

## Curriculum vitae of Md. Rafi Uddin



### CONTACT ADDRESS:

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**Md. Rafi Uddin**, PhD

Professor

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### PROFILE:

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It is well known that Bangladesh is one of the most vulnerable countries due to extreme weather events (such as cyclones, tornadoes, floods, droughts, heavy rain, lightning, etc) and climate change. Since these extreme weather events cause loss of life and property, it is crucial to understand what impact may have on their occurrence. However, these extreme weather events in Bangladesh are poorly understood due to a lack of meteorological research and data. I am using radar, satellites, numerical models, and other observational data to study extreme weather events and their impact on Bangladesh. Currently, I am working in the fields of Mesoscale Meteorology, Radar Meteorology, Monsoon Meteorology, Mesoscale Modeling, Lightning, and Climate Change.

### EDUCATION:

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- **Ph. D.** in Meteorology, Nagoya University, Japan, from October 2006 to September 2009.
- **M. Phil.** in Physics, Bangladesh University of Engineering and Technology, Bangladesh, from April 2000 to September 2003.
- **M. Sc.** in Physics, University of Jahangirnagar, Savar, Bangladesh, from July 1995 to June 1996 (Exam held in 1999).
- **B. Sc.** (Honours), University of Jahangirnagar, Savar, Bangladesh, from July 1992 to June 1995 (Exam held in 1997).

### PROFESSIONAL CAREER:

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- **Professor**, Department of Physics, Bangladesh University of Engineering and Technology, Bangladesh, from 07 February 2015 to present.
- **Associate Professor**, Department of Physics, Bangladesh University of Engineering and Technology, Bangladesh, from 04 July 2012 to 06 February 2015.
- **Assistant Professor**, Department of Physics, Bangladesh University of Engineering and Technology, Bangladesh, from 06 February 2006 to 03 July 2012.
- **Lecturer**, Department of Physics, Bangladesh University of Engineering and Technology, Bangladesh, from 03 August 2002 to 05 February 2006.
- **Lecturer**, Department of Physics, Habibullah Bahar University College, Santinagar, Dhaka, Bangladesh, from 03 April 2001 to 01 August 2002.

- **Teaching Assistant**, Department of Physics, Bangladesh University of Engineering and Technology, Bangladesh, from 01 July 2000 to 31 December 2000.

#### **RESEARCH GRANTS:**

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- Co-Investigator, Study on tropical cyclone-spawned tornadoes over the Bay of Bengal, Ministry of Science and Technology, Government of the People's Republic of Bangladesh, Duration: 2020-2021 (Principal Investigator: Professor Dr. Nasreen Akter, BUET).
- Principal Investigator, Study on characteristics of lightning flash and associated hydrometeors, BANBEIS, Education Ministry of Bangladesh, Government of the People's Republic of Bangladesh, Duration: 2018-2020 (Co-Investigator: Professor Dr. Nasreen Akter, BUET).
- Principal Investigator, Relation between lightning flash and atmospheric aerosol over Bangladesh, University Grants Commission Bangladesh, Government of the People's Republic of Bangladesh, Duration: 2018 (Co-Investigator: Professor Dr. Nasreen Akter, BUET).
- Co-Investigator, Studies to assess the applicability of weathering steel for bridge construction under different climatic conditions of Bangladesh, Project funded by BUET and JFE Steel Corporation, Japan, Duration: 2014-2019 (PI: Professor A K M Saiful Amin, BUET).
- Co-Investigator, INEES Science Education, Project funded by DAAD, Germany through University of Flensburg, Duration: 2010-2013 (PI: Professor Fritz Schliessmann, University of Flensburg).
- Co-Investigator, Characteristics of TRMM derived rainfall in the SAARC region: Preparation to utilize GPM data in South Asia, Project funded by NASDA, Japan through Nagoya University Japan, Duration: 2010-2012 (PI: Professor Hiroshi Uyeda, Nagoya University).

#### **GRANTS FOR ATTENDING CONFERENCES, WORKSHOPS AND TRAINING:**

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- Grants for the 11th Workshop of International Precipitation Working Group (IPWG-11), 15-18 July 2024, Tokyo Institute of Technology, Tokyo, Japan, 2024.
- Grants for the 9th Global Energy and Water Exchanges Open Science Conference (GEWEX OSC), 07-12 July 2024, Sapporo, Japan, 2024.
- Grants for new and emerging remote sensing technologies for precipitation data sets and their applications and validation, Organized by the International Precipitation Working Group (IPWG) and Japan Aerospace Exploration Agency (JAXA), 17-19 November 2014, Tsukuba, Japan.
- Grants for the Monsoon Asia Integrated Regional Studies (MAIRS) Open Science Conference (MAIRS-OSC2014), 07-10 April 2014, Beijing, China, 2014.
- Grants for the 2nd International Conference on Southeast Asian Weather and Climate (ICSA-WC2013), 27-29 November 2013, Chiang Mai, Thailand, 2013. [From BUET]
- Grants for the 5th International Workshop on Monsoons (IWM-V), 28 October - 01 November 2013, Macao, China, 2013.
- Grants for the 34th Asian Conference on Remote Sensing (ACRS-2013), 20 -24 October 2013, Bali Island, Indonesia, 2013.
- Grants for INEES Final Workshop, Organized by the University of Flensburg and International Network for Energy & Environmental Sustainability (INEES), University of Flensburg, 19-23 August 2013, Flensburg, Germany.
- Grants for the 4th TRMM and GPM International Science Conference, 13-16 November 2012, Tokyo, Japan, 2012.

10. Grants for INEES Science Education-III, Organized by the University of Flensburg and International Network for Energy & Environmental Sustainability (INEES), University of Flensburg, 13-17 February 2012, Flensburg, Germany.
11. Grants for the 3rd GPM Asia Workshop on Precipitation Data Application Technique, Tokyo, Japan, December 7, 2011.
12. Grants for International Conference on Environment Science and Engineering (ICESE 2011), Bali Island, Indonesia, 1-3 April, 2011. [From BUET]
13. Grants for INEES Science Education, Organized by the University of the West Indies and International Network for Energy & Environmental Sustainability (INEES), University of Flensburg, 03-09 October 2010, Jamaica.
14. Grants for Autumn Meeting of the Meteorological Society of Japan, 19-21 November 2008, Sendai, Japan.
15. Grants for Satellite Remote Sensing of Atmospheric Constituents, Organized by Water Science Unit of UNESCO Office Jakarta and the Institute of Hydrospheric Atmospheric Sciences of Nagoya University, 3-15 November 2008, Nagoya, Japan.
16. Grants for the 6th International Conference on Mesoscale Meteorology and Typhoon in East Asia (ICMCS-VI), 6-9 November 2007, Taipei, Taiwan.
17. Grants for Autumn Meeting of the Meteorological Society of Japan, 14-16 October 2007, Sapporo, Japan.
18. Grants for spring Meeting of the Meteorological Society of Japan, 13-16 May 2007, Tokyo, Japan.
19. Grants for Numerical Prediction of High-Impact Weather Systems, Organized by Water Science Unit of UNESCO Office Jakarta and the Institute of Hydrospheric Atmospheric Sciences of Nagoya University, 2-15 December 2007, Nagoya, Japan.
20. Grants for Third ICTP Workshop on the Theory and Use of Regional Climate Models, 29 May - 9 June 2006, ICTP, Trieste, Italy.
21. Grants for 2nd KAGI21 International Summer School, Organized by Faculty of Earth Sciences and Mineral Technology, Institut Teknologi Bandung (FIKTM-ITM) and Kyoto University Active Geosphere Investigations for the 21st Century COE program (KAGI21), 14-27 August 2005, ITB, Bandung, Indonesia.

## **LISTS OF PUBLICATIONS:**

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### **Book Chapter:**

1. Ashraf Dewan, Kexiang Hu, Mohammad Kamruzzaman and **Md. Rafi Uddin**, "Evaluating the spatiotemporal pattern of concentration, aggressiveness and seasonality of precipitation over Bangladesh with time-series Tropical Rainfall Measuring Mission data", Extreme Hydroclimatic Events and Multivariate Hazards in a Changing Environment, Chapter-8, ISBN: 9780128148990, Elsevier, 7th June 2019.

### **Journal Papers (peer-reviewed):**

1. A. T. M. S. Azam, Nasreen Akter, Ashraf Dewan, Mohammad Al-Masum Molla and **M. Rafiuddin**, "Role of pollutants on the bimodal lightning distribution in Bangladesh", Earth Systems and Environment, 2025. <https://doi.org/10.1007/s41748-025-00627-w>.
2. Ashraf Dewan, K M Ashraful Islam, Muhammad Esmat Enan, Tanzim Rahman Fariha and **M. Rafiuddin**, and Mohammed Sarfaraz Gani Adnan, "Cloud-to-ground lightning in cities: seasonal

- variability and influential factors", *Earth Systems and Environment*, 2024. <https://doi.org/10.1016/j.ijdr.2019.101264>.
3. J. Hossain, A. T. M. S. Azam, M. A. Khatun and **M. Rafiuddin**, "Comparison of diurnal variation of rainfall of GSMaP and rain gauge data in Bangladesh", *International Journal of Integrated Sciences & Technology*, 4: 26-33, 2022.
  4. Nasreen Akter and **M. Rafiuddin**, "Outbreak of a tornado with tropical cyclone Yaas (2021) formed over the Bay of Bengal", *Asia-Pacific Journal of Atmospheric Sciences*, 59:59-67, 2022. <https://doi.org/10.1007/s13143-022-00302-4>.
  5. Abu Yousuf Md. Abdullah, Md. Hanif Bhuiyan, Grigory Kiselev, Ashraf Dewan, Quazi K. Hasan and **M. Rafiuddin**, "Extreme temperature and rainfall events in Bangladesh: a comparison between coastal and inland areas", *International Journal of Climatology*, 2020. <https://doi.org/10.1002/joc.6911>
  6. Ronald L Holle, Ashraf Dewan, Ryan Said, William A Brooks, Md Faruk Hossain and **M. Rafiuddin**, "Lightning fatalities related to lightning occurrence and agriculture in Bangladesh", *International Journal of Disaster Risk Reduction*, 41:101264, 2019. <https://doi.org/10.1016/j.ijdr.2019.101264>.
  7. J. Hossain, A. T. M. S. Azam, M. A. Khatun and **M. Rafiuddin**, "Study of a Heavy Rainfall Event in Bangladesh Using Global Satellite Mapping of Precipitation Data", *International Journal of Integrated Sciences & Technology*, 3: 16-23, 2018.
  8. Ashraf Dewan, Emmanuel Ongee, **M. Rafiuddin**, Md Masudur Rahman and Rezaul Mahmood, "Lightning activity associated with precipitation and CAPE over Bangladesh", *International Journal of Climatology*, 38: 1649-1660, 2018. DOI: 10.1002/joc.5286.
  9. R. K. Khan, **M. Rafiuddin**, and M. N. Islam, "The relation between sea surface temperature and formation of tropical cyclone in the Bay of Bengal", *The Atmosphere*, 7: 11-18, 2017.
  10. Md. Abdul Mannan, Md. Abdul Mannan Chowdhury, Samarendra Karmakar, **M. Rafiuddin**, and Samsuddin Ahmed, "Prediction of heavy rainfall over northeastern part of Bangladesh using WRF-ARW model", *The Journal of NOAMI*, 34(2): 59-72, 2017.
  11. Md. Mizanur Rahman, **M. Rafiuddin**, and Md. Mahbub Alam, "Teleconnections between Bangladesh summer monsoon rainfall and sea surface temperature in the Indian Ocean", *International Journal of Ocean and Climate Systems*, 4: 231-237, 2013. DOI: 10.1260/1759-3131.4.4.231.
  12. J. Begum, **M. Rafiuddin**, M. N. Islam and H. Uyeda, "Classification of arc shaped precipitation systems during pre-monsoon and monsoon in Bangladesh", *Bangladesh Journal of Physics*, 13: 29-39, 2013.
  13. Md. Mizanur Rahman, **M. Rafiuddin**, Md. Mahbub Alam, Shoji Kusunoki, Akio Kitoh and F. Giorgi, "Summer monsoon rainfall scenario over Bangladesh using a high resolution AGCM", *Natural Hazards*, 69: 793-807, 2013. DOI:10.1007/s11069-013-0734-7.
  14. **M. Rafiuddin**, H. Uyeda and M. Kato, "Development of an arc-shaped precipitation system during the pre-monsoon period in Bangladesh", *Journal of Meteorology and Atmospheric Physics*, 120: 165-176, 2013. DOI: 10.1007/s00703-013-0244-x.
  15. Md. Mizanur Rahman, **M. Rafiuddin**, and Md. Mahbub Alam, "Seasonal forecasting of Bangladesh summer monsoon rainfall using simple multiple regression model", *Journal of Earth System Science*, 122(2): 551-558, 2013. DOI:10.1007/s12040-013-0287-x.
  16. B. K. Dash, **M. Rafiuddin**, Fahima Khanam and M. N. Islam, "Characteristics of meteorological drought in Bangladesh", *Natural Hazards*, 64: 1461-1474, 2012. DOI: 10.1007/s11069-012-0307-1.
  17. **M. Rafiuddin**, H. Uyeda and M. N. Islam, "Regional and seasonal variations of precipitation systems in Bangladesh", *Sri Lankan Journal of Physics*, 12: 7-14, 2011. DOI: <http://dx.doi.org/10.4038/sljip.v12i0.4094>.
  18. **M. Rafiuddin**, B. K. Dash, Fahima Khanam and M. N. Islam, "Diagnosis of drought in Bangladesh using standardized precipitation index", *International Proceedings of Chemical, Biological and Environmental Engineering (IPCBE)*, 8: 184-187, 2011 @ (2011) IACSIT Press, Singapore, 2011. DOI: 10.7763/IPCBE.

19. **M. Rafiuddin**, H. Uyeda and M. N. Islam, "Characteristics of monsoon precipitation systems in and around Bangladesh", International Journal of Climatology, 30: 1042-1055, 2010. DOI:10.1002/joc.1949.
20. Islam M. Nazrul, **M. Rafiuddin**, A. U. Ahmed and R. K. Kolli, "Calibration of PRECIS in employing future scenarios in Bangladesh", International Journal of Climatology, 28: 617-628, 2008. DOI:10.1002/joc.1559.
21. Akter N., Islam M. Nazrul and **M. Rafiuddin**, "Retrieval of rain rate from the rain status of BMD radar", The Atmosphere, 3: 24-30, 2007.
22. J. K. Sen, M. M. Alam, M. I. Kabir, K. Asaduzzaman and **M. Rafiuddin**, "Measurement of alpha emitters concentration in some soft drinks", Bangladesh Journal of Physics, 2(1): 35-40, 2006.
23. M. M. Alam, M. I. Kabir, K. A. Zaman, **M. Rafiuddin**, and G. U. Ahmad, "Internal dosimetry of human brain for <sup>99m</sup>Tc and <sup>131</sup>I using nuclear imaging in Bangladesh", Sri Lankan Journal of Physics, 6: 33-42, 2005. doi:10.4038/sljp.v6i0.199.
24. **M. Rafiuddin**, M. Jahangir Alam and G.U. Ahmad, "A dose conversion factor for any field size by using a locally fabricated water phantom", Bangladesh Journal of Medical Physics, 3: 39-44, 2004.
25. **M. Rafiuddin**, M. Jahangir Alam and G.U. Ahmad, "Measurement of dose outside the irradiated volume by using locally fabricated water phantom", Bangladesh Journal of Medical Physics, 2: 41-44, 2003.
26. M. Jahangir Alam, **M. Rafiuddin**, H. Rashid, F. Nasreen, S.R. Husain and G.U. Ahmad, "Accuracy of the dose correction in irregular fields for mega-voltage photon beam radiation", Bangladesh Journal of Medical Physics, 1: 41-44, 2002.

#### Proceedings/Presentations:

1. **M. Rafiuddin**, Nasreen Akter, and Toru Terao, "Assessment of global satellite mapping of precipitation data for rainfall measurement in Bangladesh", Abstracts in the 11th Workshop of International Precipitation Working Group (IPWG-11), 15-18 July 2024, Tokyo Institute of Technology, Tokyo, Japan, 2024.
2. **M. Rafiuddin**, Nasreen Akter, Kazuhisa Tsuboki, Ronald L Holle and Ashraf Dewan, "Lightning in Bangladesh: Hydrometeors assessment of active and inactive lightning days", Abstracts in the 9th Global Energy and Water Exchanges Open Science Conference (GEWEX OSC), 07-12 July 2024, Sapporo, Japan, 2024.
3. **M. Rafiuddin**, "Lightning in Bangladesh: Hydrometeors and thermodynamics assessment of active and inactive lightning days", Abstracts in the 1st National Conference on Advances in Science and Technology (NCAST-2023), 7 - 8 December 2023, BUET, Dhaka-1000, Bangladesh, 2023 (Invited Talk).
4. A. T. M. Shafiul Azam, **M. Rafiuddin**, Nasreen Akter, and Ashraf Dewan, "Analysis of lightning activity and its relation with pollutants over Bangladesh", Abstracts in the 1st National Conference on Advances in Science and Technology (NCAST-2023), 7 - 8 December 2023, BUET, Dhaka-1000, Bangladesh, 2023.
5. Mohammad Nasirul Hoque, and **M. Rafiuddin**, "Vertical distribution of latent heat and its correlation with precipitation over the Bay of Bengal and Bangladesh", Abstracts in the 1st National Conference on Advances in Science and Technology (NCAST-2023), 7 - 8 December 2023, BUET, Dhaka-1000, Bangladesh, 2023.
6. Sakia Shabnam Kader, and **M. Rafiuddin**, "Spatiotemporal variations of convective available potential energy over Bangladesh", Abstracts in the 1st National Conference on Advances in Science and Technology (NCAST-2023), 7 - 8 December 2023, BUET, Dhaka-1000, Bangladesh, 2023.

7. Mohammad Nasirul Hoque, and **M. Rafiuddin**, "Spatiotemporal variations of atmospheric heat flux in and around Bangladesh", Abstracts in the 1st International Conference on Frontier in Sciences (ICFS-2022), 11-12 November 2022, Dhaka, Bangladesh, 2022.
8. A. T. M. Shafiul Azam, **M. Rafiuddin**, Nasreen Akter, and Ashraf Dewan, "Spatial and vertical distributions of hydrometeors of severe thunderstorms in Bangladesh", Abstracts in the 1st International Conference on Frontier in Sciences (ICFS-2022), 11-12 November 2022, Dhaka, Bangladesh, 2022.
9. A. F. M. S. Amin, **M. Rafiuddin**, S Miura, "Applicability of weathering steel in the atmospheric conditions of Bangladesh", Proceedings in the IABSE-JSCE Joint Conference on Advances in Bridge Engineering-IV, 26-27 August, 2020, Dhaka, Bangladesh, 2020
10. A. T. M. S. Azam, **M. Rafiuddin**, N. Akter and A. Dewan, "Relation between lightning flash and atmospheric aerosol over Bangladesh", Abstracts in the National Conference on Physics, 07-09 February, 2019, Dhaka, Bangladesh, 2019.
11. A. T. M. S. Azam, **M. Rafiuddin**, N. Akter and A. Dewan, "Effect of aerosol on lightning flash over Bangladesh", Abstracts in the International Conference on Thunderstorm & Lightning in Tropics, 17-19 January, 2019, Siksha Anusandhan, Bhubaneswar, Odisha, India, 2019.
12. Ronald L. Holle, Vaisala, Inc., Tucson, AZ; and A. Dewan, R. Said, W. A. Brooks, M. F. Hossain, and **M. Rafiuddin**, "Lightning Occurrence and Casualties Relative to Crop Cycles in Bangladesh", Abstracts in the 99th American Meteorological Society Annual Meeting, 06-10 January, 2019, USA, 2019.
13. M. A. Khatun, ATM Shafiul Azam and **M. Rafiuddin**, "Validation of integrated multi-satellite retrievals for GPM data in Bangladesh", Proceedings in the 6th International Conference on Water and Flood Management (ICWFM-2017), 4-6 March, 2017, Dhaka, Bangladesh, 2017.
14. J. Hossain, ATM Shafiul Azam and **M. Rafiuddin**, "Study of diurnal variation of rainfall in Bangladesh using GSMaP data", Abstracts in the National Conference on Physics, 5-7 January, 2017, Dhaka, Bangladesh, p89, 2017.
15. M. A. Khatun, ATM Shafiul Azam and **M. Rafiuddin**, "Comparison of integrated multi-satellite retrievals for GPM (IMERG) monthly precipitation and rain gauge data ", Abstracts in the National Conference on Physics, 5-7 January, 2017, Dhaka, Bangladesh, p87-88, 2017.
16. M. A. Khatun, ATM Shafiul Azam and **M. Rafiuddin**, "Study of rainfall in Bangladesh using global precipitation measurement data", Abstracts in the International Conference on Physics, 10-12 March, 2016, Dhaka, Bangladesh, p139, 2016.
17. ATM Shafiul Azam, **M. Rafiuddin** and H. Uyeda, "Study of the extreme rainfall events in Bangladesh using TRMM", Abstracts in the 5th Asia/Oceania Meteorological Satellite Users' Conference (AOMSUC), 19-21 November 2014, Shanghai, China, p61, 2014.
18. **M. Rafiuddin**, J. Begum and Syed Ahmed , "Impact of climate change on rainy days in Bangladesh during 1950-2009", Abstracts in the Monsoon Asia Integrated Regional Studies (MAIRS) Open Science Conference (MAIRS-OSC2014), 07-10 April 2014, Beijing, China, p231, 2014 (Won the Best Poster Award).
19. ATM Shafiul Azam, **M. Rafiuddin** and H. Uyeda, "Use of tropical rainfall measuring mission data in Bangladesh", Abstracts in the International Conference on Physics for Energy and Environment, 6-8 March 2014, Atomic Energy Center, Dhaka, Bangladesh, p63, 2014.
20. **M. Rafiuddin**, Syed Ahmed and J. Begum, "Variability and trends of rainy days in Bangladesh", Proceedings in the 2nd International Conference on Southeast Asian Weather and Climate (ICSA-WC2013), 27-29 November 2013, Chiang Mai, Thailand, 2013.

21. **M. Rafiuddin**, J. Begum and Syed Ahmed, "Variability of rainy days in Bangladesh during 1950-1999", Abstracts in the 5th International Workshop on Monsoons (IWM-V), 28 October - 01 November, 2013, Macao, China, p62, 2013(Poster).
22. **M. Rafiuddin**, Rezaul Karim Khan and M. Nazrul Islam, "The influence of sea surface temperature on tropical cyclone formed in the Bay of Bengal", Proceedings in the 34th Asian Conference on Remote Sensing (ACRS-2013), 20 -24 October 2013, Bali Island, Indonesia, p SC05\_363-368, 2013.
23. **M. Rafiuddin**, H. Uyeda, M. N. Islam, Md. Abdul Mannan and Md. Quamrul Hassan, "Vertical structure of a squall line in Bangladesh analyzed by TRMM PR, Doppler Radar and WRF", Abstracts in the 4th TRMM and GPM International Science Conference, 13-16 November 2012, Tokyo, Japan, p21, 2012.
24. Md. Abdul Mannan, Md. Quamrul Hassan, H. Uyeda, M. N. Islam and **M. Rafiuddin**, "Validation of TRMM estimated rainfall data with rain gauge data in Bangladesh and Bhutan", Abstracts in the 4th TRMM and GPM International Science Conference, 13-16 November 2012, Tokyo, Japan, p19, 2012.
25. J. Begum, **M. Rafiuddin** and M. N. Islam, "Diurnal variation of mesoscale precipitation systems during monsoon period in and around Bangladesh", Abstracts in the International Conference on Physics of Today, 15-16 March 2012, Dhaka, Bangladesh, p41, 2012.
26. J. Begum, **M. Rafiuddin** and M. N. Islam, "Classification of pre-monsoon arc shaped precipitation systems in Bangladesh", Abstracts in the National Conference on Advances in Physics, 28-29 February 2012, Sylhet, Bangladesh, p2, 2012.
27. B. K. Dash, **M. Rafiuddin**, Fahima Khanam and M. N. Islam, "Diagnosis and monitoring of drought from regional climate model simulated rainfall in Bangladesh", Abstracts in the National Conference on Advances in Physics, 28-29 February 2012, Sylhet, Bangladesh, p27-28, 2012 (Poster).
28. **M. Rafiuddin**, H. Uyeda\* and M. N. Islam, "Structure of precipitation system in Bangladesh observed by Doppler radar and TRMM PR: Case Study", The 3rd GPM Asia Workshop on Precipitation Data Application Technique, Tokyo, Japan, December 7, 2011.
29. B. K. Dash, **M. Rafiuddin**, Fahima Khanam and M. N. Islam, "Drought analysis in Bangladesh from RegCM simulated rainfall", Abstracts in the National Conference on Physics for Development, 10-11 February 2011, Dhaka, Bangladesh, p52.
30. **M. Rafiuddin**, H. Uyeda and M. N. Islam, "Seasonal and interannual variations of precipitation systems in Bangladesh", Abstracts in the International Conference on Recent Advance in Physics (RAP-2010), 27-29 March 2010, Dhaka, Bangladesh, p53, 2010.
31. Md. Rezaul Karim Khan, M. Nazrul Islam and **M. Rafiuddin**, "The influence of sea surface temperature on tropical cyclone formed in the Bay of Bengal", Abstracts in the International Conference on Recent Advance in Physics (RAP-2010), 27-29 March 2010, Dhaka, Bangladesh, p55, 2010.
32. **M. Rafiuddin**, H. Uyeda and M. N. Islam, "Simulation of characteristics of precipitation systems developed in Bangladesh during pre-monsoon and monsoon", Proceedings in the 2nd International Conference on Water & Flood Management (ICWFM-2009), 15-17 March 2009, Dhaka, Bangladesh, 1: 61-67, 2009.
33. **M. Rafiuddin**, H. Uyeda and M. Kato, "Development processes of an arc type system during pre-monsoon in Bangladesh", Autumn Meeting of the Meteorological Society of Japan, 19-21 November 2008, Sendai, Japan, p188.
34. **M. Rafiuddin**, H. Uyeda and M. N. Islam, "Characteristics of monsoon precipitation systems in Bangladesh during 2000-2005", Proceedings in the 6th International Conference on Mesoscale Meteorology and Typhoon in East Asia (ICMCS-VI), 6-9 November 2007, Taipei, Taiwan, 4 pages.

35. **M. Rafiuddin**, H. Uyeda and M. N. Islam, "Characteristics of precipitation systems in Bangladesh during 2000-2005", Autumn Meeting of the Meteorological Society of Japan, 14-16 October 2007, Sapporo, Japan, p120.
36. **M. Rafiuddin**, H. Uyeda and M. N. Islam, "Characteristics of precipitation systems in and around Bangladesh during monsoon", Spring Meeting of the Meteorological Society of Japan, 13-16 May 2007, Tokyo, Japan, p414.
37. Islam M. Nazrul, **M. Rafiuddin**, T. Hayashi, T. Terao and J. Matsumoto, "GEOSS in Asia and MAHASRI: particularly in Bangladesh", Proceedings in the Third Asia Pacific Association Hydrology and Water Resources (3rdAPHW), 16-18 October 2006, Bangkok, Thailand, 5 pages.
38. **M. Rafiuddin**, Islam M. Nazrul and A. U. Ahmed, "RegCM3 in simulating cyclone developed over the Bay of Bengal", Third ICTP Workshop on the Theory and Use of Regional Climate Models, 29 May - 9 June 2006, ICTP, Trieste, Italy.
39. **M. Rafiuddin**, Islam M. Nazrul and A. U. Ahmed, "Application of Regional Climate Models in Meteorological Aspects in Bangladesh", Third ICTP Workshop on the Theory and Use of Regional Climate Models, 29 May - 9 June 2006, ICTP, Trieste, Italy (Poster).
40. Islam M. Nazrul, **M. Rafiuddin** and A. U. Ahmed, "Present Climate Conditions in Bangladesh", Regional Workshop on Climate Extreme Indices and Indicators for Monitoring Trends in South Asia, 02-06 January 2006, Islamabad, Pakistan.

#### THESIS SUPERVISION:

Student Name	Thesis Title	PhD/M.Phil/M.Sc.	Year
Md. Mizanur Rahman	Tele-connections and long range prediction of summer monsoon rainfall variability over Bangladesh	Ph. D.	2013
Mohammad Nasirul Hoque	Spatiotemporal variations of atmospheric heat fluxes in the Bay of Bengal and Bangladesh along with their correlations to precipitation	M. Phil.	2024
ATM Shafiul Azam	Study of extreme rainfall in Bangladesh using tropical rainfall measuring mission data	M. Phil.	2015
Sayed Ahmed	Variability of rainy days in Bangladesh during 1950-1999	M. Phil.	2013
Jahanara Begum	Regional variation of mesoscale precipitation system during pre-monsoon period in Bangladesh	M. Phil.	2011
Md. Rezaul Karim Khan	Study of the influence of sea surface temperature on tropical cyclone formed in the Bay of Bengal during 1981-2007 AD	M. Phil.	2010
Avantika Jayati Dhali	Study on pre-monsoon thunderstorm frequency and its relation with rainfall in Bangladesh during 1990-2017	M. Sc.	2019
Jahid Hossain	Study of diurnal variation of rainfall in Bangladesh using GSMaP data	M. Sc.	2017
Mst. Asma Khatun	Study of rainfall in Bangladesh using global precipitation measurement data	M. Sc.	2016

## **TRAINING/WORKSHOPS/COURSES:**

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1. Training workshop on Teaching-Learning, Organized by the Institutional Quality Assurance Cell (IQAC), BUET, Dhaka, June 02, 2016.
2. New and emerging remote sensing technologies for precipitation data sets and their applications and validation, Organized by the International Precipitation Working Group (IPWG) and Japan Aerospace Exploration Agency (JAXA), 17-19 November 2014, Tsukuba, Japan.
3. INEES Final Workshop, Organized by the University of Flensburg and International Network for Energy & Environmental Sustainability (INEES), University of Flensburg, 19-23 August 2013, Flensburg, Germany.
4. INEES Science Education-III, Organized by the University of Flensburg and International Network for Energy & Environmental Sustainability (INEES), University of Flensburg, 13-17 February 2012, Flensburg, Germany.
5. INEES Science Education-II, Organized by the Department of Physics, Bangladesh University of Engineering & Technology (BUET) and International Network for Energy & Environmental Sustainability (INEES), University of Flensburg, 14-18 February 2011, Dhaka, Bangladesh.
6. INEES Science Education, Organized by the University of the West Indies and International Network for Energy & Environmental Sustainability (INEES), University of Flensburg, 03-09 October 2010, Jamaica.
7. Regional Climate Modeling Using PRECIS, Organized by Met Office Hadley Centre, UK, and Climate Change Study Cell (CCSC) of Bangladesh University of Engineering & Technology (BUET), 14-18 February 2010, IWFM, BUET, Dhaka-1000, Bangladesh.
8. Satellite Remote Sensing of Atmospheric Constituents, Organized by Water Science Unit of UNESCO Office Jakarta and the Institute of Hydrospheric Atmospheric Sciences of Nagoya University, 3-15 November 2008, Nagoya, Japan.
9. Numerical Prediction of High-Impact Weather Systems, Organized by Water Science Unit of UNESCO Office Jakarta and the Institute of Hydrospheric Atmospheric Sciences of Nagoya University, 2-15 December 2007, Nagoya, Japan.
10. Theory and Use of Regional Climate Models, Organized by International Centre for Theoretical Physics (ICTP), 29 May - 09 June 2006, Trieste, Italy.
11. 2nd KAGI21 International Summer School, Organized by Faculty of Earth Sciences and Mineral Technology, Institut Teknologi Bandung (FIKTM-ITM) and Kyoto University Active Geosphere Investigations for the 21st Century COE program (KAGI21), 14-27 August 2005, ITB, Bandung, Indonesia.
12. Teachers` Appreciation Workshop, Organized by Directorate of Continuing Education, Bangladesh University of Engineering & Technology (BUET) , 01 -02 April 2004, Dhaka, Bangladesh.
13. Recent Trends in Medical Physics in Bangladesh, Organized by Bangladesh University of Engineering & Technology (BUET) and Bangladesh Medical Physics Association (BMPA), 09 -11 April 2003, Dhaka, Bangladesh.
14. Safety and Protection in Radioactive Waste Management, Organized by Nuclear Safety and Radiation Control Division, BAEC and World Health Organization, 30-31 October 2002, Dhaka, Bangladesh.
15. Potential Users of TRIGA Research Reactor Facility of BAEC, Organized by Institute of Nuclear Science and Technology, 20-23 October 2002, AERE, Savar, Bangladesh.

16. Physics of Radiation Therapy, Organized by Bangladesh University of Engineering & Technology (BUET) and Bangladesh Medical Physics Association (BMPA), 29 January - 02 February 2001, Dhaka, Bangladesh.

#### **CONTRIBUTION TO THE UNIVERSITY ADMINISTRATION:**

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- i. Provost, Ahsan Ullah Hall, Bangladesh University of Engineering and Technology (BUET), from July 2022 to August 2024.
- ii. Head, Department of Physics, Bangladesh University of Engineering and Technology (BUET), from January 2020 to January 2022.
- iii. Associate Director, Directorate of Students' Welfare, Bangladesh University of Engineering and Technology (BUET), from September 2014 to September 2016.
- iv. Assistant Provost, Dr. M. A. Rashid Hall, Bangladesh University of Engineering and Technology (BUET), from August 2010 to May 2014.

#### **MEMBERSHIP OF LEARNED SOCIETIES, PROFESSIONAL INSTITUTIONS:**

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- i. Student Member, Meteorological Society of Japan (MSJ).
- ii. Life Member of Bangladesh Medical Physics Association (BMPA).
- iii. Life Member of Bangladesh Physical Society (BPS).
- iv. Member of Bangladesh Medical Physics Association (BMPA) executive committee 2004-2005.
- v. Member, Academic Council, Bangladesh University of Engineering and Technology.
- vi. Member, Faculty of Engineering, Bangladesh University of Engineering and Technology.
- vii. Member, Faculty of Science, Bangladesh University of Engineering and Technology.
- viii. Member, Academic Council, Jahangirnagar University, Savar, Dhaka.
- ix. Member, Senate, Jahangirnagar University, Savar, Dhaka.
- x. Member, Trustee Board, BUET Alumni Association, BUET, Dhaka.
- xi. Life Member of Japanese University Alumni Association in Bangladesh (JUAAB).

#### **PROFESSIONAL AWARDS/HONOURS RECEIVED:**

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- i. Monbukagaku-sho Scholarship, Ministry of Education, Culture, Sports, Science and Technology, Government of Japan.
- ii. Government Scholarship, University of Jahangirnagar.
- iii. Best Poster Award, Monsoon Asia Integrated Regional Studies (MAIRS) Open Science Conference (MAIRS-OSC2014), 07-10 April 2014, Beijing, China.

#### **RESEARCH COLLABORATIONS:**

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1. Collaboration with Typhoon Science and Technology Research Center (TRC), Yokohama National University, Japan.
2. Collaboration with Kagawa University, Japan.
3. Collaboration for observation on Lightning Detection in Bangladesh and surrounding regions with the Shonan Institute of Technology, Japan.

4. Collaboration with Kochi University, Japan.
5. Collaboration with the Institute for Space-Earth Environmental Research (ISEE), Nagoya University, Japan.
6. Collaboration with Curtin University, Australia.

#### **PEER REVIEW EXPERIENCE:**

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1. Earth System and Environment – Springer.
2. International Journal of Climatology - Wiley.
3. Theoretical and Applied Climatology- Springer.
4. Atmospheric Research- Elsevier.
5. Natural Hazards - Springer.
6. Scientific Reports - Nature Publishing Group.
7. International Journal of Disaster Risk Reduction – Elsevier.

#### **PERSONAL INFORMATION:**

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Bangladesh
6. Date of Birth : August 14, 1974
7. Sex : Male
8. Marital Status : Married
9. Nationality : Bangladeshi (by birth)