

## Freda Venessa Carvalho



### Profile Summary:

**Designation:** Assistant Professor, Department of Electronics & Telecommunication Engineering

### IDs

- Google Scholar Link: Ggnf\_nUAAAAJ
- LinkedIn URL: <https://www.linkedin.com/in/freda-carvalho-00a8a717>
- VIDWAN ID:411893
- Orcid ID: 0009-0003-1897-7282
- ISTE LM 121843

### Educational Details:

Sr. No.	Degree	Board / Institution / University	Year
1	<b>M.E.</b>	<b>Mumbai University</b>	<b>2011</b>
2	<b>BTech</b>	<b>SNDT University</b>	<b>2003</b>

### Date of Joining DBIT:

**Working in Don Bosco Institute of Technology since 2003**

### Area of Specialization:

- Electromagnetics, Microwave & Antenna Engineering

### Teaching Experience in DBIT:

Sr. No.	Position Held	Dates (From-To)
1	<b>IEEE DBIT SB Counselor</b>	<b>July 2022 till date</b>
2	<b>EXTC Project Coordinator</b>	<b>Jan 2021 to June 2022</b>

### Total Teaching Experience:

Sr. No.	Institution	Dates (From-To)	Designation
1	DBIT, Mumbai	Nov 2003 till date	Assistant Professor

### Peer Reviewed Journal Papers:

F. Carvalho, J. George, H. M. A. Sheikh, and R. Selvin, "Advances in Screening, Detection and Enumeration of Escherichia coli Using Nanotechnology-Based Methods: A Review," J. Biomed. Nanotechnol., vol. 14, no. 5, pp. 829–846, May 2018, doi: 10.1166/JBN.2018.2549.

### Peer Reviewed Conference Papers:

- H. Badgujar, A. Khan, F. Carvalho, A. Kotrashetti, S. Ghosh, and S. Bhattacharyya, "Design of a Dual Band Monolayer Metasurface Based Bandpass Filter," in 2022 IEEE Region 10 Symposium (TENSYP), Jul. 2022, pp. 1–5. doi: 10.1109/TENSYP54529.2022.9864550.
- S. Chauhan, S. Stephen, F. Carvalho, A. Kotrashetti, S. Ghosh, and S. Bhattacharyya, "Design and Analysis of a Compact Metasurface Based Filter for Broadband Performance," in 2022 IEEE Region 10 Symposium (TENSYP), Jul. 2022, pp. 1–5. doi: 10.1109/TENSYP54529.2022.9864571.
- S. Mannaruparampil, A. Serrao, S. Singh, F. Carvalho, and A. Kotrashetti, "Design and Development of Mobile Handset Antenna for Optimum SAR for Mobile Communication System," 2021 IEEE Pune Sect. Int. Conf., pp. 1–6, Dec. 2021, doi: 10.1109/PUNECON52575.2021.9686538.
- Gladson Nadar, Shrikant Waingankar, Vinayak Lagad, Rajat Mudaliar, Freda Carvalho, "Beam Tilting Antenna using Varactor Diode", International Journal of Electrical, Electronics and Data Communication (IJEEDC)-IJEEDC, pg 33-37, Volume-7, Issue-11 ( Nov, 2019 )
- Freda Carvalho, Ashwini Kotrashetti, "The Effects on Student Competencies using Educational Technology based Tools for an Undergraduate Course of Engineering", 8th IEEE International Conference on Technology for Education, Dec 2016

- Jose J, George S, Bosco L, Bhandari J, Fernandes F, Kotrashetti A, “A review of RF Energy Harvesting Systems in India”, International Conference on Technologies for Sustainable Development, Feb 2015. DOI:10.1109/ICTSD.2015.7095838
- Daison D,Pratik L, Nigel M, Freda F, Ashwini K, “Design and Development of Printed Sierpinski Carpet, Sierpinski Gasket and Koch Snowflake Fractal Antennas for GSM and WLAN Applications” International Conference on Technologies for Sustainable Development, ICTSD 2015, Mumbai DOI: 10.1109/ICTSD.2015.7095880
- K.P.Ray, Shoba Krishnan, Freda Fernandes, “Effect of DGS loading on Patch Antennas” ATMS conference , Feb 2011, pp172-174
- K.P.Ray, Shoba Krishnan, Freda Fernandes, “Design and Integration of Slotted EBG and Cross EBG structure with Microstrip Patch Antennas” IET conference NGN Networks, Sept 2010 DOI: 10.1049/ic.2010.0212
- Freda Fernandes, D. Sundararajan, “Design, Development and Fabrication of a traveling wave antenna on a Conical Surface” IEEE Antenna & Wave Propagation Magazine, Aug 2010, Vol.52. Issue 4, pp106-109. DOI: 10.1109/MAP.2010.5638243

### STTPs/FDPs/Workshops Organized:

#### 2024-25:

- HAM Radio Workshop IEEE DBIT MTT-S sponsored by MTT-S organized for students of DBIT 22<sup>nd</sup>-23<sup>rd</sup> March 2025 for TE and SE EXTC students, speakers were TEAM MARI.
- Roboton IEEE DBIT RAS two days worksop organized for students of DBIT on 3<sup>rd</sup>-4<sup>th</sup> March 2025 during Colosseum 2025
- PCB Making Worksop for SE EXTC students organized for SE EXTC students on 28<sup>th</sup> Sept 2024, speakers were Mr. Suyog Vyawahare, Quectel Sr. Engineer & Prabhakar Ghawali
- Report Writing with LaTeX for SE students taken on 6<sup>th</sup> Sept 2024.

#### 2023-24

- AutoBotX IEEE DBIT RAS two days worksop organized for students of DBIT on 26<sup>th</sup> Feb -1<sup>st</sup> March 2024 during Colosseum 2024
- Faculty Mentor for “ANTARIKSH” STEM outreach sponsored by IEEE Bombay Section was organized for local schools of Kurla, September 2023.
- A talk on Mindful Engineering organized on 16<sup>th</sup> Aug 2023 speaker Dr.

Prasanna Nambiar, Former Principal DBIT.

### **2022-2023**

- Faculty Mentor for “TechWorld” STEM outreach sponsored by IEEE Bombay Section was organized for local schools of Kurla, September 2022.

### **2019-2020**

- Wireless System Design Workshop during 7<sup>th</sup>, 8<sup>th</sup>, 14<sup>th</sup> & 15<sup>th</sup> March 2020.

### **2018-2019**

- IEEE MTT-S sponsored Wireless System Design Workshop from 18<sup>th</sup> to 20<sup>th</sup> Jan 2019

### **2014-2015**

- 2 days Workshop on RF Filter Design IEEE-MTT-S funded in DBIT, September 2014

### **STTPs/FDPs/Workshops Attended:**

#### **2024-25:**

Six days ATAL FDP mmWave Technologies 13<sup>th</sup> January to 18<sup>th</sup> January 2025 at VESIT, Mumbai.

#### **2019-2020:**

NPTEL AICTE FDP on Microwave Theory and Techniques July 2019-2020.

#### **2018-2019:**

AICTE-ISTE approved Refresher Programme on “Open Source Technologies for Engineering Education” held during 2<sup>nd</sup> to 6<sup>th</sup> Jan 2018, organized by DBIT, Mumbai.

#### **2017-2018:**

IEEE and IETE approved one week STTP on “Open Source Technologies for Communication Engineering” during July 2-6, 2018 conducted by Dept of EXTC, DBIT, Mumbai.

One day Seminar organized by Don Bosco College on “Highlights of National Assessment and Accreditation Council (NAAC)” on 8<sup>th</sup> June 2018

## **2016-2017**

Continuing Education & Quality Improvement Programme , CEP-TEQIP-KITE Course on Simulation Tools in Electronics & Digital Systems conducted by IIT Bombay during January 04-08, 2016.

## **2011-2012**

- AICTE sponsored QIP short term course on TRIZ and Taguchi methods using Innovation and Optimization conducted by IIT Bombay during the period December 19-23, 2011

## **2009-2010**

- STTP on “Satellite Image Processing” held from December 14, 2009 to December 19, 2009 in VESIT, Chembur, Mumbai.

## **2007-2008**

- ISTE approved STTP -Workshop on RF/Microwave Design and Fabrication from June 30 to July 11, 2008 conducted in DBIT, Kurla, Mumbai.

## **Participation in SWAYAM MOOCs/NPTEL/Certification Courses Attended:**

### **2019-20:**

- NPTEL AICTE COURES ON MICROWAVE THEORY & TECHNIQUES

## **Trainings Undergone in Industry/ Joint Research Publications:**

### **2009-2010**

- Completed Project “Investigations on the Performance of Microstrip Patch Antennas Integrated with Electromagnetic Bandgap surfaces in “***Society of Applied Microwave Electronics Engineering and Research***” during the period from 15<sup>th</sup> June 2009 to 31<sup>st</sup> July 2010.

## **Prototypes / Products Developed:**

### **2023-2024**

Mentored a group of students for Reforestation of Robot which was presented in IEEE R10 Competition in 2023 and during 18<sup>th</sup> Aavishkar Inter Collegiate Competition.

### **2013-2014**

- Design and development of “Robotic Vehicle for Unmanned Areas” for Pana Enterprises from Jun to August, 2013.

## **Professional Body Memberships:**

- IEEE Membership (MTT-S, AP-S, WiE, SIGHT )

## **Invited Talks/Resource Person in STTPs / FDPs:**

### **2019-2020**

- Wireless System Design Workshop during 7<sup>th</sup>, 8<sup>th</sup>, 14<sup>th</sup> & 15<sup>th</sup> March 2020.

### **2014-15:**

- Speaker for Workshop on RF Filter Design IEEE-MTT-S funded in DBIT, September 2014

### **2013-14:**

- Use of LaTeX for Report writing in XiE, Mahim on Nov 19, 2013.

## **Interactions with Professional Institutions:**

- IIT BHU
- QDnet Technologies
- CTK Solutions
- Sixth Energy

## **Consultancy Projects Received from External Agencies:**

### **2018-19:**

- Antenna Testing for Sixth Energy Pvt. Ltd, Bengaluru, 2019.

- Antenna design consultancy and Testing for Sixth Energy Pvt. Ltd, Bengaluru, 2018.

#### **2016-17:**

- A Log Periodic Antenna for EMI /EMC applications for QDnet Technologies, Mumbai, 2017.
- Design & development of antenna for IoT Systems for Sixth Energy Pvt. Ltd, Bengaluru, 2016.

#### **2023-24**

- Provided consultancy for network speed testing to Quectel-Global IoT Solutions, Mumbai, 2024

#### **Funded Project:**

##### **2018-19:**

- Co-Grantee of IEEE HAC Events funded project of \$5174.25, “Inculcating Healthy and Sustainable Menstrual Hygiene Practices Among the Tribal Woman of Walvanda” in 2018. [Contributed in the project in proposal writing & execution.]

##### **2017-18:**

- Co Grantee of the IEEE Humanitarian Activities Committee (HAC) project grant of \$27,588.34 in 2017 for the project “Comprehensive Development of Tribal Community of Walvanda”. [Extensively contributed in the project right from conceptualization, proposal writing, management & administering, implementation and execution.]

#### **Sponsored Research Projects Received from External Agencies:**

##### **2014-15:**

- Co Investigator in project “An Integrated RF Energy Harvesting System” Minor research grant funded by Mumbai University for an amount of Rs.25,000/-.
- Antenna Range Extension of wirelessly controlled street lights for Acevin Solutions of Rs.10,000/-

**2013-2014**

- Design and development of “Robotic Vehicle for Unmanned Areas” for Pana Enterprises from June to August, 2013 an amount of Rs. 40,000/-

**Contact Details:**

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**Personal Webpage Link:**

<https://sites.google.com/view/freda-carvalho-profile-page/home>