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| Coffee/Tea break& Group Photo | 10.30 - 11.15 am |
| Lecture 3: Prof. Srinivasan Chandrasegaran (JHU) <i>“Programmable Nucleases (RE 2.0)usher in the Genome Editing Revolution”</i> | 11.15- 12.00noon |
| Lecture 4: Dr. Bhaskar Bhadra (RIL) <i>TBA</i> | 12.00 – 12.30 pm |
| <i>Lab Experiment #1: Gene editing by non-homologous end-joining (NHEJ) Disruption (knock-out)of eGFP gene in HEK293 cells using CRISPR-Cas9</i> | 2.00 -6.00 pm |
| Overview of Experiment #1: Dr. Sivaprakash Ramalingam | 2.00 - 2.30 pm |
| Performing Experiment #1by participants | 2.00 - 6.00 pm |
| Assistance to participantson their genome editing projects | 6.00- 7.00 pm |

June 26, Tuesday

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| Lecture 5: Dr. Debojyoti Chakravorty (CSIR-IGIB) <i>“Editing the editors: expanding the CRISPR toolbox”</i> | 9.00 - 9.45 am |
| Lecture 6: Dr. B. Anand (IIT, Guwahati) <i>“CRISPR-Cas System: From Genome Defense to Tinkering Genome”</i> | 9.45- 10.30 am |
| Coffee/Tea break | 10.30 - 11.00 am |
| Lecture 7: Dr. Pankaj Kumar Joshi (Merck) <i>“CRISPR/Cas Nuclease RNA-guided Genome Editing”</i> | 11.00 - 11.45 pm |
| Overview of Experiment #2 Dr. Sivaprakash Ramalingam (CSIR-IGIB) | 12.00 - 12.30 pm |

Lab Experiment #2: Gene correction by homology-directed repair (HDR) 2.00 - 6.00 pm
Editing mutant eGFP gene in HEK293 cells using CRISPR-Cas9

Performing Experiment #2 by participants 2.00 - 6.00 pm

Assistance to participants on their genome editing projects 6.00 - 7.00 pm

June 27, Wednesday

Lecture 8: Dr. Sridhar Sivasubbu (CSIR-IGIB) 9.00 - 9.45 am
"Editing Non-coding RNAs in Zebrafish"

Lecture 9: Dr. Chandra Shekar (CCMB) 9.45 - 10.30 am
"CRISPR tools mediated genome engineering of stem cells and mice"

Coffee/Tea break 10.30 - 11.00 am

Lecture 10: Dr. Ajay K. Pandey (NABI) 11.00 - 11.45pm
"Editing of crop genomes for trait development: new directions and challenges"

Lecture 11: Dr. Sanjay Ghosh (IBAB) 11.45 - 12.10 pm
"Knockdown of long noncoding RNAs in Drosophila by CRISPR interference"

Lecture 12: Dr. Shailja Singh 12.10 -12.35 pm
"Unravelling the complex biology of human malaria parasites by CRISPR/Cas9"

Lab Experiment #3: Genome editing by homologous recombination (HR) 2.00 - 6.00 pm
Targeted gene addition (knocking-in) of eGFP gene in HEK293 cells using CRISPR-Cas9

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| Overview of Experiment #3: Prof. Srinivasan Chandrasegaran | 2.00 – 2.30 pm |
| Performing Experiment #3 by participants | 2.30 - 6.00 pm |
| Assistance to participants on their genome editing projects | 6.00 - 7.00 pm |

June 28, Thursday

Lecture 13: Dr. Sivaprakash Ramalingam (CSIR-IGIB) 9.00 -9.45am
“Generation of naturally occurring beneficial HPFH mutations using targeted genome editing approach to reactivate fetal hemoglobin: A strategy for treating β -hemoglobin disorders”

Lecture 14: Prof. Srinivasan Chandrasegaran (JHU) 9.45- 10.15 am
"Generation & genetic correction of disease-specific hiPSCs"

Lecture 15:Dr. Soumya Pati 10.15 - 10. 40 am
“CRISPR/Cas9-based Gene Editing of Sphingosine Kinase-1 Enforced Cell Fate Neural Remodeling in Pluripotent Stem Cells”

Coffee/Tea break 10.45 - 11.15 am

Lecture 16:Prof. Srinivasan Chandrasegaran 11.15- 11.45pm
"Challenges facing Genome Editing: Off-target effects, Human Embryo Editing, Eugenics, etc"

Overview of Experiment #4: Dr. Sivaprakash Ramalingam 12.00 - 12.30 pm

Lab Experiment #4: How to analyze gene edited lines from Experiments 1, 2 & 3? 2.00 - 6.00 pm
Fluorescence microscopy, gDNA isolation, PCR, Surveyor assay and Sequencing

Performing Experiment #4 by participants 2.00 - 6.00 pm

Assistance to participants on their genome editing projects 6.00 - 7.00 pm

June 29, Friday (FAREWELL SESSION)

Lecture 17: Prof. Srinivasan Chandrasegaran 9.00 - 9.45 am
"Total synthesis of functional designer eukaryotic (yeast) chromosomes (Sc2.0)"

Lecture 18: Sarsija Padmanabhan 9.45 - 10.15 am
"Patent basics: Intellectual Property, Prior Art, Patent Search, Patent Filings, etc"

Lecture 17: Prof. GaitiHasan 10.15 - 10.45 am
"Investigating phenotypes of intracellular calcium signaling with genome editing tools"

Coffee/Tea break 11.00 - 11.30am

Awarding of the certificates to participants 11.45- 12.00noon

Workshop Summary by Conveners1 2.00- 12.30 am