

## Resume

ANUBHA GUPTA, Ph.D.

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<https://www.iiitd.edu.in/~anubha> Lab: <http://sbilab.iiitd.edu.in/index.html>

### **Summary of Skills and Experience**

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- In all, 25+ years of professional work experience (from July 1993 to present) of which worked at regular full-time positions for more than 23 years (including teaching, research, administrative, managerial positions in both Industry and Academics)
- Working as Professor at Indraprastha Institute of Information Technology-Delhi (IIIT-D), Delhi, India since June 2019
- More than 17 years of experience as a faculty member in engineering institutions in India including 8 years' experience as Associate Professor (IIIT-H + IIIT-D) and one year as Professor
- Published 44 research papers in international refereed journals, 53 research papers in international conferences (including ISBI, ICASSP, MICCAI, DCC, ICCV workshop, Globecom, ICC, SPCOM), 6 research papers in national conferences, 11 posters, one state level policy report (US), and 3 (University level) reports on student learning outcomes assessment
- Three PhD students graduated (two in 2018 and one in 2019)
- Continuing 7 PhD students
- Completed 12 M.Tech (09)/MS thesis (03)
- Worked as the Director of Assessment in the office of the Provost at Bowie State University, Maryland, USA from October 2010 to April 2011, prepared three University-level reports on student learning outcomes assessment; participated in their Accreditation (visit of experts' team happened in the first week of April 2011)
- Worked as a project manager (Graduate Assistant) on analysis of transcripts to mark the progress and success of transfer students with the University System of Maryland (USM), USA
- Worked as Assistant Director, Ministry of Information and Broadcasting, Govt. of India (through Indian Engineering Services) for more than 5 years (technical management experience in the area of electronics and communication engineering, supervised 30 full-time staff members)

### **Summary of achievements since Jan 2014 to date (6 years)**

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- Published 36 research papers in international refereed journals, 35 research papers in international conferences (including ISBI, ICASSP, MICCAI, DCC, ICCV workshop, Globecom, ICC, SPCOM), 1 poster in MobiCom (Core A\*) conference, 8 posters in national conferences
- Conducted a medical imaging challenge at IEEE ISBI Conference, 2019 (Top tier medical imaging conference) (Challenge-1 at <https://biomedicalimaging.org/2019/challenges/>)
- Filed 4 patents (two Indian and two US of which one US patent is published)
- Funded projects: one is completed, two are ongoing
- Three PhD students graduated so far (two graduated in 2018 and one in April 2019)
- Seven PhD students progressing: 2 will submit thesis within 2020, two in 2021, two are in middle stage and one is early stage
- Delivered 16 invited talks including 4 talks at US campuses (University of Calgary, Canada; ISU, UoI, and MSU, USA)
- Organized (along with Dr. Namrata Vaswani, ISU and Dr. Selin Aviyente, MSU) a 2-day dedicated symposium on "Big Data Analysis and Challenges in Medical Imaging" in IEEE GlobalSip 2016 conference, Washington DC, USA from Dec. 7 - 9, 2016.
- Conducted a GIAN course on "Robust PCA and its applications" with guest faculty Dr. Namrata Vaswani, Professor, Iowa State University, USA in December 2017.
- Received Teaching Excellence award for the year 2017-18 at IIIT-D
- Voted for "Outstanding Educator Award" by the graduating UG and PG batches of 2017 and 2019 at IIIT-Delhi
- Associate Dean of Academic Affairs, from Jan 01, 2019 to June 2019
- Dean of Academic Affairs, from June 2019 onwards till June 10, 2020
- Worked as Chair, UG programs at IIIT-Delhi from August 2016 until December 31, 2018.
- UG ECE coordinator from July 2014-2016

- Discharged a number of other administrative duties and was part of many committees in these 5 years including member, UG and PG admissions committees, convocation committees, etc.
- Chair, IEEE SPS Delhi Chapter for 2019-21.
- Member, IEEE Women in Signal Processing Committee, 2019-21.
- Associate Editor, IEEE Access
- Senior Member, IEEE SP Society
- Was Vice Chair, IEEE SPS Society Delhi Chapter, 2015-2016.
- Reviewer for leading conferences ICASSP 2017, 2018, 2019; ICIP 2017; NCC 2017, 2018; MICCAI 2017; IEEE GlobalSIP 2016; ICVGIP 2016, 2018; MedImage 2016, 2018; and many more in past years
- Reviewed research papers of various prestigious journals in the past
- Member, Advisory Board, Million Sparks Foundation, a google-funded technology-led educational initiative
- Expert Member, Electronics and Communication Engineering, National Board of Accreditation, India
- Expert committee member, SERB-DST, Govt. of India, November 2018
- MTech External Examiner, IIT Delhi; 2015-2018

## **Education**

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**Master of Arts** **May 2010**  
**(Education Leadership and Administration, Concentration: Higher Education)**  
 College of Education, University of Maryland-College Park, USA  
 (CGPA 4.0/4.0)

**Ph.D. (Title: Signal-Matched Wavelets: Theory and Applications)** **July 2006**  
 Department of EE, Indian Institute of Technology Delhi, India  
 (CGPA 9.0/10.0 during the coursework)

**M.E. (Electronics and Communication Engineering)** **March 1997**  
 Delhi College of Engineering (now DTU), Delhi, India  
 (Marks - 86.12%)

**B.E. (Electronics and Communication Engineering)** **September 1991**  
 Delhi Institute of Technology (now NSUT), Delhi, India  
 (Marks – 82.3%; ranked 5<sup>th</sup> in the batch)

**Research interests:** Biomedical Signal and Image Processing (fMRI and EEG signal processing, Genomics Signal Processing), AI/ML in Education, Machine/Deep Learning and its applications, Transform learning. Signal processing for communication engineering

## **Engineering Professional Experience**

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**Indraprastha Institute of Information Technology- Delhi (IIIT-D)** Delhi, India  
**Associate Professor** Dec 2013- Present

### **Department of Electronics and Communication Engineering**

- Teaching and Research in electronics and communication engineering
- Associate Dean of Academic Affairs, from Jan 01, 2019 onwards
- UG Program Chair from August 2016 to December 2018, UG ECE coordinator (2014-2016)
- Member of many committees within the Institute from 2014 onwards

**International Institute of Information Technology- Hyderabad (IIIT-H)** A.P., India  
**Associate Professor** July 2011- Dec 2013

### **Signal Processing and Communication Research Center**

- Teaching and Research in electronics and communication engineering
- Member of many committees within the Institute from 2014 onwards

**Netaji Subhas Institute of Technology (NSIT) (Now NSUT)** Dwarka, New Delhi, India  
**Assistant Professor (Reader), Department of Computer Engineering** June 2000- August 2008

- Taught various undergraduate and graduate courses of electronics and computer engineering
- Participated in the curriculum development of master's and bachelor's level courses
- Organized and coordinated special guest lectures and special events
- Worked as the acting Head of the computer engineering department for short durations
- Experience supervising students' academic projects- master's thesis and bachelor's projects
- Undertook a number of other responsibilities including time-table coordination, B.E. seminar coordination, final year projects coordination, and so forth.

**Netaji Subhas Institute of Technology (NSIT) (Now NSUT)** Dwarka, New Delhi, India  
**Senior Systems Analyst** Feb. 1999- June 2000

- Taught undergraduate and graduate courses of electronics and computer engineering
- Participated in the development of new laboratories for students and faculty
- Involved in purchases related to computer hardware and software
- Experience supervising students' academic projects

**All India Radio** Broadcasting House, Parliament Street, Delhi, India  
**Assistant Director (through Indian Engineering Services)** July 1993- Feb. 1999

- Worked at the largest radio station set-up of All India Radio
- Undertook the technical management of satellite earth station and 30 transmission studios.
- Involved in the installations of new technical equipment at the station
- Supervised nearly 30 full-time staff members
- Interacted and coordinated work with different departments including headquarters, planning department, and research & development department of All India Radio
- Responsible for several administrative works

### **Higher Education Professional Experience**

**Bowie State University** Bowie, Maryland, USA  
**Director of Assessment, Office of the Provost** October 2010 – April 2011

- Responsible for coordinating the University's academic assessment processes
- Worked in close coordination with Deans, Department chairs, and faculty members on student learning outcome assessment and program assessment for more than 40 graduate and undergraduate academic programs of the university
- Was involved in the University's April 2011 accreditation reaffirmation with the Middle States Commission on Higher Education (MSCHE), worked on MSCHE accreditation requirements of standard 14 and standard 12
- Prepared three University-level reports on student learning outcomes assessment

**University System of Maryland (USM)** Adelphi, Maryland, USA  
**Research (Graduate) Assistant, Office of Academic Affairs** June 2009- September 2010

- Project manager on a research project to assess the progress and success of Maryland community college students who transfer to four-year USM institutions
- Designed and implemented the project exploring relevant questions grounded in the research literature and pertinent to improving the access & success of transfer students within the state of Maryland

### **Awards and Honors**

1. 2019 **Education Innovation Award** in IEEE ICASSP 2019, Brighton, UK for the paper titled "Rethinking Teaching Practices for Signal Processing Education"
2. Voted for "Outstanding Educator Award" by the graduating UG and PG batch of 2019 at IIIT-Delhi.
3. Received "Teaching Excellence Award" for the academic year 2017-18.
4. Voted for "Outstanding Educator Award" by the graduating UG and PG batch of 2017 at IIIT-Delhi.
5. Poster with PhD student Neha received second position in ACM Student Research Competition (SRC) in Mobicom 2018 (Core A\* conference)
6. Received best paper runner-up award in NETHealth, COMSNET Conference, 2018.
7. Received Second Prize for Best Poster Award at Multiple Myeloma-State of the Art, PGIMER, Chandigarh, India, Sep. 2016.

8. Received Second Prize for Best Poster Award in CME Series on Hemato-Oncopathology, All India Institute of Medical Sciences (AIIMS), New Delhi, India, July 2016.
9. Best Poster award in COMSNET, Bangalore, India, January 2015
10. Received best paper award (in the session: Image, Acoustic, Speech and Signal Processing) for the paper presented in the International Conference SCI-2003, Florida, USA.
11. Received '**Merit Certificate**' under the National Scholarship Scheme for securing position amongst top 100 students in Delhi Senior Secondary school Examination (CBSE Board).

### **Funded Projects (as Principal Investigator)**

#### **Duration: 2014 onwards**

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1. (Completed)  
 Title: Design and Development of Leukoanalyzer, an automated computer assistant tool for minimal residual disease estimation in Acute Lymphoblastic Leukemia  
 Funding Agency: Deity, Amount: 46.77 lakh  
 Duration: 3 years, Oct. 2014- Dec. 2017  
 Investigators: Anubha Gupta (PI), IIIT-Delhi and Dr. Ritu Gupta (PI), AIIMS, New Delhi.
2. (Ongoing)  
 Title: Minimal Residual Disease Estimation in Multiple Myeloma using Image Processing: Design and Development of Myelomaimager - an Automated Computer Assisted Tool  
 Funding Agency: DST-SERB, Amount: 43 Lakh  
 Duration: 3 years, Oct. 2017- Oct. 2020  
 Investigators: Anubha Gupta (PI) and Ritu Gupta (PI, AIIMS, New Delhi)
3. (Ongoing)  
 Title: Identification of network pathways for drug targeting in Multiple Myeloma from NGS data using Deep Learning  
 Funding Agency: DST; 33.16 lakh  
 Investigators: Anubha Gupta (PI), K. Sriram (Co-PI), Ritu Gupta (PI, AIIMS), and Gurvinder Kaur (Co-PI, AIIMS)

### **Consultancy Project**

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To Company: TATA Advanced Systems, Technology Centre, Noida  
 Title: Workshop on Radar Systems and Signal Processing  
 Co-PI: Dr. Shobha Sunder Ram  
 Amount: Rs. 1.00 lakh  
 Duration: Two days, Jan 2017

### **Patents: filed (04)**

#### **Duration: 2014 onwards**

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1. **available online**  
**US File** reference No. P.1369.US; Application No. 15544004, Date of Filing: July 16, 2017  
 Title: A novel system and method for person Identification and personality assessment based on EEG signal  
 Inventors: Puneet Agarwal, Siddharth Panwar, ShivDutt Joshi, Anubha Gupta
2. **US File** reference No. P.1368.US; Application No. 15544005, Date of Filing: July 16, 2017  
 Title: A novel system and method to diagnose and predict different systemic disorders and mental states  
 Inventors: Puneet Agarwal, Siddharth Panwar, ShivDutt Joshi, Anubha Gupta
3. Indian Patent Application No.: 201611031953  
 Date of publishing: September 30, 2016  
 Title: System and Method for Minimal Residual Disease (MRD) Detection in Acute Lymphoblastic Leukemia  
 Inventors: Anubha Gupta, Ritu Gupta, Naushad Ansari
4. Indian Application No.: 201811008597, Date of filing: March 8, 2018  
 Title: A System and Method for Energy Harvesting during Analog Signal Sampling  
 Inventors: Neha Jain, Vivek A. Bohara, Anubha Gupta

### **Publications** (Numbers only)

**Research Papers:** 93 (34 peer reviewed journal papers and 53 International Conference papers, 6 National Conference papers)  
 Posters (Engineering, at International and National Conferences): 09

**Invited Talks/Lectures: 21**

**Reports in Education (S**

tate level and University level (USA)): 04

**Patents Filed: 04** (two Indian and two US)

**Students (2014 onwards)**

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**A) PhD – Total 09**

**Completed**

1. **Naushad Ansari** (Supervised solo)- **Graduated**  
Joined IIIT-D in August 2013 (Direct B.Tech admission, joined with me in August 2014),  
Defended thesis in March 2018  
**Area:** Wavelet Transform Learning and Applications  
**Current Position:** Doing post-doctoral fellowship at NTU, Singapore
2. **Sanjeev Sharma (Graduated)**, was registered at IIT-Indore, Jointly supervised with Dr. Vimal Bhatia, Professor, IIT Indore),  
Joined PhD in May 2015  
Defended thesis in November 2018  
**Area:** Signal Processing for UWB communication  
**Current Position:** Doing post-doctoral fellowship at Monash University, Australia
3. **Priya Aggarwal** (Supervised solo)- Graduated April 2019  
Joined IIIT-D in August 2013 (M.Tech admission, converted to PhD in January 2015),  
Submitted thesis in December 2018  
**Area:** fMRI Signal Processing and Building Functional Brain Networks  
**Current Position:** Working as Senior Research Engineer at Vehant Technologies, Noida

**Due to submit thesis in 2019**

4. **Siddharth Panwar** (Registered at IIT-D, supervised jointly with Prof. ShivDutt Joshi, IIT-Delhi and Dr. Puneet Aggarwal, Max Super Speciality hospital, Saket, Delhi)  
Joined in July 2014  
**Area:** EEG signal Processing
5. **Neha Jain** (Jointly supervised with Dr. Vivek Bohara, IIIT-D)  
Joined PhD in July 2015  
**Area:** Energy harvesting in wireless communication via Compressive sensing

**Progressing**

6. **Shiv Gehlot (Supervised solo)**  
Joined PhD in Jan 2016  
**Area:** Signal Processing Methods and Applications
7. **Akanksha Farzawan** (Jointly supervised with Dr. K. Sriram, IIIT-Delhi)  
Joined PhD at IIIT-D in July 2016, joined with us in August 2017  
**Area:** Genomics Signal Processing
8. **Vivek Ruhella** (Jointly supervised with Dr. K. Sriram, IIIT-Delhi)  
Joined PhD at IIIT-D in July 2018  
**Area:** Genomics Signal Processing
9. **Ashutosh Vaish** (Jointly supervised with Dr. Ajit Rajwade, IIT Bombay)  
Joined PhD at IIIT-D in Jan 2018  
**Area:** Accelerated reconstruction and Tractography in Diffusion Tensor Imaging

**B) M.Tech/MS – Completed 02**

1. **Naushad Ansari, M.Tech, IIIT-D** (jointly supervised with Dr. Ananya Sen Gupta, Assistant Professor, University of Iowa, USA)
2. **Priya Agarwal, M.Tech, IIIT-D** (jointly supervised with Dr. Vivek Bohara, Assistant Professor, Deptt. Of ECE, IIIT-Delhi)

**C) B.Tech thesis- Completed 03**

1. **Ekansh Sareen**, IIIT Delhi, December 2018 in EEG signal processing
2. **Akshat Sinha and Ayush Agarwal**, IIIT Delhi, 2017, jointly supervised with Dr. Chetan

- Arora, IIIT-Delhi; in MRI segmentation
3. **Sonakshi Grover**, IIIT-Delhi, 2017, jointly supervised with Dr. Ritu Gupta, AIIMS, in Genomics Area

#### Students (Before 2014)

##### M.Tech/MS thesis completed: 10

1. **Sakshi Agarwal, MS, IIIT-H** (Supervised Solo)
2. **Harsh Wardhan, MS, IIIT-H** (jointly supervised with Dr. Shubhajit Roy Chowdhury, now faculty at IIT-Mandi)
3. **Sushma M., MS, IIIT-H** (jointly supervised with Dr. Jaynathi Sivaswamy, Professor at IIIT-Hyderabad)
- 4-10. Jointly supervised seven (07) M.Tech thesis at NSIT, Delhi between 1999-2008 with Dr. Sujata Sengar, faculty, NSIT, Delhi

Guided many B.Tech thesis at NSUT, Delhi.

#### Teaching at IIIT-D (2014 onwards)

Year	Course	Course Credits	Number of Students	Students Feedback (out of 5)
Win-19	Transform Learning and Applications	4	--	
Mon-18	Probability and Random Processes (Core, PG)	4	41	3.76
Mon-18	Compressive Sensing	4	4	4.17
Win-18	Research Methods (Compulsory for PhD and M.Tech)	2	130	3.98
Mon-17	Signals and Systems (Core)	4	75	3.5
Mon-17	Machine Learning (with Dr. Saket)	4	165	3.42
Win-17	Research Methods (Compulsory for PhD and M.Tech)	2	118	3.80
Mon-16	Signals and Systems	4	71	3.13
Mon-16	Machine Learning (with Dr. Saket)	4	98	2.92
Win-16	Scientific Communication	2	107	3.67
Mon-15	Digital Signal Processing (Core Elective)	4	12	3.69
Mon-15	Advanced Signal Processing	4	7	4.32
Win-15	Introduction to Computational Neuroscience	4	3	4.34
Mon-14	Wavelet Transform and Applications	2	9	3.75
Mon-14	Digital Signal Processing (Core Elective)	4	27	2.96
Win-14	Wavelet Transform and Applications	4	3	4.17

#### Teaching before 2014

1. At IIIT-Hyderabad 2011-2013: Probability Theory and Random Processes, Digital Signal Processing, Signals and Systems, Communication Theory, Advanced Signal Processing, Digital Image Processing
2. At NSIT, DU 1999-2008: Probability Theory and Random Processes, Digital Signal Processing, Signals and Systems, Adaptive Signal Processing, Digital Image Processing, Communication Networks, and many more UG and PG courses

#### Publications

##### 2019

##### Journals

1. S. Panwar, S.D.Joshi, A. Gupta, and P. Agrawal, "Automated Epilepsy Diagnosis using EEG with Test Set Evaluation," in *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, DOI:10.1109/TNSRE.2019.2914603 (2018 IF: 3.41)
2. N. Jain, V. A. Bohara and A. Gupta, "iDEG: Integrated Data and Energy Gathering Framework for Practical Wireless Sensor Networks Using Compressive Sensing," *IEEE Sensors Journal*, vol. 19, no. 3, pp. 1040-1051, 1 Feb.1, 2019. (2018 IF: 2.617)

3. S. Sharma, A. Gupta and V. Bhatia, "Compressed Sensing Based UWB Receiver Using Signal-Matched Sparse Measurement Matrix," *IEEE Transactions on Vehicular Technology*, vol. 68, no. 1, pp. 993-998, Jan. 2019 (2018 IF:4.432)
4. Naushad Ansari and Anubha Gupta, "WNC-ECGlet: Weighted non-convex minimization based reconstruction of compressively transmitted ECG using ECGlet", *Biomedical Signal Processing and Control*, Volume 49, pp. 1-13, 2019. (2018 IF: 2.783)

### Conferences

3. Anubha Gupta, Akanksha Farswan, "Rethinking Teaching Practices for Signal Processing Education," *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2019.
4. Akanksha Farswan, Anubha Gupta, "TV-DCT: Method to Impute Gene Expression data using DCT based Sparsity and Total Variation Denoising," *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2019.
5. Neha Jain, Anubha Gupta and Vivek Ashok Bohara, "TS-MC: Two stage matrix completion algorithm for wireless sensor network" *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2019.
6. Abhishek Aggarwal, Nikhil Sachdeva, Raj Kamal Yadav, Vishaal Udandara, Vrinda Mittal, Anubha Gupta, Abhinav Mathur, "EDUQA: Educational domain question answering system using conceptual network mapping," *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2019.
7. Shiv Gehlot, Akanksha Farswan, Anubha Gupta and Ritu Gupta, "CT-NNBI: Method To Impute Gene Expression Data Using DCT Based Sparsity and Nuclear Norm Constraint with Split Bregman Iteration", *IEEE International Symposium on Biomedical Imaging (ISBI)*, 2019.

2018

### Journals

8. Priya Aggarwal and **Anubha Gupta**, "Low Rank and Sparsity Constrained Method for Identifying Overlapping Functional Brain Networks," Accepted, *PLOSOne*, 2018. (2017 IF: 2.766)
9. **Anubha Gupta**, Pramit Mallick, Ojaswa Sharma, Ritu Gupta, and Rahul Duggal, "PCSeg: Color model driven probabilistic multiphase level set based tool for plasma cell segmentation," Accepted, *PLoSOne*, 2018 (2017 IF: 2.766).
10. Neha Jain, **Anubha Gupta**, and Vivek A. Bohara, "PCI-MDR: Missing data recovery in sensor networks using partial canonical identity matrix," Accepted *IEEE Wireless Communication Letters*, 2018.
11. Sanjeev Sharma, Vimal Bhatia, and **Anubha Gupta**, "Joint Symbol and ToA Estimation for Iterative Transmitted Reference Pulse Cluster UWB System", Accepted, *IEEE Systems Journal*, 2018. (2018 IF: 4.337).
12. **Anubha Gupta**, S.D. Joshi, and P. Singh, "On the approximate Discrete KLT of Fractional Brownian Motion and its applications", Accepted, *The Journal of Franklin Institute, Elsevier*, Sep. 2018. (2018 IF: 3.576).
13. Sanjeev Sharma, **Anubha Gupta**, and Vimal Bhatia, "IR-UWB Sensor Network Using Massive MIMO Decision Fusion: Design and Performance Analysis," *IEEE Sensors Journal*, vol.18, no. 15, pp. 6290-6302, August 2018. (2018 IF: 2.617)
14. Sanjeev Sharma, Vimal Bhatia, and **Anubha Gupta**, "Noncoherent IR-UWB Receiver Using Massive Antenna Arrays for Wireless Sensor Networks," *IEEE Sensors Letters*, vol. 2, pp. 1-4, March 2018.
15. **Anubha Gupta**, Pushpendra Singh, and Mandar Karlekar, "A novel Signal Modeling Approach for Classification of Seizure and Seizure-free EEG Signals", *IEEE Transactions on Neural Systems and Rehabilitation Engineering (IEEE TNSRE)*, vol. 26, no. 5, pp. 925-935, 2018. (2017 IF: 3.41).
16. Sanjeev Sharma, **Anubha Gupta**, and Vimal Bhatia, "Impulse Noise Mitigation in IR-UWB Communication using Signal Cluster Sparsity," *IEEE Communications Letters*, vol. 22, no. 3, pp. 558-561, 2018. (2017 IF: 1.988).

17. Naushad Ansari and **Anubha Gupta**, "M-RWTL: Learning Signal-Matched Rational Wavelet Transform in Lifting Framework," in *IEEE Access*, vol.6, pp. 12213-12227, 2018. (2017 IF: 3.244).

#### Conferences

18. S. Sharma, K. Deka, V. Bhatia and A. Gupta, "SCMA Codebook Based on Optimization of Mutual Information and Shaping Gain", Accepted, *IEEE Global Communications Conference (IEEE GLOBECOM)*, UAE, 2018.
19. Pulkit Kumar, Pravin Nagar, Chetan Arora and **Anubha Gupta**, "U-SEGNET: Fully Convolutional Neural Network Based Automated Brain Tissue Segmentation Tool", Accepted, *IEEE International Conference on Image Processing (ICIP)*, Greece, Oct 2018.
20. Sanjeev Sharma, Abhijeet Bishnu, **Anubha Gupta**, and Vimal Bhatia, "Improved Noncoherent Receiver for Joint Range and Symbol Estimation," *SPCOM*, Bangalore, July 2018.
21. Sanjeev Sharma, Vimal Bhatia and **Anubha Gupta**, "An Iterative Transmitted Reference UWB Receiver for Joint ToA and Data Symbols Estimation," *IEEE International Conference on Communications (ICC)*, USA, May 2018.
22. Naushad Ansari and **Anubha Gupta**, "Statistical Learning of Rational Wavelet Transform for Natural Images," *IEEE International Conference on Acoustic, Speech and Signal Processing (ICASSP)*, Canada, April 2018.
23. Dilnashin Anwar, Prince Garg, Vinayak Naik, **Anubha Gupta**, and Akshay Kumar, "Use of Portable EEG Sensors to Detect Meditation," *International Conference on COMMunication Systems & NETWORKS (COMSNETS)- NetHealth WS*, Bangaluru, India, January 2018 (received best paper runner-up award).

#### Poster

24. Neha Jain, Vivek. A. Bohara, Anubha Gupta "Sparse Signal Recovery and Energy Harvesting for Potential 5G Applications," Accepted, ACM MobiCom 2018 (Core A\*). **This poster has also won second position in ACM Student Research Competition (SRC).**

#### 2017

##### Journals

25. Priya Aggarwal and **Anubha Gupta**, "Double temporal sparsity based accelerated reconstruction of compressively sensed resting-state fMRI," *Computers in Biology and Medicine*, vol. 91, pp. 255-266, December 2017. (2017 IF: 1.836)
26. Priya Aggarwal, **Anubha Gupta**, and Ajay Garg, "Multivariate Brain Network Graph Identification in functional MRI," *Medical Image Analysis*, Vol. 42, pp. 228-240, December 2017. (2017 IF: 4.188)
27. Naushad Ansari and Anubha Gupta, "Image Reconstruction using Matched Wavelet Estimated from Data Sensed Compressively using Partial Canonical Identity Matrix", *IEEE Transactions on Image Processing (IEEE TIP)*, vol. 26, no 8, pp. 3680-3695, 2017. (2017 IF: 4.828).
28. Chandan Pradhan and Anubha Gupta, "Ship Detection using Neyman-Pearson Criterion in Marine Environment," *Ocean Engineering*, Elsevier, Vol. 143, pp. 106-112, Oct. 2017. (2017 IF: 1.894)  
DOI: <https://doi.org/10.1016/j.oceaneng.2017.03.008>.
29. Priya Aggarwal, P. Shrivastava, T. Kabra, and Anubha Gupta, "Optshrink LR+S: Accelerated fMRI Reconstruction using Non-Convex Optimal Singular Value Shrinkage", *Brain Informatics*, pp. 1-19, Jan 2017, DOI 10.1007/s40708-016-0059-x.
30. Sanjeev Sharma, Vimal Bhatia, and Anubha Gupta, "Sparsity-based narrowband interference mitigation in ultra wide-band communication for 5G and beyond", *Computers & Electrical Engineering*, Elsevier, pp. 1-13, ISSN 0045-7906, 2017, (2017 IF=1.57), <https://doi.org/10.1016/j.compeleceng.2016.12.02>.

##### Conferences

31. Ishita Srivastava, Pushpendra Singh, Amit Singhal, and Anubha Gupta, "Baseline wander and power-line interference removal from ECG signals using Fourier decomposition method" International Conference on Machine Intelligence and Signal Processing (MISP), IIT Indore, December 2017.
32. Rahul Duggal and Anubha Gupta, "P-TELU: Parametric Tan Hyperbolic Linear Unit Activation for Deep Neural Networks," *ICCV CEFR Workshop 2017*, Venice, Italy, October 2017.

33. Sanjeev Sharma, Anubha Gupta, and Vimal Bhatia, "Joint Estimation of ToA and Data Symbols in UWB Communication in Presence of Impulsive Interference," *IEEE GLOBECOM*, Singapore, December 2017.
34. Duggal R., **Gupta A.**, Gupta R., Mallick P., "SD-Layer: Stain Deconvolutional Layer for CNNs in Medical Microscopic Imaging," In: Descoteaux M., Maier-Hein L., Franz A., Jannin P., Collins D., Duchesne S. (eds) *Medical Image Computing and Computer-Assisted Intervention – MICCAI 2017*. MICCAI 2017. Lecture Notes in Computer Science, Part III, LNCS 10435, pp. 435–443. Springer, Cham, DOI: [https://doi.org/10.1007/978-3-319-66179-7\\_50](https://doi.org/10.1007/978-3-319-66179-7_50).
35. Sanjeev Sharma, Anubha Gupta, and Vimal Bhatia, "A Simple Modified Peak Detection Based UWB Receiver for WSN and IoT Applications," *VTC 2017*, Sydney, 4-7 June, 2017, Australia.
36. Naushad Ansari, Ananya Sen Gupta, and Anubha Gupta, "Underwater Acoustic Channel Estimation via CS with Prior Information," *OCEANS*, Aberdeen, Scotland, June 2017.
37. Sanjeev Sharma, Vimal Bhatia, and Anubha Gupta, "A Non-coherent UWB Receiver Using Signal Cluster Sparsity", *National Conference on Communications (NCC)*, Madras, India, March 2017.
38. Dilnashin Anwar, Vinayak Naik, and Anubha Gupta, "Detecting Meditation using a Dry Mono-Electrode EEG Sensor", *International Conference on Communication Systems & NETWORKS (COMSNETS)- NetHealth WS*, Bangalore, India, January 2017.

#### Poster

39. Ritu Gupta, Pramit Mallick, Rahul Duggal, Anubha Gupta, and Ojaswa Sharma, "Stain Color Normalization and Segmentation of Plasma Cells in Microscopic Images as a Prelude to Development of Computer Assisted Automated Disease Diagnostic Tool in Multiple Myeloma," *Accepted, 16th International Myeloma Workshop (IMW)*, New Delhi, India, March 2017. (Poster)

#### 2016

##### Journals

40. Naushad Ansari, **Anubha Gupta**, Ananya Sen Gupta, "Shallow water acoustic channel estimation using two-dimensional frequency characterization," *Journal of the Acoustical Society of America (JASA)*, 140(5), pp.3995-4009, 2016, (2017 IF=1.547)
41. Priya Aggarwal and **Anubha Gupta**, "Accelerated fMRI reconstruction using Matrix Completion with Sparse Recovery via Split Bregman", *Elsevier Neurocomputing*, 2016, (2017 IF: 3.317), DOI:10.1016/j.neucom.2016.08.016.
42. Sanjeev Sharma, **Anubha Gupta**, and Vimal Bhatia, "A New Sparse Signal-Matched Measurement Matrix for Compressive Sensing in UWB Communication," *IEEE Access*, vol. 4, pp. 5327-5342, 2016. (2017 IF: 3.244)  
DOI: 10.1109/ACCESS.2016.2601779.
43. Priya Aggarwal, **Anubha Gupta**, and Vivek A. Bohara, "Recursive Least Squares Channel Estimation for Rapidly Time-Varying Scenarios in IEEE 802.11p," pp.1-14, *Wireless Personal Communications*, Springer, 2016. DOI:10.1007/s11277-016-3263-3. (2017 IF: 0.951)

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44. Pinkal Patel, Priya Agarwal, and **Anubha Gupta**, "Classification of Schizophrenia versus normal subjects using deep learning," *ICVGIP*, 2016, Guwahati, India.
45. Rahul Duggal, **Anubha Gupta**, Ritu Gupta, Manya Wadhwa, and Chirag Ahuja, "Overlapping Cell Nuclei Segmentation in Microscopic Images Using Deep Belief Networks," *ICVGIP*, 2016, Guwahati, India.
46. Akshay Sethi, Akshat Sinha, Ayush Agarwal, Chetan Arora, and **Anubha Gupta**, "Deep Neural Networks for Segmentation of Basal Ganglia Sub-Structures in Brain MR Images", *ICVGIP*, 2016, Guwahati, India.
47. Sanjeev Sharma, Vimal Bhatia, and **Anubha Gupta**, "Sparsity Based UWB Receiver Design in Additive Impulse Noise Channels," *IEEE 17th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, July 3rd - July 6th, Edinburgh, UK, 2016.
48. Naushad Ansari and **Anubha Gupta**, "Joint Framework for Signal Reconstruction using Matched Wavelet Estimated from Compressively Sensed Data", *IEEE DCC 2016*, USA, March 2016.

49. **Anubha Gupta** and S.D.Joshi, "Connection between DCT and Discrete-time Fractional Brownian motion", DCC 2016, USA, March 2016.

#### Posters

50. Prमित Mallick, Ojaswa Sharma, Rahul Duggal, Anubha Gupta, and Ritu Gupta, "GPU based Segmentation of Plasma Cells in Multiple Myeloma Images," Poster, *GPU Technology Conference*, Bombay, India, December 2016.
51. Rahul Duggal, Anubha Gupta, and Ritu Gupta, "Segmentation of overlapping/touching white blood cell nuclei using artificial neural networks," Poster, *CME Series on Hemato-Oncopathology*, All India Institute of Medical Sciences (AIIMS), New Delhi, July 23-24, 2016, India.
52. Prमित Mallick, Rahul Duggal, Anubha Gupta, Ojaswa Sharma, and Ritu Gupta, "Modified multiphase level set for segmentation of plasma cells in multiple myeloma images," Poster, *CME Series on Hemato-Oncopathology*, All India Institute of Medical Sciences (AIIMS), New Delhi, July 23-24, 2016, India. **Received Second Prize for Best Poster Award**
53. Meetu Dahiya, Rahul Duggal, Anubha Gupta, and Ritu Gupta, "Stain Color Normalization of Microscopic Images of Multiple Myeloma," Poster, Multiple Myeloma-State of the Art 2016, PGIMER, Chandigarh, September 30-October 1, 2016, India.
54. Ritu Gupta, Prमित Mallick, Rahul Duggal, Anubha Gupta, and Ojaswa Sharma, "Novel Level Set Framework for Plasma Cell Segmentation from Microscopic Images of Multiple Myeloma," Poster, Multiple Myeloma-State of the Art 2016, PGIMER, Chandigarh, September 30-October 1, 2016, India. **Received Second Prize for Best Poster Award**
55. N. Jain, V.A. Bohara and **A. Gupta**, "Compressive Cooperative Communication with Decode and Forward Relay", 8th International conference on communication systems and networks" (Comsnet, 2016), Bangalore, India, Jan, 2016. (Awarded best poster award honorable mention)

#### 2015

##### Journals

56. Adriana Vamosiu, Marvin Titus, and **Anubha Gupta**, Conditional Convergence of Nonresident Tuition Rates at Public Research Universities: A Panel Data Analysis, *Higher Education*, Springer, issue no. 6, vol. 70, pp. 923-940, December 2015. (2017 IF: 1.571)

##### Conferences

57. Naushad Ansari, **Anubha Gupta**, Ananya Sen Gupta, "Physics Inspired CS based Underwater Acoustic Channel Estimation", IEEE GlobalSIP 2015, USA, Dec. 2015.
58. Priya Aggarwal, **Anubha Gupta** and Ajay Garg, "Joint Estimation of Activity Signal and HRF in fMRI using Fused LASSO", IEEE GlobalSIP 2015, USA, Dec. 2015.
59. Aggarwal P., Gupta A., Garg A., "Joint Estimation of Hemodynamic Response Function and Voxel Activation in Functional MRI Data," In: Navab N., Hornegger J., Wells W., Frangi A. (eds) *Medical Image Computing and Computer-Assisted Intervention -- MICCAI 2015*. MICCAI 2015. Lecture Notes in Computer Science, vol 9349. Springer, Cham, **DOI:** [https://doi.org/10.1007/978-3-319-24553-9\\_18](https://doi.org/10.1007/978-3-319-24553-9_18).
60. Priya Aggarwal, **Anubha Gupta**, and Vivek Ashok Bohara, "A Guard Interval Assisted OFDM Symbol-Based Channel Estimation for Rapid Time-Varying Scenarios in IEEE 802.11p," IEEE 26th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), 4-7 Sept. 2015, Hong Kong.
61. Naushad Ansari, **Anubha Gupta**, "Lifting-based Rational Wavelet Design from a Given Signal", IEEE International Conference on Digital Signal Processing, July 21-24, 2015, Singapore.
62. Naushad Ansari, **Anubha Gupta**, "Signal-Matched Wavelet Design via Lifting using Optimization Techniques", IEEE International Conference on Digital Signal Processing, July 21-24, 2015, Singapore.
63. Anupriya Gogna, Sri Harsha Gade, **Anubha Gupta**, "Design of Signal-Matched Critically Sampled FIR Rational Filterbank," *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2015*, April 19– 24, 2015, Australia.
64. Chandan Pradhan and **Anubha Gupta**, "Modeling of Ambient and Ship Noise in Underwater Ocean Environment of the Bay of Bengal, *IEEE International Conference on Signal*

Processing," *Informatics Communication and Energy Systems (IEEE SPICES 2015)*, Feb. 19-21, 2015, National Institute of Technology Calicut (NITC), India.

65. Ananya Sen Gupta, Naushad Ansari, and Anubha Gupta, Tracking the underwater acoustic channel using two-dimensional frequency sampling, *IEEE OES International Symposium on Underwater Technology 2015*, National Institute of Ocean Technology-India, Feb 23-25, 2015, Chennai, India.
66. Garima Ahuja, **Anubha Gupta**, Harsh Wardhan, and Venkatesh Choppella, Assessing the impact of Virtual Labs: a case study with the lab on Advanced VLSI 15th IEEE ICALT Conference, Hualien, Taiwan, July 2015.

## 2014

### Journals

67. **Anubha Gupta** and ShivDutt Joshi, Estimation of Multipath Fading Channel Using Fractal Based VSLMS Algorithm, *WSEAS Transactions on Signal Processing*, vol. 10, pp 231-242, April 2014.

### Conferences

68. Mandar Karlekar and **Anubha Gupta**, Stochastic modeling of EEG rhythms with fractional Gaussian Noise, *Proceedings of the 22<sup>nd</sup> European Signal Processing Conference, EUSIPCO-2014*, pp. 2520-2524, Sep. 1-5, 2014, Portugal.
69. **Anubha Gupta** and ShivDutt Joshi, On the Concept of Intrinsic Wavelet Functions, *IEEE International Conference on Signal Processing & Communications, SPCOM-2014*, 22-25 July, 2014, IISc Bangalore, India.

## 2013

### Journals

70. Sakshi Agarwal and **Anubha Gupta**, "Fractal and EMD based Removal of Baseline Wander and Powerline Interference from ECG Signals," *Computers in Biology and Medicine, Elsevier*, Volume 43, Issue 11, pp. 1889-1899, November 2013. (2017 IF: 1.836)

### Conferences

71. Harsh Wardhan, **Anubha Gupta**, and Shubhajit Roy Chowdhury, "Modified Hodgkin-Huxley Model using Fractional Differential Equation," *IEEE Asilomer Conference*, Nov. 2013, USA.
72. Sakshi Agarwal and **Anubha Gupta**, "Projection Operator Based Removal of Baseline Wander Noise from ECG Signals," *IEEE Asilomer Conference*, Nov. 2013, USA.
73. Sakshi Agarwal and **Anubha Gupta**, "Removal of baseline wander in ECG using the statistical properties of fractional Brownian motion," *IEEE International Conference CONECCT-2013*, Jan 2013, IISc Bangalore, India.
74. Sushma M, **Anubha Gupta**, Jayanthi Sivaswamy, "Semi-Automated Magnification of Small Motions in Videos", *International Conference on Pattern Recognition and Machine Intelligence (PReMI)*, Dec. 2013, Kolkata, India.
75. Sushma M, **Anubha Gupta**, Jayanthi Sivaswamy, Time-Frequency Analysis based Motion Detection in Perfusion Weighted MRI, *NCVPRIPG 2013*, IIT Jodhpur, Dec 2013, India.

## 2012

### Journals

76. Noah D. Drezner and **Anubha Gupta**, Helping bust the myth: Understanding endowment management at public historically Black colleges and universities, *Journal of Negro Education*, USA, vol. 81, no.2, pp. 107-120, April 2012.

### Conferences

77. **Anubha Gupta** and ShivDutt Joshi, Estimation of an Asymptotically Stationary AR Channel Using fBm Based LMS Algorithm, *IEEE International Conference on Signal Processing & Communications, SPCOM-2012*, 22-25 July, 2012, IISc Bangalore, India.

## 2011

### Journals

78. **Anubha Gupta** and ShivDutt Joshi, Two-Channel Nonseparable Wavelets Statistically Matched to 2-D Images, *Signal Processing Journal, Elsevier*, Vol. 91, No.4, pp. 673-689, 2011. (2017 IF: 3.11)

### Conferences

79. Marvin Titus, Adriana Vamosiu, and **Anubha Gupta**, Conditional Convergence of Nonresident Tuition Rates at Public Research Universities: A Panel Data Analysis, *AERA Conference*, New Orleans, USA, April 2011.

80. **Anubha Gupta** and Noah D. Drezner, Helping bust the myth: Understanding endowment management at public historically Black colleges and universities, *AERA Conference*, New Orleans, USA, April 2011.

## 2010

### Journals

81. **Anubha Gupta** and ShivDutt Joshi, Characterization of 2<sup>nd</sup> Order Isotropic Fractional Brownian Fields, *IEEE Transactions on Signal Processing*, Vol. 58, No.8, pp.4411-4415, 2010. (2017 IF: 4.3)

### Conferences

82. **Anubha Gupta**, An Investigative Analysis of Community College Transcripts: What can we learn about transfer students from their transcripts? *MDAIR Conference*, October 2010, Maryland, USA. (National US Conference)

## 2009

### Conferences

83. Neha Agrawal and Anubha Gupta, DCT Domain Message Embedding in Spread-Spectrum Steganography System, *Data Compression Conference*, 2009 Data Compression Conference, March 2009, Utah, USA.
84. Marvin Titus, Sean Simone, **Anubha Gupta**, and Paulina Pérez Mejías, Investigating State Appropriations and Net Tuition Revenue for Public Higher Education: A Vector Error Correction Modeling Approach, *ASHE conference*, Nov. 2009, Vancouver, Canada.

## 2008

### Journals

85. **Anubha Gupta** and ShivDutt Joshi, Some Studies on the Structure of the Covariance Matrix of Discrete-Time Fractional Brownian Motion, *IEEE Transactions on Signal Processing*, Vol. 56, No.10, pp.4635-4650, 2008. (2017 IF: 4.3)
86. **Anubha Gupta** and ShivDutt Joshi, Variable Step-Size LMS Algorithm for Fractal Signals, *IEEE Transactions on Signal Processing*, Vol. 56, No.4, pp.1411-1420, 2008. (2017 IF: 4.3)

### Conferences

87. Harsh Mittal and **Anubha Gupta**, "Bringing the Rural Youth in Mainstream Technology Development," in *Technology for Rural India: Challenges and Perspectives*, *ISTE DAY 2008 Conference*, NSIT, Delhi, India, June 2008. (National Indian Conference)

## 2006

### Conferences

88. Shikha Gupta, Mohit Sareen, Anubha Gupta, and Sujata Sengar, Blind Image Watermarking Algorithm Based on the Statistics of Wavelet Coefficients, *IEE International Conference VIE2006*, 26-28 Sept., 2006, Bangalore, India.
89. Anubha Gupta and ShivDutt Joshi, Characterization of Discrete-time Fractional Brownian Motion, *IEEE Indicon-2006*, 15-17 Sept., 2006, Delhi, India.
90. Anubha Gupta and S. D. Joshi, A new Least Mean Squares Algorithm for tracking a Discrete-time fBM Process, *IEEE Indicon-2006*, 15-17 Sept., 2006, Delhi, India.
91. Anubha Gupta and ShivDutt Joshi, Wavelets Matched to Isotropic  $1/f^{\beta}$  Images, *Proc. 12th National Conference on Communications (NCC-2006)*, IIT Delhi, pp. 214-218, Jan 2006.

## 2005

### Journals

92. **Anubha Gupta**, ShivDutt Joshi, and Surendra Prasad, A New Approach for Estimation of Statistically Matched Wavelet, *IEEE Transactions on Signal Processing*, Vol. 53, No.5, pp. 1778-1793, 2005. (2017 IF: 4.3)
93. **Anubha Gupta**, ShivDutt Joshi, and Surendra Prasad, A New Method of Estimating Wavelet with Desired Features from a Given Signal, *Signal Processing Journal, Elsevier*, Vol. 85/1, pp. 147-161, 2005. (2017 IF: 3.11)

## 2004

### Conferences

94. Anmol Sethy, Anubha Gupta, Sujata Sengar, and Ankit Maheswari, Wavelet Domain Image Watermarking Algorithm Based on Energy Ratio Equalization, *7<sup>th</sup> International Conference on Information Technology, CIT-2004*, Dec.20-23, 2004, Hyderabad, India.

95. Anmol Sethy, Anubha Gupta, Sujata Sengar, and Ankit Maheswari, Watermarking Algorithm based on statistical properties of wavelet coefficients, *7<sup>th</sup> International Conference on Information Technology, CIT-2004*, Dec.20-23, 2004, Hyderabad, India.
96. Gaurav Chawla, Anubha Gupta, and Sujata Sengar, A wavelet based detection and analysis of gamma rhythms in EEG signals, *IEEE International Conference on Signal Processing & Communications, SPCOM-2004*, 11-14 Dec., 2004, IISc. Bangalore, India.
97. Anubha Gupta, ShivDutt Joshi, Surendra Prasad, A new approach for estimation of wavelets with non-separable kernel from a given image, *IEEE International Conference on Signal Processing & Communications, SPCOM-2004*, 11-14 Dec., 2004, IISc. Bangalore, India.

## 2003

### Conferences

98. Anubha Gupta, ShivDutt Joshi, and Surendra Prasad, A new method of Estimating Compactly Supported Wavelet from a Given Signal, *proc. IASTED Conference SPPRA-2003*, pp. 119-124, 2003, Greece.
99. Anubha Gupta, ShivDutt Joshi, and Surendra Prasad, A new method of Estimating Infinitely Supported Wavelet from a Given Signal, *proc. IASTED Conference SPPRA-2003*, pp. 125-129, 2003, Greece.
100. **Anubha Gupta**, ShivDutt Joshi, and Surendra Prasad, A novel Method of Estimating Statistically Matched Wavelet: Part 1- Compactly Supported Wavelet, *Proceedings of SCI-2003*, vol. IV, pp. 433-438, 2003, Florida, USA.
101. **Anubha Gupta**, ShivDutt Joshi, and Surendra Prasad, A novel Method of Estimating Statistically Matched Wavelet: Part 2- Infinitely Supported Wavelet, *Proceedings of SCI-2003*, vol. X, pp. 349-353, 2003, Florida, USA.

## 2002

### Conferences

102. **Anubha Gupta**, ShivDutt Joshi and Surendra Prasad, On a new approach for estimating wavelet matched to signal, *Proc. Eighth National Conference on Communications, IIT Bombay*, pp. 180-184, Jan 2002.
103. Vimal Bhatia, Alok Nath De, **Anubha Gupta**, and Sujata Sengar, A Robust Phase-Reversed Tone Detection Using Bispectrum and DFT-based Algorithms, *Proc. Eighth National Conference on Communications, IIT Bombay*, Jan 2002.

## Reports in Education

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### Policy Report

1. **Anubha Gupta**, An Investigative Analysis of Community College Transcripts: What can we learn about transfer students from their transcripts? pp. 1-60, September 2010, University System of Maryland, Maryland, USA.

### Student Learning Outcomes Reports

2. Student Learning Outcomes Assessment: Institutional Plan and Assessment Report, pp. 1-232, March 2011, Bowie State University, Maryland, USA.
3. General Education Program: Institutional Assessment Plan and Report, pp. 1-78, March 2011, Bowie State University, Maryland, USA.
4. Comprehensive Academic Program Assessment: Triangulation of Assessment Data, pp. 1-100, April 2011, Bowie State University, Maryland, USA.

## Invited Talks

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### 2014-2018

1. Delivered three talks on two topics- “Wavelet Transform Learning and Applications” and “fMRI Signal Processing” on 10<sup>th</sup> and 11<sup>th</sup> December, 2018 in FDP at St. Vincent Pallotti College of Engineering and Technology, Nagpur.
2. Delivered two talks on “Wavelet Transform Learning and Applications” on September 18, 2018, in TEQIP Sponsored National Workshop ‘Signal Processing & Computational Intelligence-2018 (SPCI-2018) at Deenbandhu Chhotu Ram University of Science & Technology, Murthal, Sonapat (Haryana), India.
3. Delivered two talks on “fMRI Data Analysis” in Faculty Development Program on **Signal Processing and Its Applications** jointly organized by the Department of Electronics

Engineering, JSS Academy, Noida and Dr. APJ Abdul Kalam Technical University, Lucknow on April 26, 2018.

4. Delivered an invited talk on “Multivariate Graph Learning for building Static and Dynamic Brain Networks using resting state fMRI data” in the Advanced Imaging Seminar Talk Series at the Health Sciences Centre, University of Calgary, Canada, on April 19, 2018.
5. Delivered an invited talk on “Building Functional Brain Networks using fMRI Data Analysis” in TEQUIP III sponsored STTP on Advances in Image Processing and Computer Vision to be organized by Department of Electronics & Communication Engineering, Delhi Technological University on April 06, 2018.
6. Delivered a talk on “Medical microscopic image classification using Deep Learning” in the symposium on “*Applications of Pattern Recognition and Machine Learning in Medical Science*”, at the Jawaharlal Nehru University, New Delhi, on September 18, 2017.
7. Delivered a talk on “Recent trends in biomedical signal processing,” Workshop on Emerging Technologies in ECE, IIT-Delhi, May 22, 2017.
8. Delivered an invited talk on “Deep Learning in Genomics: An Overview,” for Deep Learning Delhi community organized by NVIDIA in Delhi on May 21, 2017.
9. Delivered an invited talk on “Multivariate vector regression analysis in building brain networks” at Michigan State University, USA, Dec. 06, 2016.
10. Delivered talk on “Computer Vision Inspired Assistive Technologies for Autistic kids,” Workshop on Computer Vision for Persons with Disabilities, at IIIT-Delhi, Oct 15, 2016.
11. Delivered invited talk on “Machine Learning in Functional MRI Signal Processing” in the *Faculty Development Program (FDP) at Delhi Technological University, on July 14, 2016*.
12. Delivered two guest lectures on functional MRI analysis- IIT Mandi, May 12 and 13, 2016.
13. Delivered invited talk on Brain Networks- University of Iowa, USA, Dec. 10, 2015.
14. Delivered invited talk on Brain Networks - Iowa State University, USA, Dec. 11, 2015.
15. Guest Lecture on fMRI signal processing, MNIT Jaipur, Sep. 12, 2015.
16. Guest Lecture on “Centers of Excellence in Teaching and Learning: Do we need these?” in Faculty Development Program, J.P. Institute Of Engineering, Noida, India, July 8, 2015.

#### **Before 2014**

17. Guest Lectures on “Introduction to Wavelets and its Applications,” “Signal Matched Wavelets”, and “Time-Frequency Analysis” under *AICTE Sponsored Faculty Development Program (FDP) on “Real Time Signal Processing”*, 2<sup>nd</sup> to 10<sup>th</sup> December, 2013, Chaitanya Bharathi Institute of Technology, Hyderabad, 2013.
18. Tutorial on “Introduction to Wavelets and its Applications,” *Two Days Short Term Training Program (STTP) on MIMO Communications and Networks*, SRM University, Kancheepuram, Tamilnadu, Jan 24, 2013.
19. Guest lecture on “Signal matched wavelets,” *Bio-Imaging and Signal Processing workshop*, IIT Delhi, Oct. 12, 2012.
20. Tutorial on “Wavelets and Image Processing,” *Recent Advances in Computing and Software Systems (RACSS 2012)*, SSN Institution, Chennai Campus, April 25, 2012.
21. Guest lecture on “Introduction to Wavelets,” NIT Jalandhar, Feb 16, 2008.