08:00 Registration Open

09:15-09:45 Conference Inauguration & Host Introductions
Chair: Dr. Sekar Seshagiri

**Session 01** Keynote lectures [Ballroom]
Chair: Dr. Sekar Seshagiri

09:45-10:15 Keynote lecture 01 - Dr. Gagandeep Kang, CMC Vellore, India. The Value of Human Infection Studies in Vaccine Development

10:15-10:45 Keynote lecture 02 - Dr. John Kuriyan, UC Berkeley, USA. Structural Analysis of the Activation of B-Raf Kinase

10:45-11:15 Keynote lecture 03 - Dr. Jon Pines, Institute of Cancer Research: Royal Cancer Hospital, UK. Cyclin B1 and the Spindle Assembly Checkpoint: a 15 year odyssey

11:15-11:30 Break

**Session 02** Keynote Lectures [Ballroom]
Chair: Dr. Krishna Rajalingam

11:30-11:45 Talk 08 - Dr. Sowdhamini R, NCBS, Bangalore, India. Protein domain superfamilies in the herbal plant Tulsi

11:45-12:00 Talk 09 - Dr. V. B. Reddy, AgriGenome, India. The Genome of Cardamom provides insight into the evolution of bioactive compounds involved in its fragrances and medicinal properties

12:00-12:15 Talk 10 - Dr. Kantipudi Nirmal Babu, Indian Institute of Spices Research (IISR), India. Spices genomics: Current status and future needs

12:15-12:30 Talk 11 - Dr. Ajit Kumar Shasany, CSIR-Central Institute of Medicinal and Aromatic Plants, India. Genomics for Metabolic Pathways for synthetic Biology vs Chemical synthesis

12:30-12:45 Talk 12 - Dr. R. Nagaraja Reddy, ICAR-Directorate of Medicinal and Aromatic Plants Research, India. Isabgolomics: Where we are, where does it lead to?

12:50-14:00 Lunch Break

**Session 04** Lunch and Learn: Career Connections

| Session 05 | Clinical Genomics [Salcette 1&2] | 14:20-14:40 | Talk 22 - Dr. Zora Modrusan, Genentech, USA. Development and utility of novel single cell sequencing approaches |
| Chair: Dr. Ramprasad VL |
| 14:00-14:20 | Talk 13 - Dr. Shrikant Mane, Yale University School of Medicine, USA. Genomic Approaches to Tackle Undiagnosed Diseases | 14:40-15:00 | Talk 23 - Dr. Savita Jayaram, Medgenome, India. Combined single-cell gene expression and TCR profiling reveals the phenotype of clonally amplified T cells to predict tumor immunogenicity |
| 15:00-15:20 | Talk 16 - Dr. Hilary Martin, Wellcome Sanger Institute, UK. Quantifying genetic architecture in over 10,000 exome-sequenced developmental disorder patients | | |
| Session 06 | Technology developments [Konkan] | | Session 08 | Cell Biology, Immunology and Signaling [Salcette 1&2] |
| Chair: Dr. Sameer Phalke | | 15:30-15:50 | Chair: Dr. Sekar Seshagiri |
| 14:00-14:20 | Talk 17 - Dr. Thamaraikannan Paramasivam, Perkin Elmer, India. Extraction to Analysis- NGS workflow Solutions from PerkinElmer | 15:50-16:10 | Major Talk 25 - Dr. Sanjay Joshi, Industry CTO, Healthcare and Life Sciences at Dell EMC, USA. Best practices for clinical studies of the microbiome: a time-series machine learning approach to causal inference |
| 14:20-14:40 | Talk 18 - Dr. Naveen Ramalingam, Fluidigm Corporation USA. A nanoscale automated workflow solution for full-length mRNA NGS library preparation | 16:10-16:30 | Major Talk 27 - Dr. Domagoj Vucic, Genentech, USA. Regulation of Inflammatory Cell Death Signaling by RIP Kinases |
| 14:40-15:00 | Talk 19 - Dr. Anuj gupta, Agilent, India. An Introduction to Agilent Genomics Workflow Solutions for Germline and Oncology Applications | | Session 09 | Metagenomics and communicable diseases [Malabar] |
| 15:00-15:20 | Talk 20 - Dr. John Picuri, Illumina, USA. Unlocking the Power of the Genome: Illumina Technology and The Future of Genomics | 15:30-15:50 | Chair: Dr. Boney Kurikose |
| Session 07 | Technology/Single cell genomics/ Gene editing [Malabar] | 15:50-16:05 | Talk 28 - Dr. Yogesh Shouche, NCCS, India-A glimpse in the diversity of human microbiome in India |
| Chair: Dr. Mallika Singh | 16:05-16:20 | Talk 29 - Dr. Vineet K Sharma, IISER, Bhopal, India. Indian gut and scalp microbiomes revealed through multomics approaches |
| 14:00-14:20 | Talk 21 - Dr. Merone Roose-Girma, Genentech USA. Capitalizing on Novel CRISPR/Cas9 Approaches to Generate Genetically Engineered Mouse Models | 16:05-16:20 | Talk 30 - Dr. Niyaz Ahmed, International Center for Diarrheal Disease Research, Bangladesh. Modern insights into enteric disease outbreaks in the Bengal region: seasonality, conflict and climate change |
16:20-16:35 Talk 31 - Dr. Fred Fellouse, Uni of Toronto, Toronto, Canada. Synthetic antibodies to identify neutralizing epitopes against East Coast fever

18:00-18:15 Keynote lecture 35 - Dr. Mike Lucero, 10X Genomics, USA. Accelerating biology: 10x Genomics products and vision

16:35-16:50 Break

Session - 10 Keynote Letures [Ballroom]
Chair: Dr. Sekar Seshagiri

16:50-17:15 Keynote lecture 32 - Dr. Steve Turner, PacBio, USA. The End of the Beginning - reflections on the 19 years of PacBio

18:20-18:45 Special Talk 36 - Dr. K. V. Prabhu, PPVFR Authority, India. IP protection on plants produced through genetic engineering and genomics in India

17:15-17:40 Keynote lecture 33 - Dr. Joe Beechern, Nanostring, USA. The Spatial Biology Revolution: development of spatially resolved technologies with unlimited multiplexing of RNA and Proteins for biobanked (FFPE) tissue samples (Digital Spatial Profiling, DSP)

18:45-19:10 Special Talk 37 - Dr. Ursula Weiss, Nature, UK. Science publishing - behind the scenes at Nature

17:40-18:00 Keynote lecture 34 - Dr. James Brayer, Oxford Nanopore Technologies, USA.

19:10-20:30 Poster Viewing # 1-110
11:55-12:15  Major Talk 43 - Dr. Anton Wellstein, Lombardi Cancer Center. Impact of intratumoral clonal heterogeneity on phenotype and drug response

Session 18 Cancer Biology [Salcette 1&2]
Chair: Dr. Volker Dotsch
14:00-14:15 Talk 50 - Dr. Anwesha Dey, Genentech, USA. Hippo pathway deregulation in cancers

12:15-12:40  Major Talk 44 - Dr. Sudeep Gupta, ACTREC, India. The Peri-Operative Window of Opportunity

Session 16 Crop Genomics and Bioinformatics [Malabar]
Chair: Prof P. K. Gupta
11:15-11:30 Talk 45 - Dr. MS Sheshshayee, University of Agricultural Sciences (UAS), Bangalore, India. Is Finger millet a potential food grain crop for food and nutrient security? Generation of genomics resources and trait values to improve yield and bioavailability

11:30-11:45 Talk 46 - Dr. Boney Kuriakose, AgriGenome, India. Employing CRI-SPR/Cas9 for editing genomes of plants: Trait alterations achieved in rice and tomato.

11:45-12:00 Talk 47 - Dr. Nagesh Kanchcharla, Reliance Industries Limited, India. De Novo sequencing and hybrid assembly of biofuel crop Jatropha curcas L: Insights on gene annotation, comparative genomics and transcriptome analysis with identification of quantitative trait loci for geminivirus resistance

12:00-12:15 Talk 48 - Dr. Lambodar Behera, ICAR-National Rice Research Institute, India. Genome-wide association mapping to identify novel QTLs for grain yield under reproductive stage drought stress in rice (Oryza sativa L.)

12:15-12:30 Talk 49 - Dr. Mukesh Jain, JNU, India. Long non-coding RNAs: A novel prediction tool and regulatory aspects in plants

12:30-12:40 Discussion

12:40-14:00 Lunch Break

Session 17 Art meets Science
1:15-1:45 Art Exhibition inauguration by Ms. Rupika Chawla

Session 20 Next-Generation Plant Breeding [Malabar]
Chair: Prof. Deepak Pental
14:00-14:15 Talk 58 - Dr. Akshay Pradhan, Delhi University, South Campus, India. Application of genomics in trait breeding of oilseed mustard (Brassica juncea)
14:15-14:30 Talk 59 - Dr. A. K. Singh, ICAR-Indian Agricultural Research Institute. **Nextgen breeding for development of climate smart basmati rice varieties**

14:30-14:45 Talk 60 - Dr. Suren Tikoo, Tierra Seed Science Pvt Ltd, India. **Advances in Technologies Offer Best Opportunity to Unlock New Traits From Interspecific (Crop Wild Relatives) and Infraspecific, Precisely and Quickly**

14:45-15:00 Talk 61 - Dr. Vai Ramanathan, Metahelix Life Sciences Pvt Ltd, India. **Novel Technology for Rice Blastol-erance**

15:00-15:20 Break

Session 21 **Disease Biology [Salcette 1&2]**
Chair: Dr. Domagoj Vucic

15:20-15:40 Major Talk 62 - Dr. Sridhar Sivasubbu, IGIB, India. **A Decade of Genomics in India - Implications in Diagnosis and Prevention of Inherited Diseases**

15:45-15:50 Major Talk 63 - Dr. Ramprasad V.L., Medgenome Labs, India. **Spit-Seq: Whole genome sequencing approach for rapid detection of Mycobacterium tuberculosis and comprehensive detection of drug resistance mutations from direct sputum sequencing**

16:00-16:20 Major Talk 64 - Dr. Volker Dotsch, University of Frankfurt, Germany. **p63 sets the threshold for induction of apoptosis using a kinetically encoded ‘doorbell-like’ mechanism.**

Session 22 **Next-Generation Plant Breeding [Malabar]**
Chair: Prof. Deepak Pental

15:20-15:35 Talk 65 - Dr. Sudhakar D, Tamil Nadu Agricultural University (TNAU), India. **Genome Editing for Trait Improvement in Rice**

15:35-15:50 Talk 66 - Dr. Paresh Verma, Bioseed Research India Pvt Ltd, India. **NBTs: Opportunities and Challenges in India**

15:50-16:05 Talk 67 - Dr. Manoj Prasad, National Institute of Plant Genome Research (NIPGR), India. **Engineering abiotic stress tolerance in plants: A study on SisHSP27 of foxtail-millet (Setaria italica L.)**

16:05-16:20 Discussion

Session 23 **Keynote Lectures [Ballroom]**
Chair: Dr. K. K. Narayanan

16:30-16:50 Keynote lecture 68 - Dr. Arjula Reddy, Professor Emeritus, University of Hyderabad. **Dynamic plant genomes**

16:50-17:10 Keynote lecture 69 - Dr. Pushpendra Kumar Gupta, Meerut University, India. **Transcriptomics and Epigenomics of Host-Pathogen Interactions**

17:10-17:35 Keynote lecture 70 - Dr. Vivek Malhotra, CRG, Spain. **Building a machine for secretion of bulky collagens from endoplasmic reticulum**

Session 24 **Special Lecture [Ballroom]**
Chair: Dr. Sekar Seshagiri

17:35-17:45 Keynote lecture 71 - Dr. Anand Deshpande, Persistent Systems, Pune, India. **The need for an Indian Cancer Genome Atlas Project**

Session 25 **Author Talk [Ballroom]**
Chair: Dr. Sekar Seshagiri

17:45-18:15 Author Talk 72 - Mr. Navin Chawla, Former Chief Election Commissioner of India. "Every vote counts: The story of India’s election"

Session 26 **Posters [Seaside lawn]**
Chair: Dr. Sekar Seshagiri

18:15-19:30 Poster Viewing # 111-210

Book signing by Mr. Navin Chawla
19:45 - 20:30 Cultural Program Conference Dinner
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<tr>
<th>Time</th>
<th>Session</th>
<th>Chair/Presenter</th>
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<tr>
<td>08:00-09:00</td>
<td><strong>Session 28 - Poster competition presentations</strong></td>
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<td>09:30-10:00</td>
<td><strong>Keynote lecture 73 - Dr. KJ Patel</strong>, Cambridge Biomedical Campus, Cambridge, UK. <em>From Gin and tonics to formalin pots - how simple aldehydes impact human health</em></td>
<td>Dr. Vishva Dixin, Dr. Sekar Seshagiri</td>
<td>Talk 70 - Dr. Deepti Deobagkar, Pune University, India. High throughput NGS analysis reveals that micro RNAs and DNA methylation are important epigenetic players in human cells with altered X chromosome to autosome balance</td>
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<td>10:00-10:30</td>
<td><strong>Keynote lecture 74 - Dr. Ivan Dikic</strong>, Goethe University, Germany. <em>Bacterial Infection and Unconventional Serine Ubiquitination</em></td>
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<td>Talk 71 - Dr. Kundan Sengupta, IISER Pune, India. Impact of mechanical signals on genome organization and transcription</td>
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<td>10:30-11:00</td>
<td><strong>Keynote lecture 75 - Dr. Steve Michnick</strong>, Uni of Montreal, Canada. <em>Mapping genetic and environmental origins of disease traits to molecular mechanisms</em></td>
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<td>Talk 72 - Dr. Vidur Mahajan, Mahajan Imaging, Delhi, India. Merging Imaging and Genomics The Future of Advanced Diagnostics</td>
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<td>11:00-11:30</td>
<td><strong>Keynote lecture 76 - Dr. Stephan Schuster</strong>, NTU, Singapore. <em>Air microbiome: A missing ecosystem?</em></td>
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<td>11:30-11:45</td>
<td><strong>Short break</strong></td>
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<td>11:45-12:05</td>
<td><strong>Session 30 - Precision Medicine [Ballroom]</strong></td>
<td>Dr. Anwesha Dey</td>
<td>Talk 73 - Dr. Santosh Dixit, Centre for Translational Cancer Research (CTCR) India. <em>Germline Mutational Profiling in Triple Negative Breast Cancers: Experiences from a Single Institutional Indian Cohort</em></td>
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<td>12:05-12:25</td>
<td><strong>Major Talk 77 - Dr. Connie R. Jimenez</strong>, VU University Medical Center, Netherlands. <em>Clinical (phospho)proteomics for precision medicine</em></td>
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<td>12:25-12:45</td>
<td><strong>Major Talk 78 - Dr. Amit Dutt</strong>, ACTREC, India. <em>ERBB2 and KRAS Alterations Mediate Response to EGFR Inhibitors in Early Stage Gall bladder Cancer</em></td>
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<td>12:45-14:00</td>
<td><strong>Lunch Break</strong></td>
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<td>14:00-14:15</td>
<td><strong>Session 33 - Cancer Genomics [Salcette 1&amp;2]</strong></td>
<td>Dr. Harsha Gowda</td>
<td>Talk 74 - Dr. Santosh Dixit, Centre for Translational Cancer Research (CTCR) India. <em>Germline Mutational Profiling in Triple Negative Breast Cancers: Experiences from a Single Institutional Indian Cohort</em></td>
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<td>14:15-14:30</td>
<td><strong>Major Talk 79 - Dr. Aakrosh Ratan</strong>, Center for Public Health Genomics, University of Virginia, USA. <em>Molecular subtyping using nonnegative matrix tri-factorization</em></td>
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<td>14:30-14:45</td>
<td><strong>Major Talk 80 - Dr. Jyotsna Batra</strong>, Translational Research Institute Pty Ltd (QUT), Australia. <em>A functional PSA prostate cancer susceptibility genetic variant confers both reduced and aggressive cancer risk</em></td>
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14:45-15:00 Talk 86 - Dr. Nikhil Patkar, Tata Memorial Center, Mumbai, India. 
Cutting edge affordable next-generation molecular oncology diagnostics for Indian patients

Session 34 
Genomics/Venom biology 
[Konkan] 
Chair: Dr. Vidita Vaidya

14:00-14:15 Talk 87 - Dr. Kalpana Pai, Pune University, India. Comparative genomic study of clinical and field isolate of Leishmania donovani

14:15-14:30 Talk 88 - Dr. Shamitha Vodithala, Kakatiya University, India. Next-Generation Sequencing (NGS) in populations of Indian Tropical tasar Silkworm

14:30-14:45 Talk 89 - Dr. P. N. Krishnan, Malabar Botanical Garden and Institute for Plant Sciences, Kozhikode, India. Validation of anti-cobra venom activity in Aristolochia-indica L.

14:45-15:00 Talk 90 - Dr. Shirin Ahmadi, Technical University of Denmark, Denmark. Engineering broadly neutralizing human antibody fragments against cytotoxins from different cobras

Session 35 
Population Genomics [Malabar] 
Chair: Dr. Andrew Peterson

14:00-14:15 Talk 91 - Dr. Jeff Wall, University of California SanFrancisco, USA. Recent population history inferred from more than 5,000 high-cover-age South Asian genomes

14:15-14:30 Talk 92 - Dr. Analabha Basu, NIBMG, India. Population diversity of Austroasiatic speakers: Complex substructure, multiple admixture and intricate layered network of dispersal

14:30-14:45 Talk 93 - Dr. Swarkar Sharma, University of Jammu, India. Y-chromosomal and mitochondrial DNA diversity in Jammu and Kashmir - India questions Aryan invasion hypothesis

15:00-15:15 Break

Session 36 
Keynote Letures
Chair: Dr. K. K. Narayanan

15:15-16:00 Panel Discussion - Leveraging Molecular Tools for Crop Improvement Models for Public-Private Partnerships:
Moderator: Dr. K. K. Narayanan (Agriculture).
Panelist: Dr. Deepak Pental, Dr. George Thomas, Dr. Arjula Reddy, Dr. SR Rao, Dr. Paresh Verma, Dr. Suren Tikoo, Mr. Sam Santhosh

Session 37 
SGRF Award Lecture [Ballroom] 
Chair: Dr. K. K. Narayanan

16:00-16:25 Keynote lecture 95 - Dr. Deepak Pental, University of Delhi, India. Assuring the best planting material for the farmers should be a national and global imperative

Session 38 
Keynote Lecture [Ballroom] 
Chair: Dr. Arjula Reddy

16:25-16:50 Keynote lecture 96 - Dr. K. K. Narayanan, Tata Metahelix, India. Future of Farming

Session 39 
Special Lecture: Venom to Drugs [Ballroom] 
Chair: Dr. Sekar Seshagiri

16:50-17:30 Keynote lecture 97 - Dr. Zoltan Takacs, ToxinTech, New York, USA. Deadliest Lifesavers - Therapeutic potential of animal venoms

Session 40 
Awards &Closing Remarks 
Chair: Dr. Sekar Seshagiri, Dr. Krishna Rajalingam

17:45-18:30 Poster awards & Close/wrap-up