

# Fossil Preparation Guidelines

The University of Alberta Dino Lab opened in 1920 and is vital to fossil preparation for scientific research. Dino Lab is currently overseen by Dr. Philip Currie (Canada Research Chair in Dinosaur Palaeobiology), Dr. Corwin Sullivan (Philip J. Currie Professor of Vertebrate Palaeontology), and their grad students.

Dino Lab volunteers directly partake in, and contribute to, scientific research by preparing real fossils. Palaeontologists from around the world visit our collection to study these fossils.

All volunteers must first go through a safety orientation which can be booked through the Galaxy volunteer system at: <https://ualberta.galaxydigital.com> This system is for volunteering throughout the university. Once you have created your account, you should see opportunities for either "Daytime Dino Lab Introduction & Safety Orientation" or "Evening Dino Lab Introduction & Safety Orientation", one or both of which you will first need to go through before you can be able to sign up for shifts in the respective lab. The orientations fill up rather quickly, so it is recommended that you add your name to the waitlist, and if an opening comes available Galaxy will inform you.. (those under 18 must always be accompanied by a parent/guardian) and wear long pants and closed-toed shoes.

We will provide all the training you'll need and our only requirements are that you have to wear long pants (or a long skirt to cover your legs), and close-toed shoes. Due to ever present dust in the lab you might wish to wear a mask when in the lab.

We are in the Biological Sciences Building.

DAYTIME LAB (CW-005)	Monday–Friday, 9am–4:00pm
EVENING LAB (M-433)	Monday–Thursday, 5–7pm

## TOOLS OF THE TRADE

To open a field jacket:

- Hand saw (trained supervisors may use a oscillating saw if needed)
- Pliers (standard or end cutting)
- Pocket knife or box cutter
- To prepare a fossil:
  - Dental pick
  - Pin vice
  - Toothbrush
  - Paintbrush
  - Paraloid (reversible glue)
  - Sand bags

- Scalpel (rare)

#### POTENTIAL HAZARDS (AND RISKS)

- Consolidants/adhesives are dissolved in acetone which is flammable , and the fumes can be an irritant to skin, eyes, and airways.
- Sharp tools can cause cuts and scrapes
- Dust, sand, airborne debris are also irritant to eyes and airways
- Equipment noise can over time cause damage to hearing

#### • SAFETY EQUIPMENT

- All supervisors trained are in Standard First Aid and WHMIS. Proper tool use and common sense will eliminate most safety concerns. If something happens though the lab has:
  - First aid kits
  - Eye wash kits
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#### PUT THE FOSSIL FIRST

Fossils are ancient, old, unique, and priceless. If our fossils get destroyed, our data gets destroyed. We don't care how long it takes you to prepare the specimen, but do not rush as this can easily cause damage. Each specimen requires patience and care because it may be used for:

- Research
- Scanning or sampling facilities
- Museum display
- Outreach
- Education
- Long-term storage

#### PROPER TECHNIQUES

- When faced with a project the best technique is to remove matrix (all the dirt, rocks, plant matter, etc.) by digging horizontally, in layers, to evenly remove the matrix and expose the bone.
- Upon finding cracks, add sufficient consolidant to stabilize without adhering the specimen to the jacket
- Take your time
- Brush out loosened matrix, do not lift or tilt the jacket to do so

## SPECIMEN & LAB ETIQUETTE

- Be careful to avoid damage to tools, specimens, glue, or other volunteers
- Securely close glue lids. Acetone is volatile and dissolves our floors!
- Always keep ID cards/conservation reports with your specimen (boxes and bags available to keep parts associated)
- Be appropriate and respectful with equipment. Some tools and supplies are sensitive and expensive
- Lab spaces and tools are shared, return them to their proper place when you are finished with them
- Clean up after yourself and return tools to their proper locations
- Don't touch anything in the lab not assigned to you. Many specimens are deceptively fragile
- Take pride in your work
- Immediately inform a supervisor if an accident occurs

**If you are ever unsure how to proceed,**

**ASK A SUPERVISOR!**

**We love questions and are eager to help.**