

## Dr. (Mrs.) Sathi Mukherjee

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### ASSISTANT PROFESSOR, MATHEMATICS

At present, working as an Assistant Professor, Mathematics at a government aided degree college, **Gobinda Prasad Mahavidyalaya**, located at Amarkan, Bankura w.e.f. 11.03.2015

Possessing a proven record of working with autonomy and making significant contributions to the organization / institution associated with. Effective teaching, communication & administrative skills.

### CAREER PROFILE

Asst. Professor & HOD, Mathematics	Gobinda Prasad Mahavidyalaya, Amarkan, Bankura-722133, West Bengal.	11.03.2015-Continuing
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### PROFESSIONAL QUALIFICATIONS

B.Ed. (Sciences)	Institute of Women's Education, Hastings, University of Calcutta	2000
DoEACC 'A'-Level Computer Course	ER & DCI, DoE, Govt. of India, Kolkata	1999

### MEMBERSHIP WITH PROFESSIONAL BODIES

- Life Member of Operations Research Society of India (ORSI)
- Life Member of Calcutta Mathematical Society.

### ACADEMIC QUALIFICATIONS

<b>Ph.D.</b> in Science in Mathematics	National Institute of Technology (NIT), Durgapur Topic: <i>A Study on Different Aspects of Assignment Problems under Fuzzy and Intuitionistic Fuzzy Environment</i>	2011	Supervisor: Dr. Kajla Basu, Prof., NIT,
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<b>JOINT CSIR/UGC-NET</b> (Lectureship) – Mathematical Sciences	Joint - Council for Scientific & Industrial Research (CSIR) / University Grants Commission (UGC)	2002, 2003	
<b>B.Ed</b>	Institute of Education for Women, Hastings (CU)	2000	
<b>M.Sc. –</b> Applied Mathematics (Specialization: Operations Research)	University College of Science & Technology, University of Calcutta	1999	61.60%
<b>B.Sc. (Hons.) –</b> Mathematics	University of Calcutta	1996	57.25%
<b>Higher Secondary</b>	West Bengal Council of Higher Secondary Education (South Point High School)	1992	60.3%
<b>Secondary</b>	West Bengal Board of Secondary Education (South Point High School)	1990	77.33%

## RESEARCH WORK

- Pursuing post-Ph.D research work in OR and has communicated 5 papers in international journals.
- Published 19 research papers in international journals, 4 research papers in national journals and 7 research papers in proceedings of international/national conferences. 1 paper accepted for publication in International journals.
- Presented 9 research papers in national and international seminars/conferences.
- Supervising 2 Ph.D scholars as a co-guide at NIT, Durgapur. One obtained Ph.D degree from NIT, Durgapur in Mathematics on 16.03.2017.
- Worked as Reviewer of research papers in international journals like Knowledge Based Systems (Elsevier), Applied Mathematical Modelling (Elsevier), International Journal of System Science (Taylor & Francis), International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems (World Scientific), Transactions of Fuzzy Systems (IEEE) etc.

## PERSONAL

Hobbies & Interests : Writing Research Papers, Teaching Mathematics, Reading Books,  
Listening to music, Singing.

Languages Known : English, Hindi & Bengali

## **PROFFESIONAL EXPERIENCE & SIGNIFICANT ACHIEVEMENTS**

- Obtained a seminar grant from AICTE-File No. RIFD/SEM/28/2011-2012 as a Coordinator of a National Seminar in Mathematics held at BCET, Durgapur during 16<sup>th</sup> -17<sup>th</sup> Mar, 2012
- Published the Proceedings of the above National Seminar (with ISBN Number) and the Workshop held at BCET, Durgapur
- Worked as a Member of Core Committee and also conducted Workshop on "Exploring Mathematical Modeling through Soft-Computing" in Sep, 2006 at BCET
- Participated in various activities relating to NBA accreditation process at BCET
- Worked as a Member and Convener of Cultural Committee of Bengal College of Engineering and Technology (BCET), Durgapur and successfully organized various fests and cultural programs from time to time
- Over 99% successful candidates in semester examinations
- Served as Examiner and Paper-Setter in Mathematics – WBUT & University of Burdwan
- Published 19 research papers in international journals, 4 research papers in national journals and 7 research papers in proceedings of international/national conferences. 1 paper accepted for publication in International journals.
- Presented 9 research papers in national and international seminars/conferences.
- Participated in many national and international conferences, seminars and workshops.

Certified this information is true to the best of my knowledge & belief.

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**Subject: Mathematics**

## **List of Papers Published/Accepted/Presented in International/National Journals/Conferences/Seminars**

### **Papers published in journals**

1. Supriya Kar, Kajla Basu and Sathi Mukherjee, (2017), Solution of a Class of Generalized Assignment Problem, *Journal of Intelligent & Fuzzy Systems* 33 (2017) 1687–1697, DOI:10.3233/JIFS-17086, IOS Press.
2. Sathi Mukherjee, (2017), Selection of Alternative Fuels for Sustainable Urban Transportation under Multi-criteria Intuitionistic Fuzzy Environment, *Fuzzy Information and Engineering*, ISSN: 1616-8658, Volume 9, Issue 1, March 2017, Pages 117–135. <https://doi.org/10.1016/j.fiae.2017.03.006>.
3. Kour, D., Mukherjee, S. & Basu, K. (2017), Solving intuitionistic fuzzy transportation problem using linear programming, *Int J Syst Assur Eng Manag* (2017), ISSN: 0975-6809 (print version), ISSN: 0976-4348 (electronic version) Pg 1-12, doi:10.1007/s13198-017-0575-y.
4. Dalbinder Kaur, Sathi Mukherjee, Kajla Basu, (2015), Solving A Multi-Objective And Multi-Index Real Life, Fuzzy Transportation Problem Using Modified Fuzzy Programming Technique, *Advances in Fuzzy Mathematics*. ISSN 0973-533X Volume 10, Number 2 (2015), pp. 123-141.
5. Supriya Kar, Kajla Basu, Sathi Mukherjee, (2015), Solution of Multi-Criteria Assignment Problem using Neutrosophic Set Theory, *Neutrosophic Sets and Systems*, Vol. 10, pg 31-38, 2015, ISSN 2331-6055 (print) ISSN 2331-608X (online) (University of New Mexico).
6. Mukherjee, S. (2015), 'Fuzzy programming technique for solving the shortest path problem on networks under triangular and trapezoidal fuzzy environment', *Int. J. Mathematics in Operational Research*, Vol. 7, No. 5, pp. 576-594, ISSN online: 1757-5869, ISSN print: 1757-5850 (Inderscience).
7. Supriya Kar, Kajla Basu, Sathi Mukherjee, (2015), Application of Neutrosophic Set Theory in Generalized Assignment Problem, *Neutrosophic Sets and Systems*, Vol. 9, pg 75-79, 2015, ISSN 2331-6055 (print) ISSN 2331-608X (online) (University of New Mexico).
8. Dalbinder Kaur, Sathi Mukherjee, Kajla Basu, (2015), Solution of a Multi-Objective and Multi-Index Real- Life Transportation Problem Using Different Fuzzy Membership Functions, *Journal of Optimization Theory and Applications (JOTA)*, ISSN: 0022-3239 (print version) ISSN: 1573-2878 (electronic version), February 2015, Volume 164, Issue 2, pp 666-678, DOI 10.1007/s10957-014-0579-6 (Springer),
9. Dalbinder Kaur, Sathi Mukherjee, Kajla Basu, (2014), Multi-Attribute Decision Making Problem for Transportation Companies using Entropy Weights-Based Correlation Coefficients and TOPSIS Method under Interval-Valued Intuitionistic Fuzzy Environment, *International Journal of Computational and Applied Mathematics*, Volume 9, Number 2 (2014), pp. 127-138, ISSN 1819-4966.
10. Supriya Kar, Kajlabasu, Sathi Mukherjee, (2014), Solution of Generalized Fuzzy Assignment Problem with Restriction on Costs under Fuzzy Environment, *International Journal of Fuzzy Mathematics and Systems*, Volume 4, Number 2 (2014), pp. 169-180, ISSN 2248-9940.
11. Supriya Kar, Kajlabasu, Sathi Mukherjee, (2015), Generalized fuzzy assignment problem with restriction on the cost of job under hesitant fuzzy environment, *OPSEARCH*, Published Online First on 29<sup>th</sup> October, 2014, DOI 10.1007/s12597-014-0192-3, *OPSEARCH (Springer)*, ISSN 0030-3887, September 2015, Volume 52, Issue 3, pp 401-411, Print ISSN 0030-3887 (Springer).

12. Supriya Kar, Kajlabasu, Sathi Mukherjee, (2013), Solution Of Generalized Fuzzy Assignment Problem With Restriction On The Cost Of Both Job And Person Under Fuzzy Environment, *International Journal of Management (IJM)*, Volume 4, Issue 5, September - October (2013), pp. 50-59, ISSN 0976-6502 (Print), ISSN 0976-6510 (Online).
13. Sathi Mukherjee, (2012), Dijkstra's Algorithm for Solving the Shortest Path Problem on Networks Under Intuitionistic Fuzzy Environment, *Journal of Mathematical Modeling and Algorithms*, volume 11, Issue 4, pp 345-359, December 2012, (Springer), DOI: 10.1007/s10852-012-9191-7 , ISSN 1570-1166.
14. Sathi Mukherjee and Kajla Basu, (2012), Solution of a class of Intuitionistic Fuzzy Assignment problem by using similarity measures, *Knowledge-Based Systems*, Volume 27, March 2012, Pages 170-179, (Elsevier) doi:10.1016/j.knosys.2011.09.007 , ISSN 0950-7051.
15. Sathi Mukherjee and Kajla Basu, (2012), Solving Multiple Attribute Assignment Problem by Analytic Hierarchy Process. *Bulletin of Calcutta Mathematical Society*, 104, (3) 301-312 (2012), ISSN 0008-0659.
16. Sathi Mukherjee, Kajla Basu, (2011), Solution of interval PERT/CPM network problems by a simplified tabular method, *OPSEARCH: Volume 48, Issue 4 (2011)*, Page 355-370 DOI: 10.1007/s12597-011-0056-z, *OPSEARCH (Springer)*, ISSN 0030-3887.
17. Sathi Mukherjee and Kajla Basu, (2011), Solving Intuitionistic Fuzzy Assignment Problem by using Similarity Measures and Score Functions. *International Journal of Pure and Applied Sciences and Technology*, (2011), Volume 2, Number 1, January, 2011 , pp. 1-18, ISSN 2229-6107.
18. Sathi Mukherjee and Kajla Basu, (2010), Assignment Problem with Multiple Attributes of Crisp, Fuzzy and Linguistic Type Data. *International Journal of Optimization: Theory, Methods and Applications*, Vol. 2, No. 2, 150-159, 2010, ISSN 2070-5565.
19. Sathi Mukherjee and Kajla Basu, (2010), Application of Fuzzy Ranking Method for Solving Assignment Problems with Fuzzy Costs. *International Journal of Computational and Applied Mathematics*, Volume 5 Number 3 (2010), pp. 359-368, ISSN 1819-4966.
20. Sathi Mukherjee and Kajla Basu, (2010), On A Class of Assignment Problem, *Journal of The Assam Academy of Mathematics*, Volume - 2, pp 119-135, July - 2010, ISSN 2229-3884.
21. Sathi Mukherjee and Kajla Basu, (2010), A More Realistic Assignment Problem with Fuzzy Costs and Fuzzy Restrictions, *Advances in Fuzzy Mathematics*, (2010), Volume 5, Number 3 (2010), pp. 395-404, ISSN 0973-533X.
22. Sathi Mukherjee, Kajla Basu, (2010), Application of Fuzzy Method for Evaluating Fuzzy PERT/CPM Network Parameters, *Bulletin of the Gauhati University Mathematics Association*, Volume 11, Pg 21-52, 2010, ISSN 0975-4148.
23. N. P. Jayaswal, Swarup Mukherjee, Sathi Mukherjee, (2005), A Fuzzy logic based scheduling system for heat treatment shop treating varied grades of steel, *STEEL INDIA*, VOL. 28, NO. 1, April, 2005, ISSN 0970-1311.

24. Sathi Mukherjee, Swarup Mukherjee, (2002), Computer based modified Fourier algorithm for solving optimization problems in industry, *Industrial Engineering Journal*, VOL XXXI, NO. 10, October, 2002, ISSN 0970-2555.

### **Papers published in Conference/Seminar Proceedings**

25. Sathi Mukherjee and Kajla Basu, (2010) Multiple Criteria Objective Function in Assignment Problem with Crisp, Fuzzy and Linguistic Type Data, *Proceedings of International Conference on Challenges and Applications of Mathematics in Science and Technology (CAMIST)*, pg 70-79, January 11-13, 2010, NIT, Rourkela, ISBN 023-032-875X.
26. Sathi Mukherjee and Kajla Basu, (2010), Decision Making In Assignment Problem with Multiple Attributes Under Intuitionistic Fuzzy Environment, *Proceedings of International Conference on Modeling, Optimization, and Computing (ICMOC 2010)*, October 28-30, NIT, Durgapur, CP1298, American Institute of Physics, 978-0-7354-0854-8/10/\$30.00, Pg 541-546, ISBN 978-0-7354-0854-8.
27. Dalbinder Kaur, Sathi Mukherjee, Kajla Basu (2011),"Multi-Objective Multi-Index Real Life Transportation Problem with Crisp Objective Function and Interval Valued Supply and Destination Parameters", *Proceedings of International Conference on Mathematical and Computational Models, (ICMCM' 2011)*, Dec 19-21, 2011, *Computational and Mathematical Modeling*, Page: 284-291, PSG College of Technology, Coimbatore, ISBN 978-81-8487-1647.
28. Dalbinder Kaur, Sathi Mukherjee, Kajla Basu, (2012), "Multi-objective Multi-index real Life transportation problems with interval valued parameters", *Proceedings of the National Seminar on Recent Advances in Mathematics and its Applications in Engineering Sciences (RAMAES 2012)*, March 16-17, 2012, Bengal College of Engineering and Technology, Durgapur, Page 29-36, ISBN 978-93-5067-395-9.
29. Dalbinder Kaur, Sathi Mukherjee, Kajla Basu, (2012), "Goal Programming Approach to Multi-index Real Life Transportation Problem with crisp objective function and interval-valued Supply and Destination Parameters", *Proceedings of International Conference on Optimization, Computing and Business Analytics, (ICOCBA 2012)*, December 20-22, 2012, Pg 30-36, ISBN 978-81-8424-8142.
30. Dalbinder Kaur, Sathi Mukherjee, Kajla Basu, (2012), "Solution of a Multi-Index Real Life Transportation Problem by Fuzzy Non-Linear Goal Programming", *Proceedings of the National Conference on Recent Advances in Mathematics and its Applications, (RAMA-2013)*, February 14-16, 2013, Pg 148-158, ISBN: 978-81-8424-821-0.
31. Dalbinder Kaur, Sathi Mukherjee, Kajla Basu, (2014), "A new fuzzy programming technique approach to solve fuzzy transportation problem".  
*Proceedings of 2014 2nd International Conference on Business and Information Management (ICBIM)*, held at National Institute of Technology, Durgapur, 9-11 Jan. 2014, DOI:10.1109/ICBIM.2014.6970977, INSPEC Accession Number: 14790915, Pg 144-150, 978-1-4799-3264-1/14/\$31.00 ©2014, IEEE CONFERENCE PUBLICATIONS.

### **Papers presented in Conference/Seminar**

1. Sathi Mukherjee, A More Realistic Assignment Problem. [Presented: *National Seminar on Recent Trends in Operations Research and Its Computational Challenges*, November 17-18, 2009, Department of Applied Mathematics, University of Calcutta.]
2. Sathi Mukherjee, Applying Fuzzy Method for Evaluating Fuzzy PERT/CPM Network Parameters, [Presented, *International Conference on Frontier of Mathematics (ICFMA-2008)*, Jan 16<sup>th</sup> -18<sup>th</sup> , 2008, Department of Mathematics, The University of Burdwan.

3. Sathi Mukherjee, Decision Making in Intuitionistic Fuzzy Assignment Problem by using Similarity Measures and Score Functions. [Presented: *International Conference on Recent Development in Mathematical Sciences and their Applications (ICRDMSA-2010)*, 09-11, December 2010, Calcutta Mathematical Society, India.]
4. Sathi Mukherjee, Solving Multiple Attribute Assignment Problem by Analytic Hierarchy Process, [Presented: *International Conference on Frontiers in Applied Mathematics and its Computational Aspects (ICFAM-CA : 2011)*, March 15-17, 2011, Department of Applied Mathematics, University of Calcutta ]
5. Sathi Mukherjee and Kajla Basu, Shortest Path Problem with Triangular or Trapezoidal Fuzzy Parameters, [Presented: *International Conference on Operations Research for Sustainable Development in Globalized Environment*, January 6-8, 2012, Calcutta Business School & ORSI, Kolkata.]
6. Soumitra Banerjee, Sathi Mukherjee, Dijkstra's Algorithm for Solving the Shortest Path Problem on Networks under Generalized Triangular and Trapezoidal Fuzzy Environment, [Presented: AICTE Sponsored National Seminar on Recent Advances in Mathematics and its Applications in Engineering Sciences (RAMAES 2012), March 16-17, 2012, Bengal College of Engineering and Technology, Durgapur]
7. Sathi Mukherjee, Modified Dijkstra's Algorithm for Solving the Shortest Path Problem on Network under Triangular and Trapezoidal Fuzzy Environment, [Presented: UGC Sponsored Two Day National Seminar on Srinivasan Ramanujan: The Great Inspirer of Learning Mathematics, December 22-23, 2015, Department of Mathematics, Syamsundar College, jointly organized by Department of Mathematics, Syamsundar College & Indas Mahavidyalaya, Burdwan.]
8. Sathi Mukherjee, Some New Approaches For Solving Shortest Path Problems Under Intuitionistic Fuzzy Environment, [Presented: 1<sup>st</sup> Regional Science & Technology Congress-2016, Bardhaman Division, West Bengal, 7<sup>th</sup> & 8<sup>th</sup> November, 2016 held at Bankura Christian College, Bankura, jointly organized by the Department of Science & Technology, Govt. of West Bengal and Bankura Christian College, Bankura.]
9. Sathi Mukherjee, Multi-criteria intuitionistic fuzzy decision making for selection of alternative fuels for sustainable urban transportation,[Presented: Indo – German Conference on "Modeling, Simulation and Optimization in Applications (MSOA)", Department of Mathematics, Bankura University, February 22, 2017 to February 24, 2017].
10. Sathi Mukherjee, (2017), Multi-attribute decision making using new similarity measure for interval-valued intuitionistic fuzzy data, 2<sup>nd</sup> Regional Science & Technology Congress (Western Region), 2017 [2<sup>nd</sup> RSTC (WR), 2017], November 16-17, 2017.
11. Supriya Kar, Kajla Basu and Sathi Mukherjee, (2017), Multi-criteria generalized assignment problem based on hesitant Fuzzy Weighted Geometric Operator, 2<sup>nd</sup> Regional Science & Technology Congress (Western Region), 2017 [2<sup>nd</sup> RSTC (WR), 2017], November 16-17, 2017.

### **Participation in Conferences/Seminars, Workshops**

1. Workshop on Exploring Mathematical Modeling Through Soft Computing, September 15, 2006, Department of Mathematics, Bengal College of Engineering and Technology, Durgapur.
2. National Seminar on Recent Advances in Operational Research and Related Computational Aspects, Sponsored by DSA Programme of UGC, New Delhi, August 22-23, 2007, Department of Applied Mathematics, University of Calcutta.]
3. National Workshop on "Advances in Computational Optimization and Applications", 8<sup>th</sup>-12<sup>th</sup> Nov, 2010, Department of Mathematics, NIT, Durgapur

4. Seminar on Modern Trends in Operations Research -2011 (MTOR-2011), Jan 31, 2011, Department of Mathematics, NIT, Durgapur
5. International Workshop on Fuzzy Sets, Rough Sets, Uncertainty Analysis and Applications, FRUA2011, Nov 21-25, 2011, Department of Mathematics, NIT, Durgapur in association with Centre for Soft Computing Research, ISI, Kolkata.

### **Training**

1. Short Term/In-house Training Programme on AICTE Sponsored "Induction Training" , during 2<sup>nd</sup> -13<sup>th</sup> January, 2007 at Bengal College of Engineering and Technology, Durgapur.
2. Short Term/In-house Training Programme on "Teaching Techniques", during 19<sup>th</sup> -22<sup>nd</sup> Jul, 2005 at Bengal College of Engineering and Technology, Durgapur.

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