

DR. SUBHOJIT SARKER

B.E., M.E., Ph.D. (Engg.)

Assistant Registrar

NBU, JALPAIGURI CAMPUS

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SCHOLASTICS:

Ph.D. (Engineering)

School of Bio-science & Engineering,
Jadavpur University, Kolkata

M.E. (Modular) in ELECTRONICS & COMMUNICATION – First Class
National Institute of Technical Teachers' Training & Research, Chandigarh
Panjab University

B.E. (Bachelor of Engineering) in ELECTRONICS & TELECOM. – First Class
S.E.S. College of Engineering, North Maharashtra University

INDIAN SCHOOL CERTIFICATE EXAMINATIONS (ISC)- First Class
Don Bosco School, Siliguri.

INDIAN COUNCIL OF SECONDARY EDUCATION (ICSE) - First Class
Don Bosco School, Siliguri

EMPLOYMENT DETAILS:

- 26th December, 2018 - Till Date: University of North Bengal, Jalpaiguri campus
Assistant Registrar
- 1st Sept.,2015 - 26th Dec.,2018 : Siliguri Institute of Technology, Siliguri
Assistant Professor (G –III)
- 1st July, 2010 - 31st August, 2015: Siliguri Institute of Technology, Siliguri
Assistant Professor (G –II)
- 1st March,2009 - 30th June, 2010 : Siliguri Institute of Technology, Siliguri
Senior Lecturer
- 4th March, 2005 - 28th Feb., 2009: Siliguri Institute of Technology, Siliguri
Lecturer
- 24th Jan., 2005 - 3rd March, 2005: Future Institute of Engineering & Management, Kolkata
Lecturer
- 20th Feb., 2003 - 20th Jan., 2005: Siliguri Institute of Technology, Siliguri
Senior Laboratory Instructor

ADMINISTRATIVE EXPERIENCE:

- **Head of the Department**, Dept. of Electronics & Communication Engg., Siliguri Institute of Technology.
- **Assistant Registrar and Co-ordinator (Administrative & Finance)**, University of North Bengal, Jalpaiguri campus.

ACADEMIC PROJECTS UNDERTAKEN:

- a) Ph.D. - “On Application of Non-Linear Techniques in the Analysis of Heart Rate Variability”
Description: The research aims to describe the significance of non-linear parameters of heart rate variability in the context of population analysis. Research has been carried out to investigate the association of non-linear indices of HRV with age, gender, living habitat, lifestyle, behavioral and medical aspects. The thesis has agglomerated a wide range of activities starting from signal acquisition, computation of non-linear parameters of HRV, analyses using chaos theory, extraction of information for developing the physiological correlates in order to study and characterize the demographic effects of HRV.
- b) M.E. – “Speckle denoising using Non-Local Means Filter cascaded with Bacterial Foraging Optimization Technique in a Homomorphic framework”
Description: The thesis was intended to make use of spatial filter and optimization technique in a homomorphic framework to reduce speckle in ultrasound images while preserving finer details. The analysis of the statistical results was presented in simulations done using Matlab to demonstrate the advantages and limitations of using the proposed technique over standard speckle denoising filters.
- c) B.E. – “Industrial Automation System”
Description: The project was intended to automatically operate and control different activities in industry in order to reduce wastage of time and manpower. The project made use of an 8-bit microcontroller to provide automation in operations like water control system, security system, street lighting and mail detection.

WORKSHOPS / TRAINING ATTENDED:

- DSP Tools & Practice, June 06 – 11, 2005, G.S. Sanyal School Of Telecommunications, IIT, Kharagpur
- Advancement of Modern Communication & Integrated Circuit Technology, July 2 -16, 2007, ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Soft Computing Techniques, July 23 – August 4, 2007, CSE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Digital System Design Using VHDL, November 26 – 30, 2007, ECE Dept., National Institute of Technical Teachers’ Training & Research, Chandigarh
- Co-ordinator’s Workshop on Signals and Systems under NMEICT, September 30th – October 4th, 2013, Indian Institute of Technology, Kharagpur
- Basic Pedagogy Training: Objective and Outcome Based Education System – Transforming Engineering Education to Match Global Needs, December 7th – 9th, 2015 and March 11 -13, 2016 by EQUATE New Delhi, Siliguri Institute of Technology, Sukna, W.B.

- Workshop on ‘MATLAB – SIMULINK with Raspberry Pi’, April 4th – 6th, 2018, by ECE Dept., S.I.T & I & We, Kolkata at Siliguri Institute of Technology, Sukna, W.B.
- Staff Development Program on ‘Teaching Learning’, July 4th – 7th, 2018, by R & D Committee, Siliguri Institute of Technology, Sukna, W.B.

SEMINARS ATTENDED:

- New Generation Wireless Antennas, March 24th, 2008, IEEE & ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Recent Trends In Integrated Circuits & Communication Technology, August 29 – 30, 2008, ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Beyond the Definition of Classical Devices and Communication Technology, March 29th, 2010, IEEE & ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Foundations of Design Verification, July 12 – 14th, 2010, ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Past, present & Future Application of Radio Waves - Hertz to Terahertz, April 21st, 2012, ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Instrumentation-The Future, August 26th, 2012, AEIE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Image Processing & Network Security on Wireless Communication, September 10th, 2012, MCA Dept., Siliguri Institute of Technology, Sukna, W.B.
- Emerging Trends of Mobile Communication, 14th September, 2017, BSNL & ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Machine Learning, 8th March 2018, Prescriber 360 Solutions & ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- Application of Modern Control System in Electrical & Electronics Engineering, 6th – 7th August, 2018, ECE & EE Dept., Siliguri Institute of Technology, Sukna, W.B.

CONFERENCES ATTENDED:

- International Conference on Information and Communication Technology (ICICT 2010), December 16 – 17th, 2010, Thiagarajar School of Management, Madurai
- National Conference on Advances in Energy Conversion Technologies (AECT 2012), February 2nd – 4th, 2012, Manipal Institute of Technology, Manipal
- 2nd National Conference on Electronics, Communication and Signal Processing (NCECS 2012), September 19th, 2012, ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- 1st National Conference on Electronics, Communication, Sensing & Signal processing Technologies (ECSS 2012), November 2nd, 2012, ECE Dept., Surendra Institute of Engineering & Management, Siliguri, W.B.
- 2nd International Conference on Biomedical Engineering & Assistive Technologies (BEATs 2012), December 6th -7th, 2012, I & C Dept., NIT, Jalandhar, Punjab
- National Technical Paper Contest for Research Scholars, National Instruments, India, September 2nd, 2013, National Instruments, India
- 3rd National Conference on Electronics, Communication and Signal Processing (NCECS 2013), September 19th, 2013, ECE Dept., Siliguri Institute of Technology, Sukna, W.B.
- 1st National Conference on Mechatronics, Robotics and Automation (NCMRA – 2014), 23rd – 25th January, 2014, Bankura Unnayani Institute of Engineering, Bankura & the Institution of Engineers (India), West Bengal State Centre.

- 3rd International Conference on Biomedical Engineering & Assistive Technologies (BEATS-2014), February 14-15, 2014, University Institute of Engineering & Technology, Panjab University, Chandigarh.
- 5th International Conference on Electronics Engineering and Computer Science (IEM CONGRESS 2014), August 28-30, 2014, Institute of Engineering & Management, Kolkata.

PUBLICATIONS:

a) Journals

1. **Subhojit Sarker** and Swapna Devi, “Effect of Non-Local Means Filter in a Homomorphic Framework Cascaded with Bacterial Foraging Optimization to Eliminate Speckle”, CiiT International Journal of Digital Image Processing (ISSN 0974-9691), 24th February 2011, Volume 3, No. 2, pp.129-133, 2011.
2. **Subhojit Sarker**, Shalini Chowdhury, Samanwita Laha and Debika Dey. “Use of Non-local means filter to Denoise image corrupted by Salt and Pepper noise”, Signal & Image Processing: An International Journal (SIPIJ), (ISSN: 2229-3922), Vol.3, No.2, pp.223-235, April 2012.
3. **Subhojit Sarker**, Ankur Ganguly, D.N. Tibarewala, “Investigating the Correlation Between DFA and FD in the Non-Linear Analysis of Heart Rate Variability”, International Journal of computer Science and Technology (IJCST), IJCST Vol. 5 Issue 1, January - March, 2014, ISSN: 0976-8491 (ONLINE), ISSN: 2229-4333 (PRINT) (IF: GIF - 0.478; Science Central.com – 11.82; Index Copernicus – 5.09; Indexed by: Google Scholar, Index Copernicus, Cabell’s Directories), pp. 73-78, Jan - March 2014.
4. **Subhojit Sarker**, Ankur Ganguly, D.N. Tibarewala, “Influence of Age and Gender on Heart Rate Variability: An Analysis using Different Non-Linear Techniques” International Journal of Research Studies in Biosciences (IJRSB) ISSN 2349-0357 (Print) & ISSN 2349-0365 (Online). Vol.3, No.5, pp.99-106, May 2015.

b) Book Chapter

5. Ankur Ganguly, D.N. Tibarewala, S. Das Gupta and **Subhojit Sarker**, “Demographic Characterization of Heart Rate Variability (HRV)” Encyclopedia of Information Science and Technology, IGI Global (ISBN 978-1-4666-5888-2), 3rd Ed. Vol.1, Ch.39, pp. 402-413, 2014.

c) Conferences

6. **Subhojit Sarker** and Swapna Devi, “Homomorphic Wiener Filter Cascaded with Bacterial Foraging Optimization Technique to Denoise Speckle Infected Image”, Proceedings of National Conference on Advances in Video, Cyber Learning and Electronics (ADVANCE -2010), 18-19th February 2010, NITTTR, Chandigarh, pp.192-200, 2010.

7. **Subhojit Sarker** and Swapna Devi, “Speckle Denoising Using Non-Local Means Filter Cascaded with Bacterial Foraging Optimization Technique”, Proceedings of International Conference on Information and Communication Technology (ICICT – 2010), 16-17th December 2010, TSM, Madurai, pp. 285-288, 2010.
8. Debika Dey, Samanwita Laha, Shalini Chowdhury and **Subhojit Sarker**, “A Denoising Approach for Salt and Pepper Noise Corrupted Image at Higher Noise Density”, Proceedings of International Conference on Digital Image Processing and Pattern Recognition (DPPR – 2011), Springer (ISBN: 978-3-642-24054-6), 23-25th September 2011, Tirunelveli, Tamil Nadu, pp.173-184, 2011.
9. Amandeep Kaur, **Subhojit Sarker**, Ankur Ganguly, Sumana Chatterjee, and D. N. Tibarewala, “Consequence of audiovisual stimulus on Autonomic Nervous System in Females and Artificial Neural Network based pattern recognition approach to classify the groups explored through Heart Rate Variability”, Proceedings of Advances in Energy Conversion Technologies (AECT – 2012), 2-4th February 2012, MIT, Manipal, pp. 101-107, 2012.
10. K. Malakar, S.K. Ghosh, **S. Sarker** and S. Chattopadhyay, “Rectangular Microstrip Antenna on Cupped Ground Plane for Low Cross Polarized Radiation”, Proceedings of International Conference on Recent Trends in Computing, Mechatronics and Communication (RTCMC – 2012), 25-26th February 2012, OITM, Hisar, pp. 340-342, 2012.
11. **Subhojit Sarker**, Ankur Ganguly and D.N. Tibarewala, “On Non-Linear Analysis of Heart Rate Variability Among Healthy Male and Female Population Explored Through Power Law Slope”, Proceedings of 2nd National Conference on Electronics, Communication and Signal Processing, ECE Dept., SIT, pp.22-29, September 2012.
12. Rajorshi Sarkar, **Subhojit Sarker**, Ankur Ganguly and D.N. Tibarewala, “Wireless Unicast Transmission and Computer Aided Visualization of a Digitized Analog Signal Via a Zig-Bee Personal Area Network”, Proceedings of 2nd National Conference on Electronics, Communication and Signal Processing, ECE Dept., SIT, pp.104-110, September 2012.
13. **Subhojit Sarker**, Ankur Ganguly and D.N. Tibarewala, “On Establishment of Power Law Slope (PLS) as an Effective Tool in Non-Linear Analysis of Heart Rate Variability” Proceedings of 1st National Conference on Electronics, Communication, Sensing & Signal processing Technologies, ECE Dept., SIEM, Siliguri, November, 2012.
14. Rajorshi Sarkar, **Subhojit Sarker**, Ankur Ganguly and D.N. Tibarewala, “Transmission, Retrieval and Digital Processing of an Analog Signal from an Isolated Source by incorporating Zig-Bee Technology Framework” Proceedings of 1st National Conference on Electronics, Communication, Sensing & Signal processing Technologies, ECE Dept., SIEM, Siliguri, November, 2012.

15. **Subhojit Sarker**, Ankur Ganguly, and D.N. Tibarewala, “On Non-Linear Analysis of Heart Rate Variability among Healthy Male and Female Population” Proceedings of 2nd International Conference on Biomedical Engineering & Assistive Technologies, I & C Dept., NIT, Jalandhar, pp. 252-259, 6-7th December, 2012.
16. Ankur Ganguly, **Subhojit Sarker**, and D.N. Tibarewala, “ Artificial Neural Network based pattern recognition approach to study the consequence of audiovisual stimulus on Autonomic Nervous System in Females explored through Heart Rate Variability” Proceedings of 2nd International Conference on Biomedical Engineering & Assistive Technologies, I & C Dept., NIT, Jalandhar, pp. 617-622, 6-7th December, 2012.
17. Debajyoti Misra, **Subhojit Sarker**, Supriya Dhabal, Ankur Ganguly, “ Effect of using Genetic Algorithm to denoise MRI Images corrupted with Rician Noise” IEEE International Conference on Emerging Trends in Computing, Communication and Nanotechnology (ICE-CCN 2013), ECE Dept., Infant Jesus College of Engineering and Technology, Tirunelveli, Tamil Nadu, (IEEE Xplore ISBN: 978-1-4673-5036-5) pp. 146-151, 25-26th March, 2013.
18. **Subhojit Sarker**, Ankur Ganguly and D.N. Tibarewala, “Non-Linear Analysis of Heart Rate Variability (HRV) among the Resident Population of North Eastern Regions of West Bengal”, Proceedings of 3rd National Conference on Electronics, Communication and Signal Processing, ECE Dept., SIT, pp.59-64, 19th September 2013.
19. **Subhojit Sarker**, Ankur Ganguly and D.N. Tibarewala, “On Application of Higuchi’s Algorithm to determine Fractal Dimension amongst Male and Female Population of Two Different Terrains”, Proceedings of 1st National Conference on Mechatronics, Robotics and Automation (NCMRA – 2014), Bankura Unnayani Institute of Engineering, Bankura, pp.110-120, 23rd-25th January, 2014.
20. **Subhojit Sarker**, Ankur Ganguly and D.N. Tibarewala, “Chaos Analysis of Heart Rate Variability among Healthy Male and Female Population”, 3rd International Conference on Biomedical Engineering & Assistive Technologies (BEATS-2014), University Institute of Engineering & Technology, Panjab University, Chandigarh, pp.217-220, February 14-15, 2014.
21. Debojyoti Misra, **Subhojit Sarker**, Ankur Ganguly and D.N. Tibarewala, “Genetic Algorithm based gender classification using Non Linear parameters of Heart Rate Variability”, 3rd International Conference on Biomedical Engineering & Assistive Technologies (BEATS-2014), University Institute of Engineering & Technology, Panjab University, Chandigarh, pp.123-127, February 14-15, 2014.
22. Ankur Ganguly, **Subhojit Sarker** and D.N. Tibarewala, “Heart Rate Variability analysis using Power Law Slope among Healthy Male and Female Population”, 1st National Conference on Research Trends in Computer Science & Application (NCRTCSEA) , 8th February 2014, Siliguri Institute of Technology, Siliguri, West Bengal, India, Technically sponsored by IEEE & CSI, Proceedings (ISBN 978-93-82338-95-6), pp. 9-10, 2014.

23. **Subhojit Sarker**, Ankur Ganguly, D.N. Tibarewala, “On Application of Non-Linear Dynamics and Chaos Theory in the Analysis of Heart Rate Variability”, 5th International Conference on Electronics Engineering and Computer Science (IEMCON), Elsevier Publications (ISBN: 9789351072485), pp.111-117, August 28-30, 2014.
24. **Subhojit Sarker**, Ankur Ganguly, D.N. Tibarewala, “Use of Non-Linear Techniques to Investigate the Effect of Smoking and Alcohol Consumption on Heart Rate Variability”, 30th Indian Engineering Congress, The Institution of Engineers (India), Assam Centre, Guwahati, pp.1-8, December 17-20, 2015.

AWARDS

- Received **Best Technical Session Paper Award** for presenting paper at 2nd International Conference on Biomedical Engineering & Assistive Technologies (BEATS 2012).
- Received **Best Paper Award** for presenting paper at the 1st National Conference on Electronics, Communication, Sensing and Signal processing Technologies (ECSS 2012).

MEMBERSHIP

Member, The Institution of Engineers (India)

(DR. SUBHOJIT SARKER)