

MD. SHAHRIAR MAHMUD

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CAREER OBJECTIVE

To frame up a challenging and passionate career in the field of mathematics with adroit and sophisticated skills and contribute to some significant areas of mathematics through the exceptional and dynamic experiences of a life of a mathematician with loyalty.

ACADEMIC QUALIFICATIONS

University of Dhaka, Bangladesh M.S. IN MATHEMATICS (THESIS) CGPA : 3.81/4.00 [78.89%]	JULY, 2020
University of Dhaka, Bangladesh B.S. IN MATHEMATICS CGPA : 3.45/4.00 [79.89% IN THE FINAL (4 TH) YEAR]	AUGUST, 2018
Feni Government College, Bangladesh HIGHER SECONDARY CERTIFICATE(H.S.C) Group : Science GPA : 5.00/5.00	AUGUST, 2013
Feni Government Pilot High School, Bangladesh SECONDARY SCHOOL CERTIFICATE(S.S.C) Group : Science GPA : 5.00/5.00	MAY, 2011

RESEARCH INTERESTS:

- Mathematical Biology and Modeling
- Dynamical Systems
- Machine Learning
- Biomechanics

M.S. THESIS

Title: Analytical and Computational Study of Vaccination Models with Non-Linear Incidence and Therapeutic Impact
Supervisor: Dr. Md. Kamrujjaman, Associate Professor
Department of Mathematics, University of Dhaka, Bangladesh

UNDERGRADUATE PROJECT

Topic: A Short Study of Finite Field and Finite Extension Field
Supervisor: Dr. Md. Tazibar Rahman, Professor
Department of Mathematics, University of Dhaka, Bangladesh

PROFESSIONAL EXPERIENCES:

- **October 2020 – Present:** Lecturer of Mathematics, Department of Computer Science & Engineering, State University of Bangladesh, Dhaka-1205, Bangladesh.
- **January 2020 – June 2020:** Course Instructor (part-time) of FORTRAN at New Model Degree College, Dhaka-1207, Bangladesh.

PUBLISHED PAPERS:

1. M. Kamrujjaman, **M.S. Mahmud**, M.S. Islam, Dynamics of a diffusive vaccination model with therapeutic impact and non-linear incidence in epidemiology, *Journal of Biological Dynamics, Taylor & Francis publication* [vol. 15, Issue: S1, Page: S105-S133],, 2021.
<https://www.tandfonline.com/doi/full/10.1080/17513758.2020.1849831>
2. M.N. Hassan, **M.S. Mahmud**, K.F. Nipa, M. Kamrujjaman, Mathematical Modeling and Covid-19 Forecast in Texas, USA: a prediction model analysis and the probability of disease outbreak, *Disaster Medicine and Public Health Preparedness*, Cambridge university Press, 2021.
<https://doi.org/10.1017/dmp.2021.151>
3. M. Kamrujjaman, **M.S. Mahmud**, S. Ahmed, M.O. Qayum, M.M. Alam, M.N. Hassan, M.R. Islam, K.F. Nipa, U. Bulut, SARS-CoV-2 and Rohingya Refugee Camp, Bangladesh: Uncertainty and How the Government Took Over the Situation, *Biology*, MDPI publication, 2021.
<https://www.mdpi.com/2079-7737/10/2/124>
4. **M.S. Mahmud**, M. Kamrujjaman, M.S. Islam, A spatially dependent vaccination model with therapeutic impact and non-linear incidence, *Book Chapter - Recent Trends in Applied Mathematics: Select Proceedings of AMSE 2019*, Publisher: Springer Singapore, 2021.
<https://www.springer.com/gp/book/9789811598166>
5. S.I. Akter, **M.S. Mahmud**, M. Kamrujjaman, H. Ali, Global Spectral Collocation Method with Fourier Transform to Solve Differential Equations, *GANIT: Journal of Bangladesh Mathematical Society* [vol. 40, Issue: 1, Page: 28-42], 2020.
<https://www.banglajol.info/index.php/GANIT/article/view/48193>
6. **M.S. Mahmud**, M. Kamrujjaman, J. Jubyrea, M. Shahidul Islam, M. Shafiqul Islam, Quarantine vs Social Consciousness: A Prediction to Control COVID-19 Infection, *Journal of Applied Life Sciences International* [vol. 23, Issue: 3, Page: 20-27], 2020.
<http://www.journaljalsi.com/index.php/JALSI/article/view/30150>
7. M. Kamrujjaman, **M.S. Mahmud**, M.S. Islam, Coronavirus Outbreak and the Mathematical Growth Map of COVID-19, *Journal of Annual Research & Review in Biology* [vol. 35, Issue: 1, Page: 72-78], 2020.
<http://www.journalarrb.com/index.php/ARRB/article/view/30182>

PAPERS IN PROGRESS:

1. Vaccine efficacy and SARS-CoV-2 control in California and U.S. during the session 2020–2026: A modeling study [under review]
2. The Perspective of Acquired Immunity to Combat against Infectious Diseases: An Overview [under review]
3. A Spatial Model in Epidemiology Upholding the Effects of Vaccine, Therapy and Incidence Function [in progress]

WORKSHOPS, SEMINARS & CONFERENCES:

- Attended Training Workshop on Computational Tools for Solving Dynamic Models in Biological Systems by Bangladesh Society for Mathematical Biology (BSMB) on 08-09 August 2021.
- Presented an **oral presentation** on 'Mathematical Modeling and Covid-19 Forecast in Texas, USA: a prediction model analysis and the probability of disease outbreak' at 'International Conference on Computational and Mathematical Biology organized by Bangladesh Society for Mathematical Biology (BSMB), on 30-31 July 2021.
- Completed the 'Lecture series on Mathematical Modeling in Biology' by Bangladesh Society for Mathematical Biology (BSMB) on 18-19 September 2020.
- Completed the 'Master Lecture on Graph Theory' by Prof. Dr. Md. Saidur Rahman, Dept. of CSE, BUET on 29 July-07 August.
- Attended a one-day international webinar on 'Understanding COVID-19 Crisis through Mathematics 2020' organized by Department of Mathematics, Basirhat College, North 24 Parganas, West Bengal, India-743412 on 26 June 2020.
- Joined 'International Workshop on Recent Trends in Mathematical Biology - RTMB 2020' jointly organized by BMBRG and Department of Mathematics, Jahangirnagar University on 14-15 January 2020.
- Presented an **oral presentation** on 'A Qualitative Study on Dynamics of a Spatially Dependent Vaccination Model' at '4th YOUNG SCIENTIST CONGRESS 2019' organized by BANGLADESH ACADEMY OF SCIENCES, on 13-15 December 2019.
- Performed an **oral presentation** on 'Vaccination model with spatial dependency, therapeutic impact and general non-linear incidence' at '21st International Mathematics Conference - 2019' organized by Department of Applied Mathematics, University of Dhaka, on 06-08 December 2019.
- Delivered an invited **oral presentation** on 'A spatially dependent vaccination model with therapeutic impact and non-linear incidence' at '1st International Conference on Applied Mathematics in Science and Engineering - 2019' in Bhubaneswar, Odisha, India on 24-26 October 2019.

- Attended a summer school organized by **CIMPA (Centre International de Mathématiques Pures et Appliquées)** on 'Dynamical system and its application to Mathematical Biology' at Department of Mathematics, University of Dhaka, Bangladesh on 10-21 June 2019.
- Attended 'Workshop on Infectious Disease Modeling, Systematic Reviews and Meta-analysis' organized by Global Public Health Research Foundation, Dhaka, Bangladesh on 22-24th February 2019.
- Presented a **poster presentation** in 'AFMR-BMS National Mathematics Conference 2018' organized by Bangladesh Mathematical Society and AFMR Foundation at Department of Mathematics, University of Dhaka, Bangladesh on 21-22th December 2018.

ACADEMIC HONORS

1. Honored with **NST (National Science & Technology) fellowship - 2019** by The Ministry of Science and Technology, Government of People's Republic of Bangladesh.
2. **Undergrad Government Honours Scholarship** – 2017, Department of Mathematics, University of Dhaka.
3. **First Runners Up**, Intra Department Mathematical Olympiad – 2014, Department of Mathematics, University of Dhaka.
4. **Venue Champion**, Regional Mathematical Olympiad – 2012, BMO (Bangladesh Mathematical Olympiad).
5. **Board Scholarship**, High School Scholarship – 2008, Ministry of Education, Government of People's Republic of Bangladesh.
6. **Board Scholarship**, Primary School Scholarship – 2005, Ministry of Education, Government of People's Republic of Bangladesh.

COMPUTER SKILLS

- Coding Language: ▪ FORTRAN, MATLAB, Mathematica
 OS: ▪ Windows (XP, 7, 8, 10)
 Office Package: ▪ LaTeX, MS Word, MS PowerPoint, MS Excel

LANGUAGE SKILL

- English : Have a good command in listening, reading, writing, and speaking.
 IELTS Score: Overall 6.5 (October 2020)
 Listening 6.5, Reading 7.0, Writing 6.0, Speaking 6.5

EXTRA-CURRICULAR ACTIVITIES

1. Founding President of SSAF – Science Students' Association of FENI – 2018.
2. President of BADHAN (a voluntary blood donors' organization) – 2017.
3. Secretary-General of MATHEMA-a group of mathematicians of FH Hall, DU – 2017.
4. Publication and Publicity Secretary of FHDC (FH Hall Debating Club) – 2016.
5. Entitled as 'MATHEMA Shreshtha Sangathak (Best Organizer) – 2016'.
6. Worked as Article Writer at 'BDBulletin.com' - 2014.

PROFESSIONAL MEMBERSHIP

1. Lifetime member of 'Bangladesh Mathematical Society' (BMS). [ID: A-1433]
2. Lifetime member of 'Dhaka University Mathematics Alumni Association' (DUMAA). [ID: 596]
3. Lifetime member of 'Bangladesh Society for Mathematical Biology' (BSMB). [ID: LM0019]

PERSONAL SKILLS

- ABILITIES:**
- Self-driven, sincere, and highly motivated.
 - Listen to people who know better and can improve myself with proper guidance within a short period.
 - Good presentation & interpersonal skills.
 - Always have an interest to learn more.
- INTERESTS:**
- Instructing the way to love mathematics.
 - Enlarging knowledge more and more.
 - Solving Challenging Math Problems, Coding, Motivating People, Travelling, Reading Books, Listening Music, etc.

REFERENCES

Dr. Md. Kamrujjaman

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Md. Shahriar Mahmud

Name & Signature