Bio data (updated January 11, 2026)

NAME: Dr. Anirban Guha

DATE OF BIRTH: 12 November 1978

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AFFILIATION: Department of Physics, Tripura University, (A Central University), Suryamaninagar Tripura, PIN: 799 022, India

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EDUCATIONAL QUALIFICATIONS:

Examination/Diploma/ Degree with institutions/ University	Year of Passing	Class/ Division	Percentage of Marks Obtained	Subjects	Specialization if any
M.Sc. from University of Calcutta, India	2003	1	66.5	Physics	Solid State Electronics, Communication Electronics, Microwave
B.Sc. (Honours) from Asutosh College, University of Calcutta, India	2000	1	61.75	Physics, Chemistry, Mathematics	
Higher Secondary from West Bengal Council of Higher Secondary Education, India	1997	1	74.2	Physics, Mathematics, Chemistry, Biology, English, Bengali	
Matriculation from West Bengal Board of Secondary Education, India	1995	1	81.33	English, Bengali, Physical Science, Mathematics, Biology, History, Geography	Physics (additional subject)

ADDITIONAL EDUCATIONAL QUALIFICATIONS:

1. Qualified CSIR-UGC National Eligibility Test (NET), India, December 2002 & June 2003

2. Doctor of Philosophy, awarded on 28th January 2011, **Title of the thesis:** "Investigations on lower ionospheric disturbances and electrical characteristics of thunderstorms using VLF radio waves and global electric circuit parameters" under the guidance of Prof. Barin Kumar De, Department of Physics, Tripura University, India

MAJOR ACHIEVEMENTS:

10. Worked as a Visiting Scientist at Massachusetts Institute of Technology (MIT), USA from 7th October 2022 to 10th November 2022.

9. Tripura University Faculty award 2021 for INSA Visiting Fellow 2016, Tel Aviv University, Israel, Raman Post-Doctoral Fellow (2016-17), MIT, USA and Visiting Scientist, MIT, USA, 2019.

8. Worked as a Visiting Scientist at Massachusetts Institute of Technology (MIT), USA from 29th May 2019 to 29th June 2019.

7. Selected as a Raman Post-Doctoral Fellow from University Grants Commission (UGC), India for the year 2016-2017 to work at the Massachusetts Institute of Technology (MIT), USA under the supervision of Dr. Earle Williams for one year; Broad area of study: Environmental Science and Climate change

6. Selected as an Inter Academy Exchange Fellow from Indian National Science Academy (INSA) to visit Tel Aviv University, Israel, under the supervision of Dr. Colin Price for 21 days in the month of May-June 2016

5. Nominated as a sponsored candidate to represent India from the Centre for Science & Technology of the Non-Aligned and other Developing Countries (NAM S&T Centre) New Delhi, to participate at the International Symposium entitled 'Strategic Interventions to Mitigate the Hazard of Lightning' in Lusaka, Zambia during 11-13th August 2015

4. Participated at the 34th Indian Scientific Expedition in the year 2014-15 to Antarctica conducted by National Centre for Antarctic and Ocean Research (NCAOR), Ministry of Earth Science, Govt. of India, India's premier R & D institution responsible for the country's research activities in the polar and Southern Ocean realms

3. Worked as a Visiting Scientist at Massachusetts Institute of Technology (MIT), USA from 31st May 2014 to 17th July 2014

2. Worked as a Fulbright Post-Doctoral Fellow for the year 2012-2013 to work at the Massachusetts Institute of Technology (MIT), USA under the supervision of Dr. Earle Williams for one year; Broad area of study: Environmental Science and Climate change

1. Achieved Sir Jagadish Chandra Bose Award for the year 2011-2012, by Tripura State Council for Science & Technology, Tripura, India

CURRENT RESEARCH INTERESTS:

1. Working in the field of Earth's electrical environment in connection with Global Electric Circuit (GEC) that includes Solar-terrestrial relationship of Earth's atmospheric electricity parameters, global warming and long-term climate change

2. Working in the field of quantifying global lightning activity with the help of Schumann resonance phenomena inside the Earth-ionosphere waveguide, using multi station inversion technique

3. Working in the field of VLF atmospherics from the measurement of electromagnetic radiation from lightning discharges to study the D-region dynamics and effects of solar events on the D-region of the ionosphere

4. Working in the field of seismo-electromagnetics from the measurements of transmitted navigational signals in VLF-LF range, lightning sferics and ground based electric field measurements to study the lower ionospheric perturbations before large-scale earthquakes

5. Working in the field of estimating radiative forcing caused by aerosol loading, especially Black Carbon (BC) in the lower atmosphere and its role in global warming and climate change

6. Working in the field of analyzing the Total Electron Content (TEC) of the ionosphere over Equatorial crest region of India using dual frequency GPS receiver and finding its physical connection with Solar –terrestrial environment

7. Working in the field of solar radio emission to study the radio characteristics of the Sun

8. Working for the development of lightning detection network over Indian Subcontinent using networked VLF receivers (https://ildn.in)

RESEARCH PROJECTS AND COLLABORATIONS:

1. Principal Investigator of the project entitled "Origin of Hydroxyl ion in Lunar atmosphere" funded by Indian Space Research Organization's Department of Space, Government of India.

2. Principal Investigator of a national project entitled "Aerosol Radiative Forcing over India (ARFI)" funded by Indian Space Research Organization's Geosphere Biosphere Program (ISRO-GBP), (www.spl.gov.in), Department of Space, Government of India

3. Principal Investigator (with a MOU) of a national project entitled "Development of a Lightning Detection Network in North-East India" funded by Society for Applied Microwave Electronics and Engineering Research (SAMEER), udder Ministry of Communications and Information Technology, Government of India

4. Principal Investigator of a project entitled "Investigation on the spatio-temporal distribution of clouds and dust storms in Martian atmosphere" sponsored by Indian Space Research Organization

5. Principal Investigator of the joint UGC-ISF bilateral project entitled "What role do tropical thunderstorms play in driving the upper tropospheric water vapor feedback?" sponsored by Israel Science Foundation and University Grants Commission, India

6. Member of the collaborative research team on ULF/VLF and GPS-TEC based studies of precursory phenomena associated with earthquakes, under Ministry of Earth Sciences (MoES), Government of India

7. Research collaborator with Dr. Earle R. Williams, MIT, USA (http://cee.mit.edu/ewilliams) involving multi-station inversion of Schumann Resonance data and investigating the relationship of global lightning activity with long-term climate change

8. Research Collaborator with Dr. Pascal Ortega, University Professor in the laboratory GEPASUD, (http://pages.upf.pf/Pascal.Ortega) for the Schumann resonance monitoring station at the University of French Polynesia, Tahiti. One three coil induction coil magnetometer LEMI-30 donated from Tripura University is in operation at Tahiti

9. Research Collaborator and Host of Earth Networks Total Lightning Network (ENTLN) sensor station at Tripura University, India. Earth Networks, USA (https://www.earthnetworks.com/solutions/use-cases/severe-weather-tracking) is the world's leading organizations, taking the pulse of the planet with vast sensor networks monitoring weather, lightning and greenhouse gases around the world

10. Research Collaborator and Host of the World Wide Lightning Location Network (WWLLN) sensor station (www.wwlln.net) at Tripura University, India. WWLLN is a global project maintained by Departments of Earth and Space Sciences, and Physics, University of Washington, USA

11. Research Collaborator and Host (with a MOU with Space Application Center, Ahmadabad, India) of the Indian Regional Navigational Satellite System (IRNSS/NAVIC) receiver designed by ISRO, at Tripura University station

12. Research Collaborator and Host with a MOU with Space Physics Laboratory, Trivandrum, India) under Indian Network for Space Weather Impact Monitoring (InSWIM) project

13. Research Collaborator with a MOU with Indian Institute of Engineering Science and Technology, Shibpur, India, on solar renewable energy

14. Research Collaborator under GLOCAEM project funded by University of Reading, United Kingdom

15. Indian Lightning Detection Network (https://ildn.in), Collaborating institutions:

    - Aliah University, Kolkata.
    - Central University of Rajasthan, India.
    - Dibrugarh University, India.
    - Indian Institute of Geomagnetism, India.
    - India Meteorological Department, New Delhi.
    - Institute of Astronomy Space and Earth Science, Kolkata.
    - Kashmir University, India.
    - K L Deemed to be University, India.
    - Tripura University, India.
    - University of Calcutta, India.

16. Indian Lidar Network (ILIN) collaboration with PRL, Ahmedabad.

***Total project funding: ~ Rs. 600 lakhs**

RESEARCH RELATED AND OTHER TRAINING PROGRAMS ATTENDED:

1. Worked as a Research Fellow under a research project entitled “Atmospheric Electricity, electrical conductivity of the middle atmosphere and Schumann resonances” funded by Indian Space Research Organization (ISRO), at the S. K. Mitra Centre for Research in Space Environment, Institute of Radio Physics and Electronics, University of Calcutta, Kolkata 700 009, India from 11th August 2003 to 31st March 2006

2. Successfully carried out research activities at the Radio Propagation and Sferics Laboratory at the Department of Physics, Tripura University, India under a major research project funded by Indian Space Research Organization (ISRO), during August 2003 to March, 2006

3. Actively participated in two major research campaigns in a collaborative work between Institute of Radio Physics and Electronics, University of Calcutta, Equatorial Geophysical Research Laboratory (EGRL), at Tirunelveli, Tamilnadu, India under Indian Institute of Geomagnetism, Mumbai, India and Department of Physics, Tripura University in June 2005 and March 2006 for a total period of one month

4. Successfully conducted field experiments at the Equatorial Geophysical Research Laboratory (EGRL), at Tirunelveli,Tamilnadu, India under Indian Institute of Geomagnetism, Mumbai, India on Schumann resonances, using a newly fabricated receiver system, during February 2-12, 2005

5. Actively participated in two three-week SERC Schools on Global Positioning System (GPS) in 2005 and 2007, sponsored by Department of Science & Technology (DST), Govt. of India, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad, India

6. Actively participated in a research workshop on “Re-Configurable Architecture and Emerging DSP Applications” held during January 15-16, 2007, organized by School of IT, West Bengal University of Technology, Kolkata, India

7. Actively participated in a scientific training program during 8-11th March, 2010 under “Aerosol Radiative Forcing over India (ARFI)” project work organized under Indian Space Research Organization’s Geosphere Biosphere Program (ISRO-GBP), Department of Space, Government of India, at Space Physics Laboratory, Vikram Sarabhai Space Centre, Thiruvanthapuram, Kerala, India

8. Successfully conducted repair of LEMI-30 magnetometer and related field experiments related to Schumann resonances, at the Equatorial Geophysical Research Laboratory (EGRL), at Tirunelveli, Tamilnadu, India under Indian Institute of Geomagnetism, Mumbai, India May 26-28th, 2011

9. Actively participated in a scientific YOUTHSAT workshop during 14-15th October 2011, at Vikram Sarabhai Space Centre, Indian Space Research Organization, Thiruvananthapuram, India

10. Actively participated at the National Knowledge Network (NKN) workshop at Institute of Advanced Study in Science and Technology, Guwahati, during 28-29th October 2011

11. Actively participated at the National workshop cum seminar on “Challenges and opportunities in Air Pollution and Climate Change" (CHOP-C) under Germany-India-2012, "Infinite Opportunities" program, to be held at the Indian Institute of Tropical Meteorology, Pune, India during January 16-18, 2012

12. Visited Kodaikanal Solar Observatory, India under Indian Institute of Astrophysics during 18-19 February 2012

13. Worked at the Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, USA during the period October 2012 to September 2013

14. Worked as a Visiting Scientist at Massachusetts Institute of Technology (MIT), USA from 31st May 2014 to 17th July 2014, at the Department of Civil and Environmental Engineering.

15. Actively participated in one-day workshop on “Creating awareness on National Mission on Education through Information and Communication Technology (NMEICT)” At National Institute of Technology (NIT), Agartala, held on 31st July 2014

16. Successfully completed the snow acclimatization training at the Mountaineering & Skiing Institute (ITBP), Auli, Uttarakhand following a thorough medical check-up from 15th September 2014 to 4th October 2014. This medical check-up and training were related to the selection as a team member from Space Physics Laboratory, Vikram Sarabhai Space Centre, Indian Space Research Organization, to participate at the upcoming 34th Indian Scientific expedition to Antarctica

17. Actively participated at the 3rd National Knowledge Network (NKN) workshop at Indian Institute of Guwahati (IITG), during 15-17th December 2014

18. Successfully completed training at Space Physics Laboratory, Vikram Sarabhai Space Center during 16-20th April 2015 on installation and handling one instruments named multi-wavelength radiometer (MWR), developed indigenously by Indian Space Research Organization (ISRO)

19. Successfully completed a two-week Science Academies’ Refresher Course in Experimental Physics at the Department of Physics, National Institute of Technology, Mizoram, Aizawl, during 07-22 May, 2015, sponsored by Indian Academy of Sciences, Bangalore, India

20. Successfully completed training on GOES-R satellite data analysis at the NOAA Satellite Conference 2017 held during 17-20 July 2017 at the City College of New York, USA.

21. Visited Tel Aviv University to conduct field campaign at the ELF observatory at Mitzpe Ramon Desert during last week of December 2018 and first week of January 2019 under UGC-ISF bilateral project entitled “What role do tropical thunderstorms play in driving the upper tropospheric water vapor feedback?”

AWARDS AND ACHIEVEMENTS:

1. Achieved **Young Scientist’s Award** from International Union of Radio Science (URSI), Belgium, to attend the General Assembly of URSI during October 23-29, 2005, held at Vigyan Bhavan, New Delhi, India

2. Secured **First position** having **"Excellent"** grade in "2nd SERC School on GPS Augmentation Systems and Atmospheric Corrections" sponsored by Department of Science & Technology (DST), Govt. of India, during 23rd November – 13th December 2005, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad, India

3. Secured **First position** having **"Excellent"** grade in "3rd SERC School on Atmospheric effects on GPS Aided Geo Augmented Navigation (GAGAN)" sponsored by Department of Science & Technology (DST), Govt. of India, during 14th November - 4th December 2007, held at Research and Training Unit for Navigational Electronics, Osmania University, Hyderabad, India

4. Secured **Fourth position** having **"Very Good"** grade in "DST-SERC training program on Electrodynamical Coupling of Atmospheric Regions" sponsored by Department of Science & Technology (DST), Govt. of India, during 06th January – 19th January 2010, held at the Indian Institute of Geomagnetism, Navi Mumbai, India

5. **Selected as one of the 24 participants** to attend the National workshop cum seminar on "Challenges and opportunities in Air Pollution and Climate Change" (CHOP-C) under Germany-India-2012, "Infinite Opportunities" program, held at the Indian Institute of Tropical Meteorology, Pune, India during January 16-18, 2012

6. **Achieved Sir Jagadish Chandra Bose Award** for the year 2011-2012, by Tripura State Council for Science & Technology, Tripura, India

7. **Worked as Fulbright Post-Doctoral Scholar** from India for the year 2012-2013 to work at Massachusetts Institute of Technology (MIT), USA under Prof. Earle Williams for one year; Broad area of study: Environmental Science and Climate change

8. **Worked as a Visiting Scientist** at Massachusetts Institute of Technology (MIT), USA from 31st May 2014 to 17th July 2014

9. **Selected as a team member** for 34th Indian Expedition to Antarctica conducted by National Centre for Antarctic and Ocean Research (NCAOR), Ministry of Earth Science, Govt. of India, India's premier R & D institution responsible for the country's research activities in the polar and Southern Ocean realms

10. **Nominated as a sponsored candidate** to represent India from the Centre for Science & Technology of the Non-Aligned and other Developing Countries (NAM S&T Centre) New Delhi, to participate at the International Symposium entitled 'Strategic Interventions to Mitigate the Hazard of Lightning' in Lusaka, Zambia during 11-13th August 2015

11. **Selected as a Raman Post-Doctoral Fellow** from University Grants Commission (UGC), India for the year 2016-2017 to work at the Massachusetts Institute of Technology (MIT), USA under the supervision of Dr. Earle Williams for one year; Broad area of study: Environmental Science and Climate change

12. **Selected as an Inter Academy Exchange Fellow** from Indian National Science Academy (INSA) to visit Tel Aviv University, Israel, under the supervision of Dr. Colin Price for 21 days in the month of May-June 2016

13. **Worked as a Visiting Scientist** at Massachusetts Institute of Technology (MIT), USA from 25th May 2019 to 29th June 2019

14. **Worked as a Visiting Scientist** at Massachusetts Institute of Technology (MIT), USA from 7th October 2022 to 10th November 2022

15. **Worked as a Visiting Scientist** at Massachusetts Institute of Technology (MIT), USA from 7th October 2024 to 21st November 2024

MEMBER OF SCIENTIFIC ORGANIZATIONS:

1. Executive Committee Member, South Asian Lightning Network, Nepal
2. Member, American Geophysical Union, USA
3. Member, National Postdoctoral Association, USA
4. Member, MIT Alumni Association, USA
5. Life Member, Physics Academy of the North-East, India
6. Life Member, Indian Radio Science Society, India
7. Member, Academic Regulatory Committee, Institute of Astronomy Space and Earth Science, India

REVIEWER OF RESEARCH PAPERS IN PEER-REVIEWED JOURNALS:

1. Journal of Geophysical Research (American Geophysical Union)
2. Geophysical Research Letters (American Geophysical Union)
3. Journal of Atmospheric and Solar Terrestrial Physics (Elsevier Science)
4. Journal of Earth System Science (Springer Science)
5. Earth Moon and Planets (Springer Science)
6. Indian Journal of Physics (Springer Science)
7. Indian Journal of Radio and Space Physics (NISCAIR)
8. Earth Planets and Space (The Japanese Society for planetary Science)
9. Advances in Space Research (Springer Science)
10. Atmospheric Research (Elsevier)
11. Pure and Applied Geophysics (Springer)

LIST OF PEER-REVIEWED PUBLICATIONS:

1. A. Routray, J. Saha, C. Price, K. M. R. Hunt, K. B. R. R. H. Prasad and A. Guha, “Deep Convective Activity in Tropical Cyclones and Its Impact on Cirrus Clouds: Using Lightning as a Proxy”, accepted for publication in Pure and Applied Geophysics (Springer Science), 2026.

2. P. Kaur, A. Guha and A. S. Pipal, “Air pollutants and their health risk assessment during Diwali fireworks in Agartala, Northeast India: A case study”, accepted for publication in Environmental Monitoring and Assessment (Springer Science), 2026.

3. P. Kaur, B. S., Arun, A. Guha, and A. S. Pipal, “Multi-wavelength Absorption and Morphological Characteristics of Aerosol Particles from Different Biofuel Types in India”, accepted for publication in Current Science, 2026.

4. T. Banik, A. O. Fierro, E. R. Mansell, R. B. Gogoi, S. S. Kundu, D. R. Pattanaik, A. K. Das, P. L. N. Raju, A. Kundu, C. J. Johny and A. Guha, “Lightning Forecasting Using EWRF Model Over North-Eastern India: Preliminary Results”, Earth and Space Science (American Geophysical Union), Vol. 12 (12), pp. e2024EA004109, 2025.

5. M. Mishra, R. Guria, A. Taori, F. A. T. Laksono, D. Bhattacharyya, C. A. G. Santos, S. Sharma, A. Guha, R. M. da Silva and G. de Oliveira, “Lightning in South Asia: Patterns, Impacts, and Regional Vulnerabilities”, Earth Systems and Environment (Springer Science), Vol (9), pp. 2235–2255, 2025.

6. Y. Liu, E. R. Williams, A. Guha, G. Sátori, O. P. Neto, R. K. Said, R. H. Holzworth, K. S. Virts, T. J. Lang, Y. Zhu, J. Lapierre and E. DiGangi, “Reduction in Global Lightning Activity during the COVID Pandemic”, Journal of Geophysical Research – Atmospheres (American Geophysical Union), Vol. 130 (8), 2025.

7. M. K. Mishra, J. Kalita, P. Chauhan, R. Kumar, S. S. Sarkar, R. Singh and A. Guha, “MCC’s First-Ever Observation of a High-Altitude Plume Cloud on Mars: Linkages with Space Weather?”, Journal of the Indian Society of Remote Sensing, Vol. 53, pp 345–360, 2025.

8. D. De, T. Banik and A. Guha, “Role of positive outlier cloud-to-ground lightning strokes in initiating forest fires in India”, Journal of Earth System Science (Springer Science), Vol. 133 (215), 2024.

9. J. Kalita, M. Das, S. Saikia, B. Pathak and A. Guha," Tianwen-1 Landing Site Atmospheric Condition Based on 2021 Local Dust Storms of Mars", Futuristic Trends in Physical Sciences Volume 3 Book 2, IIP Series, Volume 3, May 2024, Page no.73-82, e-ISBN: 978-93-5747-478-8.

10. Patari and A. Guha, “Ionospheric responses to the tropical cyclones from different oceanic basins over the globe”, Journal of Atmospheric and Solar-Terrestrial Physics (Elsevier Science), Vol. 261, 2024, pp. 106270.

11. J. Kalita, M. K. Mishra, P. Chauhan and A. Guha, “Clouds on Martian Terminator: A Study Through the Images Captured by the Mars Colour Camera (MCC) During MY32 to 34”, Journal of the Indian Society of Remote Sensing, Vol. 52, pp. 1405–1413, 2024.

12. C. Price, T. Plotnik, J. Saha and A. Guha, “Revisiting the Link between Thunderstorms and Upper Tropospheric Water Vapor” Journal of Geophysical Research – Atmospheres (American Geophysical Union), Vol. 128 (24), e2023JD039306, 2023.

13. P. Kaur, P. Dhar, O. Bansal, D. Singh and A. Guha, “Temporal variability, meteorological influences, and long-range transport of atmospheric aerosols over two contrasting environments Agartala and Patiala in India”, Environmental Science and Pollution Research (Springer Science), Vol. 30, pp. 102687-102707, 2023.

14. J. Saha, C. Price, T. Plotnik, and A. Guha, “Are thunderstorms linked to the rapid Sea ice loss in the Arctic?”, Atmospheric Research (Elsevier Science), Vol. 294, pp. 106988, 2023.

15. J. Saha, C. Price and A. Guha, “The Role of Global Thunderstorm Activity in Modulating Global Cirrus Clouds”, Geophysical Research Letters (American Geophysical Union), Vol. 50(12), e2022GL102667, 2023.

16. P. Kaur and A. Guha, “Characterization of atmospheric aerosols by SEM-EDX in a rural-continental environment-a seasonal approach”, Materials Today: Proceedings (Elsevier Science), https://doi.org/10.1016/j.matpr.2023.06.144, 2023.

17. T. Bozóki, G. Sátori, E. Williams, A. Guha, Y. Liu, P. Steinbach, A. Leal, M. Herein, M. Atkinson, C. D. Beggan, E. DiGangi, A. Koloskov, A. Kulak, J. LaPierre, D. K. Milling, J. Mlynarczyk, A. Neska, A. Potapov, T. Raita, R. Rawat, R. Said, A. K. Sinha and Y. Yampolski, “Day-To-Day Quantification of Changes in Global Lightning Activity Based on Schumann Resonances”, Journal of Geophysical Research (Atmosphere) (American Geophysical Union), Vol. 128(11), e2023JD038557, 2023.

18. K. Jeeva, A. K. Sinha, G. Seemala, S. D. Pawar, A. Guha, A. K. Kamra, E. Williams and M. Ravichandran, “The global representativeness of fair-weather atmospheric electricity parameters from the coastal station Maitri, Antarctica”, Journal of Geophysical Research (Atmosphere), (American Geophysical Union), Vol. 128(9), e2022JD037696, 2023.

19. Patari and A. Guha, “Comparative study on the effects of CME and CIR-induced geomagnetic storms on the ionosphere of northern and southern hemispheric regions during the different phases of solar cycle 24”, Advances in Space Research (Elsevier Science), Vol. 71(12), pp. 5147-5170, 2023.

20. J. Kalita, A. Guha and M. K. Mishra, “Martian Upper Tropospheric Twilight Clouds: First-time observation from India’s First Mars Orbiter Mission (MOM)”, Proceedings 2022 URSI Regional Conference on Radio Science (USRI-RCRS), IEEE Xplore, 2023, https://doi.org/10.23919/URSI-RCRS56822.2022.10118504.

21. E. Williams, J. Montanya, J. Saha and A. Guha, “Lightning and climate change”, Book Chapter in Lightning Electromagnetics. Volume 2: Electrical processes and effects (2nd Edition), The Institution of Engineering and Technology, Edited by V. Cooray, F. Rachid, M. Rubinstein, pp. 569-626, 2022.

22. P. Kaur, M. Rahaman and A. Guha, “Elemental characterization and morphological analysis of atmospheric aerosols in a rural-continental environment of Northeast India”, Arabian Journal of Geosciences (Springer Science), Vol. 15:1752, pp. 1-15, 2022.

23. C. Price and A. Guha, Book chapter entitled “Lightning indicators: A case study in research”, in the book entitled “Trusted Partners: 30 years of India Israel Diplomatic Relations”, Ananta Centre, Tel Aviv University, 2022.

24. J. Saha, C. Price, T. Plotnik and A. Guha, “Impact of the El Niño–Southern Oscillation on upper-tropospheric water vapor”, Atmospheric Research (Elsevier Science), Vol. 280 (15), pp. 106422, 2022.

25. J. Kalita and A. Guha, “Impact of Acidalia Strom Track (AST) in Martian atmosphere during MY 33 and 34: A case study over kasei Valles”, International Journal of Engineering Research & Technology, Vol. 10(7), pp. 59-69, 2022.

26. T. Subba, M. M.Gogoi, K. KrishnaMoorthy, P. K.Bhuyan, B. Pathak, A. Guha, M. K. Srivastava, B. M. Vyas, K. Singh, J. Krishnan, T. V. Lakshmi Kumar and S. S. Babu, “New estimates of aerosol radiative effects over India from surface and satellite observations”, Atmospheric Research (Elsevier Science), Vol. 276, pp. 106254, 2022.

27. J. Kalita and A. Guha, “Off-season lee wave cloud over the Arsia Mons in Mars: A study based on Mars Colour Camera (MCC)”, Journal of Atmospheric and Solar-Terrestrial Physics (Elsevier Science), Vol. 227, pp. 105805, 2022.

28. Patari and A. Guha, “Influence of The Remote Celestial Event Like Gamma Ray Bursts GRB 190114C and GRB 110918A on The Total Electron Content of The Earth’s Ionosphere: A Case Study”, International Journal of Engineering Research & Technology, Vol. 10(7), pp. 70-75, 2022.

29. J. Kalita, M. K. Mishra and A. Guha, “Martian Lee-wave cloud near Ascraeus Mons during Martian years 33 and 34: a study based on the Mars color camera (MCC) images”, Indian Journal of Physics (Springer Science), Vol. 96, pp. 25-41 2022.

30. J. Kalita and A. Guha, “Initial investigation on different types of clouds observed by Mars Color Camera (MCC) from India’s first Mars Orbiter Mission (MOM)”, Proceedings of URSI GASS 2021, Rome, Italy, 28 August - 4 September 2021.

31. T. Plotnik, C, Price, J. Saha and A. Guha, “Transport of water vapor from tropical cyclones to the upper troposphere”, Atmosphere (MDPI), Vol. 12, pp. 1506, 2021.

32. J. Kalita, M. K. Mishra and A. Guha, “Martian limb-viewing clouds: A study based on MCC, MCS and MARCI observation”, Planetary and Space Science, (Elsevier Science), Vol. 208(15), pp. 105347, 2021.

33. J. Kalita, M. K. Mishra and A. Guha, Book chapter entitled “Lee-Wave Clouds in Martian Atmosphere: A Study Based on the Images Captured by Mars Color Camera (MCC)” in the book entitled “Selected Progresses in Modern Physics (Proceedings of TiMP 2021)”, (Springer Science), 2021, ISBN: 978-981-16-5140-3.

34. T. Banik, V. Thandlam, B. K. De, S. S. Kundu, R. B. Gogoi, P. L. N. Raju and A. Guha, “Understanding dynamics of tropical cyclones in the Bay of Bengal using lightning data”, Meteorology and Atmospheric Physics (Springer Science), Vol. 133(5), pp. 1505-1522, 2021.

35. K. Saha, A. Guha and T. Banik, “Indian summer monsoon variability over North-East India: Impact of ENSO and IOD”, Journal of Atmospheric and Solar-Terrestrial Physics (Elsevier Science), Vol. 221(15), pp. 105705, 2021.

36. Y. Liu, E. Williams, Z. Li, A. Guha, J. Lapierre and M. Stock, “Lightning enhancement in moist convection with smoke-laden air advected from Australian wildfires”, Geophysical Research Letters (American Geophysical Union), Vol. 48, pp. e2020GL092355, 2021.

37. N. P. Damase, T. B, B. Paul, K. Saha, S. Sharma, B. K. De and A. Guha, “Comparative study of lightning climatology and the role of meteorological parameters over the Himalayan region”, Journal of Atmospheric and Solar-Terrestrial Physics (Elsevier Science), Vol. 219, pp. 105527, 2021.

38. Patari, B. Paul and A. Guha, “Statistics of GPS TEC at the northern EIA crest region of the Indian subcontinent during the solar cycle 24 (2013-2018): comparison with IRI-2016 and IRI-2012 models”, Astrophysics and Space Science (Elsevier), Vol. 46, pp. 366, 2021.

39. M. M. Gogoi, S. Babu, B. S. Arun, K. K. Moorthy, A. Ajay, P. Ajay, A. Suryavanshi, A. Borgohain, A. Guha, A. Shaikh, B. Pathak, B. Gharai, B. Ramasamy, G. Balakrishnaiah, H. B. Menon, J. C. Kuniyal, J. Krishnan, K. R. Gopal, M. Maheswari, M. Naja, P. Kaur, P. K. Bhuyan, P. Gupta, P. Singh, P. Srivastava, R. S. Singh, R. Kumar, S. Rastogi, S. S. Kundu, S. K. Kompalli, S. Panda, T. C. Rao, T. Das and Y. Kant, “Response of ambient BC concentration across the Indian region to the nation-wide lockdown: results from the ARFINET measurements of ISRO-GBP”, Current Science, Vol. 120(2), pp. 341-351, 2021.

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LIST OF CONFERENCE & WORKSHOPS:

51. Attended Advancement in Core and Frontier of Physics (ACFP-25) in Department of Physics GLA University, Mathura, during 1-2 November 2025.

    Paper title: Empowering Communities with ILDN: A Citizen Science Approach to Lightning Monitoring and Early Warning

50. Attended Venus Science Conference 2025 (Venus-SC 2025) in PRL, Ahmedabad, during 25-25 September 2025.

Paper title: A Multi-Purpose VLF Receiver Network for Lightning, Whistlers, and Ionospheric Disturbance Monitoring over the Indian Subcontinent

49. Attended National meet on Chandrayaan-4 Science, ISRO Headquarters, Bengaluru on 16 April 2025.

Paper title: Scientific Analysis of Lunar Samples: Parameters, Techniques, and Implications for Lunar Origin and Evolution

48. Attended National Conference on "Mitigating Lightning Hazards: Advancing Monitoring, Forecasting, Protection, and Community Resilience," held at Fakir Mohan University, Odisha from February 13-15, 2025.

Paper title: Advancing Safety Through Thunderstorm Warning Systems: Standards, Methodologies, and Applications

47. Attended International Conference on Advancements in Lightning Science and Safety Measures, held in Fakir Mohan University, Balasore, Odisha, India, during 20-22 March 2024.

Paper title: Indian Lightning Detection Network (ILDN): A Citizen Science Project, driven by Community Research

46. Attended International Conference on Lightning Electromagnetics and Applications of Semiconducting Materials (ICLEASM-2023), held in Tribhuban University, Kathmandu, Nepal, during 4-6 October 2023.

Paper title: First Results from the Indian Lightning Detection Network

45. Attended Chandrayaan-3 Data Analysis and Training Workshop, held at Indian Space Science Data Centre (ISSDC), IDSN, Byalalu, Bengaluru, during March 28-29, 2023.

44. Attended URSI Regional Conference on Radio Science (URSI-RCRS) 2022 at IIT Indore, held during 1-4 December 2022.

Paper titles:

(i) The Impact of Mesoscale Convective Systems in Increasing the Upper Tropospheric Water Vapor: Evidence from WMO announced Lightning Megaflash Events

(ii) High Density Lightning Cluster and Satellite Detected Fire Events in India

(iii) Martian Upper Tropospheric Twilight Clouds: First-time observation from India's First Mars Orbiter Mission (MOM)

43. Attended National meet on "Eight years of India's Mars orbiter mission", at ISRO Headquarters, Bengaluru, on September 27, 2022.

42. Attended 17th International Conference on Atmospheric Electricity (ICAE-2022) at Tel Aviv University, held during 19-24 June 2022.

Paper titles:

(i) Increasing Upper Tropospheric Water Vapor over the Arctic Circle

(ii) 19 Days of Global Lightning Activity as Inferred from Schumann Resonance Observations and Seen By Ground-Based Global Lightning Detection Networks

(iii) Response of global continental lightning and oceanic lightning to the COVID-19 pandemic

41. Attended TROPMET-2020 (online) jointly organized by North Eastern Space Application Centre (NESAC) and India Meteorological Society (IMS)- Shillong Chapter, held during 14-17 December 2020 at NESAC, Shillong, India.

40. Attended and presented papers at the 2020 URSI Regional Conference on Radio Science (URSI-RCRS 2020), held at IIT (BHU) Varanasi, India during 2-14 February 2020.

Paper titles:

(i) Upper Tropospheric Water Vapor and Global Lightning Activity

(ii) Inter-comparison of satellite retrieved Aerosol Optical Depth (AOD) from geostationary and polar-orbiting platforms with ground-based measurements over a semi-continental site of northeastern India

(iii) Initial results from MCC captured images of limb viewing and Lee wave clouds from India's first Mars Orbiter Mission (MOM)

(iv) Martian Lee-Wave clouds observed over Ascraeus Mon during Martian Year 33: A study based on the images capture by Mars Color Camera onboard India's first Mars mission to Mars

(v) A sudden disturbance of the lower ionosphere due to the launch of satellite

39. Attended and presented invited talk at the URSI 2019 Asia Pacific Radio Science Conference (AP-RASC) held at New Delhi during 9-15 March 2019.

Paper title:

ELF inversion of Global Lightning Activity and a Comparison with VLF Methods

38. Attended and presented papers at the "The 1st International Symposium on Lightning Physics and Lightning Meteorology" held at Beijing, China during 23-26 September 2017.

Paper titles:

(i) Comparison of UT Diurnally Resolved Global Lightning Activity for a Single Day by Distinct ELF and VLF Methods

(ii) Rigorous Validation of a Schumann Resonance Method for Global Lightning Mapping in Absolute Units

37. Attended training program and seminar on GOES-R satellite data analysis at the NOAA Satellite Conference 2017 held during 17-20 July 2017 at the City College of New York, USA.

36. Attended and presented papers at the "The Batsheva de Rothschild Seminar on The Atmospheric Global Electric Circuit (GEC)" held at Mitzpe Ramon, Israel during 5-10 February 2017.

Paper titles:

(i) Five special days in Vostok/Concordia

(ii) Hiatus in Global Warming

(iii) Schumann resonance and global warming: A new approach to monitor long-term climate change

35. Papers presented by co-authors, oral, at the “American Geophysical Union (AGU) Fall Meeting”, San Francisco, USA, held during 12-16 December 2016

Paper title:

Absence of Trend in Global Lightning during Recent Hiatus in Global Warming

34. Attended the “NEROC symposium Radio Science and Related Topics” at the MIT Haystack Observatory, Westford, Massachusetts, USA, held on 4th November 2016

33. Attended and presented papers (oral and poster) at the “XIXth National Space Science Symposium - NSSS 2016”, sponsored by ISRO, during 9-12 February 2016, held at the Space Physics Laboratory, Vikram Sarabhai Space Center, Indian Space Research Organization, India

Paper titles:

(i) Lightning triggered Transient Luminous Events (TLEs) and Schumann Resonance spectral characteristics: A case study

(ii) A statistical report using atmospheric vertical electric field on precursory effect of earthquakes

(iii) Monthly variability of aerosol characteristics and radiative forcing over a period of four years: A study from Tripura in Northeast India

(iv) Lightning evolution during severe tropical cyclones: Some case studies from Indian sector

(v) Tropical cyclone effects on the equatorial ionosphere: First result from the Indian sector

(vi) Study of VLF signal propagation characteristics observed from Antarctica

32. Attended GNSS (GAGAN-IRNSS) user meet 2015 to held at ISRO Satellite Center, Bangalore on 8th October 2015.

31. Presented invited talk in “National Conference on Recent Trends of Research in Physics (NCRTRP-2015)” held during 23-24th July 2015, at the Women’s College, Agartala.

Paper title: Popularization of E-resources under National Mission on Education through ICT (NMEICT) Project for Higher Academic Institutions

30. Attended and presented research paper (oral) in International Symposium titled ‘Strategic Interventions to Mitigate the Hazard of Lightning’ in Lusaka, Zambia during 11-13 August 2015 as a sponsored candidate from Centre for Science & Technology of the Non-Aligned and other Developing Countries (NAM S&T Centre) New Delhi, India
Paper title: Lightning evolution during severe tropical cyclones: Some case studies from Indian sector

29. Presented an invited talk at the National Conference on Recent Trends of Research in Physics (NCRTRP-2015), at the Department of Physics, Women’s College, Agartala, Tripura held on 23-24th July 2015.

Paper title: Popularization of E-resources under National Mission on Education through ICT (NMEICT) Project for Higher Academic Institutions

28. Attended a brainstorming workshop is being arranged at the Raja Balwant Singh Engineering Technical Campus, Agra, India, among the national seismo-electromagnetic community during 28-29th November 2014

27. Attended and presented papers (oral and posters) at the XVth International Conference on Atmospheric Electricity (ICAE 2014), held in Norman, Oklahoma, USA, during 15-20th June 2014

Paper titles:

(i) Global Circuit Response to the 11-Year Solar Cycle: Changes in Source or in Medium?

(ii) Spectral analysis of the daily Rhode Island Schumann resonance data

(iii) Schumann Resonance spectral characteristics: A useful tool to study Transient Luminous Events (TLEs) on a global scale

(iv) Schumann Resonance observations from the Central Pacific (Tahiti)

26. Attended and presented papers (oral and poster) at the "XVIIIth National Space Science Symposium - NSSS 2014", sponsored by ISRO, during 29th January to 1st February 2014, held at Dibrugarh University, Dibrugarh, Assam, India

Paper titles:

(i) First results on the variation of Schumann Resonance parameters from Tahiti, French Polynesia and their significance for global inversion

(ii) Seasonal variation of aerosol Angstrom exponent in Tripura

(iii) Interannual change in lightning activity over North-East India and its relation with cloud microphysical properties **(Best paper selected under the respective session PS-2 at the symposium)**
(iv) A statistical report on VLF nighttime amplitude anomaly as precursory signal for impending earthquakes

(v) Study of latitudinal characteristics of GPS-TEC and its validation with IRI-2012 Model

(vi) Integrated Field Intensity of VLF and LF Radio Atmospherics and Radio Signals to Monitor the D-region of the Ionosphere

25. Attended the Workshop: "Severe Convection and Climate" at the International Institute for Climate and Society at Colombia University, Lamont Campus, Palisades, New York, 10964-1000, USA, on March 14-15, 2013

24. Papers presented by co-authors, oral, at the "International Conference on Emerging Trends in Physics for Environmental Monitoring & Management (ETPEMM-12)", during 17-19 December 2012, held at the Department of Physics, Punjabi University, Patiala, India

Paper titles:

(a) A Preliminary study of seasonal variation of Aerosol Optical Depth (AOD) in relation to pollution and climate change over Tripura
(b) Measurement of seasonal variation and source impacts of aerosol Black Carbon over Tripura from North-East India

23. Papers presented by co-author, poster, at the "Vth International Conference on Computers and Devices for Communication (CODEC) 2012", during 17-19 December 2012, held at the Institute of Radio Physics and Electronics University of Calcutta, Kolkata, India

Paper title: Simultaneous perturbation observed on VLF and atmospheric vertical electric field for Sumatra earthquake on 11th April 2012

22. Papers presented by co-author, oral and poster, at the "VIIIth National Conference of the Physics Academy of the North East (PANE)", during 17-19 December 2012, held at the Department of Physics, Mizoram University, Aizawl, India
Paper titles:

(a) Long duration geomagnetic storm effect on VLF navigational signal **(Best poster paper selected at the conference)**

(b) Lightning variability in pre-monsoon season over North-East India

21. Paper presented by co-author, poster, at the "American Geophysical Union's 45th annual Fall Meeting 2012", during 3-7th December 2012 at San Francisco, USA

Paper title: On Use of WWLLN Data as an Initial Guess in the Inverse ELF Problem for Global Lightning

20. Papers presented by co-author, oral, at the "Pan Ocean Remote Sensing Conference (PORSEC)", sponsored by The Indian National Centre for Ocean Information Services (INCOIS), during 5-9 November 2012, held at the Held in Kochi, Kerala, India

Paper title: Effect of Atmospheric Aerosol on Lightning activity during 1998-2011 over North-East India

19. Attended and presented paper (oral), at the "One day workshop on space & atmospheric science", sponsored by ISRO, on 18th September 2012, organized by North-Eastern Space Application Center, Shillong, India

Paper title: Scientific Activities at the Department of Physics, Tripura University

18. Attended and presented papers (oral and posters), at the "XVII National Space Science Symposium - NSSS 2012", sponsored by ISRO, during 14-17th February 2012, held at Sri Venkateswara University, Tirupati, India

Paper titles:

(a) Aerosol physical and optical characteristics over an ARFINET station Agartala in Northeastern India

(b) Studies on atmospheric vertical electric field variation near ground level and its relation with aerosol concentration during fair weather conditions in Tripura

(c) A Study on seasonal variation of ionospheric D-region preparation and disappearance period using sunrise and sunset terminator times with the help of subionospherically propagating 19.8 kHz VLF signal

(d) A study on the variation of solar magnetic field and Ap index with solar radio parameter

(e) Schumann Resonance as a versatile tool for modern Solar-terrestrial physics investigation and its detection from Tripura: A brief report

(f) Investigation on the ELF-VLF spectral characters of meteor showers during GEMINIDS 2007 and LENOIDS 2009

(g) Comparative study of solar radio flux at eight frequencies from different stations of Radio Solar Telescope Network and their correlation with sunspot numbers

(h) Effect of the sunspot area on the geomagnetic field – A study over 10 years period (2000-2009)

(i) Characteristics of severe thunderstorms over a period of fifteen months using VLF atmospherics in North-East India **(Second best paper selected under the respective session PS-1 at the symposium)**

17. Papers presented by co-authors, oral and posters, at the "Conference on Recent Trends of Research in Physics 2012 (CRTRP-2012)", during 3-4 February 2012, held at the Department of Physics, Tripura University, Tripura India

Paper titles:

(a) Comparative study of solar radio flux at eight frequencies from different stations of Radio Solar Telescope Network and their correlation with sunspot numbers

(b) Studies on atmospheric vertical electric field variation near ground level and its relation with aerosol concentration during fair weather conditions in Tripura

(c) Studies on VLF signal variations within equatorial Earth-ionosphere waveguide during two solar eclipses on 22nd July 2009 and 15th January 2010

(d) Effect of the Sunspot area on the geomagnetic field – A study over 10 years period (2000-2009)

(e) Characteristics of severe thunderstorms over a period of fifteen months using VLF atmospherics in North-East India

(f) A study on the variation of solar magnetic field and A_p index with Solar radio parameter

16. Attended and presented paper (oral), at the workshop cum seminar on “Challenges and opportunities in Air Pollution and Climate Change" (CHOP-C) under Germany-India-2012, "Infinite Opportunities" program, held at the Indian Institute of Tropical Meteorology, Pune, India during January 16-18, 2012

Paper title: Aerosol Physical and Optical Characteristics in Relation to Pollution and Climate Change: A Study from Tripura

15. Papers presented by co-authors, oral and posters, at the “First Tripura Science Congress” held at Tripura Central University, India, during 8-9 September 2011

Paper titles:

(a) Estimation of electrical properties of lightning producing thunderclouds over North-East India using surface measurements of atmospheric vertical electric field

(b) First-time investigation on seasonal variation of atmospheric black carbon (BC) in Tripura (**Second best paper selected under the section Earth system Sciences)**

(c) Investigation on the feasibility of forecasting severe thunderstorms using VLF atmospherics in North-East India

(d) A new methodology to improve the spatial and temporal resolution to forecast earthquakes

14. Attended and presented paper (oral), at the “National Workshop on Solar Eclipse Results” held at Vikram Sarabhai Space Centre (VSSC), Trivandrum, India, during 27-28 January 2011

Paper title: Solar Eclipse Effects on Equatorial Lower Ionosphere from the Propagation Characteristics of Sub-ionospheric VLF Signal and Sferics Spectra

13. Attended and presented paper (oral), at the “Young Physicists Colloquium 2009 (YPC-09)” organized by Indian Physical Society during 20-21 August 2009, at Saha Institute of Nuclear Physics, Kolkata, India

Paper title: Seasonal variation of sunrise-sunset fading of VLF signal amplitude in relation to Ap index and solar environment

12. Paper presented by co-author, poster at the “VIth Conference of Physics Research in North-East-PANE 2009”, during 2-4 April 2009, held at the Department of Physics, Tripura University, Tripura, India

Paper title: A correlation study of solar activity index and amplitude of VLF trans-equatorial propagation

11. Attended and presented papers (poster), at the “DST workshop on Electrodynamical Coupling of Atmospheric Regions”, sponsored by Department of Science and Technology, Govt. of India during 25-26 November 2008, at Indian Institute of Geomagnetism, New Mumbai, India

Paper titles:

(a) Study of intra-cloud lightning electrical characteristics during tropical summer thunderstorm in North-East India

(b) Study of 18.2 kHz Indian Navy VLF signal over 2.2 M-meter path in relation to lower ionospheric phenomena

10. Papers presented by co-authors, oral and poster, at the “XVth National Space Science Symposium - NSSS 2008”, sponsored by ISRO, during 26-29th February 2008, held at Radio Astronomy Centre, National Centre for Radio Astrophysics, Tata Institute of Fundamental Research, Udhagamandalam (Ooty), India

Paper titles:

(a) A comparative study on the integrated field intensity of sferics at different VLF frequencies at West Tripura India

(b) A preliminary report on some characteristics features of 18.2 kHz VLF signal amplitude and phase at West Tripura, India

9. Attended and presented paper (oral), at the “Vth Conference of Physics Research in North-East-PANE 2007”, during 1-2 March, 2007, held at the Department of Physics, Gauhati University, Guwahati, India

Paper title: First-time investigation of near-earth atmospheric vertical electric field, air-earth current and conductivity at Tripura

8. Papers presented by co-authors, oral and posters, at the “Golden Jubilee Symposium on Radio Science - INCURSI 2007”, during 21-24 February 2007, held at National Physical Laboratory, New Delhi, India

Paper titles:

(a) A review report on the recent achievements and challenges of electromagnetic precursor of earthquakes

(b) Diurnal Variation of 40 kHz signal phase at Tripura

(c) VLF as an aid for remote sensing of the upper atmosphere

7. Paper presented by co-author, oral, at the “International Symposium on Study of Rainfall Rate and Radio Wave Propagation – ISSR 07”, during 29-30th January 2007, held at the Department of Physics, Sona College of Technology, Tamilnadu, India

Paper title: Variation of 40 kHz signal level in relation to sunrise, sunset and climatic condition

6. Attended and presented papers (oral and poster), at the “International Conference on Computers and Devices for Communication- CODEC 2006”, during 18-20th December 2006, held at Hyatt Regency, Kolkata, India

Paper titles:

(a) Studies on sferics over Kolkata in relation to rainy and winter Seasons

(b) An observed report of diurnal variation of 6 kHz sferics recorded at Tripura

(c) The VLF atmospherics as a precursor to earthquakes

5. Attended and presented paper (poster), at the "XIV National Space Science Symposium - NSSS 2006", sponsored by ISRO, during 9-12th February 2006, held at Department of Physics, Andhra University, Visakhapatnam, India

Paper title: A detail study on some specific features of the atmospheric vertical electric potential gradient and VLF sferics in Kolkata (22.34 N, 88.24 E) and Agartala (23.5 N, 91.25 E)

4. Attended and presented paper (oral), at the "XXVIIIth General Assembly of International Union of Radio Science (URSI)", during 23-29th October 2005, held at Vigyan Bhavan, New Delhi, India

Paper title: A correlation study of VLF sferics with atmospheric vertical electric field at Kolkata ($22^0$30´´ N, $88^0$30´´ E) along with its deviation from global character

3. Attended and presented paper (poster), at the "XIII National Space Science Symposium-NSSS 2004", sponsored by ISRO, during 17-20th February 2004, held at Mahatma Gandhi University, Kottayam, Kerala, India

Paper title: Potential gradient of the atmosphere over Kolkata using a Field-Mill

2. Attended and presented paper (oral), at the "International Conference on Computers and Devices for Communication- CODEC 2004", during 1-3rd January 2004, held at Hyatt Regency, Kolkata, India

Paper title: Studies on potential gradient of the atmosphere over Kolkata

1. Attended and presented paper (poster), at the "National Conference on Radio Science- INCURSI 2003", during 27-29th November 2003, held at National Physical Laboratory, New Delhi, India

Paper title: Measurement of potential gradient of the atmosphere over Kolkata and the results of preliminary data analysis

TEACHING EXPERIENCES AT POST GRADUATE LEVEL:

Working as a faculty member at the Department of Physics, Tripura University, India from 7th September 2006. Teaching areas include:

(a) Theoretical: Classical and Relativistic Electrodynamics, Magneto-hydrodynamics and Plasma Physics, Digital Electronics, Digital Communication Systems, Microprocessor, Basics of atmospheric science

(b) Practical: Advanced Analog and Digital Electronic Circuits, Digital Communication, Microprocessor Programming

TOTAL NUMBER OF RESEARCH SCHOLARS UNDER ACTIVE GUIDANCE: 05

TOTAL NUMBER OF RESEARCH SCHOLARS GUIDED FOR PH.D.: 08

ADMINISTRATIVE AND COMMUNITY SERVICES:

1. Worked as the In-Charge, Tripura University Guest House for a period of 1.5 years (from 19.12.2007 to 18.06.2009)

2. Worked as a team member for maintaining campus wide OFC and wireless network, internet servers, securities and bandwidth allocation inside the campus of Tripura University

3. Worked as Nodal Officer for National Knowledge Commission (NMEICT-NKN) project at Tripura University

4. Worked as the Coordinator cum Resource Person of a two-week Refresher Course in Experimental Physics, sponsored by National Academy of Sciences held at Department of Physics, Tripura University from 08-23rd March, 2016.

5. Worked as liaison officer during NAAC visit at Tripura University

6. Working as an active member of Information System Committee of Tripura University

7. Worked as a member of the Faculty Council of Post Graduate Studies (FCPGS), Tripura University

8. Worked as a Scientific Organizing Committee member of the Introductory Workshop on Physical Perspectives of Astronomy (IWPPA - 2019), held at ICFAI University, Tripura on October 30-31, 2019

9. Working as active member for several different administrative and technical committees in the University and as per decision from authority time to time

10. Working as Head, Department of Physics from 08.01.2025.

SPECIAL EXPERIMENTAL AND COMPUTER ORIENTED SKILLS:

1. Working skill in the fabrication of natural ULF, ELF and VLF detection systems, lighting detection systems. fabrication of field-mill, electrometer design, design of different analog and digital circuits, microprocessor programming and Digital Signal Processing (DSP)

2. Special working knowledge in the fabrication of ELF-VLF receivers, development of data acquisition and interfacing

3. Knowledge and working experience in Global Navigational Satellite System such as GPS and its augmentation systems like GAGAN

4. Programming skills in C/C++, Matlab, FORTRAN, Python (on Linux based systems) and website designing

5. Specialization in computer software and troubleshooting hardware, maintenance, networking and Internet access management, security management in LINUX Enterprise, Ubuntu and Windows Server systems

8. High Performance Computations in Linux platform

EXTRA CURRICULAR ACTIVITIES:

1. Participation in sports activities, especially in badminton and soccer

2. Participation in cultural activities, especially in Rabindrasangeet programs

3. Special interest in learning new computer technology in the field of Digital Signal Processing (DSP) and programming languages, high performance computing, AI-ML

4. Amateur radio operator, CALLSIGN: VU3XIH

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