Name: Dr. Khondekar Mofazzal Hossain

Department: Electronics and Communication Engineering

Contact Nos.: 9434387588

Qualifications: PhD

Designation: Professor

VIDWAN ID: 185747

Experience (Teaching / Research / Industry, in years):

Teaching - 16.5 years

Research - 11.5 years

Industry - 4.5 years

Date of Joining at the Present Institution: 11th January 2005

Qualifications Summary (Reverse chronological order):

Degree	Institute	From – To	Subjects
Secondary	W.B.B.S.E	1992	Bengali, English, History, Geography., Physical Science, Life Science., Mathematics
Higher Secondary	W.B.C.H.S.E	1992-94	Bengali, English, Physics, Chemistry, Mathematics
B.Sc. (Physics Hons.)	JU, Kolkata	1994-97	Solid State Physics, Magnetism, Electricity, Mechanics, Properties of matter, Heat, Thermodynamics, Waves & Acoustics, Optics, Nuclear & Atomic Physics, Theory of relativity
B.Tech, IEE	JU, Kolkata	1997-2K	Analog & Digital Electronics, Signal Processing, Electronic Devices, Analog & Digital Communication, Microprocessor & Microcontroller, Electronic Measurement & Instru., Industrial Instru., Proc. Control., Control Theory, Sensors & Transducer, Optical Instru., Biomedical Instru. etc.
M.Tech, Mat Sc.& Tech	NIT, Durgapur	2006-08	Semiconductor Device Technology, Optoelectronic materials & devices, Nonlinear Optical Materials, Nano-Materials Science, Soft Computing, Microprocessor etc.
PhD, ECE .	NIT, Durgapur	2008-13	Thesis Title: "**Statistical Signal Processing Approach to Investigate Solar Internal Dynamics**"

Experience Summary (In chronological order):
Designation, Organization, Date From – Date To

Designation	Organization	From	To
Professor & Vice Principal	Dr.B.C.Roy Engineering College, Durgapur	11.01.2005	Present
Engineering Officer (Operation)	Bharat Petroleum Corp. Ltd	3.8.2000	18.12.2004

Specialization/Research Interest:

1. Digital Signal Processing
2. Statistical Signal Processing
3. Astrophysical Signal Processing
4. Geophysical Signal Processing
5. Time Series Analysis
6. Nonlinear Dynamics

Courses taught:

B.Tech: Specify the name of the subject/s (Theory first and then practical)

i. Basic Electronics
ii. Digital Electronics
iii. Digital Signal Processing
iv. Sensors and Transducers
v. Optical Instrumentation
vi. Industrial Instrumentation
vii. Process Control-I
viii. Process Control-II

Online Mode of Teaching: Whatsapp, Youtube, Google Form

The Faculty member needs to specify the online teaching/ assessment method adopted. (Link to any faculty created resources for Lecture notes / PPT/ Video Lecture etc. in Google Drive / Weblink etc)

Publications:

Journal:

International:

1. A. Chattopadhyay, **Mofazzal H. Khondekar**, A. K. Bhattacharya, " Fractality and singularity in CME linear speed signal: Cycle 23", 2018, **Chaos, Solitons and Fractals, Elsevier, UK**, Vol. 114, pp. 542-550, DOI: 10.1016/j.chaos.2018.08.008, ***Impact Factor: 5.944 (SCI)***

2. S.Ray, R.Ray, **Mofazzal H. Khondekar**, K. Ghosh, *"Scaling Analysis and Model estimation of Solar Corona Index"*, 2018, **Advances in Space Research, Elsevier**, UK, Vol. 61, No.8, pp.2214-2226, DOI: 10.1016/j.asr.2018.01.036, ***Impact Factor: 2.152 (SCI)***

3. A. Chattopadhyay, **Mofazzal H. Khondekar**, A. K. Bhattacharya, "*Stationarity and Periodicities of linear speed of Coronal Mass Ejection: A Statistical signal processing approach*", 2017, **Astrophysics And Space Science, Springer**, **Germany**, Vol. 362, No. 9, pp. 1-12, DOI: 10.1007/s10509-017-3157-1, ***Impact Factor: 1.830(SCI)***

4. T. Sarkar, **Mofazzal H. Khondekar**, S. Banerjee, "Dynamics *of Solar Wind Speed: Cycle 23*", 2017, **Advances in Space Research, Elsevier**, UK, Vol. 59, No.8, DOI: 10.1016/j.asr.2017.01.049, ***Impact Factor: 2.152 (SCI)***

5. S. Mukherjee, R. Ray, R. Samanata, **Mofazzal H. Khondekar**, G. Sanyal, *"Nonlinearity and Chaos in wireless network traffic"*, 2017, **Chaos, Solitons and Fractals, Elsevier, UK**, Vol. 96, pp. 23-29, DOI: 10.1016/j.chaos.2017.01.005, ***Impact Factor: 5.944 (SCI)***

6. R. Ray, **Mofazzal H. Khondekar**, K. Ghosh & A. K. Bhattacharjee, *"Scaling and Nonlinear behaviour of daily mean temperature time series across India"*, 2016, **Chaos, Solitons and Fractals, Elsevier, UK**, Vol. 84, pp. 9-14, DOI: 10.1016/j.chaos.2015.12.016 , ***Impact Factor: 5.944 (SCI)***

7. R. Ray, **Mofazzal H. Khondekar**, K. Ghosh & A. K. Bhattacharjee, *"Memory persistency and nonlinearity in daily mean dew point across India"*, 2015, **Theoretical and Applied Climatology, Springer, Germany**, Vol.119, No.3-4, DOI 10.1007/s00704-015-1401-6, ***Impact Factor: 3.179 (SCI)***

8. T. Sarkar, R. Ray, **Mofazzal H. Khondekar**, S. Banerjee, "*Periodicity and Chaos of Solar Wind Speed: Cycle 23*", 2015, **Astrophysics And Space Science, Springer**, **Germany**, Vol. 357, No.2, DOI: 10.1007/s10509-015-2357-9, ***Impact Factor: 1.830 (SCI)***

9. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, A. K. Bhattacharjee, "*Complexity in Solar Irradiance from Earth Radiation Budget Satellite (ERBS)*", 2015, **IEEE Systems Journal, IEEE, USA,** Vol. 9, No. 2, pp.487-494, DOI: 10.1109/JSYST.2013.2265182., ***Impact Factor: 3.931 (SCI)***

10. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, A. K. Bhattacharjee, "*An Investigation on the relationship between Solar Irradiance Signal from ERBS and ^{8}B Solar Neutrino Flux Signals from SNO*", 2012, **Astrophysics And Space Science, Springer**, **Germany**, Vol. 342, No.2, pp: 287-301. ***Impact Factor: 1.830 (SCI)***

11. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, A. K. Bhattacharjee, "*Nonlinearity And Chaos In ^{8}B Solar Neutrino Flux Signals From Sudbury Neutrino Observatory*", 2012, **Fractals, World Scientific Publication, Singapore**, Vol.20, Issue: 1, pp: 17-32., ***Impact Factor: 3.665 (SCI)***

12. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, A. K. Bhattacharjee, "*Multifractality And Singularity Of ^{8}B Solar Neutrino Flux Signals From Sudbury Neutrino Observatory*", 2011, **IET Signal Processing, UK**, Vol.5, Issue: 7, pp: 690 – 700., ***Impact Factor: 1.489 (SCI)***

13. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, A. K. Bhattacharjee, "*Power Spectrum Analysis In Search For Periodicities In Solar Irradiance Time Series Data From ERBS*",2011, **Journal Of Engineering Science And Technology Review, Greece**, Volume 4, Issue 1, pp: 96-100. ***CiteScore-1.2 (Scopus)***
14. A. Chattopadhyay, A. Chandra, **Mofazzal H. Khondekar**, *et al*, "Analysis of fractality and complexity of the planetary K-index",2021, **SN Applied Sciences, Springer**., Vol, **3, No.** 625 https://doi.org/10.1007/s42452-021-04622-4

15. C. Das, **Mofazzal H. Khondekar**, "*Statistical Investigation of ECG Signal of Sleep Apnea Patient*", 2011, **Global Journal of Researches in Engineering: Electrical and Electronics Engg., USA,** Vol.11, Issue 8, pp. 15-20

16. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, "*Investigating Multifractality of Solar Irradiance Data through Wavelet Based Multifractal Spectral Analysis*",2009, **Signal Processing: An International Journal (SPIJ), CSJ, Kuala Lumpur**, **Malaysia,**Vol.3, No.4, pp.84-94

National:

1. R. Ray, **Mofazzal H. Khondekar**, K. Ghosh & A. K. Bhattacharjee , "Complexity and Periodicity of Daily Mean Temperature and Dew Point across India", 2019, **Journal of Earth System Science,** Vol. 128, Issue 6, Article no. 143, ***Impact Factor: 1.371 (SCI)***

2. Rajdeep Ray , Siddhartha Dey , **Mofazzal H. Khondekar** and Koushik Ghosh, *"Multifractality and singularity in average temperature and dew point across India"*, 2018, **International Journal of Advanced Technology and Engineering Exploration**, Vol. 5, Issue 43, pp. 107-117, DOI: 10.19101/IJATEE.2018.542018

3. S. Debroy , R. Ray , **Mofazzal H. Khondekar** , B. Chakraborty, A. K. Bhattacharjee, "*Characterization Of Univariate Long-Term Urban Internet Traffic Volume*", 2017, **ICTACT Journal On Communication Technology**, Vol. 8, Issue 4, pp. 1618-1624, DOI: 10.21917/IJCT.2017.0238

4. S. Mukherjee, R. Ray, R. K. Samanta, **Mofazzal H. Khondekar**, G. Sanyal, *"Dynamic Admission Control Based on Effective Demand for Next Generation Wireless Networks"*, 2017, **International Journal of Electronic and Communication Engineering**, Vol. 11, No. 4, pp. 489 – 495

5. T. Sarkar, **Mofazzal H. Khondekar**, S. Banerjee, "*Signal Processing Approach to Study Multifractality and Singularity of Solar Wind Speed Time Series*", 2017, **International Journal of Electrical, Control and Information Engineering,** Vol.11, No.2, 2017, pp.97-102

6. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, T. Saha, "*Application Of Signal Processing To Investigate The Total Active ^{8}B Solar Neutrino Flux Signal From Sudbury Neutrino Observatory*" 2010, **International Journal of Electronics Engineering Research (IJEER), RIP, Delhi**,Vol.2,No.3, pp.303-324

7. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, "*Scaling Analysis by FVSM and DWT Denoising of The Measured Values of Solar Irradiance Data*",2009, **International Journal of Information and Computing Science(IJICS), Kolkata**, Vol.12, No.2, pp.1-4

8. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, "*Detection of Periods of FVSM Scaled & DWT Denoised Solar Irradiance Time Series Signal using FFT based Power Spectrum Analysis*", 2009, **Bulletin of Engineering & Science(ISSN-0974-7176), BCREC, Durgapur**, Vol.3,No.2, pp. 39-43

Conferences & Seminars paper:

1. Dipta Chaudhuri, Moloy Mukherjee, **Mofazzal H. Khondekar** and Koushik Ghosh, "Simple Exponential Smoothing and its Control Parameter: A Reassessment", **1st International Symposium on Image and Signal Processing (ISSIP 2017**), Kolkata, India, November, 21-22, 2018

2. Anirban Chattopadhyay, **Mofazzal H. Khondekar** and Anup Kr. Bhattacharjee, "*Multivariate Singular Spectral Analysis (MSSA) to explore geomagnetic storm and CME bond*", 1st IEEE Conference on Applied Signal Processing (ASPCON), Jadavpur University, Kolkata, December, 7-8, 2018

3. Tushnik Sarkar, **Mofazzal H. Khondekar**, Subrata Banerjee, "*Wavelet based fractal analysis of Solar Wind Speed Signal*", **1st International Symposium on Image and Signal Processing (ISSIP 2017**), Kolkata, India, November, 1-2, 2017

4. Somenath Mukherjee, Rajdeep Ray, **Mofazzal H. Khondekar**, Goutam Sanyal, "*Characterisation of Wireless Network Traffic: Fractality and Stationarity*", Conference Proceedings of **IEEE-2017 Third International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN)**, Kolkata, India, November, 3-5, 2017

5. Rajdeep Ray, Payel Majumder, **Mofazzal H. Khondekar**, Koushik Ghosh, Anup Bhattacharjee, "*Self-organized criticality, Causality and Correlation of Probability of Recurrence between Daily Mean Temperature and Dew Point across India*", Conference Proceedings of **IEEE-2017 Third International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN)**, Kolkata, India, November, 3-5, 2017

6. Anirban Chattopadyay, **Mofazzal H. Khondekar**, Anup Bhattacharjee, *"Complexity of CME Linear Speed time series"*, **IEEE-2016 International Conference on Signal Processing and Communication (ICSC),** Noida, December 26-28.

7. **Mofazzal H. Khondekar** , K.Ghosh, *"Scaling Analysis of National Stock Exchange Index"*, **IEEE National Conference on Computing and Communication Systems (CoCoSys-09)** , UIT, Burdwan University, 2009

8. **Mofazzal H. Khondekar**, K.Ghosh, *"Relationship between USA and Indian Stock Markets: A Time Series Analysis:*, **DST Third National Conference On Uncertainty: A Mathematical Approach (UAMA-2009)** M.U.C. Women's College, Burdwan University, 2009

Book Chapter

1. Tushnik Sarkar, **Mofazzal H. Khondekar**, Subrata Banerjee, "*Wavelet based fractal analysis of Solar Wind Speed Signal*", In: Bhattacharyya S., Mukherjee A., Bhaumik H., Das S., Yoshida K. (eds) **Recent Trends in Signal and Image Processing. Advances in Intelligent Systems and Computing**, 2019, ISBN 978-981-10-8863-6, Pp. 39-48, Springer, Singapore

2. **Mofazzal H. Khondekar**, D.N.Ghosh, K.Ghosh, A. K. Bhattacharjee, "Soft Computing Based Statistical Time Series Analysis, Characterization of Chaos Theory, and Theory of Fractals", In: Bhattacharyya, S. & Dutta, P. (eds.) ***Handbook of research on computational intelligence for engineering, science, and business. Vol.1,*** **Hershey, USA, Information Science Reference (an imprint of IGI Global)**, 2013, pp. 30-61

Supervision of Ph.D/M.Tech / B.Tech Projects:

For Ph.D

Sl. No	Name of Candidate	Title of work	Registration No./ Dept/ University	Status
1	Somenath Mukherjee (Asst. Prof, CSE,Techno India,Rajarhat)	Development of a Suitable Admission Control Algorithm in Multiclass Wireless traffic Environment	NITD/PhD/CSE/2014/00577 from CSE Dept., NIT Dgp	Awarded
2	Tushnik Sarkar (Asst. Prof., EE, BCREC)	Study of Solar Wind Speed and Terrestrial Wind Speed using Statistical Signal Processing	NITD/PhD/EE/2015/00671 from EE Dept., NIT Dgp	Awarded
3	Rajdeep Ray (Asst. Prof, ECE, BCREC)	Statistical Signal Processing Approach to investigate the Dynamics of Indian weather	NITD/PhD/ECE/2014/00535 from ECE Dept., NIT Dgp	Awarded
4	Subhasish Debroy (Asst. Prof., MCA, BCREC)	Network Traffic Data Analysis and Modeling using Statistical Signal Processing	NITD/PhD/IT/2015/00635 from IT Dept., NIT Dgp	Work in progress

5	Anirban Chattopadhyay (Asst. Prof., ECE, BCREC)	Statistical signal processing based reconnaissance to explore the kinematics of Coronal Mass Ejection & its impact on Earth	NITD/PhD/ECE/2017/00894 from ECE Dept., NIT Dgp	Work in progress

Organization of events (Dr. B. C. Roy Engineering College)

Pubication Chair of IEEE National Conference on Emerging Trends in Sustainable Technology and Engineering Application (NCETSTE2020), 7-8th February, 2020

Membership of professional bodies: IEEE, IETE, IEI, CSI, MGMI etc.

1. Member of IEEE (Membership no.:9259058)
2. Member of International Association of Engineers (IAENG), Hong Kong, (Membership no.: 109713)
3. Life Time Member of Indian Society for Technical Education (ISTE)