

DR. MD MASUDUR RAHMAN

Permanent Address: Noornagar-2, Tilokpur-5942, Akkelpur, Joypurhat, Bangladesh

Present Address: Associate Professor, Department of Electrical and Electronic Engineering,
Pabna University of Science & Technology, Pabna-6600, Bangladesh

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EDUCATION:

University of Chinese Academy of Sciences, China 2016/03 – 2020/01
Aerospace Information Research Institute (AIR) (Former: Institute of Remote Sensing and Digital Earth), Chinese Academy of Sciences (CAS), UCAS, Beijing, China
PhD in Cartography and Geographic Information System
Supervisor: Professor Dr. Wanchang Zhang
Thesis Title: *Analysis of Surface Fluxes in Terms of Energy Balance Closure and Energy Partitioning over Different Surfaces Using Instrumental and Satellite Remote Sensing Techniques*

Pabna University of Science & Technology (PUST), Bangladesh 2011/05-2013/06
Department of Electrical and Electronic Engineering
MSc in Electrical and Electronic Engineering

Khulna University of Engineering & Technology (KUET), Bangladesh 2004/02-2008/02
BSc in Electronics and Communication Engineering
Final Grade: 3.54 (75%)

CURRENT RESEARCH EXPERIENCE AND INTERESTS:

- *Instrumentation and field measurements of atmospheric parameters*

Up to date with the atmospheric instruments and their measuring techniques such as Eddy Covariance (EC), Net Radiometer, Heat Flux Plate, Large Aperture Scintillometer (LAS) etc. I am highly motivated to work in estimating atmospheric parameters such as CO₂ and other fluxes.

- *The earth's surface Energy Balance Closure (EBC) analysis*

As the EBC problem is still an unsolved issue, I have contributed scientifically in the findings of the causes behind the imbalance of surface energy. I am still interested to work in this topic.

- Regional climate/climate change issue

The earth's surface fluxes play vital role in the evolution of climate/climate change in regional and global scale. I am highly motivated to work in regional climate modelling.

- Retrieving surface radiation fluxes using satellite remote sensing techniques

Due to the sparse and limited ground-based observation networks in worldwide, the satellite remote sensing techniques are the only effective way to estimate the radiation fluxes in regional and global scale but its validation is critical and challenging. I have some scientific contributions in the validation of regional scale estimation of surface fluxes. I am highly motivated to work in interdisciplinary research.

TEACHING EXPERIENCES:

Pabna University of Science & Technology (PUST), Bangladesh October 2010 to till
Faculty member (Associate Professor) of Electrical and Electronic date (On study leave
Engineering department during PhD study)
Lecturer of undergrad courses and supervising at undergraduate level.
Major Courses: Electronics, Communication Engineering, Electromagnetic
Field and Waves, Measurements and Instrumentation

Sylhet International University, Bangladesh May 2009 to
Lecturer of undergrad courses at Electronics and Communication October 2010
Engineering department
Major Courses: Electromagnetic Field and Waves, Communication System

LIST OF PUBLICATIONS:

Rahman, M. M., & Zhang W. C., 2020. Regional Distribution of Net Radiation Flux of Surface Energy Balance over Different Surface. *Atmosphere* **2020**, *11*(11), 1229. <https://doi.org/10.3390/atmos11111229>

Rahman, M. M., & Zhang, W. C. , 2019. Validation of Satellite Derived Sensible Heat Flux for TERRA/MODIS Images over Three Different Landscapes Using Large Aperture Scintillometer and Eddy Covariance Measurements. *IEEE J. Sel. Top. Appl. Earth Obs. Remote Sens.* Vol. 12, no. 9, pp. 3327 – 3337. <https://doi.org/10.1109/JSTARS.2019.2928880>

Rahman, M. M., Zhang, W. C., & Wang, K., 2019. Assessment on surface energy imbalance and energy partitioning using ground and satellite data over a semi-arid agricultural region in north China. *Agric. Water Manag.* Vol. 213, pp. 245–259. <https://doi.org/10.1016/j.agwat.2018.10.032>

Rahman, M. M., & Zhang, W. C., 2019. Review on estimation methods of the Earth 's surface energy balance components from ground and satellite measurements. *J. Earth Syst. Sci.* Vol. 128, no. 84, pp. 1–22. <https://doi.org/10.1007/s12040-019-1098-5>

Rahman, M. M., Noor-E-Jannat; Islam, M. O. & Serazus, M. S., 2015. Arduino and GSM Based Smart Energy Meter for Advanced Metering and Billing System. 2015 IEEE International Conference on Electrical Engineering and Information Communication Technology (ICEEICT), Savar, Dhaka, Bangladesh, 21-23 May 2015, pp. 1-6. <https://doi.org/10.1109/ICEEICT.2015.7307498>

Saha, S. K., Islam, M. A., & **Rahman, M. M.,** 2014. Design & Simulation of 8-Shape Slotted

Microstrip Patch Antenna. World Applied Sciences Journal, vol. 31, no. 6, pp. 1065-1071, [https://www.idosi.org/wasj/wasj31\(6\)14/13.pdf](https://www.idosi.org/wasj/wasj31(6)14/13.pdf)

Rahman, M. M., Hossain, M. M., & Karmakar, K. K., 2013. Π -shape Microstrip Antenna Design for WiMAX, Wi-Fi and Biomedical Application at 2.45 GHz. 2013 IEEE 3rd International Advance Computing Conference (IACC), Ghaziabad, India, 22-23 February 2013, pp-546 – 549, <https://doi.org/10.1109/IAdCC.2013.6514285>

AWARDS:

President's International Fellowship Initiative (PIFI) Award 2020-2022 for postdoctoral study at Chinese Academy of Sciences, China.

Excellent International Student Award 2020, University of Chinese Academy of Sciences, China.
CAS-TWAS President's Fellowship Award (2016 to 2020) for PhD study at Chinese Academy of Sciences, University of Chinese Academy of Sciences, Beijing, China.

University Research Project Grant-2012 for MSc study at Pabna University of Science & Technology (PUST), Pabna, Bangladesh.

Undergraduate Merit order Scholarship of KUET (2004 to 2008) for BSc study at Khulna University of Engineering & Technology, Khulna, Bangladesh.

REFEREES:

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Dr. A. B. M. Aowlad Hossain Professor, Department of Electronics and Communication Engineering, Khulna University of Engineering & Technology (KUET), Bangladesh.
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Dr. Md Alam Khairul Professor, Department of Physics
Dean, Faculty of Life and Earth Science
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