



## HANDS-ON TRAINING

# PRECISION GENOMICS: FROM BIG DATA TO TARGETED THERAPIES



This training will provide participants with hands-on experience in Genomics for Precision Medicine, focusing on the study of variations in the human genome, including SNPs, Indels, CNVs, and SVs.



Learn to implement variant calling pipelines using industry-standard tools such as GATK, SAMtools, and FreeBayes, and gain practical skills in structural and copy number variation analysis.



The program also covers the use of leading functional annotation tools like ANNOVAR, VEP, and SnpEff to interpret genomic data for real-world biomedical applications.

## PROGRAM BENEFITS

- Certificates
- Access to Live Sessions
- Recordings
- Workshop Materials
- Online Technical Support Post Training

## COURSE INSTRUCTORS

- Dr. Shikha Mittal, Bioinformatics Trainer, CBIRT
- Dr. Tamanna Anwar, Training Organizer & CoFounder, CBIRT

2 Weeks | 22 Sept. – 07 Oct. 2025  
Registration Closes: 21 Sept. 2025  
7:00 – 8:00 PM (IST) | Monday to Friday



## TOPICS

- Introduction to Genomics for Precision Medicine
- Variations in the human genome: SNPs, Indels, CNVs, SVs
- Raw data formats: FASTQ, BAM, VCF
- Read preprocessing and quality control (FastQC, Trimmomatic)
- Read alignment and reference mapping (BWA, Bowtie2)
- Variant calling pipelines (GATK, SAMtools, FreeBayes)
- Structural and copy number variation analysis
- Functional annotation tools (ANNOVAR, VEP, SnpEff)
- Predicting variant effects: missense, nonsense, synonymous, regulatory variants
- SNPs and CNVs visualization using IGV software

## REGISTRATION PROCESS

**Eligibility:** Students pursuing B.Sc., B.Tech., M.Sc., M.Tech., and PhD in life sciences/computer science, as well as Teaching and Industry Professionals.

To get the application form and fee details, and for any other queries, write to us at [info@cbirt.net](mailto:info@cbirt.net) or call us at +91 6398142849.



Visit: [www.cbirt.net/training](http://www.cbirt.net/training)



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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 PROCESS

SCAN THE QR CODE FOR THE  
REGISTRATION FORM



### STUDENTS

**Upto Masters** **PH.D**  
INR-2000 INR-2500



### POSTDOC/RESEARCH SCHOLARS

INR-2750



### STAFF/FACULTY

INR-3000



### INDUSTRY PROFESSIONALS

INR-3500



### INTERNATIONAL PARTICIPANTS

(Including all Living, Working, or Studying Abroad at the time of the Workshop).

STUDENTS	PH.D	POSTDOC/ RESEARCH SCHOLARS	STAFF/FACULTY	INDUSTRY PROFESSIONALS
<b>Upto Masters</b>				
USD 40	USD 45	USD 50	USD 60	USD 65

## PAYMENT METHODS

### SCAN QR CODE



centreofbioinformaticsresearch@cnrb

### UPI ID



### PAYPAL ID



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

### ONLINE TRANSFER

Account No. - 120023770387  
Bank Name - CANARA BANK  
IFSC Code - CNRB0002336  
Branch Code - 002336  
Branch - Kelangar, Aligarh

Payable to: Centre of Bioinformatics  
Research and Technology

For Queries/More Details Contact: [info@cbirt.net](mailto:info@cbirt.net)



+91 6398142849



[info@cbirt.net](mailto:info@cbirt.net)



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