Resume

ANUBHA GUPTA, Ph.D.
anubha@iiitd.ac.in; agupta17@gmail.com
https://www.iiitd.edu.in/~anubha Lab: http://sbilab.iiitd.edu.in/index.html

Summary of Skills and Experience

- Working as Associate Professor at Indraprastha Institute of Information Technology-Delhi (IIIT-D), India since December 2013
- More than 14 years of experience as a faculty member in engineering institutions in India, 6+ years experience as Associate Professor
- Published 26 research papers in international refereed journals, 2 book chapters (MICCAI Core A conference), 49 research papers in international conferences (including ICASSP, DCC, ICCV workshop, Globecom, ICC, SPCOM), 6 research papers in national conferences, 7 posters, one state level policy report (US), and 3 (University level) reports on student learning outcomes assessment
- Supervised completion of one PhD thesis and continuing 6 PhD students; Completed 12 M.Tech/MS thesis
- Six years of managerial experience in industry (India) in the area of electronics and communication engineering, supervised 30 full-time staff members
- 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
- 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

Summary of achievements since Jan 2014 to date (4.5 years)

- Published 15 research papers in international refereed journals, 2 book chapters (MICCAI Core A conference), 24 research papers in international conferences (including ICASSP, DCC, ICCV workshop, Globecom, ICC, SPCOM), 7 posters in national conferences
- Filed 4 patents (two Indian and two US)
- Submitted 5 funded projects: one is completed (final meeting pending), one is under progress, one is approved recently, one more is under review, one was technically approved in 2017 but money was not released
- One PhD student graduated in March 2018
- Six PhD students progressing- 3 will submit thesis within 2018, one (joint) before June 2019 and two (one solo and one joint) are in early stages
- 11 M.Tech thesis completed
- Delivered 14 invited talks including 4 talks at US campuses (University of Calgary, Canada; ISU, UoI, and MSU, USA)
- Conducted one GIAN course in December 2017
- 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.
- Associate Editor, IEEE Access; Senior Member, IEEE SP Society
- Expert Member, Electronics and Communication Engineering, National Board of Accreditation, India
- Voted for “Outstanding Educator Award” by the graduating UG and PG batch of 2017 at IIIT-Delhi
- UG Program Coordinator, IIIT-Delhi since August 2016, UG ECE coordinator from July 2014-2016, discharged a number of other administrative duties and was part of many committees in these 4 years

Education

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 University, India
(Marks - 86.12%)

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

Research interests: Biomedical Signal and Image Processing, fMRI and EEG signal processing, Genomics Signal Processing, Machine/Deep Learning and its applications, Transform learning, Multiresolution/ Multiscale signal modeling and applications.

Engineering Professional Experience

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
- UG Program Chair from 2016 onwards, UG ECE coordinator (2014-2016)
- Member of many committees within the Institute from 2014-2017

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

Netaji Subhas Institute of Technology (NSIT) 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) 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, Delhi, India
Assistant Director (through Indian Engineering Services) July 1993- Feb. 1999

- Undertook the technical management of satellite earth station and transmission studios.
- Involved in the installations of new technical equipment
- Supervised nearly 30 full-time staff members
- Interacted with different departments including headquarters, planning department, and research & development department
- 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. Voted for "Outstanding Educator Award" by the graduating UG and PG batch of 2017 at IIIT-Delhi.
2. Received best paper runner-up award in NETHealth, COMSNET Conference, 2018.
3. Received Second Prize for Best Poster Award at Multiple Myeloma-State of the Art, PGIMER, Chandigarh, India, Sep. 2016.
4. 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.
5. Best Poster award in COMSNET, Bangalore, India, January 2015
6. 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.
7. 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

1. (Completed- pending final meeting due in March 2018)
   Title: Design and Development of Leukoanalyzer, an automated computer assistant tool for minimal residual disease estimation in Acute Lymbhoblastic 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. (Under Progress)
   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. (Approved for funding in April 2018)
   Title: Identification of network pathways for drug targeting in Multiple Myeloma from NGS data using Deep Learning
   Funding Agency: DST; 35 lakh
   Investigators: Anubha Gupta (PI), K. Sriram (Co-PI), Ritu Gupta (PI, AIIMS), and Gurvinder Kaur (Co-PI, AIIMS)
4. (Technically approved but not processed further)
   Title: Design and Development of an Automated Tool CEL-BIT for Localizing Epilepsy Focus from 3D Magnetic Resonance Imaging Scans in patients with Cryptogenic Focal Epilepsy (CFE),
   Sponsoring Agency: MEITY, Total budget: 112.35lakhs
   Joint Investigators: Chetan Arora (PI) and Anubha Gupta (PI), Ajay Garg (PI, AIIMS),
   Submitted: Dec 2016.
5. (Under Review)

Title: The impact of mindfulness training on cognitive inhibition – at behavioral and brain levels
Funding Agency: DST-CSRI, Amount: 62.15 Lakh
Duration: 3 years, Submitted July 2017
Investigators: Anubha Gupta (PI), Co-PIs: Vinayak Naik (IIIT-D), Akshay Kumar (IIIT-D), Snehlata Jaswal (L N Thapar School of Management)

Consultancy Project

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

1. 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
2. Indian Application No.: 2007/DEL/2014, Date of filing: January, 2016
   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 Application No.: 2007/DEL/2014, Date of filing: January, 2016
   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
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 (**Engineering**): 75 (24 peer reviewed journal papers, 2 book chapters, and 45 International Conference papers, 4 National Conference papers)
Posters (Engineering, at National Conferences): 07
Research Papers (**Education**): 08 (02 peer reviewed journal papers, 04 international conference papers, and 02 national conference papers)
Invited Talks/Lectures: 19
Reports in Education (State level and University level (USA)): 04
Patents Filed: 04 (two Indian and two international)

Students (2014 onwards)

A) PhD – Total 07
Completed

1. **Naushad Ansari** (Supervised solo)
   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
   Is currently doing post-doctoral fellowship at NTU, Singapore

Due to submit thesis in 2018

2. **Priya Aggarwal** (Supervised solo)
   Joined IIIT-D in August 2013 (M.Tech admission, converted to PhD in January 2015), due to submit thesis by June 2018

Area: fMRI Signal Processing and Building Functional Brain Networks
Recently did 4-months internship at GE, Bangalore (received a call from GE based on her publication profile)

3. **Siddharth Panwar** (Registered at IIT-D, supervised jointly with Prof. ShivDutt Joshi, IIT-Delhi and Dr. Puneet Aggarwal, Max Superspaciality hospital, Saket, Delhi)
   Joined in July 2014
   Area: EEG signal Processing
4. **Sanjeev Sharma** (Registered at IIT-Indore, Jointly supervised with Dr. Vimal Bhatia, Associate Professor, IIT Indore)
   Joined PhD in May 2015
   Area: UWB communication

Due to submit thesis in 2019

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: Wavelets in Convolutional Neural Networks 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

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 02

1. **Akshat Sinha and Ayush Agarwal**, IIIT Delhi, 2017, jointly supervised with Dr. Chetan Arora, IIIT-Delhi
2. **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 NSIT, DU, Delhi.

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

Other Activities during 2014 onwards

1. Conducted a GIAN course on "Robust PCA and its applications" with guest faculty Dr. Namrata Vaswani, Professor, Iowa State University, USA in December 2017.
2. 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.
3. Hosted a luncheon for signal processing professionals on Dec. 14, 2015 during the IEEE SPS Society's flagship conference GlobalSIP 2015 in Orlando, USA.
4. Was Vice Chair, IEEE SPS Society Delhi Chapter, year 2015-2016.
5. Working as Chair, UG programs at IIIT-Delhi since August 2016.
6. Reviewer for leading conferences ICASSP 2017, 2018, ICIP 2017, NCC 2017, MICCAI 2017, IEEE GlobalSIP 2016, ICVGIP 2016, MedImage 2016, TenSymp 2017 and many more in past years
7. MTech External Examiner, IIT Delhi; 2015-2018

Publications

2018

Journals

1. 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.
2. 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. DOI: 10.1109/TNSRE.2018.2818123, (2017 IF: 3.41).
3. 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. DOI: 10.1109/LCOMM.2017.2785848, (2017 IF: 1.988).
4. Naushad Ansari and Anubha Gupta, "N. Ansari and A. Gupta, "M-RWTL: Learning Signal-Matched Rational Wavelet Transform in Lifting Framework," in *IEEE Access*, no.99, pp. 1-14, 2018. DOI: 10.1109/ACCESS.2017.2788084. (2017 IF: 3.244).

Conferences

5. 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.
6. Sanjeev Sharma, Abhijeet Bishnu, Anubha Gupta, and Vimal Bhatia, "Improved Noncoherent Receiver for Joint Range and Symbol Estimation," Accepted, *SPCOM*, Bangalore, July 2018.
7. 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.
8. 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.
9. 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**).

2017

Book Chapter

10. Duggal R., Gupta A., Gupta R., Mallick P. (2017) 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.

Journals

11. 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)
    DOI:https://doi.org/10.1016/j.compbiomed.2017.10.020.
12. 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)
    DOI: https://doi.org/10.1016/j.media.2017.08.007.
13. 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. DOI: 10.1109/TIP.2017.2700719, (2017 IF: 4.828).
14. 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.
15. 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.
16. 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

17. 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.
18. 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.
19. 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.
20. 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.
21. Naushad Ansari, Ananya Sen Gupta, and Anubha Gupta, "Underwater Acoustic Channel Estimation via CS with Prior Information," *OCEANS*, Aberdeen, Scotland, June 2017.
22. 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.
23. 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

24. 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

25. 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)
26. 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.

27. 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.
28. 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)

Conferences

29. Pinkal Patel, Priya Agarwal, and **Anubha Gupta**, "Classification of Schizophrenia versus normal subjects using deep learning," ICVGIP, 2016, Guwahati, India.
30. 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.
31. 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.
32. 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.
33. Naushad Ansari and **Anubha Gupta**, "Joint Framework for Signal Reconstruction using Matched Wavelet Estimated from Compressively Sensed Data", IEEE DCC 2016, USA, March 2016.
34. **Anubha Gupta** and S.D.Joshi, "Connection between DCT and Discrete-time Fractional Brownian motion", DCC 2016, USA, March 2016.

Posters

35. Pramit 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.
36. 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.
37. Pramit 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***
38. 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.
39. Ritu Gupta, Pramit 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***
40. 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

Book Chapter

41. Aggarwal P., Gupta A., Garg A. (2015) 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

Journals

42. 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

43. Naushad Ansari, **Anubha Gupta**, Ananya Sen Gupta, "Physics Inspired CS based Underwater Acoustic Channel Estimation", IEEE GlobalSIP 2015, USA, Dec. 2015.
44. 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.
45. 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.
46. 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.
47. 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.
48. 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.
49. 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.
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51. 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.

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68. 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.
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71. **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)

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72. 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)

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73. 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.

74. Anubha Gupta and ShivDutt Joshi, Characterization of Discrete-time Fractional Brownian Motion, *IEEE Indicon-2006*, 15-17 Sept., 2006, Delhi, India.
75. 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.
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80. Anmol Sethy, Anubha Gupta, Sujata Sengar, and Ankit Maheswari, Watermarking Algorithm based on statistical properties of wavelet coefficients, *7th International Conference on Information Technology, CIT-2004*, Dec.20-23, 2004, Hyderabad, India.
81. 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.
82. 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.

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83. 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.
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86. **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.

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87. **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.
88. Vimal Bhatia, Aloknath De, **Anubha Gupta**, and Sujata Senger, 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

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

2014-2018

1. 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.
2. 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.
3. 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.
4. 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.
5. Delivered a talk on "Recent trends in biomedical signal processing," Workshop on Emerging Technologies in ECE, IIIT-Delhi, May 22, 2017.
6. Delivered an invited talk on "Deep Learning in Genomics: An Overview," for Deep Learning Delhi community organized by NVDIA in Delhi on May 21, 2017.
7. Delivered an invited talk on "Multivariate vector regression analysis in building brain networks" at Michigan State University, USA, Dec. 06, 2016.
8. 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.
9. 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.*
10. Delivered two guest lectures on functional MRI analysis- IIT Mandi, May 12 and 13, 2016.
11. Delivered invited talk on Brain Networks- University of Iowa, USA, Dec. 10, 2015.
12. Delivered invited talk on Brain Networks - Iowa State University, USA, Dec. 11, 2015.
13. Guest Lecture on fMRI signal processing, MNIT Jaipur, Sep. 12, 2015.
14. 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

15. 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"*, 2nd to 10th December, 2013, Chaitanya Bharathi Institute of Technology, Hyderabad, 2013.
16. 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.
17. Guest lecture on "Signal matched wavelets," *Bio-Imaging and Signal Processing workshop*, IIT Delhi, Oct. 12, 2012.
18. Tutorial on "Wavelets and Image Processing," *Recent Advances in Computing and Software Systems (RACSS 2012)*, SSN Institution, Chennai Campus, April 25, 2012.
19. Guest lecture on "Introduction to Wavelets," NIT Jalandhar, Feb 16, 2008.