TOBIBUR RAHMAN

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Naogaon, Manda - 6510, Bangladesh

ABOUT ME

I am an enthusiastic researcher and aspiring scientist exploring fractional stochastic differential equations in complex nonlinear dynamics. I study wave propagation, qualitative behaviors, and analyze the stability and bifurcation of complex nonlinear dynamical systems. I am passionate about connecting theoretical mathematics to practical problems through precise and innovative solutions.

EDUCATION

Hajee Mohammad Danesh Science and Technology University   **Dinajpur-5200, Bangladesh**
Bachelor of Science (Honours) in Mathematics   *January 2022 – December 2025*
CGPA: (Not for Public) / 4.00 [Avg. till 6th semester]

Rajshahi Govt. Model High School and College, Rajshahi, Bangladesh   **Rajshahi Education Board**
Higher Secondary Certificate, Science Background   *July 2018 – June 2020*
GPA: (Not for Public) / 5.00

Ghona Adarsha High School and College, Naogaon, Bangladesh   **Rajshahi Education Board**
Secondary School Certificate, Science Background   *January 2015 – June 2018*
GPA: (Not for Public) / 5.00

WORK EXPERIENCE

Research Assistant   **Mar 2023 – Present**
Prof. Dr. Md. Tarikul Islam, Department of Mathematics, HSTU   *Dinajpur-5200, Bangladesh*

- Researched nonlinear partial differential equations, soliton theory, and fractional stochastic models.
- Assisted with data analysis, academic writing, and simulations using MATLAB and Maple.
- Collaborated on preparing manuscripts for journals and conferences.
- Provided support to fellow researchers through MATLAB simulations and manuscript development.

PUBLICATIONS

- MT Islam, H Alsaud, **T Rahman**, M Inc. *Exclusive soliton solutions arise in mono-mode optical fibre connecting to nonlinear Fokas system*. **Optical and Quantum Electronics**, 56(5), 753 (2024). DOI: 10.1007/s11082-023-06200-x

- MT Islam, **T Rahman**, M Inc, MA Akbar. *Comprehensive soliton solutions of fractional stochastic Kraenkel–Manna–Merle equations in ferromagnetic materials*. **Optical and Quantum Electronics**, 56(6), 927 (2024). DOI: 10.1007/s11082-024-06471-y

CONFERENCES

RURS 1st International Student Conference and Research Fair-2024   **Rajshahi-6205, Bangladesh**
University of Rajshahi   *February 22 – February 23, 2025*

  Exact Soliton Solutions, Bifurcation, Chaotic and Multistability Analysis for the Modified Benjamin-Bona-Mahony Equation (Poster Presentation)

3rd National Mathematics Conference 2024   **Dhaka-1000, Bangladesh**
Bangladesh University of Engineering and Technology (BUET)   *February 6 – February 7, 2025*

  The Analytical Solitary Wave Solutions and Bifurcation Analysis of the Space-Time Fractional Stochastic Yu-Toda-Sasa-Fukuyama Equation (Oral Presentation)

1st National Conference on Advances in Science and Technology   **Dhaka-1000, Bangladesh**
Bangladesh University of Engineering and Technology (BUET)   *December 7 – December 8, 2023*

  Outstanding Soliton Solutions of Stochastic Konno-Oono Model Arise in Magnetic Field with the Noise Effects (Oral Presentation)

NETWORKS AND MEMBERSHIPS

IEEE   **New York, U.S.**
Student Member   *Jan 2025 – Present*

  Active member of the world's largest technical organization, promoting collaboration, knowledge sharing, and professional growth in engineering, computing, and technology.

Aspire Institute   **Global Community**
Aspire Leaders Program Alumni   *Aug 2025 – Present*

  Part of the international Aspire Alumni network, engaging with emerging leaders globally and participating in initiatives related to global development, leadership, and cross-cultural collaboration.

VOLUNTEERING

IEEE HSTU Student Branch   **HSTU, Dinajpur-5200, Bangladesh**
Co-Convener, Program Committee   *Apr 2025 – Present*

  Leading event coordination, program management, and academic activities for the IEEE HSTU Student Branch. Contributed to creating and sharing impactful content, fostering innovation, and strengthening the IEEE community.

HSTU Research Society   **HSTU, Dinajpur-5200, Bangladesh**
Research Associate, Research Wings   *Mar 2025 – Present*

  Contributing to collaborative research projects, paper reviews, and academic development initiatives within the research society. Collaborated with peers to enhance technical skills and foster innovation within the student community.

HSTU Model United Nations Association   **HSTU, Dinajpur-5200, Bangladesh**
Associates Member   *Jan 2023 – Present*

  Developed strong diplomacy, research, negotiation, and public speaking skills through global issue discussions and resolution drafting.

Debating Society of HSTU   **HSTU, Dinajpur-5200, Bangladesh**
General Member   *Apr 2022 – Present*

> Participated in public speaking, critical thinking, and debate sessions. Engaged in inter-university debates and workshops to improve communication, argumentation, and reasoning skills.

Math Club of HSTU, Department of Mathematics   **HSTU, Dinajpur-5200, Bangladesh**
Academic Member   *Jan 2022 – Present*

> Actively engaged in problem-solving sessions, academic discussions, and organizing mathematical activities to promote analytical thinking among students.

HONOURS AND AWARDS

13th National Undergraduate Mathematics Olympiad 2022   **Begum Rokeya University, Rangpur-5404, Bangladesh**
3rd Place (Rangpur Region)   *25 Nov 2022*

> Recognized for outstanding performance in the Rangpur region at the national level undergraduate mathematics competition.

SKILLS

Productivity & Collaboration Tools:
> *Microsoft Office Suite (Word, Excel, PowerPoint, Access, OneNote, Outlook, Teams), Google Workspace (Docs, Sheets, Slides, Drive, Forms, Meet, Gmail, Calendar), Notion, LaTeX (Overleaf), Git, GitHub, Zoom, Colab & Google Cloud*

Programming Languages:
> *Fortran, C, C++, Python*

Libraries & Frameworks:
> *NumPy, SciPy, SymPy, Matplotlib, Pandas, Scikit-Learn, Plotly, TensorFlow, PyTorch, Django*

Mathematical & Scientific Tools:
> *MATLAB, Maple, Mathematica, Desmos, GeoGebra, OriginLab, SPSS, SOLIDWORKS, COMSOL Multiphysics*

Languages:
> *Bangla (Native); English (Proficient)*

HOBBIES & INTERESTS

Reading books, Gardening, Driving, Hiking, and Traveling

> I enjoy reading books to broaden my knowledge and perspective, while gardening helps me relax and connect with nature. In my free time, I also enjoy driving, hiking, and traveling, which allow me to explore new places, cultures, and experiences.

REFERENCES

Prof. Dr. Md. Tarikul Islam, Chairman and Professor, Department of Mathematics, Hajee Mohammad Danesh Science and Technology University, Dinajpur-5200, Bangladesh. ☎ (Not for Public)   ✉ (Not for Public)