CENTRE OF BIOINFORMATICS RESEARCH & TECHNOLOGY

6 Weeks Hands-On Skill Development Training

SUMMER TRAINING/INTERNSHIP

FROM BASE PAIRS TO BIG DATA: BIOINFORMATICS BOOTCAMP FOR THE NEXT GENERATION 2.0

Dive into Data this Summer

15% OFF

For First 10 Applicants

Use code FIRST10 to avail the offer.

ONLINE

- 1.5 Month | 04 Jul. to 19 Aug. 2025
- Registration Closes: 02 Jul. 2025
- 3:30 - 5:00 PM (IST) | Mon to Fri

MODULE I

Deep Dive into Bioinformatics

- Important Databases, Tools, Sequence Alignment, Primer Designing, Phylogenetic Analysis

MODULE II

Introduction to Proteomics

- Molecular Modelling, Molecular Docking.

MODULE III

Programming for Bioinformatics

- R, Python & Biopython

MODULE IV

Machine Learning/AI for Bioinformatics

MODULE V

Next-Generation Sequencing Data Analysis

MODULE VI

Project Work

PROGRAM BENEFITS

Certificates | Live Sessions | Recordings | Workshop Materials | Technical Support

MORE DETAILS

SCAN ME

Visit: www.cbirt.net/training

** This program will be held subject to a minimum enrollment of 8–10 participants.*

Contact Us
info@cbirt.net +91 6398142849

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Training Schedule

MODULE I

Jul 04, 2025	*3:30 - 4:30 pm*	**Introduction to Bioinformatics** **Biological Databases** Types of biological databases (primary vs secondary) NCBI, EMBL-EBI, DDBJ,GenBank,Ensembl **Sequence File Formats**
	4:30 - 5:00 pm	Hands-On Session
Jul 07, 2025	*3:30 - 4:30 pm*	**Sequence Alignment** • Basics of DNA/protein alignment • Pairwise vs multiple sequence alignment • Global vs local alignment **Sequence Alignment** • Tools: BLAST, • MSA Tools: Clustal Omega. T-Coffee, Muscle
	4:30 - 5:00 pm	Hands-On Session
Jul 08, 2025	*3:30 - 4:30 pm*	**Phylogenetic Analysis (MEGA)** **Gene & Protein Annotation/Primer Design** Gene prediction basics ORFs, exons/introns **Gene & Protein Annotation** Functional annotation (GO terms, KEGG pathways) Introduction to genome browsers (UCSC, Ensembl)
	4:30 - 5:00 pm	Hands-On Session

MODULE II

Jul 09, 2025	*3:30 - 4:30 pm*	**Introduction to Proteomics** Protein Databases (Sequence & Structure)
	4:30 - 5:00 pm	Hands-On Session
Jul 10, 2025	*3:30 - 4:30 pm*	Structure Visualization Protein Similarity Search Tool
	4:30 - 5:00 pm	Hands-On Session
Jul 11, 2025	*3:30 - 4:30 pm*	Protein Structure Prediction Molecular Modelling Molecular Docking
	4:30 - 5:00 pm	Hands-On Session

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Training Schedule

MODULE III

Jul 14, 2025	*3:30 - 4:30 pm*	**Introduction to Programming (R)** *Getting Started with R and RStudio* *Overview of R and its applications* *Working with RStudio projects and managing environments*
	4:30 - 5:00 pm	Hands-On Session
Jul 15, 2025	*3:30 - 4:30 pm*	***Data Structures in R*** ***Working with R Data Types: Vectors, matrices, data frames, and lists***
	4:30 - 5:00 pm	Hands-On Session
Jul 16, 2025	*3:30 - 4:30 pm*	***Looping and Control Flow in R*** ***Writing and Executing R Code*** • ***Running Basic R Code: Interacting with the console and writing reusable scripts***
	4:30 - 5:00 pm	Hands-On Session
Jul 17, 2025	*3:30 - 4:30 pm*	***Data Visualization*** • ***Introduction to ggplot2 package*** • ***Creating basic plots (histograms, bar plots, box plots, scatter plots)***
	4:30 - 5:00 pm	Hands-On Session
Jul 18, 2025	*3:30 - 4:30 pm*	• **Sequence Analysis** • **Feature Extraction of Protein Sequence Using ProtR Package**
	4:30 - 5:00 pm	**Hands-On Session**

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Training Schedule

MODULE III

Jul 21, 2025	*3:30 - 4:30 pm*	***Introduction to Python*** *Overview of Python and its uses* *Writing and running your first Python script*
	4:30 - 5:00 pm	Hands-On Session
Jul 22, 2025	*3:30 - 4:30 pm*	***2. Python Basics*** • *Syntax and Semantics: Understanding Python's syntax* • *Variables and Data Types*
	4:30 - 5:00 pm	Hands-On Session
Jul 24, 2025	*3:30 - 4:30 pm*	• *Control Flow* • *Conditional Statements:* ◦ *if, else, elif statements*
	4:30 - 5:00 pm	Hands-On Session
Jul 25, 2025	*3:30 - 4:30 pm*	***Loops:*** • *Nested loops* • *Loop control statements (break, continue, pass)* • *List Comprehensions:* • *Understanding and using list comprehensions for concise loops*
	4:30 - 5:00 pm	Hands-On Session
Jul 28, 2025	*3:30 - 4:30 pm*	***Setting up the environment (Python + Biopython)*** ***Overview of Python basics relevant to Biopython (data types, loops, functions, etc.)*** ***Working with Biological Sequences***
	4:00 - 4:30 pm	Hands-On Session
Jul 29, 2025	*3:30 - 4:30 pm*	**Working with Biological Databases** Fetching Data from NCBI,Uniprot, Parsing from Databases
	4:30 - 5:00 pm	Hands-On Session

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Training Schedule

MODULE IV

Jul 30, 2025	*3:30 - 4:30 pm*	**Introduction to Machine Learning** **Machine Learning in Bioinformatics** **Machine Learning Algorithms Used in Bioinformaticss**
	4:30 - 5:00 pm	Hands-On Session
Jul 31, 2025	*3:30 - 4:30 pm*	***Types of Machine Learning and algorithms*** ***Kernels in Machine Learning***
	4:30 - 5:00 pm	Hands-On Session
Aug 01, 2025	*3:30 - 4:30 pm*	Classification with WEKA using Different algorithm
	4:30 - 5:00 pm	Hands-On Session
Aug 04, 2025	*3:30 - 4:30 pm*	Ensemble Methods: Bagging, Boosting, Random Forest. Applying Ensemble Techniques to Improve Prediction Accuracy. Introduction to Neural Networks and their Application in Protein Prediction. Practical Session: Implementing Ensemble Methods in WEKA.
	4:30 - 5:00 pm	Hands-On Session

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Training Schedule

MODULE V

Aug 05, 2025	*3:30 - 4:30 pm*	**Introduction to Next Generation Sequencing** • First Generation Sequencing • Second Generation Sequencing • Third Generation Sequencing • Next-Generation Sequencing
	4:30 - 5:00 pm	Hands-On Session
Aug 06, 2025	*3:30 - 4:30 pm*	***Introduction to RNA Seq (Reference Based)***
	4:30 - 5:00 pm	Hands-On Session
Aug 07, 2025	*3:30 - 4:30 pm*	Introduction to different tools of RNA Seq
	4:30 - 5:00 pm	Hands-On Session

MODULE VI

Aug 08, 2025 to Aug 19,2025	*3:30 - 5:00 pm*	**Project Work**

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Registration

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To register for the workshop, please submit the registration form along with your payment details. We accept multiple payment methods to ensure a convenient and secure registration process.

Registration Form Link: https://forms.gle/S2g57ZFujBhiJw7T9 or Scan the QR Code

REGISTRATION PROCESS

STUDENTS (UPTO PHD LEVEL)
INR-5499

POSTDOC/RESEARCH SCHOLARS
INR-5999

STAFF/FACULTY
INR-6499

INDUSTRY PROFESSIONALS
INR-6999

INTERNATIONAL PARTICIPANTS

STUDENTS (UPTO PHD LEVEL)	POSTDOC/ RESEARCH SCHOLARS	STAFF/FACULTY	INDUSTRY PROFESSIONALS
USD 69	USD 79	USD 89	USD 99

Fee after 15% Discount (First 10)	Students (Upto PhD Level)	Postdoc/Research Scholars	STAFF/Faculty	Industry Professionals
Indian Participants	INR-4675	INR-5100	INR-5525	INR-5945
International Participants	USD 59	USD 67	USD 76	USD 84

PAYMENT METHODS

SCAN QR CODE

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centreofbioinformaticsresearch@cnrb

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