

#### Program Co-ordinators

Dr Malali Gowda, Professor, TransDisciplinary University  
Dr Pruthvi Chakravarthi T, CEO, Bengaluru Genomics Centre

#### About Workshop

Recent advancements in DNA sequencing have made enormous contributions in understanding the biology of life forms. Reduced cost and increased speed of DNA sequencing have led to rapid growth of genomics. Functional significance of genomic elements (DNA, RNA, proteins, small molecules and phenotype) are still being unraveled in each organism. This workshop will provide an introduction to Next Generation Sequencing (NGS) technology, platforms, data generation, and data analyses. Lectures will be delivered by experts in the area of genomics and bioinformatics. Practical sessions will be conducted using real data. To foster transdisciplinary dialogues in functional genomics, TDU and BGC are jointly organizing 6-days training program in Genomics and Bioinformatics.

#### Objective

Training and capitalizing human resources to carry out Next Generation Sequencing and Big-Data Analyses

#### Topics

- Next Generation Sequencing technologies
- Experimental design for Next Generation Sequencing projects
- Sample collection, storage and transportation
- Genome size estimation
- NGS sample library preparation
- DNA Sequencing
- Bioinformatics tools
- NGS data analyses
- NGS data submission to public databases
- Report generation

#### Target Audience

Students and Faculty/Scientists from Academia and Industry from Life Sciences, Biotechnology, Genetics, Genomics, Medicine, Agriculture, Environment, Computer Science and other disciplines.

This Certificate Course (3 Credits) is Transdisciplinary in nature and TDU strongly recommend this module for Masters and PhD students

#### Computer Support

- We will provide computers with software installed for the participants.
- Participants are encouraged to bring their own laptops with UBUNTU system. We will provide some discount in registration fee to those who bring their own computer system.

#### Venue

Trans-Disciplinary University  
#74/2, Jarakabande Kaval, Post Attur via Yelahanka, Bengaluru,  
Karnataka 560064

#### Next Generation Sequencing and Bioinformatics

Day 1	<ul style="list-style-type: none"> <li>➤ Introduction to Next Generation Sequencing technologies</li> <li>➤ Experimental design for Next Generation Sequencing projects</li> <li>➤ Sample collection, storage and transportation</li> <li>➤ Genome size estimation</li> </ul>
Day 2	<ul style="list-style-type: none"> <li>➤ Nucleic acid extraction</li> <li>➤ Assessment of DNA quality and quantity</li> <li>➤ DNA barcoding</li> </ul>
Day 3	<ul style="list-style-type: none"> <li>➤ NGS sample library preparation</li> <li>➤ DNA Sequencing by NGS platform</li> </ul>
Day 4	<ul style="list-style-type: none"> <li>➤ Understanding NGS raw data</li> <li>➤ Bioinformatic tools and data analyses</li> </ul>
Day 5	<ul style="list-style-type: none"> <li>➤ Reference and De Novo mapping and identification of InDels and SNPs</li> <li>➤ Population diversity analysis</li> <li>➤ Phylogenetic analysis</li> </ul>
Day 6	<ul style="list-style-type: none"> <li>➤ NGS data submission to public databases</li> <li>➤ Report generation</li> </ul>

#### Registration Fee

Students: Rs 10,000/-  
Faculty: Rs 15,000/-  
Industry: Rs 20,000/-

**Group Registration:** More than 3 from the same institution will have some discount in registration fee.

**Last date to apply: 25<sup>th</sup> December, 2017.**

#### For registration, login;

[www.tdu.edu.in/events/tdu-genomics-training](http://www.tdu.edu.in/events/tdu-genomics-training)

#### Payments Mode

➤ **NEFT (Online)**, please add **"ITD-HST General Fund"** as an NEFT Transfer Beneficiary:

Account Name: ITD-HST General Fund

Account Number: 0694104000134705

Bank details: IDBI Bank, Yelahanka New Town, Bangalore-560064

IFSC: IBKL0000694, MICR: 560259014

➤ The **Demand Draft** should be in favour of **"ITD-HST"** and payable at Bengaluru.

#### Postal address:

TransDisciplinary University,  
#74/2, Jarakabande Kaval, Post Attur via Yelahanka, Bengaluru,  
Karnataka 560064

#### Accommodation

Food and accommodation will be arranged based on request latest by **25<sup>th</sup> December, 2017** with additional charges.

Travel will be arranged from Yelahanka Police Station to TDU.

For travel and accommodation, please contact:

[tdu.genomics@tdu.edu.in](mailto:tdu.genomics@tdu.edu.in);

Phone: TDU +91 9972978966

BGC +91-9980227834