



# Introduction to molecular lab fundamentals

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Are you (or your student) new to molecular lab work? Could you or they benefit from an introduction to operating in a genetics lab?

The ANU EcoGenomics Lab (EBL) is offering a 3 day basic introduction course to molecular lab fundamentals for new Hons & PhD students without a strong genetics/ molecular undergrad or background. The course is **3 full days, May 19 – May 21**, no charge (but \$100 for no-show).

**Note:** This intro is NOT designed for those students who are doing a predominantly molecular project and/or have had solid wet-lab training at undergrad level, but rather those who are either new to genetics and/or who have a small genetic component to their project.

Schedule will be as follows:

## **Day 1.**

### **Introduction to lab operations**

- PPE (Personal protective equipment)
- Molarity and how to make a chemical solution
- Good pipetting practice.
- Intro to agarose gels

### **DNA Extraction Method 1: Silica column based kit**

## **Day 2:**

### **DNA Extraction Method 2: Phenol / Chloroform**

### **DNA Quantitation**

- A. Qubit fluorometer
- B. Nanodrop spectrophotometer

**Run agarose gels:** of both DNA extraction methods (time permitting)

## **Day 3:**

**PCR Amplification:** Master Mixes, enzymes, reactions generally.

**Introduction to Real-time PCR (qPCR).**

**Run agarose gels:** of PCRs (and both DNA extractions if not done already)

**Introduction to SPRI bead clean-ups (Ampure)**