**Course: Advance Bio Informatics**

**Module Title: Short Tandem Repeats**

**Module No: 112**

**Tandem Repeats**

When a pattern of one or more nucleotides is repeated and repetitions are directly adjacent to each other.

**Microsatellites**

**Example:** ATTCG ATTCG ATTCG

**STRs**

2-9 base pairs in a single repeat Suffix trees.

Longest common subsequence

* Every person has two alleles for every locus
* E.g. maternal allele has 17 repeats at TH01 locus whereas paternal allele has 19 repeats, they are called heterozygous.
* If both alleles have 18 repeats, they are called **Homozygous**.

**Uses of STRs**

**Determining paternity:**  Does one of your alleles at a particular STR locus come from your father?

**Reconstructing Genealogy:**  Tracing how a particular allele is passed down through the generations.

**Population genetics:** Particular alleles are more frequent among certain subpopulations.

**Recombination mapping:** Which alleles tend to travel together?