# Dr. Md. Shahidul Islam

*Professor*

Department of Mathematics

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Date of Birth: September 11, 1967

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## Research Interest:

Mathematical Biology and Biomedicine, Epidemiology of Infectious Diseases, Dynamical Systems, Differential and Integral Equations, Mathematical Analysis, etc.

## Professional Experiences:

(a) Chairman, Department of Mathematics, University of Dhaka since December 01 2021.

(b) I have been servicing as a Professor in the Department of Mathematics, University of Dhaka since 27th January 2010.

(c) Associate Professor in the Department of Mathematics, University of Dhaka from 18th June 2005 to 26th January 2010.

(d) Assistant Professor in the Department of Mathematics, University of Dhaka from 22nd September 2002 to 17th June 2005.

(e) I was appointed as a Lecturer in the Department of Mathematics, University of Dhaka from 2nd July 1994 to 21nd September 2002.

(f) Lecturer of Mathematics department, Shah Jalal University of Science Technology, Sylhet from 31st December 1992 to 30th June 1994.

(g) Guest Faculty: Independent University of Bangladesh (IUB), North South University (NSU), BRAC University, Bangladesh University of Engineering and Technology (BUET), etc.

(h) I was appointed as a house tutor, Jahurul Haque Hall, University of Dhaka from 24th February 2003 to 15th November 2011.

(i) Member, Governing body of Siddheshwari University College, Mogbazar, Dhaka – 1217 from 2001 to 2008.

(j) Election Commissioner of Alumni Association of German Universities in Bangladesh from 2012 to 2017.

(k) Founder member of Joyag College, Joyag - 3112, Sonaimuri, Noakhali.

(l) As a Secretary of Bangladesh Mathematical Society (BMS), I were initiative to sign

  (1) Agreement with CASIO for training 2000 Mathematics teachers of Schools & Colleges.
  (2) Applied for membership of International Mathematics Union (IMU) and BMS is now one of the members of IMU.
  (3) A reciprocity agreement between BMS and American Mathematical Society (AMS) for membership with reduce money.
  (4) Agreement with A F Mujibur Rahman Foundation for "National Mathematics Conference" for Female and young Mathematicians to highlight national problems of Bangladesh.

## Academic Researches:

(a) Ph. D. thesis (Göttingen, Germany): Non-linear Age-time Dependent Population Dynamics, Ph. D. thesis, Mathematica Gottingensis, 03 2002.
Supervisor: Prof. Dr. Manfred Denker, Georg-August Universität in Göttingen, Germany

(b) M. S. thesis (Göttingen, Germany): On the Ergodic Theorem of Ionescu-Tulcea and Marinescu, 1999.
Supervisor: Prof. Dr. Manfred Denker, Georg-August Universität in Göttingen, Germany

(c) M. Sc. thesis (DU): Volterra Integral Equations and their Perturbations, 1992.
Supervisor: Prof. Dr. Md. Abdul Matin, Department of Mathematics, University of Dhaka, Dhaka -1000, Bangladesh

## Academic Achievements:

| | | |
|---|---|---|
| • Ph.D. | Georg-August-Universität in Göttingen (Germany) | Satisfactory |
| • M.S. | Georg-August-Universität in Göttingen (Germany) | Good |
| • M.Sc. | University of Dhaka (Pure Math.) | First class First |
| • B.Sc.(Hons.) | University of Dhaka (Mathematics) | First class First (2nd Highest marks in Science faculty) |

## Academic Awards:

(a) Nidersaechsischen Graduiertenstipendium for Ph. D. program.

(b) DAAD scholarship for M. S. program.

(c) University Grants Commission (UGC) scholarship (for second highest marks of in the Science faculty of University of Dhaka in B.Sc. (Hons.) examination).

(d) Dhaka University scholarship for first class first in B.Sc. (Hons.) and M. Sc. examinations.

(e) Board scholarship for S.S.C. and H.S.C. examinations.

## Research Collaborations:

1. Dr. J.C.Misra, Former Professor and Head, Department of Mathematics, IIT Kharagpur, India E-mail : misrajc@gmail.com

2. Dr. Md. Haider Ali Biswas, Professor, Mathematics Discipline, Science Engineering and Technology School, Khulna University, Khulna-9208, Bangladesh, E-mail: mhabiswas@yahoo.com

3. Dr. Binayak Samaddar Chowdhury, Professor, Department of Mathematics, Indian Institute of Engineering Science and Technology, Shibpur, India E-mail: binayak@math.iiests.ac.in

4. Dr. Md. Shafiqul Islam, Professor, School of Mathematical and Computational Sciences University of Prince Edward Island, Canada, E-mail: sislam@upei.ca

5. Dr. Md. Mamun Molla, Professor, Dept. of Mathematics & Physics, North South University, Dhaka, Bangladesh, Email:mamun.molla@northsouth.edu

6. Dr. Uttam Ghosh, Assistant Professor, Department of Applied Mathematics, University of Calcutta, Kolkata 700 009, India, E-mail: uttam_math@yahoo.co.in

7. Dr. Praveen Kumar Gupta, Assistant Professor, Department of Mathematics, National Institute of Technology, Silchar-788010, Assam, India
E-mail: pkguptaitbhu@gmail.com

8. Dr. Md. Kamrujjaman, Associate Professor, Department of Mathematics
University of Dhaka, Dhaka-1000, Bangladesh, E-mail: kamrujjaman@du.ac.bd

9. Dr. K.M Ariful Kabir, Assistant Professor, Department of Mathematics, Bangladesh University of Engineering and Technology (BUET), Dhaka - 1000, Bangladesh
E-mail: k.ariful@yahoo.com

10. Dr. Pritam Saha, Assistant Professor, Department of Applied Mathematics, University of Calcutta, Kolkata, India, E-mail: pritamsaha1219@gmail.com

11. Dr. Muhammad Mohebujjaman, Assistant Professor, Department of Mathematics and Physics, Texas A & M International University, Laredo, TX 78041, USA, Email: m.mohebujjaman@tamiu.edu

## Ph. D. Research Supervision:

1. Mosumi Akter (Co-supervisor), The Stochastic Model Analysis for Communicable Disease Propagation and Prevention, 2023.

2. Farzana Ferdous, Dynamics of Fractional Differential Equations in Communicable Diseases Modeling and Control, 2021.

3. (Co-supervisor) Faizunnesa Khondaker, Epidemics on Networks and Infectious Diseases for Periodic Models in a Random Environment, 2021.

4. (Co-supervisor) Sadia Akter Lima, Dynamics of Vector Borne Disease and Cancer Modeling: Qualitative Analysis with Treatment Strategy, 2021.

5. (Co-supervisor) Kamrun Nahar Keya, Dynamics and Spatial Heterogeneity of Multispecies Competitive-Cooperative Population Models and their Analysis, 2018.

6. (Co-supervisor) Jannatun Nayeem, Mathematical Analysis of HIV and Hepatitis B co-infection, 2015 (Completed).

7. Md. Abu Salek, Age Distribution Epidemic Models with Applications on Infectious Diseases with Optimal Control, 2017.

8. Hena Rani Biswas (BU), Chaotic Features of the Generalized Shift map and the Complemented Shift Map, 2016 (Completed).

9. Md. Jahurul Islam (DU), Dynamics of Fractals in Euclidean and Measure Spaces, 2018 (Completed)

10. Md. Shariful Islam Khan (NU), Chaotic Behavior of Non-linear Dynamical Systems, 2014 (Completed)

## M. Phil Research Supervision:

1. Md. Zahurul Islam (NU), Dynamics of Two-dimensional Maps, 2005 (Completed).
2. Md. Shariful Islam Khan (NU), Chaotic Behavior of Non-linear Dynamical Systems, 2005 (Completed).

## M.S. Research Supervision:

1. Shobha Islam, Dynamical Behavior of Epidemic Models Incorporating Fuzzy Parameters with Disease Control and Mitigation Strategies in Bangladesh, 2022.
2. Md. Anwarul Islam, Mathematical analysis to control invasive species in competition with native species in ecological systems, 2022.
3. Md. Asrful Islam, A study on Interplay of Spatial Spread and Competitive Dynamics with Diffusion in Ecological Systems, 2022.
4. Razuana Norin, On the Analysis of Time-delay Hepatitis B Virus Models with Vaccination , Treatment and optimal Control, 2021.
5. Esrat Nur, An Analysis on Dynamical Behaviour of Generalized Lorenz Type Systems, 2021.
6. Jahid Hasan, Data Analysis of Age-Structure COVID-19 Model with Control, 2021
7. Mosumi Akter, Exploring Mathematical Analysis for Non-Communicable Disease and Their Risk Factors, 2020.
8. Akidul Haque, Harvesting Strategies and Environmental Fluctuations on Holling-types Predator-prey Models, 2020.
9. Jannatun Irana Ira, Age distributed model of communicable disease in heterogeneous environment, 2020.
10. Mehenaz Alam, Dynamics of Dengue and Chikungunya Virus and its Optimal Control, 2019.
11. Tasmuma Matin, Dynamics of HBV and HCV and its optimal Control, 2019.
12. Zahura Khatun, Mathematical Modeling of Hepatitis B Virus Infection Incorporating Immune Responses, 2018.
13. Karnis Farjana, Mathematical Modeling of HIV infections and influenced, 2018.

14. Farzana Khandaker, Mathematical modeling of Zika virus infection, spread and transmission, 2018.

15. Md. Mostafizur Rahman, A study on dynamics of Microbial population in chemostat, 2017.

16. Md Mosharf Hossain, On the study of Sharpe-Lotka linear age-structured population model, 2016.

17. Sayma Akther Urmi, Dynamics of Diabetes mellitus Model, 2015.

18. Nahid Hossain, A study on chaotic dynamical systems, 2014.

19. Sabina Yesmin, On the study of Gurtin-MacCamy Non-linear age-time dependent population model, 2014.

20. Fatma Akter, On the study of Non-linear population model, 2013.

21. Soumya Binta Rahman, On the study of linear age-distribution population models, 2013.

22. Tania Akter, Discrete dynamical systems, 2012.

23. Shahinur Akter, Controlling Chaotic dynamical systems, 2012.

24. Marzia Yesmin, Dynamical Systems of Differential Manifolds, 2011.

25. Hafsa Begum, Symbolic dynamical systems and its applications, 2010.

26. Asha Akhter, Generating fractals with their dynamical behaviors, 2010.

27. Md Jamal Hossain, Non-linear age-time-population dependent stochastic population model, 2009.

28. Saima Binta Munam, Numerical Solution of Non-linear Age-dependent population model, 2008.

29. Bhaben Bairagi, Dynamical behavior of Age-dependent Mathematical model of AIDS and its vaccination in Bangladesh, 2008.

30. Md. Saifur Rahman, Dynamics of Differential Manifolds, 2007.

31. Md. Mosharof Hossain, Dynamics of Maldelbort sets, 2007.

32. Animesh Adhikari, Dynamics of Fatou and Julia sets, 2007.

33. K. M. Azam Chowdhury, Differential dynamical systems, 2006.

34. Md. Shakur Alam Mazumder, Dynamics of three dimensional Lorenz model, 2006.

35. Mst. Nilfur Begum, Complex dynamical systems, 2006.

36. Md. Mobarak Hossain, One dimensional chaotic dynamical systems, 2005.

37. Sharif Ahmed, Two dimensional dynamical systems, 2005.

38. Mir Shariful Islam, The dynamics of Henon maps, 2005.

39. Hena Rani Biswas, Ergodic theory of one dimensional maps, 2004.

40. Umme Rumman, The dynamics of logistic maps, 2004.

41. Akter Jahan Sokhi, One dimensional maps with complicated behavior, 2004.

**4th year B.S. (Honors) Project Supervision:** 78 Students

## Research Publications:

1. (with Pritam Saha, Akidul Haque and Uttam Ghosh) Probability density function and stochastic sensitivity of a Laslie-Gower model with Holling-IV functional response, Bulletin of Mathematical Biology (Submitted).

2. (with Ishrat Zahan, Md. Kamrujjaman, Md. Abdul Alim and Taufiquar Khan), The evolution of resource distributions, slow diffusion and dispersal strategies on heterogeneous populations, Front. Appl. Math. Stat., Sec. Mathematical Biology Volume 9 - 2023 https://doi.org/10.3389/fams.2023.1157992.

3. (with Mobashara Islam, Irfan Chaudhuri and Md. Kamrujjaman) A Review on Hypertension: Practice and Diagnosis, Journal of Biology and Life Science, 14(2), 18-38 2023. doi:10.5296/jbls.v14i2.20848

4. (with Faizunnesa Khondaker, Md. Kamrujjaman), Optimal Control Analysis of COVID-19 Transmission Models with Physical Distance and Treatment, Advance in Biological Research, 3(1), 65-76, 2022. https://www.hillpublisher.com/journals/abr/

5. (with Md. Alamgir Hossain, Md. Kamrujjaman), The Risk of Using Anti-diabetic Drugs and the Role of Natural Products as a Potential Source of Anti-diabetic Drugs, Frontiers in Clinical Diabetes and Healthcare (Submitted).

6. (with Md. Kamrujjaman, Md. Saiful Islam, Md. Mashih Ibn Yasin Adan), Spatial-temporal diffusion dynamics of infectious disease with vaccination therapy, Frontiers in Epidemiology; Integrating Diseases and Ecological Modeling (Submitted).

7. (with Md. Kamrujjaman, Md. Saiful Islam) Lyapunov Mappings and Analysis of a Nonlinear Spatio-temporal Epidemic Model, Dhaka Univ. J. Sci. 69(3): 161-170, 2022 (June) Centennial Special Issue. https://doi.org/10.3329/dujs.v69i3.60026

8. (with Md. Kamrujjaman, Pritam Saha and Uttam Ghosh) Dynamics of SEIR model: A case study of COVID-19 in Italy, Results in Control and Optimization 7, 1-13, 100119, 2022. https://doi.org/10.1016/j.rico.2022.100119

9. (with Md. Shahriar Mahmud, Md. Kamrujjaman, Md. Mashih Ibn Yasin Adan, Md. Alamgir Hossain, Md. Mizanur Rahman, Muhammad Mohebujjaman, and Md. Mamun Molla) Vaccine efficacy and SARS-CoV-2 control in California and USA during the 2020–2026: A modeling study, Infectious Disease Modelling 7 (2022), 62 - 81 https://doi.org/10.1016/j.idm.2021.11.002

10. (with Irfan Chaudhuri, Mahadee Al Mobin, Mobashara Islam, Md. Shahriar Mahmud, K. M. Ariful Kabir and Md. Kamrujjaman) The Perspective of Acquired Immunity to Combat against Infectious Diseases: An Overview, Health, 13, 1020 – 1044, 2021. DOI: 10.4236/health.2021.139077.

11. (with Hena Rani Biswas) Topological Conjugacy and Symbolic dynamics of the one dimensional map, European Journal of Applied Sciences (EJAS), 9(5), 44 – 55, 2021. DOI:10.14738/aivp.95.10762.

12. (with Hena Rani Biswas) Stronger Chaotic Features of the Complemented Shift Map on m-Symbol Space, Int. J. Stat. Appl. Math. 6(5), 34 - 41 2021.

13. (with K. M. Ariful Kabir, Jannatun Irana Ira, Mahadee Al Mobin, Md. Haider Ali Biswas and Praveen Kumar Gupta) Isolation Effect on Age-Stratified Compartmental Model of the COVID-19, Commun. Nonlinear Anal. 8(1), 2020.

14. (with Rezaul Karim, Mohammad Asif Arefin and Md. Mosharof Hossain) Investigate future population projection of Bangladesh with the help of Malthusian model, Sharpe-Lotka model and Gurtin MacCamy model, Int. J. Stat. App. Math., 5(5): 77 - 83, 2020.

15. (with Hena Rani Biswas) Chaotic features of the forward Shift Map on the Generalized m-Symbol Space, J. Applied Mathematics and Computation, 4(3), 104 – 112, 2020.

16. (with Jannatun Irana Ira, K. M. Ariful Kabir and Md Kamrujjaman) Effect of lockdown and isolation to suppress the COVID-19 in Bangladesh: an epidemic compartments model, J. Applied Mathematics and Computation, 4(3), 83 – 93, 2020.

17. (with Jannatun Irana Ira, J C Misra, and Md. Kamrujjaman) Mathematical Modelling of the Dynamics of Tumor Growth and its Optimal Control. International Journal of Ground Sediment & Water (Impact factor: 3.42), 11: 659-679, 2020, `https://zenodo.org/record/4275629#.X8XxOrNxU2w`

18. (with Zahura Khatun and Uttam Ghosh) Mathematical Modeling of Hepatitis B Virus (HBV) with immune responses, Sensors Inter., 1(10017), 1 - 8, 2020.

19. (with Md Abu Salek) Dynamics of Covid-19 Transmission using Mathematical model, Int. European Ext. En. Sci., Eng. & Man. (IEEESEM), 8(5), 64 - 88 2020.

20. (with Md. Shahriar Mahmud, Md Kamrujjaman, J. Jubyrea and Md Shafiqul Islam) Quarantine vs Social Consciousness: A Prediction to Control COVID-19 Infection, J. Appl. Life Sci. Int., 23(3), 20 – 27, 2020.

21. (with Md Abu Salek) Age-structured Effect of Evolution on Hepatitis B Vaccination in Bangladesh, ABC Res. Alert (ISSN: 2413-5224), 8(2), 58- 68, 2020.

22. (with Md. Jahurul Islam & Md. Shafiqul Islam) Hausdorff Measures and Hausdorff Dimensions of the Invariant Sets for Iterated Function Systems of Geometric Fractals, Mathematics and Statistics, 6(3): 25 – 33, 2018.

23. (With Nazia Afrin) Periodic Solutions of Gurtin-MacCamy Model and Extended Gurtin-MacCamy Model, Ann. P. App. Math.,Vol.17(2),221 – 232, 2018.

24. (With Md. Jahurul Islam) Dynamics of Fractals in Euclidean and Measure Spaces, Journal of Physics: Conf. Series 890, 1-6, 2017.

25. (With Md. Jahurul Islam) Markov Operator: Applications to Iterated Function Systems of Generalized Cantor Sets, Int. Org. Sci. Res. J. Math (IOSR-JM), 12(6), 1 – 13, 2016.

26. (With Jahurul Islam) Invariant Measures for Iterated Function Systems of Generalized Cantor Sets, German J. of Adv. Math. Sci. (GJAMS) Vol. 1(2), 31- 47, 2016

27. (With Md. Jamal Hossain, Mohammad Raquibul Hossain & Debazit Datta) Mathematical Modeling of Bangladesh Population Growth, Journal of Statistics and Management Systems, 18(3), 289 – 300 2015.

28. (With Md. Jahurul Islam & Payer Ahmed) Orbit Analysis of Newton Iteration Function Associated with Chaotic Functions, Scottish J. of Sci., Vol. 22 (II), 96 – 108, 2014.

29. (with Md. Shariful Islam Khan) An Exploration of the Generalized Cantor Set, Int. J. Sci. & Tech. Res, 2(7), 50- 54, July 2013.

30. (with Md. Jahurul Islam & M. A. Rahman) Two Dimensional Hénon Map with the Parameter Values in Dynamical Systems, Ann. P. App. Math., 2 (2), 164 - 176, 2012.

31. (with Md. Jahurul Islam & Payer Ahmed), Formularization of Generalized Cantor Set and its Dynamical Behaviors, Int. J. Adv. Res. Tech. (IJOART), 1(7), 1- 6 2012.

32. (with Md. Shariful Islam Khan) Chaotic Behavior and Strange Attractors in Dynamical Systems, Int. Org. Sci. Res. J. Math. (IOSRJM), 2(5), 25 – 31 2012.

33. (with Md. Shariful Islam Khan), Hyperbolic Dynamics in Two Dimensional Maps, Int. J. Pure Appl. Sci. Technol., 11 (1), 57 - 66 2012.

34. (with Md. Jamal Hossain), Non-Linear Age-Time-Population Dependent Stochastic Population Model, Bangladesh J. Sci. Res., 25 (1): 73 – 86 2012.

35. (with Md. Jahurul Islam & Payer Ahmed), Generalization of Bifurcations in Dynamical Systems with Application, Jagannath University J. Sci., Vol.1 (1) 43-54 2012.

36. (with Md. Shariful Islam Khan) A Chaotic Three Dimensional Non-linear Autonomous System Beyond Lorenz Type Systems, J. Bang. Acad. Sci., 36 (2), 159-170 2012.

37. (with Hena Rani Biswas) Ergodic Theory of One Dimension Map, Bangladesh J. Sci.& Ind. Res. 47(3), 321 – 326 2012.

38. (with Mir Shariful Islam) Dynamical Behavior of Two Dimensional Hénon Maps, Bangladesh J. Sci. & Ind. Res., 47(1), 55 – 60, 2012.

39. (with Md. Jahurul Islam) Generalized Cantor set and its Fractal Dimension, Bangladesh J. Sci. & Ind. Res., 46(4), 499-506, 2011.

40. (with Mir Shariful Islam) Dynamics of Three Dimensional Lorenz Equations, Dhaka Univ. J. Sci., 59(1): 125 - 130, 2011.

41. (with Md. Shariful Islam Khan) Chaos in Three Dimensional Dynamical Systems, Bangladesh J. Sci. Res. 23 (2): 155-168 2010.

42. Dynamical Behavior of Generalized Non-linear Logistic Growth Models, Dhaka Univ. J. Sci., 57(2): 131-136 2009.

43. Generalized Gurtin-MacCamy Non-linear Age-time Dependent Random Population Dynamics, Dhaka Univ. J. Sci., 57(1): 97 - 100 2009.

44. (with Ashrafi Meher Niger and A.F.M. Khodadad Khan) Periodic Points of a Two Dimensional Two Parameters Families of Hénon Maps, Bangladesh J. Sci. & Res.21: 1 & 2, 97 -102 2008 .

45. (with Payer Ahmed) Chaotic Behavior of Dynamical Systems of Homoeomorphism on Unit Interval, J. Bang. Acad. Sci., 32 (2): 131 –139 2008.

46. Global Stability of Generalized Gurtin-MacCamy Non-linear Age-time Dependent Population Dynamics, Dhaka Univ. J. Sci., 55(2): 269 - 272 2007.

47. Gaussian Process of Gurtin-MacCamy Population Dynamics, Dhaka Univ. J. Sci., 53(2): 65-72, 2005.

48. Ionescu-Tulcea and Marinescu Ergodic Theorem with Application on Markov Chain, J. Bang. Acad. Sci., 28(2): 167 – 174 2004.

49. Weak Solution of Non-linear Gurtin-MacCamy Population Dynamics, J. Bang. Acad. Sci., 28(2): 159 – 165 2004.

50. Ionescu-Tulcea and Marinescu Theorem for Piecewise Transformations, Dhaka Univ. J. Sci., 52(3): 351 – 359 2004.

51. Generalization of Gurtin-MacCamy Non-linear Age-time Dependent Population Dynamics, Ganit: J. Bang. Math. Soc., 24: 111-119, 2004.

52. Non-linear Age-time Dependent Strong Gurtin-MacCamy Population Dynamics, J. Bang. Acad. Sci., 27(1): 1-11, 2003.

53. Non-linear Age-time Dependent Gurtin-MacCamy Population Dynamics, Ganit: J. Bang. Math. Sci., 22 15-23 2002.

54. (with A.F.M. Khodadad Khan) On a Multispecies Non-linear Age-dependent Population Model, Dhaka Univ. J. Sci., 46(2): 307-316, 1998.

55. (with A.F.M. Khodadad Khan) On a Pair of Integral Equations Arising in Non-linear Population Dynamics in the Age-time Continuum –II, Dhaka Univ. J. Sci., 46(2): 317-326, 1998.

56. (with A.F.M. Khodadad Khan) A Non-linear Population Model in the Age-time Continuum, Dhaka Univ. J. Sci., 45(1): 47-56, 1997.

57. (with A.F.M. Khodadad Khan) On a Pair of Integral Equations Arising in Non-linear Population Dynamics in the Age-time Continuum – I, Ganit: J. Bang. Math. Soc., 16, 21-34, 1996.

## Editorial Board/Reviewing of International/National Research Journals:

1. Natural Science, Scientific Research Publishing.

2. Associate Editor, Frontiers in Epidemiology; Integrating Diseases and Ecological Modeling

3. Frontiers in Medicine

4. Frontiers in Pediatric Infectious Diseases

5. International Journal of Nonlinear Sciences and Numerical Simulation

6. Journal of Pharmaceutical Research International
7. Frontiers in Public Health
8. International Conference on Mathematical Modelling and Computational Intelligence Techniques (ICMMCIT-2021).
9. Sultan Qaboos University Journal for Science.
10. Editorial Board of Dynamical Systems (Frontiers in Applied Mathematics and Statistics).
11. Annual Research & Review in Biology
12. Microbiology Research Journal International
13. J. Biology and Nature
14. Applied Mathematics (AM)
15. Int. Res. J. Public and Environmental Health
16. Asian J. Res. Infectious Diseases
17. Royal Society Open Science
18. African Educational Research Journal
19. Journal of Advances in Medicine and Medical Research
20. Dhaka University J. Sciences
21. Ganit: J. Bangladesh Mathematical Society, etc.

## Book:

(with Md. Karmujjaman) Mathematical Modeling in Biology, (Ongoing).

## Book Chapter:

(with Md Jahural Islam) Dynamics of Fractal in Euclidean and Measure Spaces: A Recent Study, Newest Updates in Physical Science Research (Chapter 4) (Editor: Dr. Sebahattin Tüzemen), Vol. 13 (5), B. P. International: West Bengal, India & London, UK, Page 43-60, August 2021, https://stm.bookpi.org/NUPSR-V13/issue/view/294.

## Computer Skill:

(a) Use of Packages: Derive, Math lab, LaTeX, PcTeX, Maple, M S Word, etc

(b) Language: Fortran, Mathematica, Python, XPPAUT, etc.

(c) Faculty Training for Quality Enhance. of Teaching and Research in Higher Education, HEQEP project CP-3057, BAU, Mymensingh, 29 August to 02 September, 2016.

## Traveled in Abroad Academic/Research Purposes:

(a) European Mathematical Society Conference in Georg-August Universität in Göttingen, Germany, on 30th June - 13th July, 2001

(b) France in 2001.

(c) Netherland in 2002.

(d) 9th International Conference on Science and Mathematics Education in Developing Countries, Mandalay University, Mandalay, Myanmar on November 4-6, 2016.

(e) 1st International Conference on Applied & Industrial Mathematics and Statistics (ICoAIMS), held in Pahang, Malaysia on 8 -10 August 2017

(f) An expert in the interview panel for conducting interviews for the positions of Professor, Kathmandu University (KU) & Tribhuvan University (TU), Nepal on 8 -10 May 2018

(g) Int. Conference on Applied Mathematics in Science & Engin. (AMSE 2019), Siksha 'O' Anusandhan (SOA), Bhubaneswar-751030, Odisha, India on 24 - 26 October 2019.

## Attended International/National Conferences:

(a) 1st Int. Congress on Natural Sciences (ICNAS-2021), Investigation of Chaoticity of the Shift Map and the Generalized Shift Map on m-Symbol Space, Atatürk University Erzurum (online), Turkey on 10-12 September 2021.

(b) 1st Int. Symposium on Recent Advances in Fundamental and Applied Sciences (ISFAS-2021), Iterated Function Systems of Generalized Cantor Sets in Markov Operators and Its Applications, Atatürk University Erzurum (online), Turkey on 10-12 September 2021.

(c) 1st Int. Conference on Advances in Mathematics, Science and Technology (ICAMST-2020), 1 – 3th September, 2020, Symbolic Dynamics of One dimensional Chaotic maps and its Applications, Department of Mathematics, Rajiv Gandhi University, Arunachal Pradesh, India.

(d) Int. Conference on Applied Mathematics in Science and Engineering (AMSE-2019), 24th to 26th October 2019, Dynamical Systems of Non-linear Age-time Dependent Gurtin- MacCamy Population Model, Siksha 'O' Anusandhan (SOA), Bhubaneswar-751030, Odisha, India.

(e) 1st International Conference on Applied & Industrial Mathematics Statistic 2017 (ICoAIMS 2017) Universiti Malaysia, Kuantan, Pahang, Malaysia on 8-10 August 2017, Dynamics of Fractals in Euclidean and Measure Spaces, (IOP Conf. Series: Journal of Physics: Conf. Series 890, 1-6, (2017).

(f) 9th International Conference on Science and Mathematics Education in Developing Countries, Mandalay University, Mandalay, Myanmar, November 4-6, 2016, Applications to Iterated Function Systems of Generalized Cantor Sets in Markov Operator.

(g) 19th International Mathematics Conference, in BRAC University, Bangladesh on December 18- 20 2015, Lower Bound Technique for Iterated Function Systems of Generalized Cantor Sets.

(h) 17th Conference of Bangladesh Mathematical Society in JU, Bangladesh on 22-24, December, 2011, presented paper titled, An Exploration of the Cantor Set and Its Fractal Dimension.

(i) 16th Conference of Bangladesh Mathematical Society in BUET , Bangladesh on 17- 19th December, 2009, presented paper titled on "Dynamical Behavior of One dimensional maps".

(j) 15th Conference of Bangladesh Mathematical Society in Dhaka , Bangladesh on 29-31th December, 2007, presented paper titled "Dynamical Behavior of Generalized Logistic Growth Models".

(k) 14th Conference of Bangladesh Mathematical Society in Dhaka , Bangladesh on 27 - 29th December, 2003, presented paper titled " Ionescu-Tulcea and Marinescu Ergodic Theorem".

(l) 3rd International Conference on Applied Mathematics & Mathematical Physics in Sylhet, Bangladesh on 6 – 9th January, 2003, presented paper titled " Non- linear Gurtin-MacCamy Population Dynamics".

(m) European Mathematical Society Conference in Georg-August Universität in Göttingen, Germany, on 30th June - 13th July, 2001.

(n) 11th Conference of Bangladesh Mathematical Society in Sylhet, on 24 - 27 November 1997, presented paper titled " On a Multispecies Non-linear Age-Dependent Population Dynamics."

## Membership of Professional Societies:

(a) Life member of the Alumni Association of German Universities in Bangladesh.

(b) Life member of Registrar Graduate of Dhaka University.

(c) Life member of Bangladesh Academy Sciences.

(d) Life member of Bangladesh Mathematical Society.

(e) Life member of Bangladesh Association for the Advancement of Science (BAAS).

(f) Life member of the Alumni Association of Göttingen.

(g) Executive committee member of Bangladesh Mathematical Society from 2006 - 2009.

(h) Treasurer, Bangladesh Mathematical Society from 2010 - 2013.

(i) Executive committee member of Dhaka University Teacher's Club from 2011 - 2012.

(j) EC member of Dhaka University Ganit Alumni Association since 2013.

(k) Member, Undergraduate Mathematics Olympiad since 2014.

(l) Secretary, Bangladesh Mathematical Society from 2014 – 2017.

(m) Director, Institutional Quality Assurance Cell (IQAC), SA Entity, Department of Mathematics, University of Dhaka, Dhaka – 1000, since 2014.

(n) Vice President, Bangladesh Mathematical Society from 2018 - 2021.

(o) Vice President, Bangladesh Society for Mathematical Biology (BSMB) since 2020.

(p) President, Bangladesh Mathematical Society since 2022.

(q) President, Dhaka University Ganit Alumni Association since 2021.

(r) Member, Board of Governance, IIT, University of Dhaka since December 1, 2021.

## Organizing of Scientific Meetings/Workshops:

(a) Member Secretary, 20th International Mathematics Conference of BMS, Department of Mathematics, University of Dhaka, 08 - 10 December, 2017.

(b) Convener, National Mathematics Conference organized by A F Mujibur Rahman Foundation & Bangladesh Mathematical Society, Department of Mathematics, DU, 28- 29 December, 2018.

(c) Local Coordinator, CIMPA Research School on Dynamical Systems and its Application to Biology, Department of Mathematics, University of Dhaka, 10 – 21 June, 2019.

(d) Convener, International Day of Mathematics (IDM) Celebration Committee 2020 & 2021.

(e) Advisor, Singapore International Mastery Contests Centre (SIMCC).

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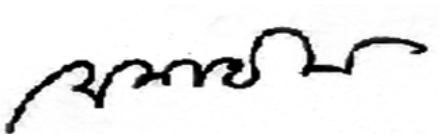

**(Dr. Md. Shahidul Islam)**