Dr. BISWAJIT GHOSH

Assistant Professor
Department of Electronics and Communication Engineering
SRM Institute of Science and Technology, Ghaziabad, U.P. India.
Email ID: biswajig@srmist.edu.in

Educational Qualifications

Ph.D. (Engineering) from **Indian Institute of Technology, Dhanbad, India**
Research area of Ph.D. Work: Optical fiber communication
Date of Ph.D. Defense:30/03/2022; Date of Award:08/04/2022

M. Tech in Electronics and Communication Engineering
Specialization: Microwaves
The University of Burdwan, Burdwan, India, 1st Class; 2008.

B. Tech in Electronics and Communication Engineering
West Bengal University of Technology, Kolkata, 1st Class; 2006.

Higher Secondary (H.S.)
West Bengal Council of Higher Secondary Education, Kolkata, 1st Div., 2002.

Indian Certificate of Secondary Education Examination (I.C.S.E.)
Council for the Indian School Certificate Examination, 1st Div; 2000.

Experience Profile

Employer's Name & Address	Designation	Length of Service
SRM Institute of Science and Technology (SRM-IST), Ghaziabad, U.P.	Assistant Professor, ECE Dept.	Mar,2026 to present
Lovely Professional University (LPU), Phagwara, Punjab	Associate Professor, ECE Dept.	Aug.2025 – March,2026
Birbhum Institute of Engineering & Technology, Suri, Birbhum, West Bengal	Assistant Professor, ECE Dept.	July,2010 – Aug,2025
	Lecturer, ECE Dept.	Nov,2008–June,2010

Total Experience: Teaching– 17 years 6 months; Research – 6 years

Research Profile

(a) International-19 (Journals-16, Conf-3); (b) National-2 (Conf-2)

- ***SCI Journal publications-7***

Journal publications details:

1. **Biswajit Ghosh** and Sanjoy Mandal, "Resonant Filters based on Ring Resonator with Multiple π- Phase-Shifted Fiber Bragg Grating," ***IEEE Sensors Journal***, 21(19), pp. 21529 – 21536, Feb 9, 2021.DOI: 10.1109/JSEN.2021.3058253 (***Q1, SCI***, *Impact factor: 4.5*).

2. **Biswajit Ghosh** and Sanjoy Mandal, "Mathematical Modeling of π-Phase-Shifted Fiber Bragg Grating and its Application for Strain Measurement in Epoxy Resin Cantilever Beam," ***IEEE Sensors Journal***, 20 (17), pp. 9856-9863, Sept 1, 2020.DOI: 10.1109/JSEN.2020.2990076 (***Q1, SCI***, *Impact factor: 4.5*).

3. **Biswajit Ghosh** and Sanjoy Mandal, "A Generalized Approach for Modeling and Analysis of Fiber Bragg Grating based Cavity Structures," ***Optical and Quantum Electronics***, 52 (1), pp.1-14, Dec 17,2019, DOI: 10.1007/ s11082-019-2151-y (***Q1, SCI***, *Impact factor: 4.0*).

4. **Biswajit Ghosh** and Sanjoy Mandal, "Modeling and Performance analysis of Bragg grating in Z-domain," ***IEEE Photonics Technology Letters***, 30(5), pp.411-414, Mar 1, 2018, DOI: 10.1109/LPT.2017.2777918 (***Q2, SCI***, *Impact factor: 2.6)*.

5. **Biswajit Ghosh** and Sanjoy Mandal, "Transmission Characteristics of Double Fiber Ring with Fiber Bragg Grating," ***Journal of the Optical Society of America B: Optical Physics***, 37(3), pp. 840-846, Feb 27, 2020, DOI: 10.1364/JOSAB.383167 (***Q3***, ***SCI***, *Impact factor: 2.284*).

6. **Biswajit Ghosh** and Sanjoy Mandal, "Modeling and performance analysis of single fiber ring incorporated with fiber Bragg grating," ***Optical Engineering***, 59 (5), pp. 056104.1-056104.10, May 6, 2020, DOI: 10.1117/1.OE.59.5.056104 (***Q4, SCI***, *Impact factor: 1.35*).

7. **Biswajit Ghosh** and Sanjoy Mandal, "Fiber Bragg grating-based optical filters for high-resolution sensing: a comprehensive analysis," ***Results in Optics***, 12, July 2023, DOI: 10.1016/j.rio.2023.100441 (***Q2, SCI,*** *Impact factor:* ***3.00***).

8. Biswajit Ghosh, "Study of the Variation of Power Loss with Frequency along a Rectangular Waveguide for TE10 mode due to conductor attenuation", *International Journal of Electronics and Communication Engineering & Technology*, ISSN: 0976 – 6464, Vol. 4, Issue 1, pp. 276-281, January-February 2013.

9. Biswajit Ghosh, "Broadband Response of Planar Four Edge Gap Coupled Rectangular Patches of Unequal Length Variation", *International Journal of Electronics Communication and Computer Engineering*, ISSN: 2249–071X, Vol 4, Issue 2, pp.386-388, March 2013.

10. Biswajit Ghosh, "Microstrip Patch Antenna operating at Dual Resonant Frequency with Probe Feeding for Wireless Applications", *International Journal of Electronics and Communication Engineering*, ISSN: 2278-9901, Vol. 2, Issue 2, pp.99-104, May 2013.

11. Biswajit Ghosh, "Performance Characteristics of a Vee Antenna for Short Haul Communication", *International Journal of Current Engineering and Technology*, ISSN: 2277 -4106, Vol.3, Issue 3, pp.882-884, Aug 2013.

12. Biswajit Ghosh et.al, "Fiber Optics as a Chemical Sensor by monitoring the Rate of Wave Absorbance", *International Journal of Electrical & Electronics Engineering and Research*, ISSN: 2250-155X, Vol. 3, Issue 2, pp.81-86,June 2013.

13. Biswajit Ghosh et.al, "Spectral Characteristics of Uniform Fiber Bragg Grating with Different Grating Length and Refractive Index Variation", *International Journal of Innovative Research in Computer and Communication Engineering*, ISSN: 2320-9801, Vol.3, Issue 1, pp.456-462, Jan 2015.

14. Biswajit Ghosh et.al, "Analysis of Wavelength shift in FBGs on External Perturbation", *International Journal of Electronics and Communication Engineering*, ISSN: 2278-991X, Vol.4, Issue 4, pp.1-8, June-July 2015.

15. Biswajit Ghosh et.al "Analytical Approach of High-Power Optical Pulse Propagation in Nonlinear Dispersive Fibers", International Journal of Current Engineering and Technology, ISSN: 2277-4106, Vol.4, Issue.2, pp.616-619, April 2014.

16. Biswajit Ghosh et.al, "An Effective Approach of Prevention of Collision in Railway network", *International Journal of Advanced Research in Computer and Communication Engineering*, ISSN: 2278-1021, Vol. 3, Issue 6, pp.6835-6837, June 2014.

Conference Publications

1. **Biswajit Ghosh** and Sanjoy Mandal, "Z-Domain modeling of FBG Sensors", *5th IEEE Workshop on Recent Advances in Photonics (WRAP 2022)"*, 4-6 March 2022, IIT Bombay, India, 10.1109/WRAP54064.2022.9758378 (***Scopus Indexed***).

2. **Biswajit Ghosh**, "Planar Multiresonator Technique of Increasing Bandwidth for Wireless Networks Using Parasitic Rectangular Patches", *Second International Conference on Computing and Systems (ICCS2013)*, 21-22 September 2013, The University of Burdwan, ISBN:978-9-35-134273-1, pp.299-302(***Scopus Indexed***).

3. Biswajit Ghosh et.al, "A Review on the Various Aspects and Features of Optical Fiber as Transducer", *National Conference on Mechatronics, Robotics and Automation* (The Institution of Engineers-India), 23-25 January,2014, Bankura Unnayani Institute of Engineering, Bankura, West Bengal, ISBN:978-81-929085-0-2,pp.56-62.

4. Biswajit Ghosh et.al, "An Innovative Approach of FBG Sensing in Safety and Maintenance of Engineering Structure", *National Seminar on Development of Modern Technology: A Catalyst for Advancement of Science*, 22-23 February,2014, BIET Suri, West Bengal.

5. Biswajit Ghosh et.al, "Investigation of FOS Technologies in SMART systems", *7th International Conference on Intelligent Circuits and Systems (ICICS 2025),* 31st October – 1st November 2025, Lovely Professional University, Punjab, India.

***Patent**:* 01

UK Registered Design, "Computer Device for Coding and Algorithm Simulation," Design No. 6480821, 2025.

Research Experience/Projects

Ph.D. Research Work:

Title: Modeling and Performance Analysis of Bragg Grating based Optical Filters in Z-domain

Place: **Indian Institute of Technology (IIT-ISM), Dhanbad**

Master of Technology Thesis Work:

Title: Study and Design of Broadband Microstrip Antennas.

Place: **Indian Institute of Engineering Science and Technology, Shibpur (IIEST)**

Professional Development Activities – Participations (Short term course/FDP/Conference /Workshop)

- Attended Conference on "International Conference on Laser, Material Science and Communication (ICLMSC-2011)", organized by *The University of Burdwan, Burdwan* from 7-9 December, 2011 under CSIR-CGCRI.
- Attended two weeks QIP Short-term course on "Microwave Fundamentals & Its Applications in Radar and Avionics", organized by *IIT Kharagpur* from 21 May to 02 June, 2012.
- Attended workshop on "National Workshop on Recent Trends in Communication Systems", organized by *Dept. of ECE, Birbhum Institute of Engineering & Technology*, on 11-12 August 2012 under IEEE Comsoc, Kolkata.

- Attended one week Workshop on "Microwave and Antenna Techniques", organized by *Dept of ECE, National Institute of Technology, Durgapur* from 23-27 June,2014 under TEQIP.
- Attended "Faculty Development Programme for Effective Teaching (Pedagogy)" organized by *Centre for Educational Technology, IIT Kharagpur* from 17-19 November,2014 under TEQIP-II.
- Attended Short term course on "Recent Trends in Microwave and Photonic Technology (RTMPT)" organized by the *Department of Electronics Engineering, Indian Institute of Technology (IIT-Dhanbad), Jharkhand*, from 27-29 May 2016.
- Attended one week Workshop on "High-End Workshop on Photonics Sensor for Chemical and Gas Detection" organized by *the Department of Electronics Engineering, Indian Institute of Technology, Dhanbad, Jharkhand,* from 18-23 October 2021 under SERB-DST, Govt. of India.
- Attended one-week AICTE Faculty Development Program on "Silicon Photonics: The Future of Integrated Circuits", organized by Visvesvaraya National Institute of Technology (VNIT Nagpur), from December 20–24, 2021.
- Attended one-week AICTE Faculty Development Program on "Optoelectronics: Advanced Materials & Devices", organized by *Shri Shankaracharya Group of Institutions, Bhilai*, from 01 to 05 February 2022
- Attended one-week AICTE Faculty Development Program on "Photonics and its application", organized by *Sardar Vallabhbhai National Institute of Technology (SVNIT),* Surat, Gujarat from 14-18 February, 2022.
- Attended one-week Workshop on "International Workshop on Photonics and Optoelectronics Devices (IWPOD)- 2024" organized by *Indian Institute of Information Technology, Ranchi*, Jharkhand from 26-30 January,2024.
- Attended one week Faculty Development Program on "Internet of Things (IoT) with Artificial Intelligence (AI) and Machine Learning (ML)", organized by *Academy of Technology, Adisaptagram, Hooghly* from 26 Feb-2 March, 2024 under IEEE ComSoc, Kolkata Chapter.
- Attending one day seminar on "IEEE MTTS Microwave Distinguished Lecture on Quantum Computing: What is it, how does it work, and what are the opportunities for microwave engineers", organized by IEEE, USA on 29 May 2024.

Professional Service / Reviewer

Reviewer of SCI journals like*:*

IEEE Sensors Journal, IEEE Photonics Technology Letters, IEEE Access, IEEE Journal of Lightwave Technology, Scientific Reports (Nature), Optik: International Journal for Light and Electron Optics (Elsevier), Optical and Quantum Electronics (Springer), IET Optoelectronics (IET).

Membership of Professional Bodies:

Honors- IEEE Senior Member, Fellow of IETE

Life Member of ISTE, Life Member of ISRS, Life Member of SEMCE, Life Member of ISCA.

Area of interest: *Optical Communication, Microwaves.*