

EECS, IISc RESEARCH STUDENTS SYMPOSIUM - 2021

Date: 7th and 8th May (Online)

May 7th 2021 (Friday)

08:55pm-09:00am	Welcome – Y. Narahari
09:00am-10:00am	Session 1: Plenary-1: Computational Epidemiology: Challenges and Opportunities Madhav Marathe, University of Virginia, USA Chair: Mahesh Mehendale, Texas Instruments and Adjunct Professor, IISc Student Organizer: Dhanaprakaash G. (RBCCPS) Faculty Organizer: Vaibhav Katewa (RBCCPS) Faculty Coordinator: Y. Narahari (CSA)
10:00am-10:15am	BREAK
10:15am-12:45pm	Session 2: Faculty Talks Chair: K. J. Vinoy (ECE) Student Organizer: Aditya Rastogi (CDS) Faculty Organizer: Rahul Saladi (CSA) 1.1: Towards fast and accurate exascale quantum-mechanical calculations for material modelling using finite-element discretization and mixed-precision arithmetic - Phani Motamarri (CDS) 1.2: Computational integrity: succinct proofs in cryptography - Chaya Ganesh (CSA) 1.3: Graph Neural Networks - Sundeep Prabhakar Chepuri (ECE) 1.4: An Approach Towards an Extreme Fast Charging Station Architecture for Electric Vehicles - Vishnu Mahadeva Iyer (EE) 1.5: Integrated Sensor Systems - Arup Polley (ESE) 1.6: Data-Augmented Control of Visual Autonomous Systems - Jishnu Keshavan (RBCCPS)
12:45pm-13:30pm	BREAK

13:30pm-16:30pm	<p>Session 3A: AI & Machine Learning</p> <p>Cluster Coordinator: Chiranjib Bhattacharyya (CSA) and Aditya Gopalan (ECE)</p> <p>Chair: Chiranjib Bhattacharyya (CSA) and A. G. Ramakrishnan (EE)</p> <p>Student Organizer: Varun Krishna (EE)</p> <p>Student Backup: Dhanaprakaash G (RBCCPS)</p> <p>Faculty Organizer: Konduri Aditya (CDS)</p> <hr/> <p>3A.1: Student Presentation 1 (13:30pm-13:42pm) (Pre-recorded + 2 min live Q&A)</p> <ul style="list-style-type: none"> - Ramakrishnan K (CSA): Optimal Algorithms for Range Searching over Multi-Armed Bandits <hr/> <p>3A.2: Student Presentation 2 (13:42pm-13:54pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Amrutha Machireddy (ESE): Learning non-linear mappings from data with applications to priority-based clustering, adaptive prediction and detection. <hr/> <p>3A.3: Student Presentation 3 (13:54pm-14:06pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Deep Patel (EE): Adaptive Sample Selection for Robust Learning under Label Noise <hr/> <p>3A.4: Student Presentation 4 (14:06pm-14:18pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Rameesh Paul (CSA): Independent Sets in Semi-random Hypergraphs <hr/> <p>3A.5: Student Presentation 5 (14:18pm-14:30pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Shubham Gupta (CSA): A provably optimal algorithm for finding fair communities <hr/> <p>3A.6: Invited Talk 1 (14:30pm-15:00pm) (Live)</p> <ul style="list-style-type: none"> - Sunita Sarawagi (IIT Bombay): TBD <hr/> <p>3A.7: Invited Talk 2 (15:00pm-15:30pm) (Live)</p> <ul style="list-style-type: none"> - Prateek Jain (Google): Stochastic Gradient Descent: Marrying Theory with Practice <hr/> <p>3A.8: Student Presentation 6 (15:30pm-15:42pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Anoop C S (EE): ASR in Low-resource Languages Using Domain Adaptation Approaches <hr/> <p>3A.9: Student Presentation 7 (15:42pm-15:54pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Prachi Singh (EE): Speaker Diarization for conversational speech using graph clustering <hr/> <p>3A.10: Student Presentation 8 (15:54pm-16:06pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Shreyas Ramoji (EE): Neural PLDA Modeling for End-to-End Automatic Speaker Verification <hr/> <p>3A.11: Student Presentation 9 (16:06pm-16:18pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Devyani Lambhate (CDS): Simultaneous Identification of Gulf Stream and Rings from Concurrent Satellite Images of Sea Surface Temperature and Height Images <hr/> <p>3A.12: Student Presentation 10 (16:18pm-16:30pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Pradeep K G (EE): Functional Connectivity based EEG Biometrics <hr/> <p>3A.13: Presentation 12 Post Doctoral (16:30 pm-16:42 pm) (Pre-recorded + 2min live Q&A)</p> <ul style="list-style-type: none"> - Srikanth Raj Chetupalli (EE): Automatic speech recognition for speech conversations
------------------------	---

Session 3B: Nanodevices, VLSI Circuits and Microsystems-1

Cluster Coordinator: Mayank Shrivastava (ESE)

Chair: Mayank Shrivastava (ESE) and Dipanjan Gope (ECE)

Student Organizer: Alok Joshi (ECE)

Student Backup: Tejan Karmali (CDS)

Faculty Organizer: Dipanjan Gope (ECE)

3B.1: Invited Talk 1 (13:30pm-14:00pm) (Live)

- Martin Kuball (University of Bristol, UK): Thermal Management of Electronics and Beyond – GaN & Gallium Oxide

3B.2: Invited Talk 2 (14:00pm-14:30pm) (Live)

- Matteo Meneghini (University of Padua, Italy): GaN Power Transistors & Dynamic-Ron: Challenges & Perspectives

3B.1: Student Presentation 1 (14:30pm-14:40pm) (Pre-recorded)

- Mehak Mahajan (ECE): CDW induced phase transition in layered heterostructures

3B.2: Student Presentation 2 (14:40pm-14:50pm) (Pre-recorded)

- Sarthak Das (EE): Excitons in flatlands

3B.3: Student Presentation 3 (14:50pm-15:00pm) (Pre-recorded)

- Ansh (ESE): Electro-Thermal Stress Induced Material Reconfiguration & Device Perturbations in monolayer 2D-TMD Transistors

3B.4: Presentation 4 – Post-Doctoral Researcher (15:00pm-15:10pm) (Pre-recorded)

- Sanchali Mitra (ESE): Theory of nonvolatile resistive switching in monolayer molybdenum disulfide with passive electrodes

3B.5: Student Presentation 5 (15:10pm-15:20pm) (Pre-recorded)

- Tripti Jain (ESE): Learning-based Classification of magnetic and non-magnetic 2D materials

Q&A Students 1-5 (15:20pm-15:30pm) (Live)**3B.6: Invited Talk 3 (15:30pm-16:00pm) (Live)**

- Harald Gossner (Intel Corporation, Germany): Rethink ESD Robustness for Modular Technologies

3B.7: Invited Talk 4 (16:00pm-16:30pm) (Live)

- Yogesh Chauhan (IIT Kanpur): Modeling and Simulation of FinFET and Nanosheet Transistors for Advanced Technology Nodes

	<p>Session 3C: Security & Cryptography</p> <p>Cluster Coordinator: Himanshu Tyagi (ECE)</p> <p>Chair: Himanshu Tyagi (ECE) and Chaya Ganesh (CSA)</p> <p>Student Organizer: Prerna Arote (ESE)</p> <p>Student Backup: Harini V (RBCCPS)</p> <p>Faculty Organizer: Sundeep Chepuri (ECE)</p> <hr/> <p>3C.1: Student Presentation 1 (13:30pm-13:40pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Kripa Shanker (CSA): An Evaluation of Methods to Port Legacy Code to SGX Enclaves <hr/> <p>3C.2: Student Presentation 2 (13:40pm-13:50pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Sruthi Sekar (Math/CSA): Non-malleable Codes <hr/> <p>Q&A Students 1-2 (13:50pm-14:00pm) (Live)</p> <hr/> <p>3C.3: Keynote Talk 1 (14:00pm-14:30pm) (Live)</p> <ul style="list-style-type: none"> - Kapil Vaswani (Microsoft Research): Confidential Computing – Towards a new contract of data sharing <p style="text-align: center;">BREAK</p> <hr/> <p>3C.4: Industry Talk 1 (14:40pm-15:00pm) (Live)</p> <ul style="list-style-type: none"> - Karthik Rao (CySeCK): Introduction to CySeCK - Karnataka State Centre of Excellence in Cyber Security <hr/> <p>3C.5: Industry Talk 2 (15:00pm-15:20pm) (Live)</p> <ul style="list-style-type: none"> - Arun Babu (RBCCPS): DataSetu Confidential Data Sharing and Processing Framework <hr/> <p>3C.6: Student Presentation 3 (15:20pm-15:30pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Ajinkya Rajput (CSA): Heap Aware Symbolic Execution for Heap Vulnerability Detection <hr/> <p>3C.7: Student Presentation 4 (15:30pm-15:40pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Nilesh Rathi (CSA): Scaling Blockchains Using Coding Theory and Verifiable Computing <hr/> <p>3C.8: Student Presentation 5 (15:40pm-15:50pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Ajith S (CSA): MPC for small population with applications to Privacy-Preserving Machine Learning <hr/> <p>Q&A Students 3-5 (15:50pm-16:00pm) (Live)</p> <hr/> <p>3C.10: Keynote Talk 2 (16:00pm-16:30pm) (Live)</p> <ul style="list-style-type: none"> - Pankaj Dayama (IBM Research): Trusted Multi-enterprise AI with Blockchain
16:30pm-17:00pm	

17:00pm-18:00pm	<p>Session 4: Plenary-2: The Coding Revolutionary Lalitesh Katragadda, Indihood Chair: Rostow Ravan, Former CEO, Mindtree Student Organizer: Nishchal Hoysal (RBCCPS) Faculty Organizer: Vaibhav Katewa (RBCCPS) Faculty Coordinator: Y. Narahari (CSA)</p>
18:00pm-19:00pm	<p>Session 5: Plenary-3: Multiagent reasoning for social impact Milind Tambe, Harvard University and Google Research India Chair: Ramesh Hariharan, CTO, Strand Life Sciences Student Organizer: Dhanaprakaash G. (RBCCPS) Faculty Organizer: Vaibhav Katewa (RBCCPS) Faculty Coordinator: Y. Narahari (CSA)</p>

May 8th 2021 (Saturday)

09:00am-10:00am	Session 6: Plenary-4: Perceiving and Acting in a 3D World Jitendra Malik, University of California, Berkeley and Facebook AI Research Chair: Venkat Padmanabhan, Microsoft Research India Student Organizer: Nishchal Hoysal (RBCCPS) Faculty Organizer: Vaibhav Katewa (RBCCPS) Faculty Coordinator: Y. Narahari (CSA)
10:00am-10:15am	BREAK
10:15am-13:15pm	Session 7A: Visual Analytics Cluster Coordinator: Chandra Sekhar Seelamantula (CDS) and Venkatesh Babu (CDS) Chair: Soma Biswas (EE) and Venkatesh Babu (CDS) Student Organizer: Tejan Karmali (CDS) Student Backup: Prerna Arote (ESE) Faculty Organizer: Konduri Aditya (CDS) 7A.1: Student Presentation 1 (10:15am-10:25am) (Pre-recorded) - Naveen P (CDS): Anamorphic Depth Embedding-Based Lightweight CNN for Segmentation of Anomalies in COVID-19 Chest CT Images 7A.2: Student Presentation 2 (10:25am-10:35am) (Pre-recorded) - Arindam Dutta (CDS): Towards Deep Robust Deconvolution for Low-Dose Perfusion Computed Tomography 7A.3: Student Presentation 3 (10:35am-10:45am) (Pre-recorded) - Dhruv Jawali (EE/IMI): Wavelet Design in a learning framework 7A.4: Student Presentation 4 (10:45am-10:55am) (Pre-recorded) - Jogendra Nath Kundu (CDS): Appearance Consensus Driven Self-Supervised Human Mesh Recovery 7A.5: Student Presentation 5 (10:55am-11:05am) (Pre-recorded) - Praveen Kumar Pokala (EE): Nonconvex Analysis-Sparse Model — Moreau Envelope Regularization and Projected Proximal Gradient Descent Optimization Q&A Students 1-5 (11:05am-11:15am) (Live) 7A.6: Student Presentation 6 (11:15am-11:25am) (Pre-recorded) - Titir Dutta (EE): Sketch-based Image Retrieval 7A.7: Student Presentation 7 (11:25am-11:35am) (Pre-recorded) - Utkarsh Gupta (CDS): Siamese-SR: A Siamese Super-Resolution Model for Improved Petrophysical Parameter Estimation in Digital Rock 7A.8: Student Presentation 8 (11:35am-11:45am) (Pre-recorded) - Vijayalakshmi K (ECE): Revealing Disocclusions in Temporal View Synthesis 7A.9: Student Presentation 9 (11:45am-11:55am) (Pre-recorded)

<ul style="list-style-type: none"> - Vinayak Killedar (EE): Sparsity Driven Latent Space Sampling for Generative Prior based Compressive Sensing
7A.10: Student Presentation 10 (11:55am-12:05pm) (Pre-recorded)
<ul style="list-style-type: none"> - Jitendra Kumar Dhiman (EE): There is More to a Spectrogram Than Meets the Eye!
Q&A Students 6-10 (12:05pm-12:15pm) (Live)
7A.11: Invited Talk 1 (12:15pm-12:45pm) (Live):
<ul style="list-style-type: none"> - Mohan Kankanhalli (NUS Singapore): Privacy-aware Analytics for Human Attributes from Images
7A.12: Invited Talk 2 (12:45pm-13:15pm) (Live):
<ul style="list-style-type: none"> - Jayavardhana Gubbi (TCS Research): Machine Vision in Industrial Automation
Session 7B: Nanodevices, VLSI Circuits and Microsystems-2
Cluster Coordinator: Mayank Shrivastava (ESE)
Chair: Varun Raghunathan (ECE) and Chetan Singh Thakur (ESE)
Student Organizer: Alok Joshi (ECE)
Student Backup: Dhanaprakaash G (RBCCPS)
Faculty Organizer: Dipanjan Gope (ECE)
7B.1: Invited Talk 1 (10:15pm-10:45pm) (Live):
<ul style="list-style-type: none"> - Siddharth Tallur (IIT Bombay): Microsystems for structural health monitoring
7B.2: Student Presentation 1 (10:45am-10:55am) (Pre-recorded)
<ul style="list-style-type: none"> - Sayak Dutta Gupta (ESE): Novel p-type AlTiO Gate Oxide e-mode Operation in AlGaN/GaN HEMTs: 600V Technology with Record High Performance
7B.3: Student Presentation 2 (10:55am-11:05am) (Pre-recorded)
<ul style="list-style-type: none"> - Ankit Son (ESE): GaN Heterostructure Based Schottky Barrier Diodes for Power and THz Applications
7B.4: Student Presentation 3 (11:05am-11:15am) (Pre-recorded)
<ul style="list-style-type: none"> - Rajarshi Roy Chaudhuri (ESE): Unique Reliability Phenomena in AlGaN/GaN HEMTs
7B.5: Student Presentation 4 (11:15am-11:25am) (Pre-recorded)
<ul style="list-style-type: none"> - Jayanta Deka (ECE): Nonlinear light generation in guided mode resonant metasurfaces
7B.6: Student Presentation 5 (11:25am-11:35am) (Pre-recorded)
<ul style="list-style-type: none"> - Sruti Menon (ECE): Medium refractive index contrast sub-wavelength dielectric structures for nonlinear optics and sensing application
7B.7: Student Presentation 6 (11:35am-11:45am) (Pre-recorded)
<ul style="list-style-type: none"> - Alekya B (ESE): Sensor Integrated Intubation Catheter for Characterizing Airflow Patterns in Tracheal Stenosis
7B.8: Student Presentation 7 (11:45am-11:55am) (Pre-recorded)
<ul style="list-style-type: none"> - Anil Vishnu G K (ESE): A portable MEMS-based platform for the electro-thermal phenotyping of breast biopsy tissues
7B.10: Student Presentation 9 (11:55pm-12:05pm) (Pre-recorded)
<ul style="list-style-type: none"> - Sitaramgupta V S N V (ESE): Design and Development of a Micro-Force Sensor for Ablation Catheters
7B.11: Student Presentation 10 (12:05pm-12:15pm) (Pre-recorded)

<ul style="list-style-type: none"> - Uttam Pal (ESE): Multimodal Opto-Thermo-Acoustic (OTA) Technique to Differentiate Cancer from Adjacent Normal Breast Biopsy Tissues
<p>7B.12: Student Presentation 11 (12:15pm-12:25pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Vaidya Girish Bhagwan (ESE): Towards unique device identification using Physically Unclonable Functions
<p>Q&A Students 1-11 (12:25pm-12:40pm) (Live)</p>
<p>7B.14: Invited Talk 2 (12:40pm-13:10pm) (Live):</p> <ul style="list-style-type: none"> - Aravind Vijayaraghavan (Manchester University, UK): Graphene-polymer heterostructure membrane for MEMS devices
<p>Session 7C: Signal Processing and Communications</p> <p>Cluster Coordinator: Neelesh Mehta (ECE)</p> <p>Chair: Neelesh Mehta (ECE) and Srikrishna Bhashyam (IIT Madras)</p> <p>Student Organizer: Anand Kumar (ECE)</p> <p>Student Backup: Tutan Debnath (ESE)</p> <p>Faculty Organizer: Sundeep Chepuri (ECE)</p>
<p>7C.1: Student Presentation 1 (10:15am-10:26am) (Pre-recorded + 1min Q&A live)</p> <ul style="list-style-type: none"> - Deepchand Meshineni (EE): Vital signs Monitoring using FMCW radar
<p>7C.2: Student Presentation 2 (10:26am-10:37am) (Pre-recorded + 1min Q&A live)</p> <ul style="list-style-type: none"> - Bala Venkta Ramulu Gorantla (ECE): Resource allocation with limited feedback overhead for underlay D2D networks
<p>7C.3: Student Presentation 3 (10:37am-10:48am) (Pre-recorded + 1min Q&A live)</p> <ul style="list-style-type: none"> - Shubham Sharma (ECE): Design of k-space trajectories for reducing scan time in MRI system
<p>7C.4: Student Presentation 4 (10:48am-10:59am) (Pre-recorded + 1min Q&A live)</p> <ul style="list-style-type: none"> - Vinay Kumar B R (ECE): Probabilistic Forwarding with Coding for Network-wide Broadcast
<p>7C.5: Student Presentation 5 (10:59 am-11:10am) (Pre-recorded + 1min Q&A live)</p> <ul style="list-style-type: none"> - Deekshith (ECE): Second-order Rate Bounds for a Block Fading Channel Powered by an Energy Harvesting Transmitter
<p>7C.6: Invited Talk 1 (11:10am-11:40am) (Live):</p> <ul style="list-style-type: none"> - Ajit Rawade (IIT Bombay): Pooled testing for COVID19 samples
<p>7C.7: Student Presentation 7 (11:40am-11:51pm) (Pre-recorded + 1min Q&A live)</p> <ul style="list-style-type: none"> - Govindu Saikesava (ECE): MCS selection algorithms for URLLC IN 5G
<p>7C.8: Student Presentation 8 (11:51pm-12:02pm) (Pre-recorded + 1min Q&A live)</p> <ul style="list-style-type: none"> - Vinayak Ramkumar (ECE): Streaming Codes for Reliable, Low-Latency Communication
<p>7C.9: Student Presentation 9 (12:02pm-12:13pm) (Pre-recorded + 1min Q&A live)</p> <ul style="list-style-type: none"> - Rama Kiran (ECE): Design of Reduced Feedback Scheme, User Scheduling, and MAC protocols for Full-Duplex Communication Systems
<p>7C.10: Student Presentation 10 (12:13pm-12:24pm) (Pre-recorded + 1min Q&A live)</p> <ul style="list-style-type: none"> - Ram Kumar (ECE): Scheduling and Power Control for Wireless Multicast Systems via Deep Reinforcement Learning
<p>7C.11: Invited Talk 2 (12:25pm-13:00pm) (Live):</p>

	<p>- Adrian Sharples (British Telecom): Beyond the 5G Launch: The Future of Personal Communications</p> <p>Session 7D: Computer Systems</p> <p>Cluster Coordinator: Matthew Jacob (CSA) and Jayant Haritsa (CDS/CSA)</p> <p>Chair: K V Raghavan (CSA); Student Presentation Judge: Karthik Ramachandra (MSRI) and Jayant Haritsa (CDS/CSA)</p> <p>Student Organizer: Rameesh Paul (CSA)</p> <p>Student Backup: Nishchal Hoysal (RBCCPS)</p> <p>Faculty Organizer: Rahul Saladi (CSA)</p>
	<p>7D.1: Invited Talk 1 (10:15am-11:15am) (Live):</p> <p>- Suparna Bhattacharyya (Hewlett-Packard Enterprise): The Silent Learner and the Oblivious Teacher - Meaning Aware Storage for AI</p>
	<p>7D.2: Invited Talk 2 (11:15am-12:15pm) (Live):</p> <p>- C. Pandu Rangan (IIT Madras): Impossible Trinities and Blockchain Trilemma</p>
	<p>7D.3: Student Presentation 1 (12:15pm-12:27pm) (Pre-recorded 10 min + 2 min live Q&A)</p> <p>- Aakash Khochare (CDS): Algorithms for Co-scheduling of Edge Analytics and Routes for UAV Fleet Missions</p>
	<p>7D.4: Student Presentation 2 (12:27pm-12:39pm) (Pre-recorded 10 min + 2 min live Q&A)</p> <p>- Devyani Gupta (ESE): Optimal Link Capacity Selection and Edge Server Placement using Column Generation</p>
	<p>7D.5: Student Presentation 3 (12:39pm-12:51pm) (Pre-recorded 10 min + 2 min live Q&A)</p> <p>- Geetam Chawla (CSA): Automatically finding bugs in web applications</p>
	<p>7D.6: Student Presentation 4 (12:51pm-13:03pm) (Pre-recorded 10 min + 2 min live Q&A)</p> <p>- Ramakant Joshi (ESE): Hardware Accelerator for Particle Transport Simulation</p>
13:15pm-14:00pm	BREAK
14:00pm-17:00pm	<p>Session 8A: Cyber-Physical Systems</p> <p>Cluster Coordinator: Bharadwaj Amrutur (RBCCPS)</p> <p>Chair: Vaibhav Katewa (ECE/RBCCPS), Shishir N. Y. Kolathaya (CSA/RBCCPS)</p> <p>Student Organizer: Dhanaprakaash G. (RBCCPS)</p> <p>Student Backup: Prerna Arote (ESE)</p> <p>Faculty Organizer: Vaibhav Katewa (RBCCPS)</p> <p>8A.1: Invited Talk 1 (14:00pm-14:30pm) (Live):</p> <p>- Henning Sanneck (Nokia Strategy and Technology, Germany): Cognitive Network Management in Mobile Cyber-Physical Systems</p> <p>8A.2: Invited Talk 2 (14:30pm-15:00pm) (Live):</p> <p>- Amith Singhee (IBM Research, India): AI and Hybrid Cloud</p> <p>8A.3: Invited Talk 3 (15:00pm-15:45pm) (Live):</p> <p>- Pavithra Prabhakar (Kansas State University, USA): Abstractions for Scalable Verification of AI-Controlled Cyber-Physical Systems</p> <p>8A.4: Student Presentation 1 (15:45pm-16:00 pm) (Pre-recorded followed by Live Q&A)</p>

<ul style="list-style-type: none"> - Chatan Kumar K (ECE): Power System Safety and Security
<p>8A.5: Student Presentation 2 (16:00pm-16:15 pm) (Pre-recorded followed by Live Q&A)</p> <ul style="list-style-type: none"> - Rooji Jinan (RBCCPS): Tracking an AR(1) process with limited communication/ Latency optimal replication codes for memory constrained servers
<p>8A.6: Student Presentation 3 (16:15pm-16:30pm) (Pre-recorded followed by Live Q&A)</p> <ul style="list-style-type: none"> - Sagar G V (ECE): Translating Natural Language Instructions to Computer Programs for Robot Manipulation
<p>8A.7: Student Presentation 4 (16:30pm-16:45pm) (Pre-recorded followed by Live Q&A)</p> <ul style="list-style-type: none"> - Saraswathy Ramanathan (ECE): Latency Redundancy Tradeoff in Distributed Read-Write Systems
<p>Session 8B: Power Engineering</p> <p>Cluster Coordinator: Kaushik Basu (EE)</p> <p>Chair: Kaushik Basu (EE)</p> <p>Student Organizer: Tutan Debnath (ESE)</p> <p>Student Backup: Aniruddh S (RBCCPS)</p> <p>Faculty Organizer: Dipanjan Gope (EE)</p>
<p>8B.1: Keynote Talk (14:00pm-14:30pm) (Live):</p> <ul style="list-style-type: none"> - Vivek Agarwal (IIT Bombay): Realizing Multilevel Inverter Properties by Cascading Switched Capacitor Networks with Two Level Inverters
<p>8B.2: Industry Talk 1 (14:30pm-14:55pm) (Live):</p> <ul style="list-style-type: none"> - Ranganathan Gurunathan (Bloom Energy): Fuel Cell and its applications in Power
<p>8B.3: Invited Talk 2 (14:55pm-15:20pm) (Live):</p> <ul style="list-style-type: none"> - Shailesh Ghotgalkar (Texas Instruments): Digital power control in emerging industrial and automotive applications
<p>8B.4: Inspire Faculty Talk (15:20pm-15:40pm) (Live):</p> <ul style="list-style-type: none"> - Utsab Kundu (EE): An Overview of Power Management in Server Application
<p>8B.5: Student Presentation 1 (15:40pm-15:50pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Rupam Pal (EE): Influence of soil's electrical parameters on lightning stroke-current evolution
<p>8B.6: Student Presentation 2 (15:50pm-16:00pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Shamibrota Kishore Roy (EE): Characterization and Modelling of Switching Dynamics of SiC MOSFET
<p>8B.7: Student Presentation 3 (16:00pm-16:10pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Tanmay Mishra (EE): Generalized Source emulation approach on micro-alternator
<p>Q&A Students 1-4 (16:10pm-16:20pm) (Live)</p>
<p>8B.8: Student Presentation 4 (16:20pm-16:30pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Kamisetty N V Prasad (EE): Design Of Active Magnetic Bearing
<p>8B.9: Student Presentation 5 (16:30pm-16:40pm) (Pre-recorded)</p> <ul style="list-style-type: none"> - Kiran Kumar Challa (EE): An Algorithm for Fitting Passive Equivalent Circuits for Lumped Parameter Frequency Dependent Transmission Line models
<p>8B.10: Student Presentation 6 (16:40pm-16:50pm) (Pre-recorded)</p>

- Meenu Jayamohan (EE): Impact Of Inverter Based Generation On Transmission Protection

8B.11: Student Presentation 7 (16:50pm-17:00pm) (Pre-recorded)

- Nakul Narayanan K (ESE): Switched Capacitor Converters for High Power Applications

Q&A Students 4-7 (17:00pm-17:10pm) (Live)

Session 8C: Brain, Computation and Data

Cluster Coordinator: Prasanta Ghosh (EE) and P. S. Sastry (EE)

Chair: P. S. Sastry (EE) and Sreedharan Devarajan (CNS)

Student Organizer: Nishchal Hoysal (RBCCPS)

Student Backup: Anand Kumar (EE)

Faculty Organizer: Sriram Ganapathy (EE)

8C.1: Invited Talk 1 (14:00pm-14:30pm) (Live):

- Suvarna Alladi (NIMHANS): Brain connectivity in health and disease: Joining the dots towards a multidisciplinary approach

8C.2: Industry Talk 2 (14:30pm-15:00pm) (Live):

- Gurpreet Singh Kalsi (Intel Labs India): Look-Up Table based Energy Efficient Processing in Cache Support for Neural Network Acceleration

8C.3: Open Discussion (15:00pm-15:30pm) (Live):

- Moderator: P. S. Sastry

8C.4: Student Presentation 1 (15:30pm-15:40pm) (Pre-recorded)

- Aditya Rastogi (CDS): Model based deep learning architecture for generalized p-norm regularization

8C.5: Student Presentation 2 (15:40pm-15:50pm) (Pre-recorded)

- Georjin Jacob (ECE): Do deep networks see the way we do?

8C.6: Student Presentation 3 (15:50pm-16:00pm) (Pre-recorded)

- Jaswanth Reddy Katthi (EE): Deep Learning Methods For Audio EEG Analysis

8C.7: Student Presentation 4 (16:00pm-16:10pm) (Pre-recorded)

- Jerrin, Thomas Panachakel (EE): Decoding Imagined Speech from EEG using Transfer Learning

8C.8: Student Presentation 5 (16:10pm-16:20pm) (Pre-recorded)

- Rathin Joshi (ESE): Neonatal Hearing Screening Headband extracting Brainstem and Cortical Response

8C.9: Student Presentation 6 (16:20pm-16:30pm) (Pre-recorded)

- Ritika Jain (EE): Reliable sleep stage classification method using multiple EEG features and RUSBoost technique

Q&A Students 1-5 (16:20pm-16:30pm) (Live)

8C.9: Invited Talk 3 (16:30pm-17:00pm) (Live):

- Neeraj Sharma (EE): Language familiarity impacts talker perception

Session 8D: Computational Sciences

Cluster Coordinator: Sashikumaar Ganesan (CDS)

Chair: Sashikumar Ganesan (CDS) and Koteswara Rao Sunkara (ITC Ltd)

Student Organizer: Harini V (RBCCPS)

Student Backup: Himanshu Bhusan (EE)

Faculty Organizer: Ramachandran Ponnuswamy (ESE)

8D.1: Keynote Talk 1 (14:00pm-14:30pm) (Live):

- Giridhara R Babu (PHFI): Role of data in public health response against covid19

8D.2: Keynote Talk 2 (14:30pm-15:00pm) (Live):

- Deepak Subramani (CDS): Spatio-temporal Prediction of Epidemic Spread: Data, Models and Ensembles

8D.3: Keynote Talk 3 (15:00pm-15:30pm) (Live):

- Gautam Menon (Ashoka University): Designing Optimal Vaccination Policies for COVID-19

8D.4: Keynote Talk 4 (15:30pm-16:00pm) (Live):

- Ani Vullikanti (Virginia Tech): Designing interventions in networked models of epidemic spread

8D.5: Student Presentation 1 (16:00pm-16:10pm) (Pre-recorded)

- Amrita Namtirtha (CDS): Best influential spreaders identification using network global structural properties

8D.6: Student Presentation 2 (16:10pm-16:20pm) (Pre-recorded)

- Tushar Sakorikar (ESE): Modelling of electrical transport in biological tissues

8D.7: Presentation 3 Post-Doctoral Researcher (16:20pm-16:30pm) (Pre-recorded)

- Subodh Madhav Joshi (CDS): Sensitivity analysis of ANNs for fluid flow simulation

8D.8: Student Presentation 4 (16:30pm-16:40pm) (Pre-recorded)

- Abhijith B N (ECE): Estimation of stochastic responses due to multiple variabilities in electromagnetic finite element modelling

8D.9: Student Presentation 5 (16:40pm-16:50pm) (Pre-recorded)

- Harikiran Muniganti (ECE): Inverse Problems in 3D Full-Wave Electromagnetics

8D.10: Student Presentation 6 (16:50pm-17:00pm) (Pre-recorded)

- Raghavendra GS (CSA): Comparative Analysis of Topological Structures

8D.11: Student Presentation 7 (17:00pm-17:10pm) (Pre-recorded)

- Sangeeta Yadav (CDS): SPDE-Net: Predict an optimal stabilization parameter for SUPG technique to solve Singularly Perturbed PDEs

8D.12: Student Presentation 8 (17:10pm-17:20pm) (Pre-recorded)

- Vinod J. Matthew (CDS): Scalable Asynchrony-Tolerant PDE Solver for Multi-GPU Systems

Q&A Students 1-8 (17:20pm-17:30pm) (Live)

17:00pm-17:30pm

BREAK

17:30pm-19:00pm

FELICITATION

PROFESSOR P. VIJAY KUMAR (ECE)

PROFESSOR Y. N. SRIKANT (CSA)

PROFESSOR K. GOPINATH (CSA)

19:00pm-19:10pm

**Best Paper in Session Awards
Vote of Thanks**

Useful Links:

- 1. ALL VIDEOS:** <https://drive.google.com/drive/folders/1oWG9jjQzXcY03P0y1YpJROxbn22xDcO?usp=sharing>
You can find a folder for your session here.
- 2. Links to sessions:** In case of any issues, contact Nishchal (nishchalg@iisc.ac.in, 9741575738) or Dhanaprakash (dhanaprakaas@iisc.ac.in, 9788756233)

Friday 7th May 2021:

Session	Time	Link
<u>Inauguration +</u> <u>S1: Plenary-1</u> Madhav Marathe	08:55am- 10:00am	https://zoom.us/j/98101873619?pwd=L1BwSzdaWDkwVVE1SkR1aldyd3pVUT09
<u>S2: Faculty Talks</u>	10:15am- 12:45pm	https://zoom.us/j/98101873619?pwd=L1BwSzdaWDkwVVE1SkR1aldyd3pVUT09
<u>S3A: Cluster Session</u> AI & Machine Learning	13:30pm- 16:30pm	https://zoom.us/j/92621019038?pwd=UjlFTktnYUN0TW91RjFFZ28zL0dOUT09
<u>S3B: Cluster Session</u> Nanodevices, VLSI Circuits and Microsystems-1	13:30pm- 16:30pm	https://zoom.us/j/92483576858?pwd=N2lDMmNQd3NNb28yUExtTG5KOFBwZz09
<u>S3C: Cluster Session</u> Security and Cryptography	13:30pm- 16:30pm	https://zoom.us/j/98206839356?pwd=bEJNK1ZCWkFXcEI2bFp5Tm03UkdYZz09
<u>S4: Plenary-2</u> Lalitesh Katragadda	17:00pm- 18:00pm	https://zoom.us/j/98101873619?pwd=L1BwSzdaWDkwVVE1SkR1aldyd3pVUT09
<u>S5: Plenary-3</u> Milind Tambe	18:00pm- 19:00pm	https://zoom.us/j/98101873619?pwd=L1BwSzdaWDkwVVE1SkR1aldyd3pVUT09

Saturday 8th May 2021:

Session	Time	Link
<u>S6: Plenary-4</u> Jitendra Malik	09:00am- 10:00am	https://zoom.us/j/98101873619?pwd=L1BwSzdaWDkwVVE1SkR1aldyd3pVUT09
<u>S7A: Cluster Session</u> Visual Analytics	10:15am- 13:15pm	https://zoom.us/j/98253612841?pwd=VUDhaHlieUlhUjFIOHBLdEFHc3pMQT09
<u>S7B: Cluster Session</u> Nanodevices, VLSI Circuits and Microsystems-2	10:15am- 13:15pm	https://zoom.us/j/99921926316?pwd=QnJ3VzcwTEVhZmhIajN2bUMwcWQrdz09
<u>S7C: Cluster Session</u> Signal Processing and Communications	10:15am- 13:15pm	https://zoom.us/j/99751927767?pwd=Q054OW9NeDhXUGdlUVJHam1Pa2dBQT09
<u>S7D: Cluster Session</u> Computer Systems	10:15am- 13:15pm	https://zoom.us/j/94629021071?pwd=alBhSGVLN3AveUdUUHBDWGpsWVg3Zz09
<u>S8A: Cluster Session</u> Cyber-Physical Systems	14:00pm- 17:00pm	https://zoom.us/j/97419548678?pwd=WUQvU3pDOU5KZUVmUHE4SWp4ZmovZz09
<u>S8B: Cluster Session</u> Power Engineering	14:00pm- 17:00pm	https://zoom.us/j/97532349336?pwd=eXV3WTFpM2FpVVRMNWZHRXN1RTIxUT09
<u>S8C: Cluster Session</u> Brain, Computation and Data	14:00pm- 17:00pm	https://zoom.us/j/97514423936?pwd=UksyWDhhd210dTYySHF0bnB2S2RWUT09
<u>S8D: Cluster Session</u> Computational Sciences	14:00pm- 17:00pm	https://zoom.us/j/93578321805?pwd=azBncWp2TWhmYXRaeXJjTW5SekhYZz09
<u>Felicitation</u> Prof. P. V. Kumar; Prof. K. Gopinath; Prof. Y. N. Srikant Awards; Vote of Thanks	17:30pm- 19:00pm	https://zoom.us/j/98101873619?pwd=L1BwSzdaWDkwVVE1SkR1aldyd3pVUT09

EECS, IISc RESEARCH STUDENTS SYMPOSIUM – 2021

AT A GLANCE

May 7th (Friday)

09:00am- 10:00am	10:15am- 12:45pm	13:30pm- 16:30pm	17:00pm- 18:00pm	18:00pm- 19:00pm
S1: Plenary-1 Madhav Marathe	S2: Faculty Talks Phani Motamarri Chaya Ganesh Sundeep Chepuri Vishnu Mahadev Iyer Arup Polley Jishnu Keshavan	S3A: Cluster Session AI & Machine Learning	S4: Plenary-2 Lalitesh Katragadda	S5: Plenary-3 Milind Tambe

May 8th (Saturday)

09:00am- 10:00am	10:15am- 13:15pm	14:00pm- 17:00pm	17:30pm- 19:00pm
S6: Plenary-4 Jitendra Malik	S7A: Cluster Session Visual Analytics	S8A: Cluster Session Cyber-Physical Systems	Felicitation Prof. P. V. Kumar Prof. K. Gopinath Prof. Y. N. Srikant

	S7B: Cluster Session Nanodevices, VLSI Circuits and Microsystems-2	S8B: Cluster Session Power Engineering	
	S7C: Cluster Session Signal Processing and Communications	S8C: Cluster Session Brain, Computation and Data	
	S7D: Cluster Session Computer Systems	S8D: Cluster Session Computational Sciences	Awards Vote of Thanks

THANK YOU