

Immuno Informatics Workshops

NTHRYS provides Immuno Informatics Workshops for interested candidates at Hyderabad, Pune, Chennai, Bengaluru, Mumbai, Delhi, Kolkata, Lucknow, Bhopal, Jaipure and Trivendrum regularly or at their Respective Colleges / Institutions / Companies [Immuno Informatics Campus Workshops]. Please refer below for more details including Fee structures and Modules. Workshop module can be customized on request. Please do call / message / whatsapp for more details on 9014935156 [India - +91]

Eligibility: Students / Scholars / Professionals belong to respective streams

Immuno Informatics Workshops Module

Topic	Contents	Tools
Bioinformatics		
1. Bioinformatics - An Overview	Definition and History Information Networks Internet in Bioinformatics. Classification of amino Acids, Classification and three Dimensional structures of proteins. Overview of protein structure, Ramachandran Plot, Protein purification, Post translation modification, Protein trafficking.	
2. Databases	Protein Information Resources: Biological Databases, Primary Sequence, Composite Protein Sequence Databases, Secondary Databases Prosite, Prints Blocks Profiles and Identity. Genome Information Resources: DNA sequence Databases - EMBL DDBJ Genbank GSDB (Genome Sequence Database). Protein Data bank (PDB), Nucleic Acid Data Bank (NDB), Molecular modeling Data Bank (MMDB), Uniprot, Prosite, SCOP, CATH, BLAST, FASTA, Clusatl, Prodom.	
3. Gene Prediction & Functional Analysis	Primer designing, ESTs and Gene discovery, Restriction site detection	
4. Matrix, Fold Recognition & Sequence Analysis	Pairewise sequence comparison- sequence queries against biological databases	BLAST and FASTA multifunctional tools for analysis
	Pair wise sequence alignment, gaps, gap- penalties, scoring matrices, PAM250, BLOSUM62, local and global sequence alignment, multiple sequence alignment.	ClustalW, BLASTp
5. Secondary Structure Prediction	Propensity value.	
6. Protein Structure Prediction	Homology modeling and Threading. Prediction of protein structure from sequences, functional sites	Modeller, PROSEARCH, Protoparm

7. Binding Site Analysis	Model evaluation, and Model validation	CASTp
8. Phylogenetic Analysis	Evolution, elements of phylogeny, methods of phylogenetic analysis, Phylogenetic tree of life, comparison of genetic sequence of organisms	Phylip, ClustalW
9. Genetic Algorithm	Algorithms in bioinformatics	
10. Docking of Small Molecules		Autodock, Vina, igemdock
11. Drug Discovery & Computer Aided Drug Designing	Introduction, drug discovery area, pharmacogenetics and pharmacogenomics applications, SNPs, parameters in drug discovery identification of drug target molecules, drug design and its approaches, computer-aided drug designing methods; computer aided molecular design (CAMD), structure- based drug design, De novo design.	
12. Recent advances in Drug design methodologies	Structure activity relationship	
13. Virtual Screening	Structure based pharmacophore. Screening of various chemical databases	Zinc database
Immunoinformatics		
14. Introduction to Immunoinformatics & Immunological Databases	dbMHC-MHC database at NCBI, T-cell epitope databases, B-cell epitope databases. SYFPEITHI MHC-presented epitopes	
15. Homology modelling of antibody		Phyre 2, Modeller
16. Prediction of Cytotoxic T Cell (MHC Class I) Epitopes	Antigen Processing in the MHC ClassI Pathway	NetCTL, SYFPEITHI, CTL Pred, NetMHC server
17. MHC-II Prediction - Prediction of Helper T Cell (MHC Class II) Epitopes	Processing of MHC Class II Epitopes	HLApred, MHC2Pref, Propred
18. B Cell Epitope Prediction & Web Sources	Recognition of Antigen by B Cells- vaccine design- Web-Based Tools for Vaccine Design	PEPVAC, SVRMHC, NetCTL, BIMAS etc

Durations & Topics:

5 Days Duration: Headings 1, 2, 14, 15 & 16 + A Minor Online Project (Optional)

10 Days Duration: Topics 1, 2, 3, 4, 5, 6, 14, 15, & 16 + A Minor Online Project (Optional)

20 Days Duration: Topics 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15 & 16 + A Major Online Project (Optional)

1 Month Duration: Topics 1 to 16 + A Major Online Project (Optional)

45 Days Duration: All the topics mentioned above + An Online Publication Project (Optional)

Fee Structures for Immuno Informatics Workshops [Immuno Informatics Campus Workshops]

Duration: 3 Days

Fee:

1. Students: **Rs 8500/-**
2. PhD Research Scholar / Researchers: **Rs 12750/-**
3. Industry Professionals: **Rs 21250/-**
4. Foreign Nationals: **Rs 24100/-**

Note: Rs 500/- will be charged extra for Onspot Registrations

What do NTHRYS provide under Immuno Informatics Workshops?

- Immuno Informatics Workshops Certificate to Candidates.
- Live Practical exposure to all protocols / Tools in Immuno Informatics Workshops module.

NTHRYS WORKSHOPS REGISTRATION PROCESS

Please visit Workshops Application Desk [<http://www.nthrys.com/wsa>] to Register for NTHRYS Workshops