

ACADEMIC DEPARTMENT – RADIO PHYSICS AND ELECTRONICS

1. **Full name of the faculty member:** Santu Sarkar
2. **Designation:** Assistant professor
3. **Specialisation :** Digital Communication, Photonics, Microprocessor
4. **Passport size photograph :** .



5. **Contact information :** 28, Bidisha Sarani, Durgapur (Bally), Howrah-711205

6. **Academic qualifications:**

College/ university from which the degree was obtained	Abbreviation of the degree
Institute of Radio Physics & Electronics, Calcutta University	Ph.D
Institute of Radio Physics & Electronics, Calcutta University	M.Tech
Institute of Radio Physics & Electronics, Calcutta University	B.Tech
Calcutta University	B.Sc. Physics Honours

7. **Positions held/ holding:**

S.No.	Position Held	From	To	Employer
1	Assistant Professor Institute of Radio Physics & Electronics	01.03.2016	Till Date	University of Calcutta
2	Head of the Department, Electronics & Communication Eng. Department	01.06.2007	29.02.2016	Academy of Technology
2	Associate Professor Electronics & Communication Eng. Department	23.08.2011	29.02.2016	Academy of Technology
3	Assistant Professor Electronics & Comm. Engg. Dept.	01.08.2005	22.08.2011	Academy of Technology
4	Lecturer, Electronics & Communication Eng. Department	11.08.2004	31.07.2005	Academy of Technology
5	Lecturer, Electronics & Communication Eng. Department	18.09.2000	10.08.2004	Asansol Engineering College
6	Lecturer, Electronics & Communication Eng. Department	05.02.2000	04.08.2000	Ramakrishna Mission Shilpapitha, Polytechnic College
7	Lecturer, Electronics & Communication Eng. Department	05.02.2000	04.08.2000	Ramakrishna Mission Shilpapitha, Polytechnic College

8. **Research interests:**
Space Division Multiplexing, Wavelength Division Multiplexing

9. **Research guidance :**
Number of researchers pursuing Ph.D : 4

11. **Select list of publications:**

International Journal Publication

- 1 T. Nandi, A. De, S. Sarkar, S. Haldar, "A study of nZVI DTPA induced degradation of selective organic pollutants by the help of ac conductivity measurement," *Environmental Nanotechnology, Monitoring & Management, Elsevier*, Vol. 14, 2020.
- 2 P. P. Mukherjee, S. Sarkar and N. R. Das, " An approach for realistic estimation of BER due to signal-component crosstalk in a WDM receiver," *Optik - International Journal for Light and Electron Optics, Elsevier*, Vol. 146, pp. 1-7, October 2017.
- 3 S. Sarkar and N. R. Das, "On the Optimum Detection Threshold for Minimum Bit Error Rate due to Four-Wave Mixing in a WDM System," *IEEE/OSA Journal of Optical Communications and Networking*, Vol. 5, No. 4, pp. 370-377, (2013).
- 4 N. R. Das and S. Sarkar, "Probability of power depletion due to SRS cross-talk and optimum detection threshold in a WDM receiver," *IEEE Journal of Quantum Electronic*, Vol. 47, No. 4, pp. 424-430, (2010).
- 5 S. Sarkar and N. R. Das, "Study of component cross-talk and obtaining optimum detection threshold for minimum bit-error-rate in a WDM receiver," *IEEE/OSA Journal of Lightwave Technology*, Vol. 27, No. 19, pp. 4366-4373, (2009).
- 6 S. Sarkar and N. R. Das, "A comparative study of different crosstalks in a WDM system," *International Journal of Computer Information Technology Engineering*, Vol. 1, No. 1, pp. 17-22, (2007).

International Conference Publication

1. S. Basak, S. Sarkar, N. R. Das, "Modes and Coupling in Six-Core hole-walled Optical Fiber", 2020 IEEE Calcutta Conference (CALCON), pp 478-481, 2020.
2. S. Basak, S. Sarkar, N. R. Das, "A New Hole-walled Multi-core Fiber for Space Division Multiplexing for Improved Performance", ICCE 2020, 1st IEEE International Conference for Convergence in Engineering, 2020.
3. A. De, T. Nandi, S. Sarkar, S. Halder, "An overview of reactivity for various nano zero valent iron particles towards Fenton's oxidation," 7th International Conference on Computers and Devices for Communication (CODEC-2019), December 19-20, 2019, Institute of Radio Physics and Electronics, University of Calcutta.
4. S. Basak, S. Sarkar, N. R. Das, "Modes and Coupling in Seven-Core Optical Fiber," 7th International Conference on Computers and Devices for Communication (CODEC-2019), December 19-20, 2019, Institute of Radio Physics and Electronics, University of Calcutta.
5. P. P. Mukherjee, S. Sarkar and N. R. Das, "Realistic Estimation of Power Penalty through a Probabilistic Framework in a WDM Receiver with Component Crosstalk," ICCSS 2017, July 14-17, UK, London.
6. P. P. Mukherjee, S. Sarkar and N. R. Das, "Performance Degradation due to Component, SRS and FWM Crosstalk in a WDM receiver", *PHOTONICS 2016*, December 4-8, 2016, IIT Kanpur, India.
7. P. P. Mukherjee, S. Sarkar and N. R. Das, "A Probabilistic Framework to estimate minimum Bit Error Rate in a WDM Receiver with Component Crosstalk", *IEEE TENCON 2016*, November 22-25, 2016, Marina Bay Sands, Singapore.
8. P. P. Mukherjee, S. Sarkar and N. R. Das, "Analysis of Homodyne In-Band Crosstalk Interference from Multiple Interferers in a WDM Receiver", 6th International Conference on Computers and Devices for Communication (CODEC-2015), December 16-18, 2015, Institute of Radio Physics and Electronics, University of Calcutta.
9. P. P. Mukherjee, S. Sarkar and N. R. Das, "Analysis of In-Band Crosstalk-Crosstalk Beat Noise and Obtaining Bit Error Rate in a WDM Receiver", *First International Conference on Automation, Control, Energy and Systems, 2014*.
10. P. P. Mukherjee, S. Sarkar and N. R. Das, "A Comparative Study on Determination of Optimum Detection Threshold for Minimum BER in a WDM Receiver with Component Crosstalk",

International Conference on Microwave and Photonics, December 13-15, 2013, Indian School of Mines, Dhanbad.

11. S. Sarkar and N. R. Das, "Analysis of four wave mixing cross-talk and obtaining bit-error-rate in a WDM receiver," *PHOTONICS-2010: International Conference on Fiber Optics and Photonics*, December 11-15, 2010, IIT Guwahati, India.
12. S. Sarkar and N. R. Das, "Error probability density and bit-error-rate due to SRS cross-talk in a WDM receiver," *CODEC-09: International Conference on Computers and Devices for Communication*, December 14-16, 2009, Institute of Radio Physics and Electronics, University of Calcutta.
13. S. Sarkar and N. R. Das, "Analysis of component cross-talk and obtaining bit-error-rate in a WDM receiver," *PHOTONICS-2008: International Conference on Fiber Optics and Photonics*, December 13-17, 2008, IIT Delhi, India.

Book Chapter

- *P. P. Mukherjee, Santu Sarkar and Nikhil R. Das*, "Comparison of Power Penalty Due to Component, SRS, and FWM Crosstalk in a WDM Receiver", *Advances in Computer, Communication and Control*, Springer Singapore, 2019, [eBook ISBN: 978-981-13-3122-0; Hardcover ISBN: 978-981-13-3121-3; Series ISSN: 2367-3370; DOI: 10.1007/978-981-13-3122-0]
14. Faculty Development Program
 - a. One week Faculty Development Programme on "Teaching Pedagogies: Sharpen the tools" from 19-24th September 2016.
 - b. NPTEL Online Certification course on Fiber Optics
 12. **Membership of Learned Societies:**
 - a. Senior Member, IEEE Photonics Society and is in the executive committee of IEEE Photonics Society Calcutta Chapter.
 - b. Counselor, IEEE Student Branch (Academy of Technology) in Kolkata section, 2013-14
 14. **Invited lectures delivered:**
 - Space Division Multiplexing for future high capacity optical communication, *2nd February, 2019*, Supreme Knowledge Foundation Group of Institutions, Mankundu, Hooghly
 15. **Awards:**

- a. Recipient of the National Scholarship based on academic performance in the undergraduate course (B.SC. Physics Honours).

Santu Sarkar