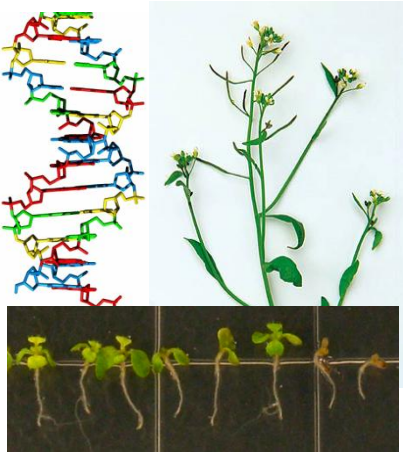


**Overview:**

- To introduce students to a wide range of phenotypic parameters that can be measured to characterize a mutant or transgenic line.
- To provide a broad overview of the methods and technologies.
- To help students design experiments with practical applications to their own research.



**Lectures:**

1. Topic 1 - Generation of transgenic or mutant plants
2. Topic 2 - Screening and selection of mutants
3. Topic 3 - Plant growth and life cycle
4. Topic 4 - Plant abiotic stress
5. Topic 5 - Plant hormones
6. Topic 6 - Plant biotic stress

**Labs:**

- |   |           |
|---|-----------|
| 1. Lab 1: Selection of transgenic plants                      | week 1    |
| 2. Lab 2: Detection of transgene expression (RNA and protein) | week 2    |
| 3. Lab 3: Plant responses to cold and drought stress          | weeks 3-4 |
| 4. Lab 4: Plant growth responses to hormones                  | week 5    |
| 5. Lab 5: Biotic stress                                       | week 6    |
| 6. Lab 6: Morphometric analysis of mutant plants              | weeks 1-7 |