



# SRISHTI CHETNA: THE ZOOLOGICAL SOCIETY

HANSRAJ COLLEGE, UNIVERSITY OF DELHI

in association with

## STUDENT LEARNING CENTER

HANSRAJ COLLEGE, UNIVERSITY OF DELHI

is organising

A COMPUTER-BASED HANDS-ON WORKSHOP

# ABC OF NGS DATA ANALYSIS

JULY 28 - AUGUST 1, 2024

**Resource Person**

**Ms. Riya Madan**

Institute of Genetics and Cancer, University of Edinburgh\*

Alumni, Department of Zoology, Hansraj College

\*Selected in PhD program, University of Edinburgh

**MODE: HYBRID MODE**

**TIMINGS: 9:00 AM TO 2:00 PM**

**VENUE: COMPUTER SCIENCE**

**DEPARTMENT LAB, HANSRAJ**

**COLLEGE, UNIVERSITY OF DELHI**

**REGISTRATION LINK:**

**<https://forms.gle/LwuLy5vW95EJwp1z9>**



For Queries:- [slc@hrc.du.ac.in](mailto:slc@hrc.du.ac.in)

## **ABOUT HANSRAJ COLLEGE**

Hansraj College is one of the largest constituent colleges of University of Delhi and has been ranked as one of the top five colleges for Science, Arts and Commerce several times in the last decade. The faculty and students of the college have contributed immensely in the field of academics, sports and cultural activities. The college faculty is dedicated towards growth and development of the institution academically and administratively to constantly thrive for excellence. Hansarians have been placed in diverse professions and services worldwide and are bringing fame and laurels to the institution.

## **ABOUT STUDENT LEARNING CENTRE**

The Internal Quality Assurance Cell established the Student Learning Centre in 2020 to address students' issues and challenges, from basic subject learning to advanced skill acquisition. The Centre's goals include organizing add-on certificate courses to boost employability, encouraging interdisciplinary learning for collaborative projects, and providing remedial and bridge classes to minimize learning gaps. It also offers language proficiency and personality development classes for those struggling with core languages. The Centre promotes peer-to-peer mentoring, fostering personal and intellectual growth. Additionally, it supports students with research interests by facilitating internships and training programs in collaboration with renowned research institutes.

## **ABOUT THE PROGRAMME**

This workshop is designed to introduce participants to next-generation sequencing (NGS) and its data analysis, effectively merging biological concepts with computational tools. Targeted at individuals interested in sequencing technologies, data formats, and computational methods, the program covers basic biology, NGS technology, and computational biology principles. Participants will gain hands-on experience with the Linux environment, shell scripting, RNA-seq workflows, data retrieval, quality assessment, sequence alignment, count matrix generation, and downstream analyses using tools like HISAT2, STAR, Salmon, and DESeq2. By the end of the workshop, attendees will possess a robust understanding of genomics, sequencing technologies, data formats, and the ability to analyze and interpret large biological datasets, inspiring excitement about the possibilities in computational biology.

# LEARNING OUTCOMES

- Familiarisation with the world of 'omics' and understanding its importance.
- Introduction to the NGS data generation process and learning how to go about it from an experimentalist point of view .
- Computational based learning of linux and R.
- Understanding the steps involved in NGS data analysis and their basic biology.
- Hands-on experience of dealing with the NGS data and learning how to extract interesting and valuable information from large chunks of data.

## REGISTRATION DETAILS

Interested participants are requested to follow the steps mentioned below in order to register for the workshop:

Participants are required to pay the registration fee of Rs.500/- via Online mode (NEFT/RTGS) to the following account:

**Payment details:**

**Beneficiary Name: Principal, Hansraj College**

**Account No.: 2848101013013**

**IFSC Code: CNRB0002848**

**Bank Name and Branch: Canara Bank,  
Hansraj College, Delhi**

**NOTE: Fee is Non-Refundable**

- Pre-registration to the program is through online mode only.
- Participants are required to fill the registration form using the following link.  
(Please ensure that you have payment proof before filling up registration form)

**Registration link:**

**<https://forms.gle/LwuLy5vW95EJwp1z9>**

- The last date for registration is July 24, 2024.
- Participants will be informed by July 26, 2024.
- Limited slots available, registration will be on a first-come, first-served basis. Kindly check the availability of the slots beforehand as the form will be closed once the seats have been filled.
- Classes will begin on July 28th. The first session will be conducted online, while the following sessions will take place on campus.
- Certificate will be given to participants after successful completion of assessment criteria.
- Further details will be communicated to the registered participants.

**ELIGIBILITY:** Individuals interested in learning about sequencing technologies, data formats, and computational methods to handle large biological datasets.

## Patron

**Prof. (Dr.) Rama**  
Principal, Hansraj College

## Teacher In-Charge

**Dr. Beena Bhandari**  
Department of Zoology, Hansraj College

## Zoology Society, SLC & Workshop Convenor

**Dr. Pooja Arora**  
Department of Zoology, Hansraj College

## Organising Team

**Dr. Dinesh Kumar Gautam**  
**Dr. Vandana Kumari Singh**  
**Dr. Lokesh Chandra Mishra**  
**Dr. Kaveri Chakrabarty**  
**Dr. Anita Thakur**  
**Dr. Dhiraj Kumar**

**Dr. Mansi Verma**  
**Dr. Yasha Yadav**  
**Dr. Amit**  
**Dr. Tejveer Singh**  
**Dr. Priyanka Mehta**

## Student Coordinator

**Smriti Joys**  
**Abhiraaj Parihar**  
Department of Zoology, Hansraj College