

ADVANCES IN ZOOLOGY

1. Molecular Biology Techniques

- a. Cloning and sequencing of genes and genomics, PCR techniques
- b. Microarrays and gene expression
- c. Metagenomics and Epigenomics
- d. Gene targeting and its application

2. Microscopy and Image Analysis

- a. Bright field; Fluorescence; Confocal
- b. SEM and TEM
- c. Image Acquisition and Analysis Microscopy and Image analysis

3. Bacterial and Animal cell culture

- a. Aseptic technique and Preparation of media
- b. Bacterial culture
- c. Types of cell culture
- d. Insect cell culture
- e. Applications of cell culture

4. Bioinformatics and its application

- a. Databases, sequences, sequence alignment-pair wise/multiple, global/local protein family, domain, sequence conservation
- b. Introduction to software used for proteomics data analyses.

6. Tracer Techniques

- a. Use of high energy radiation
- b. Isotopic and non- isotopic Techniques