Sunday, July 22

Tutorials

9:30 - 11:00AM / 11:30 AM - 1:00PM
T1: [Golden Jubilee Seminar Hall, ECE Dept]

*Adaptive Learning and Decision Making in Cognitive Radio Networks*
Qing Zhao (University of California, Davis, USA); Ananthram Swami (US Army Research Laboratory, Adelphi, USA)

9:30 - 11:00AM / 11:30 AM - 1:00PM
T2: [Seminar Hall B]

*Introduction to Random Matrix Theory*
Manjunath Krishnapur (Indian Institute of Science, India); Rajesh Sundaresan (Indian Institute of Science, India)

9:30 - 11:00AM / 11:30 AM - 1:00PM
T3: [Seminar Hall C]

*Sparse Arrays, Sub-Nyquist Sampling and Applications*
P.P. Vaidyanathan (California Institute of Technology, USA)

2:30 PM - 4:00PM / 4:30 PM - 6:00PM
T4: [Seminar Hall A]

*Stochastic Geometry: A New Tool for Wireless Network Analysis*
Radhakrishna Ganti (Indian Institute of Technology Madras, India)

2:30 PM - 4:00PM / 4:30 PM - 6:00PM
T5: [Seminar Hall B]

*Network Coding for Cloud Storage*
Alex Dimakis (University of Southern California, Los Angeles, USA)

2:30 PM - 4:00PM / 4:30 PM - 6:00PM
T6: [Seminar Hall C]

*Statistics, Systems Theory and Information Theory: Applications to Modelling the Network Dynamics of Neural Processes*
Todd P. Coleman (University of California, San Diego, USA)

6:00 PM - 7:30 PM

Welcome Reception followed by High Tea [JN Tata Auditorium]
Monday, July 23

8:40 AM - 9:00 AM

Inauguration and Welcoming Remarks [JN Tata Auditorium]

9:00 AM - 10:00 AM

Plenary Talk I [JN Tata Auditorium]

Wireless Communications, Number Theory, and Compressive Sensing
Robert Calderbank (Duke University, USA)

10:10 AM - 11:10 AM

M1: Invited Session [JN Tata Auditorium]
Chair: Neelesh Mehta

A Survey on Green 5G Cellular Networks
Li-Chun Wang (National Chiao Tung University, Taiwan); Suresh Rangapillai (National Chiao Tung University & VIT University, Taiwan)

Diversity Analysis of an Outage Minimizing Energy Harvesting Wireless Protocol in Rayleigh Fading
Shixin Luo (National University of Singapore, Singapore); Rui Zhang (National University of Singapore, Singapore); Teng Joon Lim (National University of Singapore, Singapore)

M2: Antenna Design [Hall A]
Chair: K J Vinoy

WLAN Band-Notched Printed U-Shape UWB Antenna
Sanjeev Kumar Mishra (IIT Bombay, India); Jayanta Mukherjee (IIT Bombay, India)

Mutual Coupling Reduction in MIMO Antenna System Using EBG Structures
D. Helena Margaret (Velammal College of Engineering and Technology, India); M. R. Subasree (Velammal College of Engineering and Technology, India); S. Susithra (Velammal College of Engineering and Technology, India); S. S. Keerthika (Velammal College of Engineering and Technology, India); Dr. B Manimegalai (Thiagarajar College of Engineering, India)

Design of a Three Port Feed Matching Network for a Dual-Band and Dual-Polarized Rectangular Patch Antenna
V. Nimbark (G D Goenka World Institute, India); Q. Lu (Northumbria University, United Kingdom); E. Korolkiewicz (FIET, United Kingdom); L. Liu (CEIS, Northumbria University at Newcastle Upon tyne, United Kingdom)

M3: Source Separation [Hall B]
Chair: V U Reddy

Robust Two Dimensional Source Localization Using the MUSIC-Group Delay Spectrum
Ardhendu Tripathy (Indian Institute of Technology, Kanpur, India); Lalal Kumar (Indian Institute of Technology Kanpur, India); Rajesh M. Hegde (Indian Institute of Technology Kanpur, India)
Direct-MUSIC on Sparse Arrays
P.P. Vaidyanathan (California Institute of Technology, USA); Piya Pal (California Institute of Technology, USA)

A Modified Spectrogram Diffusion Algorithm for Improved Harmonic/Percussion Separation in Music Signals
Balaji Thoshkahna (Indian Institute of Science, India); K.R. Ramakrishnan (Indian Institute of Science, India)

11:30 AM - 12:50 PM

M4: Invited Session [JN Tata Auditorium]
Chair: Rajesh Sundaresan

Agnostic Insurance Tasks and Their Relation to Compression
Narayana Santhanam (University of Hawaii at Manoa, USA); Venkat Anantharam (University of California at Berkeley, USA)

Outage-Constrained Service Capacity with Stochastic Resource Harvesting
Wenyi Zhang (University of Science and Technology of China, P.R. China)

M5: MIMO [Hall A]
Chair: Aditya Jagannatham

Set-Partitioning Based Forward/Backward Soft Decision Algorithms for MIMO Detection
Rakesh Malladi (Rice University & Indian Institute of Technology Madras, India); Kiran Kuchi (Indian Institute of Technology Hyderabad, India); R David Koilpillai (Indian Institute of Technology Madras, India)

MMSE Based Waveform Design for MIMO Radar with Per Antenna Power Constraint
A. Merline (Sethu Institute of Technology & Pulloor, Kariapatti, Virudhunagar District, India); S.J. Thiruvengadham (Thiagarajar College of Engineering, Madurai, India)

Semi-Definite Programming (SDP) Relaxation Based Semi-Blind Channel Estimation for Frequency-Selective MIMO MC-CDMA Systems
Naveen K.D. Venkategowda (Indian Institute of Technology Kanpur, India); Aditya K. Jagannatham (Indian Institute of Technology Kanpur, India)

Joint Channel Estimation and Decoding of Space-Time Block Codes in AF MIMO Relay Networks
Arti MK (Indian Institute of Technology - Delhi, India); Ranjan K. Mallik (Indian Institute of Technology - Delhi, India); Robert Schober (University of British Columbia, Canada)

M6: Video Processing [Hall B]
Chair: Venkatesh Babu

Robust Features for Accurate Spatio-Temporal Registration of Video Copies
R. Roopalakshmi (NITK, Surathkal, India); G.Ram Mohana Reddy (NITK, Surathkal, India)

Spatio Temporal Key-point Detection and Video Representation in 3D Wavelet Domain
Subrata Rakshit (Centre for Artificial Intelligence and Robotics, DRDO, India); A. Lakshmi (Centre for Artificial Intelligence and Robotics, DRDO, India)

Fast and Fully Automated Video Colorization
V S Rao Veeravasarapu (IIIT-Hyderabad, India); Jayanthi Sivaswamy (IIIT-Hyderabad, India)
Multichannel Video Software Solution for an Asynchronous Multiprocessor System
Piyali Goswami (Texas Instruments India Pvt. Ltd., India); Resmi Rajendran (Texas Instruments, India); Deepak Kumar Poddar (Texas Instruments India Pvt Ltd, India); Pramod Swami (Texas Instruments India Pvt Ltd, India)

2:20 PM - 3:20 PM

M7: Invited Session [JN Tata Auditorium]
Chair: Navin Kashyap

Can Distributed Be as Good as Centralized: A Walk Through Consensus and Innovations
Jose Moura (Carnegie Mellon University, USA)

Nonuniform Vote Aggregation Algorithms
Farzad Farnoud (University of Illinois, Urbana-Champaign, USA); Behrouz Touri (University of Illinois Urbana-Champaign, USA); Olgica Milenkovic (University of Illinois, USA)

M8: Networked Physical Layer [Hall A]
Chair: Utpal Mukherji

Problem-aware Scheduling of In-Network Computation Over Multi-hop Wireless Networks
Rahul Meshram (IIT Bombay, India); V. S. Borkar (IIT Bombay, India); D. Manjunath (IIT Bombay, India)

On Comparing Multivariate Complex Random Signals
Jitendra K. Tugnait (Auburn University, USA)

Opportunistic Beamforming in a Downlink Distributed Antenna System with Linear Receivers
Yichao Huang (University of California, San Diego, USA); Bhaskar D. Rao (University of California, San Diego, USA)

M9: Computer Vision [Hall B]
Chair: P.K Bora

Data Independent Visual Vocabulary
Faheema Ag (Scientist & CAIR, DRDO, India)

Human Action Recognition Using Depth Maps
Vennila Megavannan (IPG R&D Hub, Hewlett Packard, India); Bhuvnesh Agarwal (IIT Kharagpur, India); R. Venkatesh Babu (Indian Institute of Science, India)

Power-law Transformation for Enhanced Recognition of Born-Digital Word Images
Deepak Kumar (Indian Institute of Science, India); Ramakrishnan G A (Indian Institute of Science, India)

3:40 PM - 5:10 PM

M10: Invited Session [JN Tata Auditorium]
Chair: D. Manjunath

On Optimal Broadcasting in Packet Erasure Relay Networks
Pramod Viswanath (University of Illinois, Urbana-Champaign, USA)

Low-Complexity Near-Optimal Codes for Gaussian Relay Networks
Theodoros Dikaliotis (Caltech, USA); Hongyi Yao (California Institute of Technology, USA); Salman Avestimehr (Cornell University, USA); Sidharth Jaggi (Chinese University of Hong Kong, Hong Kong); Tracey Ho (California Institute of Technology, USA)
On (de)coding Techniques for Multiuser Channels
Vinod M Prabhakaran (Tata Institute of Fundamental Research, India)

M11: Wireless Communications [Hall A]
Chair: Srikrishna Bhashyam

Delay Optimized Zero-Forcing Channel Shortening Algorithm for Wireless Communication
M. Yashwanth (Indian Institute of Science, India); K.V.S. Hari (Indian Institute of Science, India)

Performance Analysis of Receive Diversity Technique for Wireless Systems Using Partial Channel Knowledge
Nita M. Modh (L D Collage of Engineering & Gujarat Technological University, India); K.R Parmar (GTU, India)

Self-Interference Cancellation Models for Full-duplex Wireless Communications
Andrew Thangaraj (IIT Madras, India); Radha Krishna Ganti (Indian Institute of Technology Madras, India); Srikrishna Bhashyam (Indian Institute of Technology Madras, India)

Diversity Combining in FSO Systems in Presence of Non-Gaussian Noise
Anisha Kamboj (IIT, Delhi, India); Ranjan K. Mallik (Indian Institute of Technology - Delhi, India); Monika Agrawal (IIT, India); Robert Schober (University of British Columbia, Canada)

M12: Image Processing [Hall B]
Chair: Sumana Gupta

A Noncausal Linear Prediction Based Switching Median Filter for the Removal of Salt and Pepper Noise
Bhabesh Deka (Tezpur Central University, India); P. K. Bora (Indian Institute of Technology Guwahati, India)

Detection and Removal of Fixed-valued Impulse Noise Using Sparse Representations
Pedamalli Saikrishna (IIT Guwahati, India); P.K.Bora (Indian Institute of Technology Guwahati, India)

Modification in Contrast Mapping: Reversible Watermarking with Performance Improvement
Debashis Maiti (Bengal Engineering and Science University, Shibpur, India); Santi P. Maity (Bengal Engineering & Science University, Shibpur, India); Hirak Maity (College of Engineering and Management, Kolaghat, India)

Fast Template Matching Based on Multilevel Successive Elimination Algorithm
Sanjay Sahani (Integrated Test Range, DRDO & Chandipur, Odisha, India); Ghanashyam Adhikari (Integrated Test Range, DRDO, India); Binay Das (Integrated Test Range, DRDO, India)

6:00 PM - 7:00 PM

Plenary Talk II [JN Tata Auditorium]

Title: Missile Telemetry, Telecommand and Tracking Systems
SP Dash (Integrated Test Range, DRDO, India)
Tuesday, July 24

9:00 AM - 10:00 AM

Plenary Talk III [JN Tata Auditorium]

Title: Distinguishing the “Hand” of the Master?
Ingrid Daubechies (Duke University, USA)

10:10 AM - 11:10 AM

T1: Invited Session [JN Tata Auditorium]
Chair: KVS Hari

Audio Metadata Extraction: The Case for Hindustani Classical Music
Preeti Rao (IIT-Bombay, India)

Dealing with Untranscribed Speech
Kishore Prahallad (IIIT Hyderabad, India)

T2: Antennas and Solar [Hall A]
Chair: Dipanjan Gope

Design of Compact Microstrip Dlexer with High Selectivity
Vamsi Krishna Velidi (ISRO Satellite Centre, Bangalore, India); U. Prabhakaran (ISRO, India); A.V. Subramanyam (Indian Space Research Organisation & ISRO Satellite Centre, India); D. Sivareddy (ISAC, India); V.V. Srinivasan (ISRO, India)

A Novel Control Strategy to Simulate Solar Panels
Dhruv Kapoor (IIT Guwahati, India); Paloma Sodhi (IIT Guwahati, India); Dipankar Deb (105 G-Block & Indian Institute of Technology Guwahati, India)

Design and Development of a Light Weight Microstrip Patch Antenna Array for Solar Power Satellite Application
B. Sandhya Reddy (ISRO Satellite Center, India); V. Senthil Kumar (ISRO Satellite Center, India); V.V. Srinivasan (ISRO Satellite Center, India)

T3: Optical and Wireless [Hall B]
Chair: T Srinivas

A Novel Offline PLI-RWA, Regenerator Placement and Wavelength Converter Placement Algorithm for Translucent Optical WDM Networks
Sridhar Iyer (Netaji Subhas Institute of Technology, India); Shree Prakash Singh (Netaji Subhas Institute of Technology, India)

Analog Processing Based Carrier Phase Recovery and Equalization for Coherent Optical Receivers
Anita Gupta (Indian Institute of Technology, Bombay, India); Nandakumar Nambath (Indian Institute of Technology, Bombay, India); Shalabh Gupta (IIT Bombay, India)

Estimation of an Asymptotically Stationary AR Channel Using fBm Based LMS Algorithm
Anubha Gupta (International Institute of Information Technology Hyderabad, India); Shiv Dutt Joshi (Indian Institute of Technology, Delhi, India)
11:30 AM - 12:50 PM

T4: Invited Session [JN Tata Auditorium]
Chair: Onkar Dabeer

*Ultra Low Bit-Rate Speech Coding: An Overview and Recent Results*
V Ramasubramanian (Siemens Corporate Research & Technologies, India)

*Will the Real Error Floor Please Stand Up?*
Xiaojie Zhang (University of California, San Diego, USA); Paul H. Siegel (University of California, San Diego, USA)

T5: Video Coding [Hall A]
Chair: Vishnu Makkapati

*Game Theory Based Dynamic Bit-Rate Adaptation for H.264 Scalable Video Transmission in 4G Wireless Systems*
Shreyans Parakh (Indian Institute of Technology, Kanpur, India); Aditya K Jagannatham (Indian Institute of Technology Kanpur, India)

*Quality Optimal Policy for H.264 Scalable Video Scheduling in Broadband Multimedia Wireless Networks*
Vamseeedhar R Reddyvari (Indian Institute of Technology, Kanpur, India); Aditya K Jagannatham (Indian Institute of Technology Kanpur, India)

*Techniques to Improve Decoded Video Quality for Erroneous H.264 Bit Streams in an Asynchronous Multiprocessor Architecture*
Resmi Rajendran (Texas Instruments, India); Pavan Shastry (Texas Instruments India, India)

*A Color Video Compression Technique Using Key Frames and a Low Complexity Color Transfer*
Rakesh Agarwal (IIT Kanpur, India); Sumana Gupta (IIT, Kanpur, India); Varaprasad Gude (IIT Kanpur, India)

T6: Audio Coding and Speech Processing [Hall B]
Chair: Kishore Prahallad

*Non-linear Encoding of the Excitation Source Using Neural Networks for Transition Mode Coding in CELP*
M. Anand Joseph (International Institute of Information Technology Hyderabad, India); B. Yegnanarayana (International Institute of Information Technology, Hyderabad, India)

*MDCT Domain Parametric Stereo Audio Coding*
K. Suresh (College of Engineering, Thiruvananthapuram, India); Akhil Raj R (College of Engineering, Thiruvananthapuram, India)

*Sparse Representation of Total Variability Smoothed GMM Mean Supervectors for Speaker Verification*
Haris B C (Indian Institute of Technology Guwahati, India); R Sinha (Indian Institute of Technology Guwahati, India)

*A Risk-Estimation-Based Formulation for Speech Enhancement and Its Relation to Wiener Filtering*
Nagarjuna Reddy Muraka (Indian Institute of Science, Bangalore, India); Chandra Sekhar Seelamantula (Indian Institute of Science, India)
2:20 PM - 3:20 PM

**T7: Invited Session** [JN Tata Auditorium]
Chair: Chandra Sekhar Seelamantula

*Classification and Analysis of Electrical Signals in Urinary Bladder Smooth Muscle Using a Modified Vector Quantization Technique*
Mithun Padmakumar (Indian Institute of Technology Bombay, India); Rohit Manchanda (Indian Institute of Technology Bombay, India); Bhuvaneshwari K (Indian Institute of Technology Bombay, India)

*Measurement of Asymmetry of Stripe Patterns in Animals*
K Pavan Kumar Reddy (IIT-Madras, India); R. Aravind (Indian Institute of Technology Madras, India)

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**T8: Cooperative Communications** [Hall A]
Chair: Manav Bhatnagar

*Performance Analysis of PL Decoder for M-QAM Constellation in DF Cooperative System*
Ankur Bansal (Indian Institute of Technology Delhi, New Delhi, India); Manav R. Bhatnagar (Indian Institute of Technology Delhi, India)

*Co-operative Spectrum Sensing: Implementation and Benchmarking on ANRC Cognitive Radio Testbed*
Ramachandra Budihal (Wipro Technologies & Indian Institute of Science, India); Bharadwaj Desikan (Wipro Technologies, India); H S Jamadagni (Indian Institute of Science, India)

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**T9: Speech Processing I** [Hall B]
Chair: Hema Murthy

*Classification of Normal and Pathological Voices Using TEO Phase and Mel Cepstral Features*
Hemant A. Patil (Dhirubhai Ambani Institute of Information and Communication Technology, India); Pallavi N. Baljekar (Manipal Institute of Technology, India)

*Novel Chaotic Titration Method for Analysis of Normal and Pathological Voices*
Hemant A. Patil (Dhirubhai Ambani Institute of Information and Communication Technology, India); Tanvina B. Patel (L. D. College of Engineering, Ahmedabad, India)

*Exploration of Class Specific ABWE for Robust Children’s ASR Under Mismatched Condition*
Sunil Y (Indian Institute of Technology Guwahati, India); R. Sinha (Indian Institute of Technology Guwahati, India)

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3:40 PM - 5:10 PM

**T10: Invited Session** [JN Tata Auditorium]
Chair: Chandra Murthy

*Sparse Signal Recovery in the Presence of Intra-Vector and Inter-Vector Correlation*
Bhaskar D. Rao (University of California, San Diego, USA); Zhilin Zhang (University of California, San Diego, USA); Yuzhe Jin (UCSD, USA)

*Completion of High-Rank Ultrametric Matrices Using Selective Entries*
Aarti Singh (Carnegie Mellon University, USA); Akshay Krishnamurthy (Carnegie Mellon University, USA); Sivaraman Balakrishnan (Carnegie Mellon University, USA); Min Xu (Carnegie Mellon University, USA)
Impact of Sensing Structure in Supervised Classification of High-Dimensional Data
Prakash Ishwar (Boston University, USA)

T11: Information Theory and Coding [Hall A]
Chair: B Sundar Rajan

Stability of Transmitter Cooperation Over a Multiple Access Channel
Srinivas Yerramalli (University of Southern California, USA); Rahul Jain (University of Southern California, USA); Urbashi Mitra (University of Southern California, USA)

Achievable Secrecy Sum-Rate in a Fading MAC-WT with Power Control and Without CSI of Eavesdropper
Shahid M Shah (Indian Institute of Science, India); Vireshwar Kumar (Indian Institute of Science, India); Vinod Sharma (Indian Institute of Science, India)

Fast Decodable Codes for 6Tx-3Rx MIMO Systems
Nadya Markin (Nanyang Technological University, Singapore); Frederique Oggier (Nanyang Technological University, Singapore)

A Note on Quasi-Uniform Distributions and Abelian Group Representability
Eldho Thomas (Nanyang Technological University, Singapore); Frederique Oggier (Nanyang Technological University, Singapore)

T12: Speech/Speaker Recognition [Hall B]
Chair: Preeti Rao

Fourier-Bessel Cepstral Coefficients for Robust Speech Recognition
Chetana Prakash (International Institute of Information Technology, India); Suryakanth V. Gangashetty (International Institute of Information Technology, India)

Impact of Pronunciation Variation in Speech Recognition
R Golda Brunet (Indian Institute of Technology Madras, India); Hema A Murthy (Indian Institute of Technology Madras, India)

Effect of Feature Warping and Decorrelation on Mel Filterbank Slope for Speaker Recognition
Srikanth Madikeri (Indian Institute of Technology, Madras, India); Hema A Murthy (Indian Institute of Technology Madras, India)

Allpass Modeling of LP Residual for Speaker Recognition
Sn Rama Murty K (IIT Hyderabad, India); Vivek Boominathan (Indian Institute of Technology Hyderabad, India); Karthika Vijayan (IIT Hyderabad, India)

5:00 PM - 6:00 PM

Poster Session

Fractional Calculus Based Analysis of Phase Locked Loop
B.T. Krishna (Gitam University, Visakhapatnam, India)

Design of Data Width Requirement for Fixed-Point Turbo Decoders Based on Modified MAP Algorithm
Rahul Shrestha (Indian Institute of Technology Guwahati, India); Roy Paily (Indian Institute of Technology Guwahati, India)

A Trajectory-Based Ball Detection and Tracking System with Applications to Shot-type Identification in Volleyball Videos
Bodhisattwa Chakraborty (National Institute of Technology, Rourkela, India); Sukadev Meher (National Institute of Technology, Rourkela, India)
Scalable Video Coding Using Symmetric Residue Pyramid and Rate-Distortion Optimization
Nitin K Sharma (DRDO & Centre for Artificial Intelligence and Robotics, India); Malay K Nema (DRDO, India); Subrata Rakshit (DRDO, India)

Real Time Hardware Implementable Spectrum Sensor for Cognitive Radio Applications
Chaitanya GV (NIT Warangal, India); P Rajalakshmi (Indian Institute of Technology Hyderabad, India); U. B. Desai (IIT Hyderabad, India)

On Image-Driven Choice of Wavelet Basis for Super Resolution
Neeraj Kumar (IIT Guwahati, India); Amit Sethi (IIT Guwahati, India)

Online Dynamic Resource Allocation in Interference Temperature Constrained Cognitive Radio Network Using Reinforcement Learning
Soumya Maulik (Indian Institute of Technology, Kharagpur, India); Arijit De (Indian Institute of Technology, Kharagpur, India); Amitabha Bhattacharya (Indian Institute of Technology, Kharagpur, India)

Design of Low Complexity Video Watermarking Algorithm Based on Integer DCT
Amit M Joshi (NIT, Surat, India); R. M. Patrikar (National Institute of Technology, Nagpur, India); Dr. Vivekanand Mishra (National Institute of Technology, Surat, India)

Acoustical Analysis of Musical Pillar of Great Stage of Vitthala Temple At Hampi, India
Hemant A. Patil (Dhirubhai Ambani Institute of Information and Communication Technology, India); Shrishail S. Gajbhar (Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, India)

An Adaptive Line Enhancement Technique for Fiber Bragg Grating-Based Acoustic Emission Sensor
Anshuman Sharma (Indian Institute of Technology Madras, India); Harish Achar (Indian Institute of Technology Madras, India); Balaji Srinivasan (Indian Institute Of Technology Madras, India)

Exploitation of MIMO Techniques for Reliable HF Communication
Shishir B Sahay (Defence Institute of Advanced Technology, Deemed University, India); Kanad C Bhagwat (Defence Institute of Advanced Technology, India); P R Jagan Mohan (Defence Institute of Advanced Technology, Deemed University, India)

Optimized TERMITE: A Bio-inspired Routing Algorithm for MANET's
Praveen Kumar G Hoolmath (Department of Information Technology, NITK Surathkal, Mangalore Karnataka India, India); Kiran M (National Institute of Technology - Karnataka, India); G Ram Mohana Reddy (NITK, Surathkal, India)
Wednesday, July 25

9:00 AM - 10:00 AM

**Plenary Talk IV** [JN Tata Auditorium]

*Information Theoretic Multiterminal Secret Key Generation*
Prakash Narayan (University of Maryland, College Park, USA)

10:10 AM - 11:10 AM

**W1: Invited Session** [JN Tata Auditorium]
Chair: Anurag Kumar

*Applied Topology in Static and Dynamic Sensor Networks*
Hamid Krim (North Carolina State University, USA); Jennifer Gamble (North Carolina State University, USA); Harish Chintakunta (North Carolina State University, USA)

*Bounds on Minimum Number of Anchors for Iterative Localization and Its Connections to Bootstrap Percolation*
Rahul Vaze (TIFR Mumbai, India); Piyush Gupta (Bell Labs, Alcatel-Lucent, USA)

**W2: Filterbanks** [Hall A]
Chair: Anubha Gupta

*Design of 3-D FCO Filterbank Using Eigenfilter Based Kernel for Transformation of Variables*
Qutubuddin Saifee (IIT Bombay, India); Pushkar G Patwardhan (Tensilca Inc., Santa Clara, USA); Vikram M. Gadre (IIT Bombay, India)

*Construction of 4-Band Linear-Phase Orthogonal Perfect-Reconstruction Filter Banks Using Iterative Eigenfilter Method*
Prasad Chaphekar (Indian Institute of Technology, Bombay, India); Omkar Anil Gune (Indian Institute of Technology Bombay, India); Vikram M. Gadre (IIT Bombay, India)

*A Novel Generalized Time-Frequency Transform Inspired by the Fractional Fourier Transform for Higher Order Chirps*
Shishir Sahay (Defence Institute of Advanced Technology, Deemed University, India); Deepak Pande (Defence Institute of Advanced Technology Deemed University, India); Vikram M. Gadre (IIT Bombay, India); Prashant Sohani (Indian Institute of Technology Bombay, India)

**W3: Speech Processing II** [Hall B]
Chair: V Ramasubramanian

*Epoch Extraction From Emotional Speech*
D Govind (Indian Institute of Technology Guwahati, India); S R M Prasanna (Indian Institute of Technology Guwahati, India)

*Analysis of Breathy Voice Based on Excitation Characteristics of Speech Production*
Sathya Adithya Thati (International Institute of Information Technology, Hyderabad, India); Bajibabu Bollepalli (IIIT Hyderabad, India); Peri Bhaskararao (International Institute of Information Technology, Hyderabad, India); B. Yegnanarayana (International Institute of Information Technology, Hyderabad, India)
11:30 AM - 1:00 PM

W4: Invited Session [JN Tata Auditorium]
Chair: Rahul Vaze

Saying It with Molecules: The Additive Inverse Gaussian Noise Channel
Raviraj Adve (University of Toronto, Canada)

Using Random Shape Theory to Model Blockage in Random Cellular Networks
Tianyang Bai (The University of Texas at Austin, USA); Rahul Vaze (TIFR Mumbai, India); Robert W. Heath (The University of Texas at Austin, USA)

An AVC Perspective on Correlated Jamming
Anand D Sarwate (Toyota Technological Institute at Chicago, USA)

W5: Signal Representations [Hall A]
Chair: R Aravind

Synthesis of Waveforms From Zero-Lag Cross-Correlation Matrix with Specified Constraints and Power Levels
Bertrand Mathelier (University of Rennes 1, France); D. Shashi Kiran (LRDE, DRDO, Bangalore, India); V U Reddy (CR Rao Advanced Institute of Mathematics, Statistics and Computer Science, India)

Some New Results on Signal Reconstruction From Fourier Transform Magnitude Spectrum
Chandra Sekhar Seelamantula (Indian Institute of Science, India)

Spectral Zero-Crossings: Localization Properties and Application to Epoch Extraction in Speech Signals
Ravi R Shenoy (Indian Institute of Science & Nokia, India); Chandra Sekhar Seelamantula (Indian Institute of Science, India)

On Dithered A/D Conversion of Multidimensional Smooth Non-bandlimited Signals
Akshata Athawale (Indian Institute of Technology Bombay, India); Animesh Kumar (Indian Institute of Technology Bombay, India)

W6: Biomedical Signal Processing [Hall B]
Chair: Rohit Manchanda

Characterization of ECG Signals Using Multiscale Approach
Saiveena Kesaraaju (Lulea University of Technology & Julius Maximillians University of Wurzburg, Germany); M Amarnath (IITDM Jabalpur, India); Pooja Gupta (IITDM Jabalpur, India); S. Sastry Challa (IIT Hyderabad, India)

A Nearest Neighbor Based Approach for Classifying Epileptiform EEG Using NonLinear DWT Features
Ashwini V R Holle (National Institute of Technology in Karnataka at Suratkal, India); Aparna P (National Institute of Technology Karnataka, India)

Sparse Representation for Optic Disk Detection
Neelam Sinha (International Institute of Information Technology & Bangalore, India); R Venkatesh Babu (Indian Institute of Science, India)

A Multifrequency Electrical Impedance Tomography (EIT) System for Biomedical Imaging
Tushar Kanti Bera (Indian Institute of Science Bangalore, India); J Nagaraju (Indian Institute of Science, India)