**Programme for seminars on Methods on molecular biotechnology**

**The title of seminars**

**Module 1** Structure, feature and functions of nucleic acids

**Seminar 1.** Main approaches and methods of molecular biotechnology

**Seminar 2** Methods of extraction of nucleic acids from different biological materials

**Seminar 3** Analysis and Characterization of nucleic acids

**Seminar 4.** MicroRNA Cloning from Cells of the Immune System. Use of nucleases, exonuclease, restrictase in molecular biotechnology

**Seminar 5.** Analysis of different types nuclear acids.

**Seminar 6.** DNA Separation Techniques for different types of DNA

**Seminar 7.**  The SDS-PAGE based DNA Separation Techniques

**Seminar 8.** Genome mapping, genetic mapping , physical mapping , mapping distance.

**Seminar 9.** Mass analysis of proteolytic peptides is a popular method of protein characterization, as cheaper instrument designs used for characterization.

**Seminar 10.** Applications of microarrays in biotechnology

**Seminar 11.** Strategies for SNP detections strategies for arrays

## Seminar 12. Types of DNA microarrays

The Future of DNA arrays. Data standards and data exchange. DNA microarrays for transcription factor binding analysis.

**Seminar 13.** Preparation of DNA chip and the experiment

**Seminar 14.** Applications of different types of moleculaer markes and PCR in molecular biotechnology

**Seminar 15.** QTL applications in breeding