



**6 Weeks
Hands-On
Skill
Development
Training**

SUMMER TRAINING/INTERNSHIP

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

Dive into Data this Summer

- 1.5 Month | 15 May to 30 June 2025
- Registration Closes: 13 May 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

**15%
OFF**

For First 10 Applicants

Use code **FIRST10** to avail the offer.

ONLINE

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



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

REGISTER NOW



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Registration

REGISTER NOW

To register for the Summer Training:

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)**

USD 69

**POSTDOC/
RESEARCH SCHOLARS**

USD 79

STAFF/FACULTY

USD 89

**INDUSTRY
PROFESSIONALS**

USD 99

PAYMENT METHODS

SCAN QR CODE



UPI ID



PAYPAL ID



ONLINE TRANSFER

Account No. - 120023770387
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Branch - Kelangar, Aligarh

centreofbioinformaticsresearch@cnrb

[PayPal.Me/cbirt1](https://www.paypal.me/cbirt1)

Payable to: Centre of Bioinformatics
Research and Technology

For Queries/More Details Contact: info@cbirt.net

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Training Schedule

MODULE I

May 15, 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
May 16, 2025	3:30 - 4:30 pm	Sequence Alignment <ul style="list-style-type: none"> Basics of DNA/protein alignment Pairwise vs multiple sequence alignment Global vs local alignment Sequence Alignment <ul style="list-style-type: none"> Tools: BLAST, MSA Tools: Clustal Omega, T-Coffee, Muscle
	4:30 - 5:00 pm	Hands-On Session
May 17, 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

May 20, 2025	3:30 - 4:30 pm	Introduction to Proteomics Protein Databases (Sequence & Structure)
	4:30 - 5:00 pm	Hands-On Session
May 21, 2025	3:30 - 4:30 pm	Structure Visualization Protein Similarity Search Tool
	4:30 - 5:00 pm	Hands-On Session
May 22, 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

May 23, 2025	3:30 - 4:30 pm	Introduction to Programming (R) <i>Getting Started with R and RStudio</i> <i>Overview of R and its applications</i> <i>Working with RStudio projects and managing environments</i>
	4:30 - 5:00 pm	Hands-On Session
May 24, 2025	3:30 - 4:30 pm	Data Structures in R <i>Working with R Data Types: Vectors, matrices, data frames, and lists</i>
	4:30 - 5:00 pm	Hands-On Session
May 27, 2025	3:30 - 4:30 pm	Looping and Control Flow in R <i>Writing and Executing R Code</i> <ul style="list-style-type: none"> <i>Running Basic R Code: Interacting with the console and writing reusable scripts</i>
	4:30 - 5:00 pm	Hands-On Session
May 28, 2025	3:30 - 4:30 pm	Data Visualization <ul style="list-style-type: none"> <i>Introduction to ggplot2 package</i> <i>Creating basic plots (histograms, bar plots, box plots, scatter plots)</i>
	4:30 - 5:00 pm	Hands-On Session
May 29, 2025	3:30 - 4:30 pm	<ul style="list-style-type: none"> 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

May 30, 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
June 02, 2025	3:30 - 4:30 pm	2. Python Basics <ul style="list-style-type: none"> Syntax and Semantics: Understanding Python's syntax Variables and Data Types
	4:30 - 5:00 pm	Hands-On Session
June 03, 2025	3:30 - 4:30 pm	<ul style="list-style-type: none"> Control Flow Conditional Statements: <ul style="list-style-type: none"> if, else, elif statements
	4:30 - 5:00 pm	Hands-On Session
June 04, 2025	3:30 - 4:30 pm	Loops: <ul style="list-style-type: none"> 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
June 06, 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
June 10, 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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MODULE IV

June 11, 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
June 12, 2025	3:30 - 4:30 pm	Types of Machine Learning and algorithms Kernels in Machine Learning
	4:30 - 5:00 pm	Hands-On Session
June 13, 2025	3:30 - 4:30 pm	Classification with WEKA using Different algorithm
	4:30 - 5:00 pm	Hands-On Session
June 16, 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

June 17, 2025	3:30 - 4:30 pm	Introduction to Next Generation Sequencing <ul style="list-style-type: none"> • First Generation Sequencing • Second Generation Sequencing • Third Generation Sequencing • Next-Generation Sequencing
	4:30 - 5:00 pm	Hands-On Session
June 18, 2025	3:30 - 4:30 pm	Introduction to RNA Seq (Reference Based)
	4:30 - 5:00 pm	Hands-On Session
June 19, 2025	3:30 - 4:30 pm	Introduction to different tools of RNA Seq
	4:30 - 5:00 pm	Hands-On Session

MODULE VI

June 20, 2025 to June 30, 2025	3:30 - 5:00 pm	Project Work
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