Curriculum Vitae

Dr. Mohammad Babul Hasan

Professor
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And

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Department of Mathematics, University of Dhaka

Educational Qualifications	
1 Dec,03-4 Dec,07	**Ph.D in Applied Mathematics (Optimization)** Dept. of Management, University of Canterbury, **Christchurch, New Zealand.**
1996-1997	**Master of Science** in Applied Mathematics with **First Class** (**first position**) from University of Dhaka, Bangladesh (exam held in 1999).
1993-1996	**Bachelor of Science** with Honors in Mathematics with **First Class** (**second position**) from University of Dhaka, Bangladesh (exam held in 1997).
1990-1991	Higher Secondary Certificate **(H.S.C)** in Science Group with **First Division** from Govt. M.M. College, Jessore, Bangladesh (exam held in 1992).
1988-1989	Secondary School Certificate **(S.S.C)** in Science Group with **First Division** from Charavita High School, Jessore, Bangladesh (exam held in 1990).

Computer Skill

MS Office-2000, Excel, Power point, **FORTRAN, Mathematica, AMPL, LINDO, WB.**

Teaching Experience

22 June 2014 - to date	Professor, Dept. of Mathematics, **University of Dhaka**, Dhaka 1000, Bangladesh
13 July 2011 – 21 June 2014	Associate Professor, Dept. of Mathematics, **University of Dhaka**, Dhaka 1000, Bangladesh
14 Dec. 2006 - 13 July 2011	Assistant Professor, Dept. of Mathematics, **University of Dhaka**, Dhaka 1000, Bangladesh
01 March 2001 – 13 Dec. 06	Lecturer, Dept. of Mathematics, **University of Dhaka**, Dhaka 1000, Bangladesh.
01 January 2010 - to date	Part time Teacher, Dept. of CSE, **University of Dhaka**, Dhaka 1000, Bangladesh.
Feb/2004 – Dec/2007	Teaching Assistant, Dept. of Management, **University of Canterbury**, **Christchurch, New Zealand.**
June-2014- to 2017	Adjacent faculty FBS, Bangladesh University of Professionals
Title of Ph.D. and Master Thesis:	
Degree	Title of the Thesis

Ph.D.	"Optimization of Production Planning for a quota based integrated commercial fishery", December 2007, University of Canterbury, **Christchurch, New Zealand**.
M.Sc.	"Generalization of simplex method for solving Quadratic fractional programming problems and Counter examples of more than one basic variables replacement at each iteration in simplex method," July 2000, **Department of Mathematics, University of Dhaka.**

Interested Courses

Calculus, Ordinary Differential Equations, Numerical Analysis, Linear Algebra, Business Mathematics, Business Statistics, Operations Research, Operations Management, Linear Programming Applications, Linear Programming Methods.

Academic Awards

- Awarded Gold Medal from A. F. Mujibur Rahman Foundation for securing First position in First Class in M. Sc. Applied Mathematics, Thesis group.

- Awarded Gold Medal for presenting research paper entitled "*Generalization of simplex method for solving Quadratic fractional programming problems*" on international conference on applied mathematics and mathematical physics held in Shajalal University of Science and Technology, Sylhet from 11- 15 September , 2000.

- Awarded best speaker award for Presenting paper entitled "*Decomposition based Methods for Solving MILP for an Integrated Fishery*" at Postgraduate research Conference, 18th October, 2006, university of Canterbury, Christchurch, New Zealand.

- University of Canterbury Doctoral Scholarship, New Zealand from 1st December 2003 to 30 November 2006.

Total Publications: 56 (National: 35, International: 21)

National Publications: 35
Some recent Papers are listed below

1. M. Babul Hasan, "A Technique for Solving Special Type Quadratic Programming Problems," *Dhaka University Journal of Science*. Vol. 60, No. 2 (July, 12), pp.209-215, DOI: 10.3329/dujs.v60i2.11520
2. M. Babul Hasan and H.K. Das, "A Proposed Technique Solving Linear Fractional Bounded Variable Problems," *Dhaka University Journal of Science*. Vol. 60, No. 2 (July, 12), pp. 223-230, **DOI:** https://doi.org/10.3329/dujs.v60i2.11522
3. M. Babul Hasan, Sanwar Uddin Ahmed and M Ainul Islam, " Algorithm to Perform a Complete Right Hand Side Parametrical Analysis for Linear Programming Problems with Bounded Variables," *Dhaka University Journal of Science*. Vol. 60, No. 2 (July, 12), pp. 217-222, **DOI:** https://doi.org/10.3329/dujs.v60i2.11521
4. M. Babul Hasan and S.M. Asaduzzaman, "A Computer program for Solving LP Problems by 2-Basic Variables Replacement at Each Simplex Iteration," *Dhaka University Journal of Science*. Vol. 61, No. 1 (January, 13), pp.13-18, **DOI:** https://doi.org/10.3329/dujs.v61i1.15090
5. M. Babul Hasan and H.K. Das, "A generalized technique for Solving an unconstrained Non-Linear programming problem," *Dhaka University Journal of Science*. Vol. 61, No. 1 (January, 13), pp.75-80, DOI: 10.3329/dujs.v61i1.15100

6. M. Babul Hasan and Md. Toha, "An Improved Subgradiend Optimization Technique for Solving IPs with Lagrangean Relaxation," *Dhaka University Journal of Science*. Vol. 61, No. 2 (July, 13), pp.135-140, DOI: 10.3329/dujs.v61i2.17059
7. Md. Hasib Uddin Mollah and M. Babul Hasan, "Art of formulating LPs and IPs for real life problems," *Dhaka University Journal of Science*. Vol. 61, No. 2 (July, 13), pp.185-191, **DOI:** https://doi.org/10.3329/dujs.v61i2.17068
8. Md. Istiaq Hossain and M. Babul Hasan, "A Decomposition technique for solving Integer programming problems," *Ganit: Journal of Bangladesh Mathematical Society* . Vol. 33 (2013), pp.1-11, **DOI:** https://doi.org/10.3329/ganit.v33i0.17649
9. H.K. Das and M. Babul Hasan, "An improved Decomposition approach and its computational technique for analyzing primal dual relationship in LP and LFP problems," *Ganit: Journal of Bangladesh Mathematical Society* . Vol. 33 (2013), pp.65-75, **DOI:** https://doi.org/10.3329/ganit.v33i0.17660
10. H.K. Das, Tapash Shaha and M. Babul Hasan, "A study on 1-D simplex search algorithm with its numerical experiments through computer algebra," *Dhaka University Journal of Science*. Vol. 62, No. 2 (July, 14), pp. 95-102, **DOI:** https://doi.org/10.3329/dujs.v62i2.21972
11. Sharmin Afroz and M. Babul Hasan, "A Computer Oriented Method For Solving Transportation Problem, " *Dhaka University Journal of Science*. Vol. 63(1), No. 1 (January, 15), pp.1-7, DOI: 10.3329/dujs.v63i1.21758
12. M Asadujjaman and M. Babul Hasan, "A proposed technique for solving quasi-concave quadratic programming problems with bounded variables, " *Dhaka University Journal of Science*. Vol. 63(2), No. 1 (July, 15), pp.117-123, **DOI:** https://**doi.**org/10.3329/dujs.v63i2.24445
13. H.K. Das and M. Babul Hasan, "AN ALGORITHMIC TECHNIQUE FOR SOLVING NON-LINEAR PROGRAMMING AND QUADRATIC PROGRAMMING PROBLEMS ," *Ganit: Journal of Bangladesh Mathematical Society* . Vol. 35 (2015), pp.41-55. DOI: 10.3329/ganit.v35i0.28566
14. M Asadujjaman and M. Babul Hasan, "A proposed technique for solving quasi-concave quadratic programming problems with bounded variables by object separable method, " *Dhaka University Journal of Science*. Vol. 64(1), No. 1 (January , 16), pp.51-58, **DOI:** https://doi.org/10.3329/dujs.v64i1.28524
15. Sajal Chakroborty and M. Babul Hasan, "A new technique for solving transportation problems by decomposition based pricing and its implementation in real life, " *Dhaka University Journal of Science*. Vol. 64(1), No. 1 (January, 16), pp.45-50, DOI:10.3329/dujs.v64i1.28523 Corpus ID: 63050971
16. Sajal Chakroborty and M. Babul Hasan, "A Computer Technique for solving Linear fractional programming problems by using Dinkelbach's Algorithm", *Dhaka University Journal of Science*, 64(2) (July, 16), pp. 121-126.
17. Sajal Chakroborty and M. Babul Hasan, "An Impeccable Solution Procedure of Stochastic Programming Problems by Inserting Scenarios in Deterministic Case," *Ganit: Journal of Bangladesh Mathematical Society*. To appear, pp.19-32, DOI: 10.3329/ganit.v36i0.32770
18. Asraful Islam, H.K. Horidas, and M. Babul Hasan "A New Decomposition-Based Pricing Technique For Solving Large-Scale Mixed IP with a Computer Technique" *Ganit: Journal of Bangladesh Mathematical Society*. VOL. 34, (July 14), pp. 5-20, **DOI:** https://doi.org/10.3329/ganit.v34i0.28549
19. Md. Nayan Dhali and M. Babul Hasan, "Determination of optimal smoothing constants for exponential smoothing method and Holt's method", *Dhaka University Journal of Science*, 65(2) (January, 17), pp. 61-66,
20. Nandita Barman and M. Babul Hasan, "Comparison of forecasting techniques for short-term and long-term real life problem", *Dhaka University Journal of Science*, 65(2) (July, 17), pp. 139-144.

21. Nandita Barman and M. Babul Hasan, " Advising an Appropriate Forecasting Method for a Snacks Item (Biscuit) Manufacture Company in Bangladesh", *Dhaka University Journal of Science*, Volume 66 No. 1 (January 2018), 55-58.
22. Sayma Suraiya and M. Babul Hasan, " Identifying an Appropriate Forecasting Technique for Predicting Future Demand: A Case Study on a Private University of Bangladesh", *Dhaka University Journal of Science*, Volume 66 No. 1 (January 2018), 15-59.
23. Md. Nayan Dhali, Nandita Barman and M. Babul Hasan, "Determination of optimal smoothing constants for Holt-Winter's multiplicative method", *Dhaka University Journal of Science*, 67(2) (July, 19), pp. 99- 104.
24. A. K. M Selim Reza, Sayma Suraiya and M. Babul Hasan, "A procedure for scheduling inventory of an industry by merging forecasting and linear programming", *Dhaka University Journal of Science*, Volume 68 No. 1 (January 2020), 15-59.

International Publications: 21

25. M Babul Hasan and John. Raffensferger, "A mixed integer linear program for an integrated fishery," South African Journal of Operations Research, *ORiON*, 22, no. 1, pp. 19-34 (June, 2006), **DOI:** 10.5784/22-1-31, eISSN: 0529-191-X
26. M Babul Hasan and John. Raffensferger, "A decomposition based pricing method for solving a large-scale MILP model for an integrated fishery" *Journal of Applied Mathematics and Decision Science*, Vol. 2007, pp. 1-10, DOI: 10.1155/2007/56404
27. M Babul Hasan, Hsiao-Lih Jen and Taj-Chang Hsia "A study of methods for construction of balanced incomplete block design," *Journal of Discrete Mathematical Sciences & Cryptography*, Vol. 10, no. 2, pp. 227-243 (2007), doi.org/10.1080/09720529.2007.10698117
28. M Babul Hasan and John. Raffensferger, "Two pricing methods for solving an integrated commercial fishery planning model," South African Journal of Operations Research *ORiON*, 24, no. 2, pp. 115-130 (June, 2006), DOI: 10.5784/24-2-63
29. M Babul Hasan, 2008 "How good is the rolling horizon approach for an integrated fishery?" *International Journal of Ecological Economics and Statistics*, Vol. 10, no. S08, pp. 64-76.
30. M Babul Hasan and Sumi Acharjee, (2011), "Solving LFP by converting it into a single LP," *International Journal of Operations Research*, Vol. 8, No. 3, pp. 1-14.
31. Md Istiaq Hossain, & M. Babul Hasan, (2011), "An Improved Decomposition Algorithm and Computer Technique for Solving LPs," *International Journal of Basic and Applied Science*, Voll. 11, No.3, pp. 14-26, **Paper ID:** 110403-5757 IJBAS-IJENS
32. Haridas Kumar Das, M. Babul Hasan, (2011), "An Algorithm and Its Computer Technique for Solving Game Problems Using LP method," *International Journal of Basic and Applied Science*, Voll. 11, No.3, pp.117-127
33. M Babul Hasan , " Managing Uncertainty for An Integrated Commercial Fishery ," South African Journal of Operations Research, *ORiON*, 28, no. 1, pp. 37-58, DOI: 10.5784/28-1-102
34. M. Babul Hasan and Haridas Kumar Das, (2012), "Numerical Experiments by Improving A Numerical Method for Solving Game Problems Through Computer Algebra.," *International Journal of Decision Science*, Voll. 3, No.1. (January-June, 2012), pp. 23-52.
35. Haridas Kumar Das and M. Babul Hasan , (December, 13), "Solving bounded value problem by converting it into a single LP.," *International Journal of Data Analysis and Information System*, Voll. 5, No.2. pp. .
36. Sharmin Afroz and M. Babul Hasan, (2013), "A decomposable computer oriented method for solving interval LP problems," *Pure and Applied Mathematics Journal*, Voll. 2, No.5. pp. 162-168.

37. M. Babul Hasan and M. Rashidul Hasan (2014) "An Alternative Method for Solving Quadratic Fractional Programming Problems with Homogenous Constraints," Journal of Emerging Trends in Engineering and Applied Sciences (JETEAS) 5(1): 11-19. © Scholarlink Research Institute Journals, 2014 (ISSN: 2141-7016),
38. Sajal Chakroborty and M. Babul Hasan, (2016), "A Chronicle of Analyzing Stochasticity in Multi Period Transportation Problems for Uncertainty, " International Journal of Computer Applications , Vol. 133(8), pp.5-9, DOI: 10.5120/ijca2016907764.
39. Sajal Chakroborty and M. Babul Hasan, "A Proposed Technique for Solving Scenario Based Multi-Period Stochastic Optimization Problems with Computer Application," *International Journal of Mathematical Sciences and Computing*. (July, 16), Vol. 4 pp.12-23, DOI: 10.5815/ijmsc.2016.04.02
40. Sajal Chakroborty and M. Babul Hasan, "A Parametric Approach to Solve Bounded-Variable LFP by Converting into LP, " *International Journal of Operations Research*, 13(2), pp. 047-057, License: CC BY 4.0
41. Asraful Islam, H.K. Horidas, and M. Babul Hasan "Solving Bounded Variable LFP Problems by Converting it into a Single LP", International Journal of Data Analysis and Information System, Vol. 5(2), (July-December 13), pp. 89-103.
42. Nandita Barman and M. Babul Hasan, "A Sophisticated Forecasting Method for a Garments Company in Bangladesh", International Journal of Pure and Applied Mathematics, ISSN: 1311-8080 (printed version); ISSN: 1314-3395 (on-line version), url: http://www.ijpam.eu, Volume 117 No. 14 2017, 145-156.
43. Nandita Barman and M. Babul Hasan, " Finding appropriate smoothing constant for demand forecasting of private cars in Dhaka city", International Journal Mathematics and computation, ISSN:0974-570x(Online version); ISSN: 0974-5718 (printed version), url: http://www.ceser.ein/ceserp, Volume 32 No. 1 2021.
44. Mohammad Babul Hasan and Yaindrila Barua (October 6th 2020). Weapon Target Assignment [Online First], IntechOpen, DOI: 10.5772/intechopen.93665. Available from: https://www.intechopen.com/online-first/weapon-target-assignment
45. Md. Rajib Sheakh and M. Babul Hasan, "AN ADVANCED AD HOC FORECASTING TECHNIQUE FOR BANKING SECTOR OF BANGLADESH", Proceedings of the International Conference on Industrial Engineering and Operations Management Washington DC, USA, September 27-29, 2018 .

Conference Attended

1. Presented the paper entitled " *Generalization of simplex method for solving Quadratic fractional programming problems"* in the International Conference on Applied Mathematics and Mathematical Physics 2000 held at Shahjalal University of Science and Technology, **Shylhet**, **Bangladesh**, during 11-15 September, 2000 and was awarded gold medal for the best presentation.
2. Participated in the International Instructional workshop on Industrial Mathematics which was held at the Indian Institute of Technology (IIT) **Mumbai, India**, during 2 to 6 December, 2002.
3. Participated in the International Conference on Industrial Mathematics which was held at the Indian Institute of Technology (IIT) **Mumbai, India** during 7 to 9 December, 2002.
4. Presented paper entitled "*Fishing trawler scheduling for integrated fisheries*" in 39th ORSNZ conference from 28-29 November, 2004, **Auckland, New Zealand.**
5. Presented paper entitled "Operations Research Models for Production Planning in Fisheries: A Review" at 2004 World Natural Resource management conference from 12-16 December 2004, **Melbourne, Australia**.

6. Presented paper entitled "*Relaxation and Decomposition Methods for Solving MILP for an Integrated Fishery*" at 2006 Computational and Technology Application Conference, from 2-5 July 2006, Townsville, **Queens Land, Australia.**
7. Presented paper entitled "*Decomposition based Methods for Solving MILP for an Integrated Fishery*" at Postgraduate research Conference, 18th October, 2006, university of Canterbury, **Christchurch, New Zealand.** (I was awarded best speaker award).
8. Presented paper entitled "*Decomposition based Methods for Solving MILP for an Integrated Fishery*" 41st ORSNZ Conference, 30th November - 1st December 2006, university of Canterbury, **Christchurch, New Zealand.**
9. Presented the paper entitled "A new decomposition Based Pricing Technique for Solving Large-Scale Mixed IP with a Computer Technique," in the International Conference on Science and Technology 2016 held at Sheraton Ankara Hotel and Convention Center, **Ankara, Turkey**, during 3-6 October 2016.
10. Invited Speaker of the paper entitled "A procedure for Planning Inventory of an Industry by Combining Forecasting and Linear Programming," in the International Conference on Advances in Applicable Mathematics, ICAAM 2017 held in the Department of Mathematics, Bharathiar University, **Coimbatore, Tamil Nadu, India**, during 7-8 December 2017.
11. Invited Speaker of the paper entitled "Study and Analysis of Stochastic Optimization Problems and its application in real life ," in the International Conference on Advances in Applicable Mathematics, ICAAM 2020 held in the Department of Mathematics, Bharathiar University, **Coimbatore, Tamil Nadu, India**, during 21-22 February 2020.
12. Invited Speaker of the paper entitled "Analysis of Nonlinear Programming as a tool for Portfolio Management," in the INTERNATIONAL CONFERENCE ON MATHEMATICAL METHODS AND COMPUTATION (ICOMAC 2017) held in the Department of Mathematics, JAMAL MOHAMED COLLEGE, **Tiruchirappalli, Tamil Nadu**, **India**, during 19 February 2020.

MS thesis supervision: 29 MS, M. Phill. thesis supervision: 2, Ph.D. thesis supervision: 1

Referees

Dr. Md. Ainul Islam Department of Mathematics University of Dhaka Dhaka-1000, Bangladesh. Email: mainul_51@yahoo.com	John F. Raffensperger Department of Management University of Canterbury Private Bag 4800, Christchurch, New Zealand. Senior Operations Researcher, The RAND Corp., Santa Monica, CA, Email: john.raffensperger@gmail.com john.raffensperger@Canterbury.ac.nz	Dr. Selina Parveen Department of Mathematics University of Dhaka Dhaka-1000, Bangladesh. faridselina55@yahoo.com

Signature: Professor Dr. Mohammad Babul Hasan _ _ _ _ , Date: 15.10.2020.