

Pre-Conference Hands-on Nextgen Sequencing and Bioinformatics Workshop
24th - 30th September, 2015, Centre for Cellular and Molecular Biology (CCMB), Hyderabad, INDIA

Organized by: SciGenom Research Foundation (SGRF), Centre for Cellular and Molecular Biology (CCMB) and Institute of Bioinformatics (IOB)

Day 0 (Thursday, 23rd September 2015) - Part 1				
Time	Topic	Type	Presenter/In-charge	Location
	14-20:00 - Housing check-in		Dr Neeraj	
Day 1 (Thursday, 24th September 2015) - Part 1				
Time	Topic	Type	Presenter/In-charge	Location
08:00 - 9:00 - Breakfast				
08:00 - 9:00 - Registration				
09:00 - 9:30 - Workshop Inauguration - Dr Mohan Rao, Dr Thangaraj, Dr Sekar Seshagiri, Mr Sam Santhosh				
09:30 - 10:00 - Break				
10:00 - 11:00 - Dr Sekar Seshagiri, Genentech Inc., State of DNA Sequencing		Lecture		Lecture hall, 2nd floor, Main building
11:00-18:00	Hands on Lab work			
	Whole genome Library Prep			
	11:00-11:30 - Overview	Wetlab	Dr Vasant Janakiraman	5th floor, new R&D building, CCMB.
	11:30-12:30 - Tagmentation	Wetlab	Dr Vasant Janakiraman	Lab - Room no. W413, main building
	12:39-13:30 - PCR setup	Wetlab	Dr Vasant Janakiraman	Lab - Room no. W413, main building
	13:30-14:30 - Lunch		Dr Neeraj	
	13:30-14:30 - CCMB Guest house check-in		Dr Neeraj	
	14:30-15:30 - PCR cleanup	Wetlab	Dr. Vasant Janakiraman	Lab - Room no. W413, main building
	15:30-16:00 - Tea Break			
	16:00-18:00 - Normalization	Wetlab		Lab - Room no. W413, main building
	18:00-20:00 - Pooling and sequencing on MiSeq	Wetlab	Dr. Vasant Janakiraman, Dr Beena	Lab - Room no. W413, main building
	20:00 - Dinner		Dr Neeraj	
Day 2 (Friday, 25th September 2015)- Part 1				
Time	Topic	Type	Presenter/In-charge	Location
08:00 - 9:00 - Breakfast				
09:00-20:00	Hands on Lab work			
	09:00-09:15 - Overview of Metagenomics lab work	Wetlab	Dr Beena	5th floor, new R&D building, CCMB.
	09:15-10:15 - Sample Prep and PCR setup	Wetlab	Dr Beena	Lab - Room no. W413, main building
	10:15-12:15 - PCR cycling (V3)	Wetlab	Dr Beena	Lab - Room no. W413, main building
	12:15-13:15 - PCR cleanup	Wetlab	Dr Beena	Lab - Room no. W413, main building
	13:15-14:30 - End repair and adapter ligation	Wetlab	Dr Beena	Lab - Room no. W413, main building
	13:30-14:30 - Lunch		Dr Neeraj	
	14:30-15:30 - Reaction cleanup	Wetlab	Dr Beena	Lab - Room no. W413, main building
	15:30-17:30 - PCR for library generation			Lab - Room no. W413, main building
	16:30-17:00 - Tea Break		Dr Neeraj	
	17:00-18:00 - Library Cleanup	Wetlab		Lab - Room no. W413, main building
	18:00-20:00 - Pool and sequencing on Miseq (2 x 150bp)	Wetlab	Dr Beena	Lab - Room no. W413, main building
	19:30-20:00 - Review of day 1 sequencing progress	Wetlab	Dr Beena	Lab - Room no. W413, main building
	20:00 - Dinner		Dr Neeraj	
Day 3 (Saturday, 26th September 2015) - Part 1				
Time	Topic	Type	Presenter/In-charge	Location
08:00 - 9:00 - Breakfast				
09:00-09:30	Miseq Sequencing review progress		Dr Beena and Dr Vasant Janakiraman	5th floor, new R&D building, CCMB.
			Dr Neeraj	
10:00-6:00 pm	10:00-11:00 Ion Torrent overview		Dr Neeraj	Lab - Room no. W413, main building, CCMB
	11:00-13:30 - CCMB lab tour/NGS lab tour and Sequencing Demo - Prathap Naidu	Wetlab	Dr Neeraj	Lab - 1st floor, central area, CCMB.
	13:30-14:30 - Lunch		Dr Neeraj	
	14:30-15:30 - Ion Data analysis - Harsh			Lab - Room no. W413, main building, CCMB
	16:30-17:00 - Tea Break		Dr Neeraj	
	17:00-20:00 - Ion Data analysis (cont.) and Q&A			Lab - Room no. W413, main building, CCMB
	20:00 - Dinner			
Day 4 (Sunday, 27th September 2015) - Part I conclusion AM				
08:00 - 9:00 - Breakfast				
09:30 - 10:30	Dr Thangaraj K - NGS Applications	Lecture		Lecture hall, 2nd floor, Main building
11:00-12:00	Miseq Data QC and wrap up		Dr Beena and Dr Vasant Janakiraman	5th floor, new R&D building, CCMB.
			Dr Beena and Dr Vasant Janakiraman	5th floor, new R&D building, CCMB.

Pre-Conference Hands-on Nextgen Sequencing and Bioinformatics Workshop
24th - 30th September, 2015, Centre for Cellular and Molecular Biology (CCMB), Hyderabad, INDIA

Organized by: SciGenom Research Foundation (SGRF), Centre for Cellular and Molecular Biology (CCMB) and Institute of Bioinformatics (IOB)

Day 4 (Sunday, 27rd September 2015) - Part II				
Time	Topic	Type	Presenter/In-charge	Location
08:00 – 12:00	Registration		Dr Neeraj	
13:30-20:00	Housing check-in	Dr Neeraj		
Day 4 (Sunday, 27th September 2015) - Part II Start PM				
Time	Topic	Type	Presenter/In-charge	Location
12:30 - 01:30	Dr Zora Modrusan - NGS platforms, lab setup, automation and project planning	Lecture		Lecture hall, 2nd floor, Main building
13:30-14:30	Lunch		Dr Neeraj	
14:30-15:30	Welcome remarks - workshop overview - NGS project design and project specifications. Hands on exercise	computer lab	Dr. Eric Stawiski / Dr. Zora Modrusan	5th floor, new R&D building, CCMB.
15:30-16:00	Tea Break		Dr Neeraj	
16:00-17:00	Common sequencing and annotation formats. Overview of public data repositories	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
17:00-17:30	Quality control of raw sequencing data	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
17:30-18:00	Data file formats and quality control hands on	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
18:00-19:00	Q & A	computer lab	Dr. Eric Stawiski / Dr. Zora Modrusan	5th floor, new R&D building, CCMB.
20:00	Dinner		Dr Neeraj	
Day 5 (Monday, 28th September 2015) - Part II				
Time	Topic	Type	Presenter/In-charge	Location
09:30 - 10:30	Dr Eric Stawiski - 'NGS Data Analysis - making sense of large scale data'	Lecture		Lecture hall, 2nd floor, Main building
10:30-11:30	Introduction to whole exome-seq (WES) and Whole genome sequencing (WGS): Reference based mapping, alignment and variant discovery	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
11:30-12:30	WES mapping and variant discovery hands on	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
12:30-01:30	WGS analysis demo	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
13:30-14:30	Lunch		Dr Neeraj	
14:30-15:30	Hands on data analysis - Data from Part I work and other WGS data analysis	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
15:30-16:00	Tea Break		Dr Neeraj	
16:00-18:00	Data analysis continued. Q & A	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
18:00-20:00	Command line analysis	computer lab	Dr. Anil K.Madugundu	5th floor, new R&D building, CCMB.
20:00	Dinner		Dr Neeraj	
Day 6 (Tuesday, 29th September 2015) - Part II				
Time	Topic	Type	Presenter/In-charge	Location
09:30-10:00	Introduction to transcriptome analysis using RNA-seq	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
10:00-12:00	Hand on RNA-seq analysis - transcript quantitation	computer lab	Dr. Eric Stawiski	5th floor, new R&D building, CCMB.
12:30 - 13:30	Dr Ravi Gupta - 'Metagenomics Data Analysis'	Lecture	Dr. Ravi Gupta	Lecture hall, 2nd floor, Main building
13:30-14:30	Lunch		Dr Neeraj	
14:30-15:30	Metagenomic Hands on 16s rRNA data analysis (analyze data generated in part I and other data)	computer lab	Dr Ravi Gupta	5th floor, new R&D building, CCMB.
15:30-16:00	Tea Break		Dr Neeraj	
16:00-18:00	Metagenomic Hands on 16s rRNA data analysis (analyze data generated in part I and other data) - continued	computer lab	Dr Ravi Gupta	5th floor, new R&D building, CCMB.
18:00-20:00	Command line analysis	computer lab	Dr. Anil K.Madugundu	5th floor, new R&D building, CCMB.
	20:00 - Dinner		Dr Neeraj	
Day 7 (Wednesday, 30th September 2015) - Part II				
Time	Topic	Type	Presenter/In-charge	Location
09:30-10:30	Integrated Proteomics and Genomics	Talk	Dr Harsha Gowda	Lab - Room no. W413, main building, CCMB
10:00-12:00	Q & A - wrapup		Dr Ravi Gupta and Dr Harsha Gowda	Lab - Room no. W413, main building, CCMB
12:30 - 13:30	Dr Steve Turner - 'Single molecule sequencing'	Lecture		Lecture hall, 2nd floor, Main building
13:30-14:30	Lunch		Dr Neeraj	
14:30-15:30	1. Overview of Pacbio data structure and Read length 2. Assembly method – all Pacbio assembly using HGAP (Haploid assembly) and Falcon (Diploid Assembly)	computer lab	Dr Siddarth Singh	5th floor, new R&D building, CCMB.
15:30-16:00	Tea Break		Dr Siddarth Singh	
16:00-18:00	3. Large Genome assemblies - How to?	computer lab	Dr Siddarth Singh	5th floor, new R&D building, CCMB.
	4. Isoseq - Full transcript sequencing with no assembly required.	computer lab	Dr Siddarth Singh	5th floor, new R&D building, CCMB.
	5. Targeted Resequencing with Pacbio	computer lab	Dr Siddarth Singh	5th floor, new R&D building, CCMB.
	6. Long Amplicon Analysis	computer lab	Dr Siddarth Singh	5th floor, new R&D building, CCMB.
	7. Future RoadMap and wrap up	computer lab	Dr Siddarth Singh	5th floor, new R&D building, CCMB.