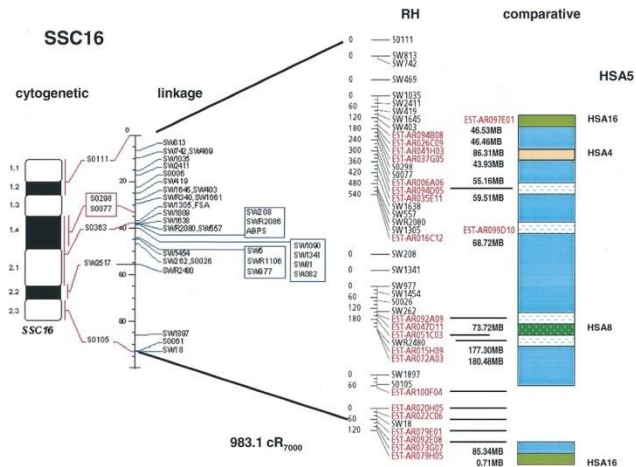


Overview:

- Introduce students to basic techniques in genetic and physical mapping.
- Apply DNA marker development and detection, genetic and physical mapping and DNA sequencing technologies to agricultural problems.



Lectures:

1. DNA isolation techniques
2. Genetic marker types, PCR optimization
3. Linkage mapping methods
4. DNA sequencing methods, SNP markers
5. High-throughput genotyping methods
6. Fine-mapping techniques
7. Physical mapping techniques

Labs:

- | | |
|---|---------|
| 1. DNA purification and quantitation | 1 week |
| 2. RFLP and microsatellite marker amplification | 2 weeks |
| 3. GeneMapper and ABI3100 software training | 1 week |
| 4. DNA sequencing and analysis | 1 week |
| 5. SNP detection and analysis | 2 weeks |