

Dr. Sukumar Mondal

Associate Professor

Mathematics

**Education:**

Degree	Year	University
Ph.D.	2003	Vidyasagar University
B.Ed.	1996	Vidyasagar University
M.Sc.	1994(Rank-2)	Vidyasagar University
B.Sc.	1992(Rank-2)	Vidyasagar University

Teaching Experience: UG-15 yrs+, PG-12 yrs+**Area of Research:** Computational Graph Algorithms**Journal Papers:**

1. Mondal, S., Pal, M. and Pal, T. K., An optimal algorithms for finding depth-first spanning tree on permutation graphs, *Korean J. Comput. & Appl. Math.*, 6 (1999) 493-500.
2. Pal, M., Mondal, S., Bera, D. and Pal, T. K., An optimal parallel algorithm for computing cut vertices and blocks on interval graphs, *Intern. J. Computer Math.*, 75 (2000) 59-70.
3. Mondal, S., Pal, M. and Pal, T. K., An optimal algorithm to solve 2-neighbourhood covering problem on interval graphs, *Intern. J. Computer Math.*, 79 (2002) 189-204.
4. Mondal, S., Pal, M. and Pal, T. K., An optimal algorithm for solving all-pairs shortest paths on trapezoid graphs, *Intern. J. Computational Engineering Science*, 3 (2002) 103-116.
5. Mondal, S., Pal, M. and Pal, T. K., Efficient algorithm to solve disjoint cliques problem on interval graphs, Proceedings of “*International Conference of Analysis and Discrete Structure*” held on Dec. 2002, I.I. T., Kharagpur, India.

6. Mondal, S., Pal, M. and Pal, T. K., An optimal algorithms to solve all-pairs shortest paths problem on permutation graphs, *Journal of Mathematical Modeling and Algorithms*, 2 (2003) 57-65.
7. Mondal, S., Pal, M. and Pal, T. K., Optimal sequential and parallel algorithms to compute a Steiner tree on permutation graphs, *Intern. J. Computer Math.*, 80 (2003) 939-945.
8. Barman, S.C., Mondal, S., Pal, M. An efficient algorithm to find next-to-shortest path on trapezoid graphs. *Advanced in Applied Mathematical Analysis*, 2(2007) 97-107.
9. Barman, S.C., Mondal, S., Pal, M. An efficient algorithm to find next-to-shortest path on permutation graphs, *J. Appl.Math.&Comput.*, 2009 (31) 369 - 384.
10. Barman, S.C., Mondal, S., Pal, M. A linear algorithm to construct a tree 4-spanner on trapezoid graphs. *Intern. J. Computer Math.*, 87 (2010) 743-755.
11. Barman, S.C., Mondal, S., Pal, M., K-Neighbourhood Covering problem on interval graphs, *Intern. J. Computer Math.*, 87 (2010) 1918-1935 .
12. Pramanik, T., Mondal, S. and Pal,M., The diameter of an interval graph istwice of its radius,*World Academy of Science, Engineering and Technology*,80(2011) 1363-1368.
13. Pramanik, T., Mondal, S. and Pal,M., Minimum 2-tuple dominating set of an interval graph, *International Journal of Combinatorics, Volume 2011, Article ID 389369, 14 pages, doi:10.1155/2011/389369*
14. Jana, B., Mondal, S. and Pal,M., Computation of Inverse 1-center Location Problem on the Weighted Tree, *CiiT International Journal of Networking and Communication Engineering*, 4 (2012) 70-75.
15. Jana, B., Mondal, S. Computation of a Minimum Average Distance Tree on Permutation Graphs, *Annals of Pure and Applied Mathematics*, Vol. 2, No. 1, 2012, 74-85 ISSN: 2279-087X (P), 2279- 0888(online) .
16. Barman, S.C., Mondal, S., Pal, M., Computation of a Tree 3-Spanner on Trapezoid Graphs, *Annals of Pure and Applied Mathematics*, Vol. 2, No. 2, 2012, 135-150ISSN: 2279-087X (P), 2279-0888(online).
17. Barman, S.C., Mondal, S., Pal, M., Minimum 2-tuple dominating set of Trapezoid Graphs, *Journal of Applied Mathematics and Computing*, ISSN 1598-5865 DOI 10.1007/s12190-013-0656-2.October 2013, Volume 43, [Issue 1-2](#), pp 133-150
18. Mondal, S., An Efficient Algorithm for Computation of a Minimum Average Distance Tree onTrapezoid Graphs,*Journal of Scientific Research & Reports*, 2(2013) 598-611.

19. Jana, B., Mondal, S., Pal, M., Computation of a Minimum Average Distance Tree on Circular-arc Graphs, *International Journal of Electronics Communication and Computer Engineering*, 6(3), 2015, 74-85, ISSN: 2249-071X (O), 2278- 4209(P)

Communicated:

1. Jana, B., Mondal, S. and Pal, M, An $O(n)$ Time Algorithm to Compute the Inverse 1-Center Location Problem on the Weighted Interval Graphs, communicated.
2. Pramanik, T., Samanta, S., Pal, M. and Mondal, S., Bipolar Fuzzy Planar Graph, communicated.
3. Pramanik, T., Mondal, S. and Pal, M., Shortest Path Problem on Interval-valued Fuzzy Hypergraphs, communicated.

Books Published:

1. *Some Sequential and Parallel Algorithms on Interval, Permutation and Trapezoid graphs.* Publishers: LAMBERT Academic Publishing, Germany, ISBN: 978-3-8465-8247-3.
2. *Advanced Analytical Statics* (U. N. Dhaur & Sons, Kolkata, 4th Edition on 2011, ISBN-978-93-80673-22-6)
3. *Key to Advanced Analytical Statics* (U. N. Dhaur & Sons, Kolkata, 1st Edition. on 2011, ISBN-978-93-80673-36-3)
4. Module Writer of Netaji Subhas Open University for BCA
5. Module Writer of Vidyasagar University for DDE (49-54, 91-93)
6. *Advanced Hydrostatics* (Amit Publication, Kolkata)

Honours/ Awards: Scientist of the year 2013 by NESAI, New Delhi.

Research Guidance:

Sl.	Ph.D/ M. Phil./ Dissertation (UG/ PG)	Title of the Research Work	Name of the Scholar	University	Status [Completed (Year)/ Ongoing]
1	Ph. D.	Some Algorithms on Intersection Graphs	Mr. Sambhu Charan Barman	Vidyasagar University	Awarded-2013

2	M. Sc	Contribution of Circular-arc graphs in Society	Mr. Anindya Som	Midnapore College (Autonomous)	2014
3	M. Sc	Contribution of Interval graphs in Society	Mr. Indranil Sen	Midnapore College (Autonomous)	2014
4	M. Sc	Contribution of Permutation graphs in Society	Mr. Bansi Badan Das	Midnapore College (Autonomous)	2014

Project Works as P.I.:

Sl.	Title of the Projects	Name of the funding Agency	Sanction Letter No	Amount	Completed /Ongoing
1	Development of Algorithms on Interval , Permutation, Trapezoid and Circular-arc Graphs	U. G. C.	F.PSW-072/03-04(ERO)	Rs. 70,000/-	Completed
2	Design and Analysis of Algorithms on Interval , Permutation, Trapezoid and Circular-arc Graphs	U. G. C.	F. 30-1/2004(SA-II)	Rs. 4,00,000/-	Completed
3	Development of Some Sequential and Parallel Algorithms on the Class of Intersection Graphs	U. G. C	F. PSW-094/11-12 (ERO)	Rs. 1,48,800/-	Completed
4	Design and Analysis of Algorithms on Class of Intersection Graphs	U. G.C	F. 41-764/2012 (SR)	Rs. 4,46,000/-	Completed

Invite Lectures:

Sl.	Topic of the Lectures	Institute	Year
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1	Pedagogical Analysis in School Mathematics.	V. U.	2010
2	State Level Seminar on Learning as Enjoying: Co-curricular and Recreational Activity in Mathematics.	Sevayatan B. Ed. College	2011
3	Effects of Mathematics School Curriculum in Higher study.	V.T.T. College.	2013

Membership of Learned Societies:

- Life Member of Calcutta Mathematical Society
- Life Member of Indian Mathematical Society
- Life Member of National Environmental Science Academy

Seminar/ Conference/ Workshop:

Training Attended:

Sl.	NAME	SPONSORED AGENCY	PLACE & DATE
1	Refresher Course in Mathematics.	U. G. C.	University of Kalyani, Kalayni, Nadia from 18.12.2001 to 11.01.2002.
2	Refresher Course on Recent Advances in Applied Mathematics	U. G. C.	VidyasagarUniversity, PaschimMedinipur from 22.11.2003 to 13.12.2003.
3	Refresher Course on Mathematics	U. G. C.	AcademicStaffCollege, University of Calcutta, from 07. 09. 2007 to 27. 09. 2007.
4	Refresher Course on Mathematics	U. G. C.	AcademicStaffCollege, University of Calcutta, from 08. 09. 2008 to 27. 09. 2008.

Workshop Attended:

Sl.	NAME	SPONSORED AGENCY	PLACE & DATE
1	Workshop on the revised syllabus on B. Ed.	VidyasagarUniversity	V.T.T.College, PaschimMedinipur on December, 2006.
2	State Level Workshop on Learning as Enjoying: Co-curricular and Recreational Activity in Mathematics	U.G.C.	Sevayatan B. Ed College, Feb. 18-19, 2011.
3	National Level Orientation Programme on Perspectives on Women Studies: Contemporary Issues and curriculum Development	U.G.C.	Vidyasagar University, March 28 – 30, 2011
4	State Level Three day workshop on C-Language & its Applications	U.G.C.	Kharagpur College, March 28-30, 2012
5	State level workshop on Effects of Mathematics School Curriculum in Higher study	U.G.C.	V.T.T. College, 22-23 Feb., 2013
6	Workshop for Revision of Syllabus for Hon's and Pass Course of V. U.	V. U.	Vidyasagar University, 06 th March, 2014
7	5-Day National Workshop on Optimization and Fuzzy Mathematics	DST	Vidyasagar University, 09-13 Sept. 2014

Seminar organized: 01

Title: National Seminar on Design and Analysis of Graph Algorithms.

Duration: Aug. 13-14, 2012.

Venue: Deptt. of Mathematics, Raja N. L. Khan Women's College.

Seminar Attended (without paper):

Sl.	NAME	SPONSORED AGENCY	PLACE & DATE
1	National Seminar on Recent Advances in Operations Research	U. G. C.	Department of Appl. Mathematics with Oceanology & Computer Programming, V.U., PaschimMedinipur on March 15 -16, 2001.
2	National Conference on Recent Trends in Mathematical Science.	U. G. C.	Department of Mathematics, JadavpurUniversity, Kolkata on March 22 – 23, 2002.
3	State Level Seminar on Marine Resource in Digha and Sankarpur: An Overview.	U.G.C.	EgraSaradaShashiBhusanCollege, Egra, PurbaMedinipur on January, 2003.
4	State Level Seminar on Wetland Management in the Coastal Belt of PurbaMedinipur.	Govt. of West Bengal	EgraSaradaShashiBhusan College, Egra, PurbaMedinipur on March 3, 2006.
5	National Seminar on Emerging Trends in Computation and Applied Mathematics	U. G. C.	Dett. of Mathematics, Vidyasagar University, on January, 2007.
6	State Level Seminar on Global Warming and its Effects.	U.G.C.	Y. S. PalparaMahavidyalaya, PurbaMedinipur on December, 2007.
7	State Level Seminar on Pedagogical Analysis, Review of Text Book and Text Book Analysis in the Perspective of Modern Teaching Strategies.	State Govt.	V.T.T.College, PaschimMedinipur, on March, 2008
8	Seminar on Role of Meditation in Higher Education	Y. S. S. of India	Y. S. PalparaMahavidyalaya, PurbaMedinipur on December, 2008.
9	State Level Seminar on Globalization of Indian Accounting Standard's.	U.G.C.	Vivekananda Mission Mahavidyalaya, PurbaMedinipur on December, 2008.
10	State Level Seminar on SEZ: Its Economics, Politics and Concerns.	U.G.C.	MugberiaGangadharMahavidyalaya, PurbaMedinipur on February, 2009.
11	National Seminar on Discrete Structure	U.G.C.	Vidyasagar University,

Sl.	NAME	SPONSORED AGENCY	PLACE & DATE
			17 th to 19 th March, 2010
12	National Level Orientation Programme on Perspectives on Women Studies: Contemporary Issues and curriculum Development	U.G.C.	Vidyasagar University, March 28 – 30, 2011
13	National Seminar on Use of free Software	U.G.C.	Vidyasagar University, Sept. 10 – 11, 2010
14	National Seminar on <i>Rabindranath: Amader Sanskritik Uttaradhikar</i>	U.G.C.	Raja N L Khan Women's College, 19 Aug., 2011
15	National Seminar on <i>Recent Development in Applied Mathematics and its Applications</i>	V. U.	Dept. of Mathematics, Vidyasagar University, March 30 – 31, 2011.
16	National Seminar on Design and Analysis of Graph Algorithms	U.G.C	Raja N L Khan Women's College, 13-14 Aug., 2012
17	National Seminar on Recent Aspects in Mathematics and their Applications	UGC	Vidyasagar University, 25-26 Feb., 2014