIO Radio** – Take a hand-held MGIO radio and always respond to vehicle requests if walking up/down the access road.

• See wildlife safety.

**Make the safe choice...**
Common Areas

• **Kitchen**
  - Clean up after yourself. We all share this space.
  - Label food in refrigerator (follow instructions on front)
  - Do not leave food unattended in microwave, toaster or ovens.
  - No food or grease down drains.

• **Control Room**
  - Do not reconfigure or remove computer equipment. Contact IT if you need assistance or equipment.
  - Do not leave food or trash on desktops.
  - Ask the OSA a.k.a. Telescope Operator (TO) for approval to store items, and be sure they are labeled by owner.

Make the safe choice...
Manager On Duty and Coordination

• **Attend the morning meeting each day @7:30 am in kitchen to plan for the day and coordinate activities.**

• While on site, if you need assistance from the LBT mountain crew during your workday, you must request it through the manager on duty (MoD).
  • Do not request work directly from the mountain staff unless they have been instructed to assist you.
  • Give adequate notice for extended requests so that resources can be scheduled appropriately.

Make the safe choice...
Work & Parts Requests

• All work on the telescope should be requested, approved, and scheduled prior to your trip.

• Request Forms can be found on the Mountain Ops Wiki:
  • [https://wiki.lbto.org/MountainOperations/WebHome](https://wiki.lbto.org/MountainOperations/WebHome)
  • This includes:
    • Telescope Work Request
    • Simple Mountain Task Request
    • Engineering Support Request
    • Parts Request
    • Base Camp Vehicle Maintenance

• Guidelines for the above requests, and when to use them is found here: [https://wiki.lbto.org/MountainOperations/Guidelines](https://wiki.lbto.org/MountainOperations/Guidelines)

• Once approved, the work requests will automatically show up on the telescope calendar.

Make the safe choice...
Use of LBTO Equipment

• Prior approval is required for use of any LBTO equipment.
  • You must prove completion of the required training before operating equipment.
  • Contact the Manager on duty to request approval.
  • For assistance from LBT staff members with equipment, you must contact the mountain manager prior to arriving on site.

• Examples:
  • Welding equipment
  • Man lifts
  • Cranes
  • Powered trucks
  • Supplies
  • Hand or power tools
  • Tethered tools

Make the safe choice...
Borrowing Tools & Supplies

• When items are borrowed and not returned, LBT staff must track them down.
  • This costs time lost and loss of observing time!
  • This is frustrating to staff.
• If you borrow tools, parts, or equipment, please always return them to where you found them.

Make the safe choice...
Telescopework@lbto.org & Changes to the Telescope

• To prevent science, equipment and safety losses in the LBTO community, always communicate configuration changes made to the telescope and/or to instruments via an email to the following address: telescopework@lbto.org

• This applies to: all LBT Staff and Visiting Partners/Instrument Teams performing work. If necessary, LBTO Project Managers/Engineers will manage email communications for their contractors’ scope of work.

• First, the worker or work group should designate who within the group will make the communications. Normally, this is:
  • Facility Instruments: LBTO Engineer, ISA, ISP, Manager or designee.
  • PI Instruments: To Be Determined by the working group.

• Second, call the Manager on Duty (520-626-1466) for permission and to verify if the telescope is ready.

• Send an email before starting the work. Email to include (but not limited to):
  • Equipment to be worked on and by whom.
  • Description of the work scope and estimated duration.
  • Any impact to the dome, enclosure, telescope, instruments, or any other equipment while work is in progress.
  • Relevant instructions that must be followed while work is in progress.

• Send another email after work is complete. Email to include (but not limited to):
  • Equipment worked on and current status (e.g. the state or configuration of equipment).
  • Description of work that was completed.
  • Any impact the work has or could have on operations
  • Relevant instructions
  • A release of the equipment back to operations.

• Examples of actions that would require telescopework emails:
  • All temporary and permanent software and hardware configuration changes
  • Testing, tuning, adjusting, calibrating, troubleshooting, installing, modifying, moving, removing, and inspecting (if it requires removing covers or otherwise moving components or cables to access).

Make the safe choice...