

Computer Aided Drug Designing

(Course duration: 60days)

COURSEWORK

Introduction to Bioinformatics and overview of Biological Research

Biological databases and database searching

Data Mining and Sequence Retrieval

Motif & Domain assignment

Proteomics

Protein threading and interaction

Pair wise and Multiple Sequence Alignment

Sequence Analysis (BLAST, FASTA, CLUSTAL W)

Phylogenetic analysis

Ab initio structure prediction

Visualization tools

Homology Modeling

Introduction to chemioinformatics and Drug Development

Chemical and Drug Databases

Structural Bioinformatics in Drug Development

Small molecule hits

Designing chemical structures and drug molecules

Pathways study and Drug Targeting

Lead design with Geometry optimization and Energy Minimization

Computerized simulations

Chemical reaction indexing

Pharmacophore analysis

Docking

Other relevant Confirmatory Tools and Softwares

Chemical Patents

FDA in drug trials

Research Project