08.30 − 08.55	Registration
08.50 - 9.00	Inauguration
09.00 - 10.40	**Session 1: OS, Architecture and HPC** • **Aravinda Prasad and K. Gopinath:** Prudent Memory Reclamation in Procrastination-Based Synchronization • **Kartik Nagar and Y. N. Srikant:** Precise analysis of private and shared caches for tight WCET estimates • **Somashekaracharya G. Bhaskaracharya and Uday Bondhugula:** Automatic Optimization of Arrays in Affine Loop-Nests. • **Ashish Mishra, Y. N. Srikant and Aditya Kanade:** Typestate Analysis for Android Applications. • **Santhi Natarajan, Debnath Pal and S. K. Nandy:** Accelerated and Accurate Alignment of Short Reads in High Throughput Next Generation Sequencing [NGS] Platforms. • **Unnikrishnan Cheramangalath, Rupesh Nasre and Y. N. Srikant Falcon:** A Graph Manipulation Language for Heterogeneous Systems. • **Rajesh Thakur and Y. N. Srikant:** Efficient Compilation of Stream Programs for Heterogeneous Architectures: A Model-Checking based Approach. • **Suvam Mukherjee and Deepak D'Souza:** Proving Data-Race Freedom of Kernel API's in a Real-Time Operating System. **Session Chairs:** Suparna Bhattacharya (HP), Matthew Jacob (IISc).

	Coffee Break	
11.00 − 11.45 **Keynote talk**	**Pramod Varma** Chief Architect and Technology Advisor, Unique Identification Authority of India (UIDAI).	
11.45 − 12.30 **Keynote talk**	**Vivek Raghavan** Chief Product Manager & Biometric Architect, Unique Identification Authority of India (UIDAI).	**Session Chair** Jayant Haritsa, IISc.
12.30 − 12.50 **Faculty talk**	**Yogesh Simmhan** Department of Computational and Data Sciences, IISc. "*Exploring Distributed Platforms for Fast Data Analytics*"	

	Lunch Break
2.00 - 3.00	**Session 2: Programing Languages and Algorithms** • **Pallavi Maiya and Aditya Kanade:** Systematic State Space Exploration for Event-driven Multi-threaded Programs. • **Anirudh Santhiar and Aditya Kanade:** Concurrency Analysis for Asynchronous APIs. • **Hemanth Sangappa and K. R. Ramakrishnan:** An Analysis of RANSAC Algorithm. • **Palash Dey:** Winner Determination and Manipulation Problems in Algorithmic Social Choice. • **Debarghya Ghoshdastidar and Ambedkar Dukkipati:** Consistency of spectral algorithms for hypergraphs under planted partition model. **Session Chairs:** Ganesan Ramalingam (Microsoft), R. Govindarajan (IISc).

3:00 − 3:20 **Faculty talk**	**Arpita Patra** Department of Computer Science and Automation, IISc. "*Secure Multiparty Computation*"	**Session Chair** P. Vijay Kumar, IISc.
3:20 − 3:40 **Faculty talk**	**Parameshwar P. Iyer** Department of Management Studies, IISc. "*Role of IPTel at IISc*"	
Coffee Break		
4:00 − 4:20 **Faculty talk**	**Himanshu Tyagi** Department of Electrical Communication Engineering, IISc. "*Strong Converse for a Degraded Wiretap Channel via Active Hypothesis Testing*"	**Session Chair** P. Vijay Kumar, IISc.
4.20 - 6.35	**Session 3: Networks, Communication and Information Theory** • **Shashank Vatedka and Navin Kashyap:** Lattice Codes for Secure Communication and Secret Key Generation. • **Albert Sunny and Joy Kuri:** A Framework for Designing Multihop Energy Harvesting Sensor Networks. • **Sudheer Poojary and Vinod Sharma:** Modeling and Analysis of Networks with High-speed TCP Connections. • **Priyanka Das and Neelesh B. Mehta:** Interference-Constrained Cooperative Relaying for Cognitive Radio. • **Manuj Mukherjee and Navin Kashyap:** On the Communication Complexity for SK Generation in the Multiterminal Source Model. • **Mohit Sharma and Chandra Murthy:** Design of Dual Energy Harvesting Communication Links with Retransmission. • **Jobin Francis and Neelesh Mehta:** BS-side Estimation for Reduced Feedback Best-M Scheme in OFDM Systems. • **Birenjith and P. Vijay Kumar:** Codes for Distributed Storage. • **Raviteja and P. Vijay Kumar:** An Animation and Chirplet-Based Approach to Developing a PIR Sensing Intrusion Detection System for an Outdoor Setting. • **Abhijit Bhattacharya and Anurag Kumar Network:** Design for QoS under IEEE 802.15.4 ("Zigbee") CSMA/CA for Internet of Things Applications. • **Akhil P. T. and Rajesh Sundaresan:** Separable Convex Optimization with Linear Ascending Constraints. **Session Chairs:** Kumar Sivarajan (Tejas Networks), H. S. Jamadagni (IISc).	
High Tea		
7:00 - 8:15	**Session 4: RF and Electronics** • **Arnab Kumar Biswas and S. K. Nandy:** Securing Multiprocessor System-on-Chip. • **Keerthan P. and K. J. Vinoy:** Wide-Band Radio Frequency Signal Analysis and Processing Using Cascaded All-Pass Networks. • **Nikita Ambasana and Dipanjan Gope:** Intelligent and Fast Electrical Design Space Exploration Techniques for Package-Boards. • **Vijayashree Bhat and K. J. Vinoy:** Investigation of Planar Microstrip Capacitive Probe fed Antenna for Time and Frequency Domain Characteristics. • **Javed G. S. and Gaurab Banerjee:** Frequency domain CMOS Capacitance Interface. • **Anuja Chanana and S. Mahapatra:** Investigations of 2D material metal contact using Density Functional Theory. **Session Chairs:** Arun Chandrasekhar (Intel), Soumyendu Raha (IISc).	

08.30 − 08.55	Registration	
09.00 - 10.40	**Session 5: High Voltage and Power Electronics** • **Sumit Pramanick and K. Gopakumar:** Switched Capacitive Filter for Harmonic Suppression in Variable Speed Induction Motor Drive. • **Arun Rahul S. and K. Gopakumar:** A Hybrid Seven Level Inverter Topology with a Single DC Supply and Reduced Switch Count. • **Avanish Tripathi and G. Narayanan:** Low Switching Frequency Pulse Width Modulation For Induction Motor Drives. • **Anirudh Guha and G. Narayanan:** Dead-time induced oscillations in voltage source inverter-fed induction motor drives. • **Abhijit Kshirsagar and Umanand L.:** Reduced switch count multilevel inverter topologies for open end induction motor drives. • **Debasish Nath and Udaya Kumar:** Total Electric Field due to an Electron Avalanche and its Coupling to Transmission Line Conductors. • **Pritam Mukherjee and Satish L.:** A Novel Generalized Analytical Framework to Diagnose True Radial and Axial Displacements in an Actual Transformer Winding. • **Sethupathy S. and Udaya Kumar:** Stable Galerkin Finite Element Formulation for the Simulation of Electromagnetic Flowmeter. **Session Chairs:** Rajendra Naik (GE), Vinod John (IISc).	
10.40-11.00 **Faculty talk**	**Kaushik Basu** Department of Electrical Engineering, IISc. "*Medium Voltage Grid Integration of Utility Scale Solar*"	**Session Chair** Phaneendra Yelavarthy, IISc.
11.00-11.20 **Faculty talk**	**Mayank Shrivatsava** Department of Electronic Systems Engineering, IISc. "*The Future of Electronics from Semiconductor's Perspective*"	
Coffee Break		
11.40 − 12.25 **Keynote talk**	**Shihab Shamma** K. Vaidyanathan Distinguished Chair, IISc. Institute of Systems Research, University of Maryland, College Park, USA.	**Session Chair** P. S. Sastry, IISc.
12.25 - 1:00	**Session 6: Signal Processing** • **H. G. Ranjani and T. V. Sreenivas:** Discovering variable length phrases from symbolic notation of Carnatic music. • **K Venkata Vijay Girish and Ramakrishnan A G:** Analysis of audio intercepts: Can we identify and locate the speaker?. • **Aniruddha Adiga and Chandra Sekhar Seelamantula:** An Alternating Projections Algorithm for Sparse Blind Deconvolution: Application to Speech Signal Deconvolution. **Session Chairs:** Om Deshmukh (Xerox), Prasanta Ghosh (IISc).	
Lunch Break		

2.00 − 2.45 **Keynote talk**	**Surojit Chatterjee** Senior Vice President, Flipkart.	**Session Chair** Ramesh Hariharan, IISc.
2.45 - 4.15	**Session 7: Machine Learning, Games and Optimization** • **Praphul Chandra, Sujit Gujar and Y. Narahari:** Crowdfunding Public Projects with Provision Point: A Prediction Market Approach. • **Arunselvan Ramaswamy and Shalabh Bhatnagar:** Stochastic approximation algorithms with set-valued mean fields and their applications. • **Ranganath B. N. and Shalabh Bhatnagar:** Scalable Sparse Bayesian Nonparametric and Matrix Tri-factorization Models for Text Segmentation, Topical analysis and Entity Resolution in Dyadic data. • **Thirumulanathan Dhayaparan, Rajesh Sundaresan and Y. Narahari:** Optimal Auctions for Two goods with Uniformly Distributed Valuations. • **Nidhin Koshy Vaidhiyan and Rajesh Sundaresan:** An Active Sequential Hypothesis Testing model for Visual Search. • **Bhushan Kotnis and Joy Kuri:** Incentivized Campaigning in Social Networks. • **Jayvant Anantpur, Nagendra Gulur, Shivaram Kalyanakrishnan and R. Govindarajan:** RLWS:A Reinforcement Learning Based GPU Warp Scheduler. **Session Chairs:** Vinay Jammu (GE), Chiranjib Bhattacharya (IISc).	
16.30 - 18.15 **High tea**	**Poster session:** 55 posters (48 final year PhD student presenters and 7 final year MSc (Res) students). Posters from all 48 PhD presenters, and, • **Vinay Vasista, Uday Kumar Reddy B. and Ravi Teja Mullapudi:** PolyMage: Automatic Optimization for Image Processing Pipelines • **Nikita Prabhu and R. Venkatesh Babu:** Image Representation using Attribute-Graphs. • **Prakhar Ojha and Partha Talukdar:** RelCrowd: Relational Crowdsourcing for Estimating Knowledge Graph Accuracy under Budget. • **Srinivas S. S. Kruthiventi and R. Venkatesh Babu:** Visual Flow Analysis and Saliency Prediction. • **Ashirbad Mishra, Sathish Vadhiyar, Rupesh Nasre and Keshav Pingali:** A Fine-Grained Hybrid CPU-GPU Algorithm for Betweenness Centrality Computations. • **Girijanandan Nucha and Vijay Natarajan:** Computing contour tree for piecewise polynomial functions. • **Daniel Sanju Antony and Rathna G. N.:** Performance Analysis of Non Local Means algorithm using Hardware Accelerators.	
6.15 − 7.30	**Valedictory and Alumni Meet**	