

Capacity building WORKSHOPS for researchers & students

**Modular hands-on training opportunities for young scientists,
open to students as well!**

1. **Bioinformatics for biologists** [2 days; 18 & 19 Dec., 2017]
2. **NGS and Genomics** [3 days; 26- 28 Dec., 2017]
3. **NGS, Microarrays, Transcriptomics & Biomarker Discovery** [29-31 Dec., 2017]
4. **Functional Genomics, Proteomics & Drug Discovery** [3 days; 2- 4 Jan., 2018]
5. A **FREE*** one day program for students: **fundamental concepts for modern biology, & discussions on finding the right jobs / careers** [17 Dec., 2017]

Venue: Shodhaka Life Sciences Pvt. Ltd., Electronic city, Phase I, Bengaluru

Apply now: messenger@shodhaka.com

[limited phone inquiries please: 98 444 700 60 or 97 418 500 10]

Eligibility: Graduate / post-graduate students/professionals or unemployed individuals with life sciences subjects [*Biotechnology, Bioinformatics, Microbiology, Biochemistry, Zoology, Botany, Agriculture, Pharma, Medicine, Genetics, etc*]

**Conditions apply*

1. Bioinformatics for biologists

Fees: Rs.4000/- for students / unemployed youth
Rs.8000/- for others

Group applicants, early applicants and applicants having economic disadvantages are eligible for additional discount.

DAY 1. DEC 18, 2017

Discussions: Core Bioinformatics vs. Data analysis in Life Sciences

Hands-on sessions:

- Databases and software usage for molecular biology work
- Advanced strategies in literature based data mining and biocuration [*with demo & hands-on sessions*]

DAY 2. DEC 19, 2017

Hands-on sessions:

- Essentials of data mining for biologists, particularly for molecular biology experiments

2. NGS & GENOMICS

Fees: Rs.6,000/- for students / unemployed youth
Rs.12,000/- for others

Group applicants, early applicants and applicants having economic disadvantages are eligible for additional discount.

DAY 1 [26 Dec 2017]

Overview followed by discussions: NGS, genomics, exomics & metagenomics

Practical sessions:

- FASTQ format, depth and coverage of reads
- NGS data retrieval using SRA & ENA [demo & hands-on]
- Quality analysis and trimming of raw reads [demo & hands-on]

DAY 2 [27 DEC 2017]

Practical sessions:

- NGS whole-genome & exome sequencing, and reference assembly
- SNP analysis concepts & resources [demo & hands-on]
- Data retrieval & reference alignment of NGS reads [demo & hands-on]
- *De-novo* assembly concepts and annotation process

DAY 3 [28 DEC 2017]

16s rRNA and whole genome sequencing strategies for metagenomics

Practical sessions:

- Pre-processing of raw data, 16s-rRNA processing & whole-genome data processing
- OTU identification and processing

3. NGS, MICROARRAYS, TRANSCRIPTOMICS & Biomarker Discovery

Fees: Rs.6,000/- for students / unemployed youth
Rs.12,000/- for others

Group applicants, early applicants and applicants having economic disadvantages are eligible for additional discount.

DAY 1 [29 Dec 2017]

Overview followed by discussions: NGS, microarrays, ESTs, ChIP & transcriptomics

Practical sessions:

- Raw data pre-processing
- Data identification and downloading from standard databases

DAY 2 [30 DEC 2017]

Practical sessions:

- Reference alignments and annotations
- *De-novo* assembly and transcript level analysis

DAY 3 [31 DEC 2017]

A comparison of different approaches in transcriptomics

Practical sessions:

- microarray analysis
- microRNA & DNA motif analysis

4. FUNCTIONAL GENOMICS, PROTEOMICS & DRUG DISCOVERY

Fees: Rs.4,000/- for students / unemployed youth

Rs.8,000/- for others

Group applicants, early applicants and applicants having economic disadvantages are eligible for additional discount.

DAY 1 [2 Jan 2018]

An overview of proteomics concepts

Introduction to ontology and functional analysis

Practical sessions:

- Gene ontology analysis
- Identification of key genes/proteins from a data set

DAY 2 [3 Jan 2018]

Practical sessions:

- Protein-protein interactions
- Pathway analysis

DAY 3 [4 Jan 2018]

Practical sessions:

- Using PDB
- Homology modeling and docking

A DAY FOR FUNDAMENTALS: Fundamental concepts for modern biology, & discussions on finding the right jobs & careers;

ESSENTIAL FOR STUDENTS FOR ALL COURSES LISTED ABOVE (no charges for those who participate apply for any of the above programs)

DEC 17, 2017

- Cellular and molecular basis of life
- Concepts and processes involved in research
- Current trends in life sciences
- Preparations for job-applications and career planning