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|  | GEMINI SAFETY AND HEALTH MANAGEMENT SYSTEM | Element: 5.60 Off the Job Safety |  |
| GUIDE FOR VISITORS TO THE GEMINI SOUTH TELESCOPE | | Date: 07/08/09 | Rev: 04 |
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MEDICAL ALERT

The Gemini Telescope is located on the summit of Cerro Pachon, at an altitude of approximately 2715 meters. Ascent to this altitude exposes you to a reduction in atmospheric pressure, which can result in a variety of medical conditions. For the majority of visitors, this mid-level altitude causes few or no problems. However, some visitors to the Gemini site may suffer some of the following symptoms: headaches, dizziness, tiredness, irritability, insomnia, reduced intellectual capacity, impaired exercise/exertion tolerance, and vomiting. It is also possible, although rare below 3000 meters, to develop one or more of the more severe mountain sicknesses: pulmonary or cerebral edema, both of which can be fatal. **IN THE EVENT OF ANY SUCH PROBLEMS, YOU SHOULD IMMEDIATELY INFORM YOUR GUIDE.**



The altitude may also aggravate pre-existing disease, particularly cardio-vascular and respiratory diseases. Individuals with these conditions should make sure to seek professional medical advice before planning any trips to the summit.

You should stay rested and ideally avoid heavy meals and alcohol on the day before your trip to the mountain.

Please note that you should carry with you and drink plenty of bottled water or juice, in order to compensate for the low humidity and avoid dehydration at the summit. Don't walk too fast when you're at the summit.



Avoid unprotected eye exposure to glare and bright sunlight at the summit by wearing dark glasses, preferably with UV-coated lenses (Any visitor driving on the dirt road towards the telescope shortly after sunrise, or driving down close to sunset, will – apart from the hazardous conditions mentioned above – also have direct sunlight shining into his eyes).

It is recommended that you have a hat and sun block. The sunlight can be very intense, especially in the summer.

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ROAD WARNINGS



1. The Gemini Telescope does not offer transportation for visitors. The drive from La Serena to Cerro Pachon takes approximately 1 ¾ hours. Of this journey time, approximately half is on a standard Chilean highway and half is on a dirt road. Whilst the road is maintained in good condition, you should be aware that conditions can change markedly on the mountain at short notice. You should therefore ensure that the vehicle you will be using to make the trip is adequate for such a journey.
2. Before entering AURA property, drivers must have checked tires and levels, including the spare, have sufficient fuel and ensured the vehicle is in good condition with basic tools. Fuel is not available on Cerro Pachón. Visitors must pass AURA-O Security to enter AURA property, **for which a pass must be obtained from Gemini prior to leaving La Serena.**
3. Drivers and passengers must wear their safety belts.
4. Roads leading to the summit can be very dangerous and present a hazard to those driving or riding as a passenger. Drivers must be extremely cautious of the winding, unpaved road, steep slopes and drop-offs.
5. Drivers must be alert to on-coming traffic as also to wild life and natural landscape that are protected within AURA precincts. Do not litter. Do not disturb nor feed wild animals. Horses, rabbits and foxes are frequently seen on the road. Take care not to run them over.
6. Drivers must proceed with caution at all times, but particularly so when visibility is poor (e.g. fog, darkness, at sunrise or sunset) or when climatic conditions (such as excess rain, snow or ice) could constitute an increased hazard risk.
7. The speed limits vary between 30km & 70km per hour and are marked by road signs and must be adhered to at all times. Drivers must reduce their speed accordingly to match the prevailing road and weather conditions at the time of their visit. Excessive speed has been found to be a major factor in most of the accidents that have occurred on AURA's roads.
8. Winter conditions may cause particularly hazardous conditions on the road to Cerro Pachón. Visitors are not allowed to drive when there is snow on the road. Trips may be cancelled due to snow and other causes of bad weather.
9. Please take into account that the brakes on your vehicle must be in very good condition. They could be a lifesaver. Please take into account that when driving down the mountain, you should use low gears. Avoid traveling down in automatic or in high gear with your foot constantly on the brake, as doing that could mean you have no brakes left when you get to the bottom. This is not a joke.
10. Driving too close behind a vehicle making its way up or down the mountain at the same time as you is not only a cause of unnecessary discomfort (caused by dust), it is a serious safety hazard.

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SAFETY GUIDELINES AT THE TELESCOPE

Gemini Observatory is continuously improving its facilities. Whilst safety is paramount at Gemini, you may encounter potentially hazardous situations. While Gemini works diligently to maintain a safe environment, it is still a dangerous environment. The following, while not an exhaustive list, are examples of some of the hazards that you should be conscious of while at the telescope.

1. There could be tools and materials on the floor in traffic areas where work is taking place. Watch your step to avoid tripping. Adhere to demarcated walking areas.
2. Low-hanging equipment or materials could present a hazard. Some heavy lifting activities might be taking place. You must stay well away from any activity involving the use of a crane and from any other structures in movement. Make sure you are always aware of your surroundings. You must wear a hard hat if provided. (Only necessary whilst the visit is taking place when there are hazardous works ongoing. No obligation when the visit takes place during weekends while there is hardly any movement during the day.)
3. A fire risk always exists during certain operations, particularly welding, soldering, grinding and other work where an open flame is involved. In the event of a fire, some materials may emit dense and highly toxic smoke. It is imperative in such circumstances to carefully and calmly follow the instructions of your Guide.
4. Workers may be working in areas above you. Whilst safe working practices are in place, there is a risk of falling tools or materials. Make sure you are aware of what is happening above you.
5. Cerro Pachon has a dedicated Paramedic and an emergency 4x4 vehicle. Many of our staff are trained in first aid and as first responders. Nearby Cerro Tololo also has a Medical Center with health professionals and emergency equipment, including an ambulance. However, in the event of a fire or injury requiring transport down from the mountain, the telescope's remote location means that no guaranteed time can be given as to when one would reach a full-scale hospital or clinic (especially in cases of earthquakes or very bad weather). Be aware that the information contained in the section "Road Warnings" is a guide for distance and journey times in normal circumstances.
6. If on a tour then you must remain with your designated Guide and follow his/her instructions at all times. You may take photographs and/or video during your visit, but do not become separated from your Guide.
7. Jackets are recommended for cold weather, regardless of the time of year. Flashlights are recommended at all times and are required after sunset.

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These WARNINGS and advice given in these forms are given freely and without legal obligation. AURA/Gemini does not undertake a duty to warn visitors to Cerro Pachon nor does it relinquish any rights, immunities or other protections. Authorization to visit the Gemini South telescope on Cerro Pachon does not imply permission to visit any of the other telescopes on the AURA property in Chile. For visits to CTIO there are entirely different authorization procedures for visits to CTIO and/or SOAR. Further information can be obtained by calling the CTIO reception at (56-51) 205-200. AURA/GEMINI DOES NOT ACCEPT ANY LIABILITY FOR VISITORS TO CERRO PACHON IN RESPECT OF THE POTENTIAL ADVERSE EFFECTS OF ALTITUDE OR ANY OTHER HAZARD. IF YOU INTEND TO VISIT THE TELESCOPE SITE, YOU ARE REQUIRED TO SIGN THE DECLARATION PROVIDED. YOU THEREFORE ASSUME ALL RISKS.

CONFIRMATION THAT I HAVE READ, FULLY UNDERSTOOD AND ACCEPTED THE ADVICE AND INSTRUCTIONS GIVEN IN THIS DOCUMENT.

SIGNING OF THIS DOCUMENT AND INITIALING OF EACH PAGE IS REQUIRED BY ALL VISITORS.

ACCEPTANCE:

I have read and understand the warnings given in this document and further agree to act in accordance with this guidance. I accept that AURA/Gemini shall not be held responsible for any adverse medical effects caused by exposure to altitude or for any other conditions I may encounter during the visit.

DATE(S) OF PROPOSED / AUTHORIZED VISIT (mm/dd/yyyy)_____

NAME: _____

ADDRESS: _____

SIGNATURE : _____ DATE: _____

YOU MUST DELIVER THIS COMPLETED FORM TO Lucia Medina, GEMINI SOUTH BASE FACILITY, LA SERENA, BEFORE YOUR DEPARTURE TO CERRO PACHON.