

# CURRICULUM VITAE

## Dr. SUBHABRATA ROY

<b>Temporary Faculty</b> <b>Department of Electronics and Telecommunication Engineering</b> <b>Indian Institute of Engineering Science and Technology Shibpur</b> <b>Howrah, West Bengal</b> <b>Kolkata-711103</b>	<b>Address:</b> Flat- 4B, Moitree Abasan, 105 Nabamahajati Road, Nalta, Dumdum. Kolkata-700028 <b>Mobile No:</b> 9903195093 <b>Telephone No:</b> 033 35674577 <b>E-mail:</b> subhabrata_ece@yahoo.com guest4.telecom@faculty.iiests.ac.in
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### *Education*

<b>Examination</b>	<b>Board/Council</b>	<b>Percentage</b>	<b>Year</b>
Secondary (10 <sup>th</sup> )	WBBSE, W.B	87.38	2008
Higher Secondary (12 <sup>th</sup> )	WBCHSE, W.B	83.80	2010

<b>Degree</b>	<b>Specialization</b>	<b>Institute/University</b>	<b>Year</b>	<b>Percentage</b>
B. Tech	Electronics & Communication Engineering	West Bengal University of Technology	2010 - 2014	8.39/76.40
M.Tech	Information & Communication Engineering	IEST, Shibpur	2015 - 2017	76.94
PhD	Signal Processing	Jadavpur University	2017 - 2021	88.50

### *PhD Details*

**Title:** On the Design of Variable Bandwidth Digital Filter with Narrow Transition Band for Application in Future Generation Communication System.

**Department:** Instrumentation & Electronics Engineering

**Affiliation:** Jadavpur University, Kolkata- 700106, India

**Date of Registration:** 7<sup>th</sup> May, 2018

**Date of Award:** 1<sup>st</sup> October, 2021

**Name of the Guide:** Dr. Abhijit Chandra, Associate Professor, Department of Instrumentation & Electronics Engineering, Jadavpur University, Kolkata- 700106

## Publications

### List of Conference Publications

- i) Avik Banerjee, Santi P. Maity and **Subhabrata Roy**, “On Residual Energy Maximization in Energy Harvesting Cognitive Radio Network”, in *Proceedings of IEEE Wireless Communication and Network Conference (WCNC 2017)*, San Francisco, CA, USA, March 19-22, 2017
- ii) **Subhabrata Roy** and Abhijit Chandra, “A New Design Strategy of Sharp Cut-off FIR Filter with Powers-of-two Coefficients”, in *Proceedings of International Conference on Wireless Communications Signal Processing and Networking (WiSPNET 2018)*, Chennai, India, March 22-24, 2018
- iii) **Subhabrata Roy** and Abhijit Chandra, “A New Method for Denoising ECG Signal using Sharp Cut-off FIR Filter”, in *Proceedings of IEEE International Symposium on Devices Circuits and Systems (ISDCS 2018)*, Kolkata, India, March 29-31, 2018
- iv) Arnab Ghosh, **Subhabrata Roy** and Abhijit Chandra, “Prefilter-Equalizer Based Structure: A New Design Strategy for Narrow-band FIR Filters”, in *Proceedings of 2018 IEEE Applied Signal Processing Conference (ASP CON)*, Kolkata, India, December 7-9, 2018
- v) **Subhabrata Roy** and Abhijit Chandra, “Interpolated Band-pass Method Based Narrow-band FIR Filter: A Prospective Candidate in Filtered-OFDM Technique for the 5G Cellular Network”, in *Proceedings of 2019 IEEE Region 10 Conference (TENCON)*, Kochi, India, October 17-20, 2019
- vi) **Subhabrata Roy** and Abhijit Chandra, “A Study on the Optimum Selection of Interpolation Factor for the Design of Narrow Transition-band FIR Filter using IBM”, in *Proceedings of 7<sup>th</sup> International Conference on Computers and Devices for Communication (CODEC 2019)*, Kolkata, India, December 19-20, 2019
- vii) Abhijit Chandra and **Subhabrata Roy**, “On the Detection of Alzheimer’s disease using Support Vector Machine Based Majority Voter Classifier”, in *Proceedings of 8<sup>th</sup> International Conference on Signal Processing and Integrated Networks (SPIN 2021)*, Noida, India, August 26-27, 2021
- viii) Abhijit Chandra and **Subhabrata Roy**, “Difference Between Alzheimer’s Disease and Mild Cognitive Impairment: Z-test based Study”, in *Proceedings of 2<sup>nd</sup> International Conference on Applied Electromagnetics, Signal Processing & Communication (AESPC-2021)*, Bhubaneswar, India, November 26-28, 2021
- ix) Abhijit Chandra and **Subhabrata Roy**, “On the Detection of Alzheimer’s Disease using Naïve Bayes Classifier”, in *2023 International Conference on Microwave, Optical and Communication Engineering (ICMOCE 2023)*, Bhubaneswar, India, May 26-28, 2023
- x) Anuvab Sen, Udayon Sen and **Subhabrata Roy**, “A Comparative Analysis on Metaheuristic Algorithms Based Vision Transformer Model for Early Detection of Alzheimer's Disease”, in *2023 IEEE 15th International Conference on Computational Intelligence and Communication Networks (CICN 2023)*, Bangkok, Thailand, December 22-23, 2023
- xi) Anuvab Sen, **Subhabrata Roy**, Ariv Debnath, Gourav Jha and Rahul Ghosh, “DE-ViT: State-of-the-art Vision Transformer Model for Early Detection of Alzheimer’s Disease”, in *2024 National Conference on Communications (NCC 2024)*, Chennai, India, February 28 – March 2, 2024

### *List of Journal Publications*

- i) Avik Banerjee, Santi P. Maity and **Subhabrata Roy**, “On Outage Secrecy Minimization in an Energy Harvesting Relay Assisted Cognitive Radio Network”, *IET Communication*, vol. 12, issue 8, pp. 2253-2265, August 2018
- ii) **Subhabrata Roy** and Abhijit Chandra, “Design of Narrow Transition Band Digital Filter: An Analytical Approach”, *Integration*, vol. 68, pp. 38-49, June 2019
- iii) **Subhabrata Roy** and Abhijit Chandra, “On the Order Minimization of Interpolated Bandpass Method Based Narrow Transition Band FIR Filter Design”, *IEEE Transactions on Circuits and Systems I: Regular Papers*, vol. 66, issue 11, pp. 4287-4295, July 2019
- iv) **Subhabrata Roy** and Abhijit Chandra, “Design of Narrow Transition Band Variable Bandwidth Digital Filter”, *IET Circuits, Devices & Systems*, vol. 14, issue 6, pp. 750-757, September 2020
- v) **Subhabrata Roy** and Abhijit Chandra, “A Triangular Common Subexpression Elimination Algorithm with Reduced Logic Operators in FIR Filter”, *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 67, issue 12, pp. 3527-3531, December 2020
- vi) **Subhabrata Roy** and Abhijit Chandra, “A Survey of FIR Filter Design Techniques: Low Complexity, Narrow Transition Band and Variable Bandwidth”, *Integration*, vol. 77, pp. 193-204, March 2021
- vii) Abhijit Chandra, Amit Kumar and **Subhabrata Roy**, “Design of FIR Filter ISOTA with the aid of Genetic Algorithm”, *Integration*, vol. 79, pp. 107-115, July 2021
- viii) **Subhabrata Roy** and Abhijit Chandra, “On the Design of Variable Filtered-OFDM based LDACS for Future Generation Air-to-Ground Communication System”, *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 69, issue 2, pp. 644-648, February 2022
- ix) **Subhabrata Roy** and Abhijit Chandra, “A Deep Learning Approach for the Design of Narrow Transition-band FIR Filter”, *Circuits, Systems & Signal Processing*, vol. 41, issue 10, pp. 5578-5613, October 2022
- x) **Subhabrata Roy** and Abhijit Chandra, “On the Detection of Alzheimer’s Disease using Fuzzy Logic based Majority Voter Classifier”, *Multimedia Tools and Applications*, vol. 81, issue 30, pp. 43145-43161, December 2022
- xi) Abhijit Chandra and **Subhabrata Roy**, "On the classification of Alzheimer’s disease, mild cognitive impairment and healthy control: maximum a posteriori probability based approach ", *CSI Transactions on ICT*, vol. 11, issue 2-3, pp. 111-118, September 2023

### *List of Book Chapter*

- i) **Subhabrata Roy** and Abhijit Chandra, “A Study on the Optimum Selection of Interpolation Factor for the Design of Narrow Transition-band FIR Filter using IBM”, *Springer Lecture Notes in Networks and Systems (LNNS)*, Edited by Nikhil Ranjan Das and Santu Sarkar, Vol. 147, Chapter 69, ISBN 978-981-15-8365-0, 487910\_1\_En, pp. 465-475, February 2021

## *Teaching*

### **Jadavpur University:**

#### ▪ **Undergraduate**

1. Computing Software Lab (Even Semester: 2020-2021)
2. Computing Software Lab (Even Semester: 2021-2022)

### **Indian Institute of Engineering Science and Technology, Shibpur:**

#### ▪ **Undergraduate**

1. Smart Antennas (Even Semester: 2022-2023)
2. Computer Organization and Architecture (Even Semester: 2022-2023, 2023-2024)
3. Analog and Digital Communications (Odd Semester: 2023-2024, 2024-2025)
4. Analog and Digital Communications Lab (Odd Semester: 2023-2024, 2024-2025)
5. Adaptive Signal Processing (Odd Semester: 2023-2024, 2024-2025)
6. Electronics Instrumentation and Control (Even Semester: 2023-2024)
7. Electronics Instrumentation and Control Lab (Even Semester: 2023-2024)

#### ▪ **Postgraduate**

1. Digital Voice and Picture Communication (Even Semester: 2022-2023, 2023-2024)
2. Advanced Digital Communication (Odd Semester: 2023-2024, 2024-2025)
3. Advanced Digital Communication Lab (Odd Semester: 2023-2024, 2024-2025)

## *Experience*

- i) Currently working as **Temporary Faculty** in the Department of **Electronics and Telecommunication Engineering** of **Indian Institute of Engineering Science and Technology, Shibpur** from January 2023 to present.
- ii) Work as a **Research Assistant** under Sir Visvesvaraya Young Faculty Research Fellowship Scheme in the Department of **Instrumentation and Electronics Engineering** of **Jadavpur University** from September 2020 to September 2022
- iii) Work as a **Teaching Assistant** in the Department of **Instrumentation and Electronics Engineering** of **Jadavpur University** from January 2021 to May 2021
- iv) Work as a **Teaching Assistant** in the Department of **Instrumentation and Electronics Engineering** of **Jadavpur University** from January,2020 to May 2020
- v) Work as a **Junior Research Fellow** under DST SERB Funded Research Project in the Department of **Instrumentation and Electronics Engineering** of **Jadavpur University** from August 2017 to June 2020

## *Award and Recognition*

- i) Recipient of **Best PhD Thesis Award** in **4<sup>th</sup> Edition of IEEE Graduate Congress Grate'7'-2022** jointly organized by **IEEE Communication Society (ComSoc) Kolkata, Bangalore, Kerala and Hyderabad Chapters** and hosted by **IEEE ComSoc Kolkata Chapter** in June 2022.

- ii) Recipient of **Merit cum Means Scholarship Scheme** from **Government of West Bengal** during studying Higher Secondary (H.S) for duration of two years and Bachelor of Technology (B.Tech) for duration of four years.

### *Personal Information*

Father's Name: Prabir Roy  
Mother's Name: Karunamayee Roy  
Date of Birth: 20/06/1993  
Marital Status: Married  
Hobbies: Playing Computer games, Watching Movies and Listening Music  
Communication Languages: Bengali, English and Hindi  
Subjects of Interest: Digital Signal Processing, Communication  
Software Skills: C, MATLAB, PSPICE, LABVIEW

### *Reviewer*

1. IEEE Transactions on Circuits and Systems I: Regular Papers
2. IEEE Transactions on Circuits and Systems II: Express Briefs
3. IET Signal Processing
4. IET Image Processing
5. Soft Computing
6. IEEE Access
7. Circuits, Systems, and Signal Processing
8. IEEE Transactions on Computational Imaging

### *Reference*

1. Name – Dr. Abhijit Chandra  
Designation – Associate Professor  
Address – Department of Instrumentation and Electronics Engineering, Jadavpur University Salt Lake Campus, Kolkata – 700106. West Bengal. India  
Email - abhijit.chandra@jadavpuruniversity.in  
Phone - +91 9433389951
2. Name – Dr. Indrajit Chakrabarti  
Designation – Professor  
Address – Department of Electronics and Electrical Communication Engineering, IIT Kharagpur, Kharagpur, West Bengal. India. Pin – 721302  
Email - indrajit@ece.iitkgp.ac.in  
Phone - +91 8327297639
3. Name – Dr. Sudipta Chattopadhyay  
Designation – Professor  
Address – Department of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata – 700032. West Bengal. India  
Email - sudipta.chattopadhyay@jadavpuruniversity.in  
Phone - +91 7980424322

4. Name – Dr. Susanta Kumar Parui

Designation – Professor

Address – Department of Electronics and Telecommunication Engineering, Indian Institute of Engineering Science and Technology Shibpur, Howrah – 711103. West Bengal. India

Email: susanta\_p@telecom.iiests.ac.in

Phone - +91 9433769850