Online training programs (with hands-on sessions) on NGS, microarray, transcriptomics & proteomics

Start date: 6th Nov 2020

- **Last date to apply: 31st Oct., 2020**

- **Fees:** Rs.15,000/- plus taxes (GST) **-** *but discounts available for volunteers currently working for the Covid-19 database project, and those taking up research projects at BdataA or 'Shodhaka' in the coming months [write to shodhakamangala @gmail.com - with your CV; fees to be paid via NEFT before 31st, if approved]*

- Max. seats planned: 10 (first come first serve basis)

- Mode: Multiple sessions of 60 to 180 minutes per day, spread across (approx) 10 days

♣ An overview of NGS & microarray technology* *[theory]*

♣ NGS applications to genomics & transcriptomics, and conceptual discussions* *[theory]*

♣ FASTQ format, depth and coverage of reads *[theory]*

♣ Screening & down-loading raw data from public repositories: GEO, SRA & ENA *[demo & hands-on]*

♣ Quality analysis and trimming of raw reads *[demo & hands-on]*

♣ De-novo assembly & reference alignment concepts and annotation process *[theory]*

♣ Reference alignment of NGS reads *[demo & hands-on]*

♣ De-novo assembly of reads to contigs [*demo & tips for hands on practice]*

♣ Quantifying genes and transcripts per sample [*demo & hands on]*

♣ Identifying differential gene expression [*demo & tips for hands on practice]*

♣ Functional analysis of gene-clusters *[demo & hands on]*

♣ Molecular interaction analysis, part-1 (PPIs) *[demo & hands on]*

♣ Molecular interaction analysis, part-2 (ncRNAs) *[demo & hands on]*

♣ Molecular interaction analysis, part-3 (pathways) [*demo & hands on]*

♣ Molecular interaction visualization *[demo & hands on]*

*Free sessions