PGF 10
Introduction to Environmental Health & Safety
at the JGI

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EHS10 training completion is an LBNL requirement and must be completed prior to taking this training. This training is a supplement to EHS10 and has been made available for guests who attend meetings at the JGI frequently. This also serves as an annual refresher training for JGI employees. If you have not completed the online EHS10 training, you may not proceed until the EHS10 training requirement has been fulfilled. If you have completed the online EHS10 training, you may proceed.
Upon completion of this training, JGI employees/guests will be able to:

- Recall Integrated Safety Management (ISM), its 5 core functions, & purpose
- Know/understand your responsibilities for safety
- Know/understand LBNL/JGI safety policies and procedures
- Recognize what hazards exist at the JGI
- Recognize how to identify and report hazards at the JGI
- Recognize what to do in a natural disaster emergency
  - Recall the evacuation response procedures for natural disasters
  - Recall when it is safe to leave an Assembly Area
- Define the term ergonomics
- Identify the difference between discomfort and injury
- Recognize what to do if you experience discomfort or incur an injury
A link to a quiz for this course will be provided at the end of this training:

- To obtain credit for this course, be sure to complete the quiz
- You must achieve a pass rate of 80% to obtain course credit
The JGI complies with regulations and standards set forth by the DOE, OSHA, EPA, and LBNL.
Safety at the JGI follows the Integrated Safety Management (ISM) model – we want you to define your work, analyze the hazards you’d be exposed to from performing the work, control these hazards so that you’d be protected, perform your work as safely as possible, and provide feedback so we can improve in ensuring your health and safety at your workplace – all so you’d be successful in maintaining a healthy and safe life! All in all – we want to prevent injuries and illnesses in the workplace.
In order to truly follow Integrated Safety Management’s model, we must know, understand, and follow through on our responsibilities for safety. We all have a collective responsibility to work safely. Let’s learn about these responsibilities.
Employees as individuals first and foremost have the responsibility for their own safety at work and at home. Let’s learn what their responsibilities for safety are at the JGI.
Management has additional responsibilities for safety as the safety of their employees is most of the time within their hands. Let’s learn what those responsibilities are.
The JGI Safety Team has a variety of safety responsibilities that range from developing, implementing and managing safety programs to providing safety tools and equipment to employees. Overall, the Safety Team is constantly trying to improve and maintain workplace safety at the JGI. But it definitely takes the help of employees and managers/supervisors to make a workplace safety program effective.
Meet your JGI Safety staff!
The LBNL EH&S Division has plenty of resources that are helpful to the JGI Safety staff as well. The LBNL Occupational Safety Manager, Richard DeBusk, assists with the development and implementation of a variety of safety programs and trainings. The LBNL EH&S Division Liaison, Bruce King, provides guidance and consultation on Biosafety and other laboratory safety issues and concerns. The LBNL Ergonomics Manager, Ira Janowitz, is our JGI Certified Ergonomist’s supervisor and assists with the development and implementation of the ergonomics program. The JGI-LBNL Waste Management representative / Waste Generator Assistant, Amy Tanouye, provides expertise in waste management, including addressing questions and issues with laboratory wastes and recyclable wastes (i.e., batteries, cell phones, etc.).
Employee-led safety is important to the JGI. There are 3 safety subcommittees that are completely employee-led by volunteers. All JGI employees are encouraged and welcome to join any of these subcommittees, should they be interested. The first group is the Safety Culture Working Group. If you are interested in joining this group, please contact Steve Wilson.
The second safety subcommittee is the Ergonomics Working Group. If you are interested in joining this group, please contact Christine Naca.
The third safety subcommittee is the Emergency Response Team (ERT) or Emergency Action Plan (EAP) Working Group. If you are interested in joining this group, please contact Wendy Schackwitz.
Your safety network will always start with your supervisor as he/she is your primary contact for all safety issues / concerns. If you are unable to contact your supervisor, contact the next-in-line within your safety network.
LBNL and JGI Safety Policies

LDN/USD-3600

HEALTH AND SAFETY MANUAL

- Safety of Specimens
- Health and Safety Manual LDN/USD-3600
- Requirements and Audits
- Log of PDF 3600 Changes
- How to Request a Decision in PDF 3600

Lawrence Berkeley National Laboratory
University of California
Laboratory Directed Research and Development Program
You have the right to a safe and healthful workplace
It's the Law!

- You have the right to express concerns without reprisal
- You have the right to information about hazards and exposures
- You have the right to refuse work or stop work that could cause death or serious physical harm
Whenever an employee, contractor, or guest encounters conditions or practices that appear to constitute an imminently dangerous, such individuals have the authority and responsibility to STOP WORK.

Whenever an employee, contractor, or guest encounters conditions or practices that appear to be a questionable hazard of a minor level, such individuals have the authority and responsibility to PAUSE WORK.

- Step 1: Alert persons engaged in the unsafe or questionably unsafe work and request that work be immediately stopped / paused.
- Step 2: Notify immediate supervisor, responsible manager and a JGI Safety Coordinator (Stephen Franaszek or Cheryl Chu).

Definitions:

"Imminent Danger" is defined as any condition or practice that could reasonably be expected to cause serious injury, environmental harm or death.

"Questionable hazard" is defined as any condition or practice that might cause non-serious injury or harm to workers or the environment.
These photos are example situations where the Stop Work Policy should be issued.

This photo was not taken at the JGI.

No safety glasses

Awkward postures

This photo was not taken at the JGI.
A JGI employee from the Production Department’s Freezer group observed a black widow lurking in the freezer area.

What did the employee do?

- The employee contacted his supervisor
- The supervisor issued the Pause Work policy and contacted the JGI Safety Coordinators
- The JGI Safety Coordinators investigated the issue and contacted trained personnel from Facilities to get rid of the black widow
- Once the black widow was exterminated from the area, affected employees were communicated to that the area was safe to return to work
- Conclusion: The employee followed the Pause Work policy correctly
Do not lift items greater than 50 pounds without a medical clearance. Never lift or attempt to carry items that are more than your capacity to handle – Know your limitations and don’t attempt to go beyond your limits.
Safety glasses, closed-toe shoes and long pants are the minimum required PPE for entering all lab areas, including shops (i.e., Instrumentation shop Lab 119, Facilities carpentry shop in B-500/warehouse). Guests can use the provided guest safety glasses in the safety glasses bins outside of each lab. Please ensure the guests return the used safety glasses in the blue used safety glasses bins – located at B-100 and B-400 mailboxes, and located at the sink nearest to the office area in Lab 331 in B-310. Never place used safety glasses back in the safety glasses bins. If you need a pair of safety glasses or goggles, please come see the Safety staff at Room 302 in B-310.
If you handle hazardous/biohazardous materials, and/or will be observing tasks closely that involve the handling of hazardous/biohazardous materials, you must wear a lab coat. Sign out a lab coat and take a lab coat that is of an appropriate size for you. Be sure to turn in used lab coats to the laundering bins by Tuesday of the following week or next, but do not hold onto your used lab coat for more than two weeks. If you only needed the lab coat for one day, please be sure to turn in the lab coat to the laundering bin when you have completed its use. Be sure to never leave items in the coat pockets when turning them into the laundering bins. And if your lab coat is contaminated due to hazardous spills, report the contamination to your supervisor and a Safety Coordinator.
All lab workers who generate wastes must complete the Autoclave Waste Policy training. All contaminated wastes to be autoclaved (i.e. E. coli, bacteria, recombinant DNA) must be placed in the designated bins labeled for such wastes. If you need to complete this training, you will be contacted by the JGI Safety Team.
Do you remember or know the hazards that exist at the JGI? Which hazard(s) are you exposed to the most?
It’s important to know what hazards you’re exposed to so actions can be taken to insure your safety. There are many ways to identify hazards: formal walkthroughs performed by management and area safety leaders (ASLs), informal walkthroughs performed by the safety/ergo staff, reviews of job tasks/processes and discomforts/injuries by the safety/ergo staff, safety advocate inspections… but most importantly, you as employees are the best tool for identifying hazards because you’re the experts of your jobs and areas (or will be if you’re a new hire)! The purpose of identifying hazards is to prevent work-related injuries and illnesses.
If you don’t report hazards, they may never be acted upon or controlled and an injury may occur because of this lack of reporting/knowledge. So if you identify hazards that aren’t being controlled or controlled properly, say something! There are many avenues available for you to use for reporting hazards. Remember – early reporting can help identify hazards before an injury occurs.
After you know what hazards you’re exposed to, we want to put controls in place to protect you from those hazards.
A laboratory door sign is an example of an administrative control – we’re communicating to you through these signs what the hazards and associated precautions are so you’re equipped with the knowledge and awareness to keep yourself safe when entering a JGI laboratory.
Chemical hazard controls
Lab workers at the JGI handle hazardous chemicals. They must comply with LBNL’s requirements as stated in the Chemical Hygiene & Safety Plan to properly handle and store the chemicals they use.
As part of the OSHA Hazard Communication Standard, all manufacturers or suppliers of hazardous substances/chemicals must provide Material Safety Data Sheets (MSDSs) that describes the hazards and controls of the substances and other important information (i.e., physical & chemical properties, fire & reactivity, etc.). LBNL provides MSDSs of the substances used throughout the lab electronically via two MSDS databases listed at http://www.lbl.gov/ehs/index.shtml. But note that the UC ChemQuik MSDS database is the best to use. Any questions regarding MSDS information at the JGI can be directed at the JGI Safety Coordinators.
Lab workers at the JGI generate wastes. They must comply with LBNL’s requirements as stated in the Chemical Hygiene & Safety Plan to properly dispose of these wastes.
The JGI must also comply with the local Central Contra Costa Sanitary District’s rules and regulations for protecting the environment. Follow these rules and report any spills and/or drain issues to a JGI Safety Coordinator.
The JGI also participates in LBNL's waste management and minimization program – there are many avenues for recycling a variety of items (i.e. hazardous materials, computer/office supplies/paper, etc.). Contact the JGI-LBNL Waste Management representative / Waste Generator Assistant, Amy Tanouye, for any questions regarding this waste management and minimization program.
As a general practice for being prepared for emergency situations, be sure to take note of all evacuation routes available in each building at the JGI. Evacuation route maps are posted in the hallways of each building. When you come on-site to the JGI, observe these evacuation route maps and become familiar with different ways of exiting the buildings.
In a serious or life-threatening emergency, dial 9-911 from a JGI land line phone. If calling from a cell phone, you may dial 911, but note that it may take you to another city’s Fire District. The JGI has an emergency notification flowchart that is posted in many common areas throughout the JGI buildings and is also available online on the JGI intranet site – the local Emergency Dispatcher’s number is provided in this flowchart for your convenience if you must use a cell phone. Follow the flowchart to contact all the necessary persons or to get a hold of an appropriate person in the event of an emergency.
In the event of an earthquake emergency, drop cover and hold. If you are unable to take cover under a sturdy desk, table or other furniture, be sure to look at your surroundings and use your intuition/common sense to find a sturdy area to take cover under (i.e. door frame) – stay away from windows and overhanging items that may cause injury or death.
In a large fire emergency, evacuate the affected building(s) immediately using the nearest and safest exit route. Evacuate to the designated assembly area and follow directions given by the JGI Emergency Response Team members. Do not attempt to reenter an affected building until it is declared safe by the Fire Department. For small fires, activate the nearest fire alarm, call 9-911 from a JGI land line phone and contact your supervisor and a JGI Safety Coordinator. If you are trained in using a fire extinguisher, you may use one if you feel comfortable operating the extinguisher and/or handling the small fire. Always maintain access to an exit. If you do not feel comfortable operating the extinguisher, leave and isolate the area by closing the door. Also, note that fire pull alarm stations are located by hallway door entrances/exits – just as you would want to observe different evacuation routes throughout each JGI building, please observe the locations of the fire pull alarm stations as well.
The primary assembly area at the JGI is located in the center courtyard. A secondary assembly area has been identified for fire emergencies. Be sure to follow directions from the JGI Emergency Response Team (ERT) members so you know exactly what to do to keep yourself safe during the emergency situation. The ERT members will direct you to the secondary assembly area if it is determined that the primary assembly area is inadequate.
When waiting in the assembly area, do not leave the area until you receive an “All Clear” from one of the four persons: JGI Incident Commander, a firefighter, JGI Senior Manager, or JGI Facilities Manager. If you do not hear the “All Clear” from one of the aforementioned persons, it is appropriate to assume it is not yet safe to leave the assembly area. Do not rely on hearsay as a peer / co-worker may tell you that they heard the “All Clear” but it still may not be safe to leave the assembly area.
Plenty of emergency supplies are available. These supplies are only to be used by those who are trained to use the supplies (i.e., Emergency Response Team members, JGI Safety Coordinators). If you have incurred a minor cut (i.e., paper cut) and need a band-aid, contact your supervisor and a Safety Coordinator for a band-aid. Emergency Response Team members who are trained in first aid may also be contacted for a band-aid or first aid measures – a list of Emergency Response Team members can be found at: http://wiki.jgi-psf.org/cgi-bin/twiki/view/Main/EHSEmergencyResponseTeam (cut & paste into your browser to view this website). Please note that the emergency first aid kits / disaster trauma kits are not to be used for addressing minor cuts.
What is ergonomics?
What ergonomic-related risks exist at JGI?
What can you do to prevent them?
What is ergonomics?

Ergonomics is fitting the task to the person to optimize safety and comfort.
JGI takes a proactive approach to ergonomics.

Diagram:
- Worker Capabilities
- Task Demands
- FIT (intersection)
Ergonomic injuries are the most frequent type of injuries that occur at the JGI.
Can you identify the risks in the photos? What can be done to mitigate the risks?
What is discomfort?

- Discomfort is an unpleasant sensation that has minimal to no impact on a person’s daily functioning.
  - The unpleasant sensation is usually not present constantly.
  - Discomfort disrupts or interferes with a person’s comfort.
  - Discomfort is highly subjective and very individualized.

- Discomfort is NOT the following:
  - “I don’t like the color of my chair.”
  - “My desk is oriented uncomfortably. Rather have it facing the door.”
  - “My printer is not working.”
Example 1: This is discomfort. It could have been prevented if the employee took a mini-break after typing for 30 minutes or an hour. The employee also could have benefited from varying his/her tasks every 30 minutes or every hour during the day. The employee should report his/her discomfort to the direct Supervisor/Manager. The employee and his/her direct Supervisor/Manager should also consult the Safety Coordinators and Ergonomist to place the employee in the Early Intervention Program so the Ergonomist can follow up with the employee and ensure the employee was provided with the right ergonomic tools to perform tasks at his/her workstation safely. (If the employee is a contractor, the direct Supervisor/Manager should ensure that the employee seeks advice from his/her home organization’s Safety Officer and medical center. The direct Supervisor/Manager should ensure that the employee receives consultation from the Ergonomist as well to make sure that he/she is provided with the right ergonomic tools to perform tasks at his/her workstation safely.)

- Example:

“My wrist started tingling after typing for 2 hours non-stop at work today... I finally took a mini-break and the tingling went away the rest of the work day.”

- How could this discomfort symptom been prevented?
- What should this employee do now?
  - Prevent by taking a mini-break after typing for 30 min - 1 hr or by varying tasks every 30 min - 1 hr throughout the work day.
  - Employee should report this discomfort to his/her supervisor/manager
Good news: discomfort takes time to develop and does not happen overnight
Bad news: when it happens, the discomfort is often ignored until it becomes severe and long lasting discomfort is present as a result which then leads to an injury
Stage 1: Discomfort experienced at the end of the day, but subsides during nights and weekends
Stage 2: Recurring discomfort experienced at start of the workday - rest, decreasing repetition/awkward postures and ice will help mitigate this stage of discomfort
Stage 3: Discomfort affects sleep and rest; there are decreased abilities to do activities and the recovery process takes longer

Look at the many causes of discomfort symptoms and the list of symptoms you’ll experience if you have discomfort. Compare these causes of discomfort with your lifestyle – is there anything in your lifestyle you can change to prevent yourself from experiencing discomfort symptoms?
What is an injury?

- An injury is defined as serious physical damage or harm to the body that results in pain.
  - Pain is
    - discomfort that lingers and does not go away.
    - typically present throughout the day/night.
    - highly subjective and very individualized.
  - Pain may or may not radiate to other areas of the body.
  - Pain may be present in the absence of activity.
  - Pain generally disrupts a person's daily routine.

Types of Injuries:

- Work-related injury vs. Personal injury
  - A work-related injury is an injury that is incurred from performing a job task at the workplace.
  - A personal injury is an injury that is incurred while performing a task outside of work.
Example 1: This is a work-related injury because the injury occurred at work and because the employee’s symptoms are serious (i.e. affecting ability to work). This injury could have been prevented if the employee reported his/her symptoms from the moment he/she felt something in his/her wrist to the direct Supervisor/Manager so they could work together to prevent the injury from becoming worse. Never assume that these kinds of symptoms are not a big deal as they can definitely become a big deal in the long run.

Example 2: This is a personal injury as the injury occurred outside of work. It could have been prevented if this person stopped playing tennis at the first sign of pain. If this person goes to work the next day, he/she will injure him/herself more and may cause this to be a work-related injury resulting in lost time, lost productivity, and possibly lost salary while increasing medical costs. This person should not go to work the next day and should seek medical attention or advice from his/her personal physician.
Can discomfort lead to an injury?

Yes!

Discomfort can lead to an injury if preventative measures are not taken to alleviate the worsening of the symptoms and/or if proper treatment is not provided or adhered to in a timely fashion.
What you can do to protect yourself and prevent an ergonomic-related injury

- Notify supervisor at *first signs* of discomfort
- Think about the safest and most comfortable way to perform tasks
- Take frequent mini-breaks
- Request an ergonomics evaluation
- Make recommendations regarding ergonomics *improvements*
Whether or not you’ve completed Remedy Interactive (EHS0059 training & self-assessment), you can request a 1:1 ergonomics evaluation by the JGI Ergonomist or JGI Ergo Advocate

- Office Ergonomics: Send an e-mail request to Melanie Alexandre (MMAlexandre@lbl.gov) or Cheryl Chu (CACHu@lbl.gov)
- Laboratory Ergonomics: Send an e-mail request to Melanie Alexandre (MMAlexandre@lbl.gov)

  We will schedule an evaluation with you ASAP!
The JGI ErgoMates Program is available to all eligible employees who stand and/or walk to perform their job tasks for 4 hours or more per day. ErgoMates are like sandals that are applied over your regular footwear to provide anti-fatigue matting under your own two feet wherever you go while performing your job tasks. It’s a great solution for reducing fatigue to the lower back, hips, and legs. If you’re interested in this program, please contact your supervisor, the JGI Assistant Safety Coordinator Cheryl Chu (CAChu@lbl.gov, (925) 296-5649), or the JGI Certified Ergonomist Melanie Alexandre (MMAlexandre@lbl.gov, (925) 927-2553).
What to do when injured

When you incur any type of injury (minor or serious, ergo or non-ergo related):

- **Notify** your supervisor/manager immediately!
- Investigation meetings occur to identify the **root cause** of the injury & determine solutions to **prevent recurrence**
- If treatment is needed, your supervisor/manager and Safety staff will direct you to the appropriate medical services
Other things you need to know…

Please Be safe.
Do not stand, sit, climb or lean on zoo fences.
If you fall, animals could eat you and that might make them sick. Thank you.
Smoking Safety (an oxymoron??)

- Use the "BUTT CANS"/Ash Urn provided in many areas for proper disposal of cigarette butts.
- Ensure that your cigarette is completely extinguished before you walk away.
- You must be >20 feet away from the building.
The maximum speed limit in JGI parking lots is 5-15 MPH

- Park only in designated areas.
- Do not block access areas needed by emergency vehicles.
- Drive carefully.
- Wear your seat belt.
The JGI/PGF is patterned after the LBNL Computer Use Policy

- Computers are to be used for official business only
- Computers can be audited at any time
- Any information obtained through such audits can be disclosed to a third party, such as law enforcement

**Incidental Personal Use is permitted, as long as it:**

- Does not involve illegal activities, gambling or sexually explicit materials
- Does not involve personal gain
- Does not violate LBNL policy
- Does not involve any activity which will potentially embarrass LBNL, JGI or DOE
Contact JGI Safety Coordinators for questions regarding this training:
Safety Coordinator - Stephen Franszhek, SFranszhek@lbl.gov, (925) 296-5807
Assistant Safety Coordinator, Cheryl Chu, CChu@lbl.gov, (925) 296-5649
Course Credit for PGF 0010

To get credit for this training, copy and paste this link into your browser and complete the final Quiz