NPTEL Video Course - Computer Science and Engineering - NOC:Algorithms for Protein Modelling and Engineering

Subject Co-ordinator - Prof. Pralay Mitra

Co-ordinating Institute - IIT - Kharagpur

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Introduction on Proteins
Lecture 2 - Introduction on Proteins (Continued...) and Sequence Database
Lecture 3 - Protein Data Bank
Lecture 4 - PDB Parsing
Lecture 5 - Molecular Visualization Tools
Lecture 6 - Representation and Data Structure
Lecture 7 - Digitization of a Molecule
Lecture 8 - Application to Protein Docking, FFT
Lecture 9 - Implementation Details
Lecture 10 - Hashing
Lecture 11 - Geometric Hashing
Lecture 12 - Geometric Hashing (Continued...)
Lecture 13 - Geometric Hashing (Continued...)
Lecture 14 - Molecular Surface
Lecture 15 - Genetic Algorithm (GA) for Surface Comparison
Lecture 16 - Monte Carlo (MC) Method
Lecture 17 - Monte Carlo Method (Continued...) and Random Number
Lecture 18 - Monte Carlo (MC) Method (Continued...)
Lecture 19 - Protein Folding
Lecture 20 - Protein Folding (Continued...) and Protein Design
Lecture 21 - Protein Energy Landscape
Lecture 22 - Protein Energy Landscape (Continued...), Limitation of MC
Lecture 23 - Replica Exchange Monte Carlo (REMC)
Lecture 24 - Ab Initio Protein Folding
Lecture 25 - Structure Alignment Measures
Lecture 26 - Dynamic Programming
Lecture 27 - Dynamic Programming (Continued...), Sequence Alignment
Lecture 28 - Dynamic Programming (Continued...), Position Specific Scoring Matrix (PSSM)
Lecture 29 - Structure Alignment

Get DIGIMAT For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

http://www.digimat.in

```
Lecture 30 - Structure Alignment (Continued...)
Lecture 31 - Structural Classification of Proteins (SCOP)
Lecture 32 - SCOP (Continued...), Symmetry in Proteins
Lecture 33 - Symmetry in Proteins
Lecture 34 - Discriminating Biological Protein Interfaces from Crystal Artifacts
Lecture 35 - Discriminating Biological Protein Interfaces from Crystal Artifacts (Continued...)
Lecture 36 - Discriminating Biological Protein Interfaces from Crystal Artifacts (Continued...)
Lecture 37 - Discriminating Biological Protein Interfaces from Crystal Artifacts (Continued...)
Lecture 38 - Symmetry-Based Protein Complex Modeling
Lecture 39 - Some Protein Docking Methods
Lecture 40 - Some Protein Docking Methods (Continued...)
Lecture 41 - Computational Protein Design (CPD)
Lecture 42 - Computational Protein Design (CPD) (Continued...)
Lecture 43 - Protein Design Energy Function
Lecture 44 - Protein Design Analysis
Lecture 45 - Application of Protein Design on Drug Design
Lecture 46 - RECM in Protein Design
Lecture 47 - Application of Protein Design on Drug Design
Lecture 48 - Application of Protein Design on Drug Design (Continued...), Protein Modification
Lecture 49 - Protein Modification (Continued...)
Lecture 50 - Protein Modification (Continued...)
Lecture 51 - Assigning Secondary Structure to Protein Sequence
Lecture 52 - Assigning Secondary Structure to Protein Sequence (Continued...)
Lecture 53 - Machine Learning to Predict the Secondary Structure from Amino Acid Sequences
Lecture 54 - Machine Learning to Predict the Secondary Structure from Amino Acid Sequences (Continued...)
Lecture 55 - Post Translational Modification
Lecture 56 - Predicting Protein Phosphorylation Sites
Lecture 57 - Predicting Protein Phosphorylation Sites (Continued...)
Lecture 58 - Summarizing Protein Folding and Protein Docking
Lecture 59 - Summarizing Protein Folding and Protein Docking (Continued...)
Lecture 60 - Summarizing Potein Engineering
```

Get DIGIMAT For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

http://www.digimat.in