

Dr. Rehana Nasrin

Department of Mathematics
Bangladesh University of Engineering and Technology (BUET)
Dhaka-1000, Bangladesh

Mobile Phone: +88-01766924295, +88-01913583407

E-mail: rehana@math.buet.ac.bd, raity11@gmail.com

Website: buet.ac.bd/web/#/profile/rehenanasrin, math.buet.ac.bd/faculty_profile/53/dr-rehana-nasrin,
rehana.buet.ac.bd

PERSONAL PARTICULARS

Father's Name: Md. Abdur Rashid

Mother's Name: Mrs. Safira Khatun

Husband's Name: Md. Tuhin Ullah Khan

Date of Birth: 6th August 1978

Nationality: Bangladeshi by birth

Passport No: A00986702

Present Address: 30/4(D), Teachers' Quarters, BUET, Dhaka-1000, Bangladesh.

Permanent Address: Vill.-Krishnanagar, P.O.+P.S.-Jhikargacha, Dist.-Jashore, Bangladesh.

RESEARCHER DATA

Researcher ID: Q-9858-2017

ORCID: 0000-0002-5032-4287

Scopus Preview: Author ID - 37011710500

Publons: No. of the article: 102; H-Index: 20, Citations: 1264, Verified review: 35

Google Scholar: H-Index: 26, i10- Index: 49, Citations: 2118

Research Gate: RG Score: 28.73, Citations: 1834

Scopus: No. of the article: 61, H-index: 22, Citations: 1403

<https://www.adscientificindex.com/scientist.php?id=492326>

(Updated on 24/02/2022)

RESEARCH EXPERIENCE

Throughout my university teaching career, I am involved in many research areas. These areas include

- Computational Fluid Dynamics
- Renewable Energy
- Nanofluid and Blood Flow Modelling
- Transport in Porous Media
- Bioheat, Heat and Mass Transfer
- Magnetohydrodynamics

- Heat-exchanger, Chemical Reactor and Sand Grain
- Theory of Relativity and Cosmology

CURRENT POSITION

Professor in the Department of Mathematics at Bangladesh University of Engineering and Technology, Dhaka, Bangladesh.

EDUCATION

Ph.D. in Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh. August 2015 (GPA: 3.83/4.0)

Thesis Title: "A 3D numerical study of thermofluid characteristics of a flat plate solar collector using nanofluid"

M.Phil. in Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh. August 2009 (GPA: 3.7/4.0).

Thesis Title: "Effects of variable thermal conductivity on the coupling of conduction and Joule heating with MHD free convection flow along a vertical flat plate"

M.Sc. in Applied Mathematics, University of Dhaka, Bangladesh. August 2002 (Grade: First Class 2nd position with 71% marks)

Thesis Title: "A modern view to the general theory of relativity and cosmology"

B.Sc. in Mathematics, University of Dhaka, Bangladesh. September 2000 (Grade: First Class 2nd position with 69% marks).

WORK EXPERIENCE

Professor, February 2018 – Present, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh. Teaching Mathematics courses.

Associate Professor, February 2016 – February 2018, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh. Taught Mathematics courses.

Post-Doctoral Research Fellow, October 2016 - October 2017, UMPEDAC, University of Malaya, Kuala Lumpur, Malaysia. Research Field: Renewable Energy.

Assistant Professor, August 2010 – February 2016, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh. Taught Mathematics courses.

Lecturer, September 2006 – August 2010, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh. Taught Mathematics courses.

Lecturer, October 2004 – September 2006, Ahsanullah University of Science and Technology, Tejgaon, Dhaka, Bangladesh. Taught Mathematics courses.

POSTGRADUATE THESIS SUPERVISED

M.Sc. Degree:

- Chaity Biswas, Numerical study of microwave cancer therapy for liver tissue using bioheat model, Dept. of Mathematics, BUET, Dhaka-1000, 18th July, 2021.
- Saima Akter Sawmpa, Three dimensional numerical study for hepatic tumor ablation using electric current and bioheat transfer, Dept. of Mathematics, BUET, Dhaka-1000 12th July, 2021.
- Sadikul Islam, Numerical modeling of heat and mass transfer using nanofluid in a tubular reactor, Department of Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh, 15th December 2020.
- Shamima Airin Sweety, Numerical analysis of turbulent flow through a shell and tube heat exchanger using Kays-Crawford model, Department of Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh, 22nd November 2020.
- Saddam Hossain, Performance analysis of hybrid nanofluid flows in lid-driven undulated enclosure, Department of Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh, 6th October 2019.
- Md. Amzad Hossain, Numerical study of controlling blood flow through a stenosed artery using power-law fluid, Department of Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh, 1st October 2019.

M. Phil. Degree:

- Md. Faizar Rahman, A numerical study of natural convection heat transfer in a trapeziform cavity filled with nanofluids, Department of Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh, 6th December 2021.
- Fatema Tuz – Zohora, Numerical investigation on electrical and thermal performance of photovoltaic thermal system in Bangladesh, Department of Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh, 29th November 2021.
- Md. Mehedi Hasan, Numerical simulation over a nanofluid flow kinetics in a square duct driven by exothermic chemical reaction, Department of Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh, 8th September 2021.
- Shatay Khatun, Numerical study of Brownian motion and thermophoresis on free convection in a trapezoidal enclosure using Buongiorno's nanofluid model, Department of Mathematics, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh, 7th June 2021.
- Md. Saifur Rahman, A numerical study on heat and mass transfer in two-sided lid-driven porous cavity using nanofluid, Department of Science & Humanities, Military Institute of Science & Technology, Dhaka-1216, Bangladesh, 27th February 2020.

SUPERVISORY RESPONSIBILITY

Currently supervising nine postgraduate scholars (Five Doctor of Philosophy (Ph.D.), Five of Master of Philosophy (M. Phil.) and four of Master of Science (MS) program).

COMPUTER EXPERTISE

Programming software such as FORTRAN, MATLAB, FLUENT, COMSOL MULTIPHYSICS, SOLIDWORKS, AUTOCAD operating software such as LINUX, WINDOWS, MS-DOS, application software such as MS-OFFICE, PAGE MAKER, and graphing software such as TECHPLOT, ORIGIN.

INDUSTRIAL EXPERIENCE

- ✚ Completed research project titled "Finite Element Modeling of Heat and Mass Transport by Nanofluid in a Tubular Reactor" from **Information & Communication Technology, Ministry of Science**, Bangladesh Computer Council Bhaban, Agargaon, Dhaka, Bangladesh, 2013-2014.
- ✚ Completed research project titled "Forced Convective Flow Phenomena through a Flat Plate Solar Collector" from **University Grants Commission**, Agargaon, Dhaka, Bangladesh, 2014-2015.

ATTENDED PROGRAMS

- ❖ **OWSD 6th General Assembly and International Conference** organized by OWSD, 08-19 November 2021.
- ❖ Completed every module within **Fundamentals of manuscript preparation** by Researcher Academy, Elsevier, 10th September 2021.
- ❖ Training workshop on **Public Procurement Rules** organized by **Directorate of Continuing Education**, BUET, 28-29 August 2021.
- ❖ Author workshop on **Fundamentals of Writing Research Articles for Top Journals** from Researcher Academy, Elsevier, 10th August 2021 organized by BUET.
- ❖ **The Second SouthEast Asian Women Mathematicians Meeting (SEAWM2) 2021**, Indonesia, 10th July 2021
- ❖ Workshop on **Public Procurement Rules** organized by **Directorate of Continuing Education**, BUET, 09-10 February 2021.
- ❖ Workshop on **Microsoft Team** organized by Institutional Quality Assurance Cell, BUET, 2nd September 2020.
- ❖ Training workshop on **Learning Management System “Moodle”: Essentials for Administrator** organized by Institutional Quality Assurance Cell, BUET, 09-10 August 2020.
- ❖ Training workshop on **Learning Management System: Moodle** organized by Institutional Quality Assurance Cell, BUET, 14-15 July 2020.

- ❖ **IWM Regional Workshop on Research and Opportunity** organized by Dept. of Mathematics, NIT Meghalaya, India, 19-20 October 2019.
- ❖ **2nd Training workshop on Learning Management System: Moodle** organized by Dept. of CSE, BUET, 26th February 2018.
- ❖ **Workshop on the Impact of High Proliferation of Large Scale Solar to Malaysian Electricity Grid** organized by UMPEDAC, University of Malaya, Kuala Lumpur, Malaysia, 19th September 2017.
- ❖ **Self Assessment Exercise** organized by Dept. of Mathematics, BUET, 8th July 2017.
- ❖ **5th Workshop on Training and Experience Transfer on Renewable Energy Safety in Malaysia** organized by UMPEDAC, University of Malaya, Kuala Lumpur, Malaysia, 25-26 May 2017.
- ❖ **COMSOL EDU Seminar 2016** organized by Dept. of Electrical Engineering, Faculty of Engineering, University of Malaya, Kuala Lumpur, Malaysia, 20th December 2016.
- ❖ **1st Bangladesh Global Summit 2016** organized by **All European Bangladesh Association**, Berjaya Times Square Hotels, Kuala Lumpur, Malaysia, 19-20 November 2016.
- ❖ **Workshop on Effective Writing and Review of Research Proposal, Research Paper, and Thesis** organized by **Directorate of Continuing Education**, BUET, 23rd July 2016.
- ❖ **Teaching-Learning and Curriculum Development** workshop organized by **Institutional Quality Assurance Cell**, BUET, 27-28 April 2016.
- ❖ **Self Assessment Workshop** organized by Dept. of Mathematics, BUET, 12th March 2016.
- ❖ **Self Assessment Exercise** organized by **Institutional Quality Assurance Cell**, BUET, 10th December 2015.
- ❖ **Self Assessment Workshop** organized by Dept. of CSE, BUET, 1st September 2015.
- ❖ **Self Assessment Workshop** organized by Dept. of Mathematics, BUET, 22nd August 2015.
- ❖ **Teachers Appreciation Workshop** organized by **Directorate of Continuing Education**, BUET, 29-30 May 2007.
- ❖ **Origami Workshop** organized by BUET, 25th September 2013.
- ❖ **Computer Fundamental & Application Software: MS-Word, MS-Excel, MS-Access, MS-PowerPoint, Page Maker** organized by **Dhaka University Computer Association**, October 2000 – January 20001 and secured Grade A+.

INVITED SPEAKER

- Title "**Progress, Challenges and Prospects of Nanofluid in PV System**" in **UMPEDAC Postgraduate Research on Energy (PROE) Symposium 2017**, organized by UMPEDAC, UM, held at Hotel Sentral, Kuala Lumpur, Malaysia, 6-7 September 2017.

SESSION CHAIR & CO-CHAIR

- **22nd International Mathematics Conference 2021**, 10-11 December, 2021, Bangladesh
- **8th BSME International Conference on Thermal Engineering (ICTE-2018)**, 19–21 December 2018, Dhaka, Bangladesh.
- **20th International Conference on Applied Mathematics (ICAM-2018)**, 8-9 February 2018, Amari Hotel, Bangkok, Thailand.

RESOURCE PERSON

- Title “**Benefit To Learn Mathematics**” in **Webinar Series on Mathematics is Everywhere**, organized by E-Math Info Ltd., Webinar Episode 007, 25th November 2020, Bangladesh
- Title "**Development, Confront and Panorama of Nanofluid in Computational Fluid Dynamics**" in **Virtual Workshop On “Advances in Fluid Mechanics-2020”**, organized by **KL University, Andhra Pradesh, India**, 12 September 2020.

ACHIEVEMENTS AND AWARDS

- **Nari Joyeeta** in Education and Job Category at Divisional Level-2020, Khulna, Bangladesh.
- **Nari Joyeeta** in Education and Job Category at District Level-2019, Jashore, Bangladesh.
- **Nari Joyeeta** in Education and Job Category at Upazilla level-2019, Jhikargacha, Jashore, Bangladesh.
- **Travel grant and accommodation** from IWM for attending **IWM Regional Workshop on Research and Opportunity**, Dept. of Mathematics, NIT Meghalaya, India, 19-20th October 2019.
- **Post-Doctoral Research Fellowship** from UM Power Energy Dedicated Advanced Centre, University of Malaya, Kuala Lumpur, Malaysia, 2016-2017.
- **Ph.D. Fellowship** from **Bangabandhu Fellowship on Science & ICT Project**, Ministry of Science & Technology, Bangladesh, 2012-2015.
- **Travel grant and accommodation** from BUET for attending **5Th Brunei International Conference on Engineering and Technology**, Bandar Seri Begawan, Brunei Darussalam, 1-3 November 2014.
- **Fellowship** in recognition of contribution to the body of knowledge on 29th December 2012 by Global Institute of Science & Technology, 31 Blacke Street, Berwick 3806, Victoria, Australia.
- **Best Paper Award** titled “**Double diffusive natural convection in a partially heated cavity using nanofluid**” in Global Engineering, Science & Technology Conference, Bangladesh, 2012.

- **Travel grant and accommodation** from BUET for attending **3rd CUTSE International Conference 2011**, Curtin University, Miri, Sarawak, Malaysia, 08-09 November 2011.
- **Special Award** from the **Talented Students Award & Prize Giving Committee**, Jhikargacha, Jashore in recognition of 1st Class 2nd Position in B.Sc. Examination, 2001.
- **Dean's Award** from the University of Dhaka, in recognition of extraordinary performance in B.Sc. Examination, 2001.
- **Gold Medal** from **Sonali Bank Employees Benevolent Fund, Sonali Bank Ltd, Bangladesh** for the extraordinary results of H.S.C Examination, 1996.
- **Gold Medal** from **Sonali Bank Employees Benevolent Fund, Sonali Bank Ltd, Bangladesh** for the extraordinary results of S.S.C. Examination, 1994.
- **Talentpool Scholarship** from **Jashore Board of Education** for Class VIII Scholarship Examination, 1991.

REVIEWING SERVICES

Serving as reviewer in many well recognized and referred International Journals/Conference Proceedings.

MEMBERSHIP

- ❖ **Member Secretary** of the Association of Bangladeshi Women in Mathematics (March 2021 to update)
- ❖ Academic Council, BUET.
- ❖ Faculty of Science, BUET.
- ❖ Board of Post Graduate Studies (BPGS), Department of mathematics, BUET.
- ❖ **Member Secretary** of the BPGS in the Dept. of mathematics, BUET, (November 2018 to update).
- ❖ Board of Undergraduate Studies (BUGS), Department of mathematics, BUET.
- ❖ Executive Committee, Teacher's Club, BUET (2020).
- ❖ **Member Secretary** of the BUGS in the Dept. of mathematics, BUET, (January - November 2018).
- ❖ **Joint Secretary** of Bangladesh Mathematical Society (BMS) (2018-2019).
- ❖ **Felicitation Secretary** of Teacher's Club, BUET (2018-2019).
- ❖ **Member Secretary** of the BUGS in the Dept. of mathematics, BUET, (October 2014 to October 2016).
- ❖ Organizing Committee of the National Undergraduate Mathematics Olympiad 2013 and 2015.
- ❖ Organizing Committee of the International Mathematics Conference 2009 and 2013

- ❖ Executive Committee of BMS (2010-2013).
- ❖ **Assistant Secretary** of BMS (2014-2017).
- ❖ Executive Committee of Teachers' Club, BUET, 2016.
- ❖ Undergraduate Mathematics Curriculum Committee for CSE and BME Departments in BUET, 2015.
- ❖ Selection Board, Appointment of Cleaner, Department of Glass and Ceramic Engineering, Bangladesh University of Engineering & Technology, 2015.
- ❖ Selection Board, Appointment of Messenger on Daily Basis, Registrar Office, Bangladesh University of Engineering & Technology, 2014.
- ❖ **Convener** of Admission Test Committee, Engineering University Girls' School (2013-2014).
- ❖ Governing Body of Engineering University Girls' School (2011-2013).
- ❖ Financial Committee of Engineering University Girls' School (2011-2013).
- ❖ Organizing Committee of the Inter University Mathematical Olympiad 2009.

HONORS AND SOCIETIES

- Organization for Women in Science for the Developing World, Trieste
- Bangladesh Mathematical Society.
- Dhaka University Alumni Association.
- BUET Alumni Association.
- Dhaka University Mathematics Alumni Association.
- Bangladesh Association for the Advancement of Science.
- Association of Bangladeshi Women in Mathematics

DEPARTMENT PRESENTATIONS

- Title "**Actuarial Science and Financial Engineering**" in the Department of Mathematics, BUET, April 23, 2016.
- Title "**Thermofluid Characteristics of a Flat Plate Solar Collector**" in the Department of Mathematics, BUET, June 6, 2015.
- Title "**Finite Element Modeling of Heat and Mass Transport by Nanofluid in a Tubular Reactor**" in Information & Communication Technology, Ministry of Science, Dhaka, September 7, 2015.

ADMINISTRATIVE DUTY

- ✓ **Assistant Provost** of **Chattri Hall**, BUET from 14/03/2018 to 10/11/2020.

✓ **Assistant Provost** of **Chattri Hall**, BUET from 19/01/2016 to 09/10/2016.