

**Personal Information**

Date of Birth : 31<sup>st</sup> October, 1977  
Address : Vill & P.O. – Rasulpur,  
Dist-Burdwan, West Bengal  
Pin: 713151  
Telephone Number : 7407101616, 9433100075  
E-mail : [ray.rajdeep78@gmail.com](mailto:ray.rajdeep78@gmail.com)

**Academic Identity**

Vidwan-ID : 184789  
Orcid Id : 0000-0002-0738-6028  
Researcher Id : ABI-2099-2020  
Google Scholar Id : bhFnOosAAAAJ  
Scopus Id : 56519047400

**RESUME SUMMARY**

- ✓ **Alper-Doger Scientific Index rank holder**
- ✓ **Assistant Professor-III of ECE at Dr.B.C. Roy Engg. College, Durgapur**
- ✓ **17 + years Professional experience**
- ✓ **Multidisciplinary Research Experience, Specialization in Signal Processing**
- ✓ **B.Tech, M.Tech, Ph.D in ECE from NIT, Durgapur**
- ✓ **6 SCI Publications out of 17 Papers of national & international repute**
- ✓ **Worked as Head, Examination Department**
- ✓ **Leading roles in MODROB & AICTE-IDEA Lab Projects**
- ✓ **Leading roles in NBA, NAAC, NIRF accreditation and ranking process**
- ✓ **Program Coordinator of UG course for ECE**
- ✓ **Departmental coordinator for MOOCs courses and MAR activities**
- ✓ **Recipient of National Scholarships and other reputed awards**
- ✓ **Adept and experienced in academic, administrative & cultural activities**

## RESEARCH INTERESTS

- Digital Signal Processing
- Statistical Signal Processing
- Time series analysis, modeling
- Nonlinear and Complex dynamics
- Analysis of Dynamical Systems
- Chaos and Fractal Theories
- Weather Dynamics
- Meteorology
- Solar Activities

## Ph.D GUIDANCE

- Number of students: 2 (To be registered soon)
- Study of Solar Corona Index: A Signal Processing Approach

## M.TECH PROJECT SUPERVISION

- Multi-fractality and Singularity in Daily Mean Temperature and Dew-point in India.
- Dynamical complexity of Rainfall in India.

## ACADEMICS

- Ph.D in Electronics and Communication (1<sup>st</sup> Class, CGPA: 8.48) from NIT (Formerly Known as Regional Engineering College, Durgapur, WB Deemed University)–in January, 2020
- M.Tech in Electronics and Communication (1<sup>st</sup> Class, CGPA: 8.48) from NIT (Formerly Known as Regional Engineering College, Durgapur, WB Deemed University)–in 2008.
- B.E in Electronics and Communication (1<sup>st</sup> CLASS, 67.4%) from Regional Engineering College, Durgapur (Burdwan University) in 2002.
- Higher Secondary (Science-74.4%) from W.B.C.H.S.E in 1996.
- Secondary (83.33%) from W.B.B.S.E in 1994

**WORK EXPERIENCE****❖ Total experience of 17+ years in teaching**

1. **Assistant Professor-III** in Electronics and Communication Engineering  
Department in Dr. B.C Roy Engineering College, Durgapur, WB  
November 2019 to till date
2. **Assistant Professor-II** in Electronics and Communication Engineering  
Department in Dr. B.C Roy Engineering College, Durgapur, WB  
1<sup>st</sup> July 2014 to November 2019
3. **Assistant Professor-I** in Electronics and Communication Engineering  
Department in Dr. B.C Roy Engineering College, Durgapur, WB  
April 2010 to 30<sup>th</sup> June 2014
4. **Senior Lecturer** in Electronics and Communication Engineering  
Department in Dr. B.C Roy Engineering College, Durgapur, WB  
29<sup>th</sup> February 2008 to March 2010
5. **Lecturer** in Electronics and Communication Engineering  
Department in Dr. B.C Roy Engineering College, Durgapur, WB  
31<sup>st</sup> January 2005 till 28<sup>th</sup> February 2008
6. **Lecturer** in Electronics and Communication Engineering  
IMPS College of Engineering and Technology, Malda, WB  
20<sup>th</sup> January 2004 to 30<sup>th</sup> January 2005.

**TEACHING EXPOSURE****Courses Taught: B.Tech**

- Electronic Devices
- Solid state Devices
- Digital Signal Processing
- Wireless Communication
- Communication Engineering
- Digital Electronics
- VLSI Design and Microelectronics
- VLSI & ASIC Design
- Basic Electronics
- Analog Electronics

**Courses Taught: M.Tech**

- Satellite Communication
- Mobile Communication
- Audit Course: Research Methodology

**Courses Taught: Ph.D**

- Research Methodology

**Laboratories Attached With**

- Electronic Devices
- Project Lab
- DSP Laboratory.
- Analog and Digital Communication Laboratory.
- Digital Electronics Laboratory.
- Basic Electronics Laboratory.
- Wireless Communication Laboratory.

**Supervision of B. Tech Projects (a few of them)**

- Soil moisture control using arduino Uno
- Comparative study of different Interpolation Methods
- Robust interpolation algorithm using Radial Basis Function, ANN
- Energy optimization in synthetic AWGN signals
- Stochastic modeling of average rainfall in India
- Smart Water Tap using arduino
- GSM based Weather Reporting
- Detection of Chaos in natural signals
- DTMF based home automation
- Greenhouse Agricultural System using Microcontroller

**Supervision of M. Tech Projects**

- Multifractality & Singularity in weather parameters
- AI & ML based internet data analysis

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**PAPERS COMMUNICATED**

- “Phase-wise Stochastic, Scaling and Dynamical Analysis of Pan-India Covid-19 Outbreak”, Rajdeep Ray, Internation Journal of Environment and Health, Inderscience, SCOPUS, Web of Science.

- “COVID-19 in India: The Dynamics of the Demon”, Rajdeep Ray, BCREC Engineering & Science Transaction (BEST), A peer-reviewed Open-access International journal, ISSN: 2582-9068.

### PAPERS PUBLISHED

#### Journal International

1. “Complexity and periodicity of daily mean temperature and dew-point across India”, J. Earth Syst. Sci. (2019), 128:143, Springer, Indian Academy of Sciences, <https://doi.org/10.1007/s12040-019-1174-x>.
2. “Scaling analysis and model estimation of solar corona index”; Samujjwal Ray, Rajdeep Ray, Mofazzal Hossain Khondekar, Koushik Ghosh; Advances in Space Research 61 (2018) 2214–2226; Elsevier.
3. “Multifractality and singularity in average temperature and dew point across India”, Rajdeep Ray<sup>1</sup>, Siddhartha Dey, Mofazzal Hossain Khondekar and Koushik Ghosh, International Journal of Advanced Technology and Engineering Exploration, Vol 5(43), ISSN(Print):2394-5443,ISSN(Online):2394-7454, <http://dx.doi.org/10.19101/IJATEE.2018.542018>
4. “Nonlinearity and chaos in wireless network traffic”; Somenath Mukherjeea, Rajdeep Ray, Rajkumar Samanta, Mofazzal H. Khondekar, Goutam Sanyal; Chaos, Solitons and Fractals(Nonlinear Science, and Nonequilibrium and Complex Phenomena); 96 (2017) 23–29; Elsevier.
5. “Characterization of univariate long-term urban internet Traffic volume”. ICTACT Journal On Communication Technology, December 2017, Volume: 08, Issue: 04; 1618-1624.
6. “Scaling and nonlinear behavior of daily mean temperature time series across India, Chaos Solitons & Fractals, 84 (2016) 9–14, Elsevier.
7. “Chaos and periodicity in solar wind speed: cycle 23”, (2015).. *Astrophysics and Space Science*, 357(2), 1-10, Springer
8. "Memory Persistency and Nonlinearity in Daily Mean Dew Point across India". Has been accepted for publication in "Theoretical and Applied Climatology", 2015, 119 (3–4). Springer.

#### National

9. "Investigation of Dynamical Patterns and Complexity of Rainfall in India", Published in 'The Bulletin of Engineering & Science', ISSN: 09747176, 2014, VOL.6| NO.1, pp.31-34.

10. "Nonlinearity in Solar Wind Speed dynamics", Published in 'The Bulletin of Engineering & Science', ISSN: 09747176, 2014, VOL.6 | NO.1, pp.35-38.
11. "Natural Language Processing: Devanagari to English and vice-versa using C#", Acharjee A, Chakraborty S, Chatterjee A, Patel P, Ray R. Published in 'The Bulletin of Engineering & Science', ISSN: 09747176, 2009-2012, Special Issue, VOL.4, NO.1, pp.49-52.

## Conference International

12. "Self-organized criticality, Causality and Correlation of Probability of Recurrence between Daily Mean Temperature and Dew Point across India"; ICRCICN 2017: IEEE International Conference on Research in Computational Intelligence and Communication Networks.
13. Characterisation of Wireless Network Traffic: Fractality and Stationarity; ICRCICN 2017: IEEE International Conference on Research in Computational Intelligence and Communication Networks.
14. "Temperature Dependent Transport properties in GaN Single Quantum Wells", Rajdeep Ray, Amit Nath, P. K. Ghosh, published in the proceedings of the 4<sup>th</sup> international conference on Computers and Devices for Communication, CODEC'09, 14-16 Dec 2009, organized by Dept. of Radio Physics & Electronics, University of Calcutta, Kolkata, India, co-sponsored by IEEE, IEEE Photonics Society, Electron Device Society. This publication is linked with IEEE-Xplore.
15. "Two-Dimensional Magneto-Electronic Transport in CdSe Single Quantum Wells", P. K. GHOSH, ANUP DEY, AMIT NATH, RAJDEEP RAY, presented in International Conference on Materials for Advanced Technology, ICMAT'09, from 28 June to 3 July 2009 at the Suntec, Singapore International Convention and Exhibition Centre (SICEC).

## National

16. "Stationarity and Fractality in Monthly Rainfall Profile Across India". National Conference On Nonlinear Dynamics and its Applications (CNDA-16) February 07-09, 2017.
17. "A Comparative Analysis for Evaluation of Two Block-Ciphers of Bit-Level Implementation", published in the proceeding of National Symposium On Emerging Trends in IT.(ITCON'07),( Organized by Department of Computer Science & Engineering, CMR Institute of Technology, #132, AECS Layout, IT Park Road, Bangalore-37, India ), 16-17 August, 2007, Proceedings .Page No: 08-13.)

**CONFERENCES AND WORKSHOPS ORGANISED**

- **Organising Co-chair**, IEEE conference “National Conference on Emerging trends on Sustainable Technology and Engineering Applications” (NCETSTE-2020), 7<sup>th</sup> and 8<sup>th</sup> Feb 2020.
- **Technical Program Committee Chair**, IEEE International Interdisciplinary Conference on the topic "Mathematics, Engineering & Science (MESIICON-2022) to be held in the year 2022.

**FDPS, CONFERENCES AND WORKSHOPS ATTENDED (a few of them)**

- World’s Largest 1 Week Hands-On Faculty Development Program on “Artificial Intelligence using Python” organised by Department of Computer Science & Technology of Dr. B. C. Roy Polytechnic in association with Brainovision Solutions India Pvt.Ltd. & National Youth Council of India held from 14-09-2020 to 19-09-2020.
- Three Days Faculty Development Programme On “Modern Signal Processing Technology” organized by department of electronics and telecommunication engineering Dr. B. C. Roy Polytechnic. Date : 06.08. 2020 to 08.08.2020.
- 5 Day International FDP on “Emerging Trends in Sensors, Security and Smart Automation Systems(ETSSAS 2020)” Organised by Department of Electrical Engineering B.P. Poddar Institute of Management & Technology 8th -12th July 2020.
- One Week Faculty Development Program on “Modern Trends In Electrical Engineering” organized by the Department of Electrical Engineering, Dr. B.C. Roy Polytechnic, Durgapur held from 23rd June to 27th June, 2020.
- One Week Faculty Training Program” on “Moodle-An ICT Based Learning Management System (LMS) To Conquer The Academic Lock down” from April 21 to April 25, 2020.
- Webinar on Internet of Things: Architectures, Protocols, Applications and Security Concerns” Organised by Department of Computer Science and Technology Indian Institute of Engineering Science and Technology, Shibpur During 14th -18th December, 2020.
- Webinar “Trends of Modern Communication Engineering Systems” from 18/9/2020 to 20/9/2020 organized by Electronics and Communication Engineering Department, BCREC and IEEE student branch BCREC.
- IEEE sponsored 4<sup>th</sup> international conference on Computers and Devices for Communication, CODEC’09, 14-16 Dec 2009, Dept.of Radio Physics & Electronics, University of Calcutta, WB.

- International conference on “Emerging trends on Microelectronics and VLSI Technology”, 4-10 Jan’09, BESU, WB.
- National workshop on “EDA Tools for VLSI Design”, MCKV Institute, Howrah, WB.
- Workshop on “Synopsys EDA tools”, WBUT, Salt-Lake, WB.
- National conference on “Materials for Advanced Technology”, NIT, Durgapur, WB.

## AWARDS

- Rural talent search award in 1992
- National Scholarship in 1994 & 1996

## ADDITIONAL RESPONSIBILITIES

Association with different activities led to some responsibilities in the institution other than just rendering education to the students. To sum up with a few of them:

### **Academic and departmental responsibilities include:**

- Senior member of departmental academic committee (DAC)
- Course coordinator UG courses
- Departmental coordinator of MAR, MOOCKS courses
- Departmental coordinator of placement drives
- Member of routine –committee, both departmental and college
- To co-ordinate syllabus for PG courses
- To set up PG Laboratories
- To play an important role of being a Mentor to counsel group of students in different sphere

### **Examination related activities include:**

- Head, Examination Dept.(July’ 2019-Sept’,2021)
- Active member of Examination-Cell
- Assistant officer-in-charge, WBUT examinations
- Officer-in-charge, M. Tech. examinations
- Centre-in-charge, NEET, ANM-GNM, JENPAS, WB-JEE and IIT-JEE,GATE

### **Administrative responsibilities include:**

- Coordinator of NBA, NAAC, NIRF committees



- Coordinator of MODROBS & Idea Lab projects
- Treasurer of Entrepreneurial Society of the Institute
- Convener of Student welfare and Alumni committee
- Convener of Student council
- Convener of Hostel council
- Member of Cultural and Techno Cell
- Convener of college anti-ragging committee
- Teacher-in-charge of Music Club for students
- Superintendent of Boy's hostel

## REFERENCES

**1. Dr. Malay Banerjee, Professor**

Department of Mathematics and Statistics, IIT, Kanpur, India.

<https://www.iitk.ac.in/new/malay-banerjee>

**2. Dr. P. K. Ghosh, Professor**

ECE department, Techno International New Town, Kolkata, India.

Web URL : [drpkgghosh.wordpress.com](http://drpkgghosh.wordpress.com)

**3. Dr. Koushik Ghosh, Assistant Professor**

Department of Mathematics, Engineering Section of the University of Burdwan, Burdwan, India (University Institute of Technology)

Web URL : <https://sites.google.com/view/koushikghoshhome>

Date:

Signature