

**Dr. A. AMUTHA**

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**Profile**

Working as **ASSISTANT PROFESSOR** in **THE AMERICAN COLLEGE**, Thallakulam, Madurai – 625002. (From 16<sup>th</sup> June 2017 to Till date)

Worked as **ASSOCIATE PROFESSOR** in **SATHYABAMA UNIVERSITY**, Jeppier Nagar, Chennai – 119. (From 17<sup>th</sup> August 2005 to 10<sup>th</sup> June 2017)

Worked as **LECTURE** in **GURUNANAK COLLEGE**, Velachery, Chennai – 42. (From July-2004 to August-2005)

**Educational Qualification**

Degree	Board/Institute	Year	Division
Doctor of Philosophy Mathematics (Graph Theory)	Loyola College	2002-2007	Highly Commendable
Master of Science (Mathematics)	Presidency college	1999-2001	First Class
Bachelor of Science (Mathematics)	Queen Mary's College	1996-1999	First Class

**Area of Research - Graph Theory**

**Guide ship Reference No** : 1. Madurai Kamaraj University - 1713 (Nov 2017)  
2. Sathyabama University - 92023 (2008-2017)

1. *Number of students obtained Ph.D* : 04

2. *Number of students working for Ph.D* : 02

**Journal Publications**

1. "A Tree Spanners, Cayley Graphs and Diametrically Uniform Graphs", Lecture Notes in Computer Science, Springer-Verlag Berlin Heidelberg 2003, Vol.2880, pp 334-345, ISSN: 0302-9743, IF-1.36, 2003.
2. "On Super Strongly Perfect Graphs", International Journal of Computer, Mathematical Sciences and Applications, Serials Publications, ISSN:0973-6786, Vol.3, No.1-2, pp. 195-203, June 2009.

3. "Recognizing the Structure of Super Strongly Perfect Graphs using Perfect Graphs and Strongly Perfect Graphs", Ciit International Journal of Automation and Autonomous Systems, The Coimbatore Institute of Information Technology, ISSN:0974-9659, Vol.3, No.3, pp. 168-171, April 2011.
4. "Domination and Co - Domination Numbers of Super Strongly Perfect Graphs", International Journal of Mathematical Sciences and Applications, Mind Reader Publications, Vol.2, No.1, pp. 121-126, ISSN:2230-9888, January 2012, (Scopus, Web of Science)
5. "An Efficient Representation of Characterization of Super Strongly Perfect Graphs in Some Interconnection Networks", National Journal on Advances in Building Sciences & Mechanics, Sathyabama University, ISSN:0975-7317, Vol.3, No.1, pp. 56-62, April 2012.
6. "Characterization of Super Strongly Perfect Graphs in Chordal and Strongly Chordal Graphs", Mapana Journal of Sciences, Christ University, Bangalore, ISSN:0975-3303, Vol.11, No.4, pp.112-122, December 2012.
7. "An Investigation on Some Classes of Super Strongly Perfect Graphs", Applied Mathematical Sciences, HIKARI Ltd., <http://dx.doi.org/10.12988/ams.2013.34229>, Vol.7, Issue 65, pp. 3239-3246, ISSN:1314-7552, IF-0.451, 2013.
8. "Super Strongly Perfectness of Some Interconnection Networks", Indian Journal of Computer Science and Engineering, Engg Journals Publications, Vol.3, No.6, pp. 765 - 774, ISSN:2231-3850, IF-0.19, January 2013. (Scopus)
9. "Analysation of Super Strongly Perfectness in Ladder Graphs", i - manager's Journal on Mathematics, i-manager Publications, Vol.2, No.2, pp. 17-21, IF-0.867, June 2013.
10. "Super Strongly Perfectness of Some Graphs", International Journal of Pure and Applied Mathematics, 2013 Academic Publications, Ltd., doi:<http://dx.doi.org/10.12732/ijpam.v87i6.5>, Vol.87, No.6, pp. 763-769, September 2013. (SCOPUS)
11. "A Study on the Covering Number of Generalized Jahangir Graphs  $J_{s,m}$ ", International Journal of Pure and Applied Mathematics, 2013 Academic Publications, Ltd., doi:<http://dx.doi.org/10.12732/ijpam.v87i6.12>, Vol.87, No.6, pp. 835-844 IF-0.29, September 2013. (SCOPUS)
12. "Structural Characterization of Super Strongly Perfect Graphs on Trees", Journal of Computer and Mathematical Sciences, An International Research Journal, ISSN:0976-5727(Print), 2319-8133(Online), Vol.5, Issue 2, pp. 163-170, April 2014.
13. "A Study on Minimum Covering of Invertible Trees", Journal of Computer and Mathematical Sciences, An International Research Journal, ISSN:0976-5727(Print), 2319-8133(Online), Vol.5, Issue 2, pp. 141-150, April 2014.
14. "On Minimum Covering of Star and Wrapped Butterfly Networks", International Journal of Advanced Information Science and Technology, Scientific Research Organisation, DOI:10.15693/ijaist/2014.v3i10.142-146, Vol.3, No.10, pp. 142-146, ISSN:12319-2682 IF-6.187, October 2014.
15. "Exact Covering on Butterfly and Benes Networks", International Journal of Pure and Applied Mathematics, 2015 Academic Publications, Ltd., ISSN:1311-8080(Print), 1314-3395(Online), Vol.101, No.6, pp. 863-872, IF-0.29, March 2015. (SCOPUS)
16. "SSP Structure of Some Graph Classes", International Journal of Pure and Applied Mathematics, 2015 Academic Publications, Ltd., ISSN:1311-8080(Print), 1314-3395(Online), Vol.101, No.6, pp. 939-948, March 2015. (SCOPUS)

17. "Vertex Covering and Strong Covering of Flower Like Network Structures", *Procedia Computer Science*, Elsevier B.V, DOI:10.1016/j.procs.2016.05.143, Vol.87, pp. 164-171, ISSN:1877-0509,January2016.(SCOPUS)
18. "Perfect Matching and Slope Number Related to Honeycomb Network", *International Journal of Pure and Applied Mathematics*, 2017 Academic Publications, Ltd., ISSN:1311-8080(Print),1314-3395(online), Vol.109, No.8, Special Issue, pp. 243-280 ,IF-0.37,January 2016.(SCOPUS)
19. "A Study On Harmonious Coloring of Snake Derived Architecture", *Journal of Engineering Science and Technology*, Taylor's Publications, ISSN:1823-4690, Vol.11, No.12, pp. 1736-1743,IF-0.13,January 2016.
20. "Slope Number On Complete Graphs", *Indian Journal of Science and Technology*, 2015 Indian Society for Education and Environment, ISSN:0974-6846(Print),0974-5645(online), Vol.9, No.22, pp. 1-4 IF-0.68,June 2016.(Web Of Science)
21. "Minimum Vertex Cover, Invertible Graphs, Cayley and Diametrically Uniform Graphs", *International Journal of Pure and Applied Mathematics*, 2017 Academic Publications, Ltd., ISSN:1311-8080(Print),1314-3395(Online), Vol.113, No.7, Special Issue, pp. 120-128, IF-0.29,January2017.(SCOPUS)
22. "A Study On Domatic Number Of Silicate Networks", *Global Journal Of Pure And Applied Mathematics*, Research India Publications, ISSN:0973-1768(print),0973-9750(online), Vol.13, No.5, pp. 272-280, IF-0.29,January 2017.(SCOPUS,ICI)
23. "On Covering the Nodes of Circulant Networks and Its Applications", *Wireless Personal Communications*, Springer US, DOI:10.1007/s11277-016-3367-9, Vol. 94, Issue.4, pp. 2163-2172, IF-1.671 ISSN-0929-6212,June 2017.(SCOPUS,SCIE)
24. "An Exact Algorithm for Minimum Vertex Cover of Bloom Interconnection Networks", *Mathematical Sciences International Research Journal*, IMRF Biannual Referred Journal, ISSN:2278-8697, Vol.7, Spl Issue 1, pp. 51-57, IF-2.73,January 2018.
25. "On Invertible Graphs and its Perfectness", *Journal of Global Research in Mathematical Archives*, JGRMA 2018, ISSN: 2320-5822, Vol.5, No.1, pp. 1-7, January 2018.(Web Of Science,ICI)
26. "A Study On Slope Number of Cycle Related Graphs", *Mathematical Sciences International Research Journal*, IMRF Biannual Referred Journal, ISSN:2278-8697, Vol.7, Spl Issue 1, pp. 95-100, IF-2.73,January 2018.
27. "A Study On Harmonious Coloring of Certain Classes Of Graphs With Diameter Atmost 3", *Mathematical Sciences International Research Journal*, IMRF Biannual Referred Journal, ISSN:2278-8697, Vol.7, Spl Issue 1, pp. 90-94, IF-2.73,January 2018.
28. "Harmonious Labeling Of Some Special Classes Of Graphs", *International Journal of Pure and Applied Mathematics*, 2018 Academic Publications, Ltd., ISSN:1311-8080(Print),1314-3395(online), Vol.118, No.10, Special Issue, pp. 87-95, IF-0.37,2018.(SCOPUS)
29. "A Study On Slope Number of Oxide Networks", *International Journal of Pure and Applied Mathematics*, 2018 Academic Publications, Ltd., ISSN:1311-8080(Print),1314-3395(online), Vol.118, No.10, Special Issue, pp. 177-182, IF-0.37,2018.(SCOPUS)
30. "Domatic Number Of a Butterfly Network", *International Journal Of Pure And Applied Mathematics*, 2018 Academic Publications, Ltd., ISSN:1311-8080(Print),1314-3395(online), Vol.119, No.11, Special Issue, pp. 303-311, IF-0.37,March 2018.(Scopus)

31. "Characterization of Harmonious Coloring, Matching and Covering Number for Central Graph of Certain Symmetric Interconnection Networks", International Journal of Pure and Applied Mathematics, Academic Publications, Ltd., ISSN:1314-3395, Vol.119, No.11, Special Issue, pp. 165-173,IF-0.37, April 2018.(SCOPUS)
32. "A Study On Harmonious Coloring of Central Graph of Jahangir Graph", International Journal of Pure and Applied Mathematics, Academic Publications, Ltd., ISSN:1314-3395, Vol.119, No.11, Special Issue, pp. 413-421, IF-0.37, April 2018.(SCOPUS)
33. "A Study On Slope Number of Certain Classes of Bipartite Graphs", International Journal of Engineering & Technology(UAE), Science Publishing Corporation, ISSN:2227-524X, Vol.7, No.4.10, Special Issue 10, pp. 440-442, IF-0.63 ,October 2018.(SCOPUS)
34. "A Study On Harmonious Coloring of Circulant Networks", International Journal of Engineering & Technology(UAE), Science Publishing Corporation, ISSN:2227-524X, Vol:7, No.4.10, Special Issue 10, pp. 393-395, IF-0.63, October 2018.(SCOPUS)
35. "The Performance On Slope Number of Hypercube, Nomral Representation of Butterfly and Benes Networks", International Journal of Engineering & Advanced Technology, Blue Eyes Intelligence Engineering & Sciences Publication, ISSN:2249-8958, Vol:9, Issue-1, pp. 2349-2352, October 2019.(SCOPUS, Web of Science,,SCI)
36. "A Performance On Harmonious Coloring of Barbell Graph", International Journal of Engineering and Advanced Technology, Blue Eyes Intelligence Engineering, ISSN:2249-8958, Vol.9, No.1, pp. 1583-86, IF-0.3, October 2019.(SCOPUS, Web of Science, SCI)
37. "Harmonious Coloring for Subdivision of Certain Classes of Graphs", International Journal of Recent Technology and Engineering, Blue Eyes Intelligence Engineering, ISSN:2277-3878, Vol.8, No.3, Special Issue, pp. 266-268, IF-0.3, October 2019.(SCOPUS, Web of Science, SCI)
38. "A Study On Harmonious Chromatic Number of Total Graph of Central Graph of Generalized Petersen Graph", Journal of Ambient Intelligence and Humanized Computing, Springer, ISSN:1868-5145, VOL12[3], PP3815-3819, IF-7.104, February 2020.(SCOPUS, Web of Science, SCI)
39. "A Study On Domatic Number of Cycle Related Graphs", Journal of Ambient Intelligence and Humanized Computing, Springer, 12(3), pp.3929-3936, ISSN: 1868-5145, IF-7.104, February 2020. (SCOPUS, Web of Science, SCI)
40. "Optimization of Harmonious Chromatic Number Problem in Green Wireless Access Network", Journal of Green Engineering, Alpha Publishers, ISSN:1904-4720, Vol.10, No.04, pp. 1419-1428, IF-0.55, April 2020.(SCOPUS)
41. "Optimization of Harmonious coloring problem in Uniform theta graph and torus Network", IOP Conf. Series: Materials Science and Engineering, vol.1012 (2021) 012061 ISSN:1757-899X, PP-1-4, IF-0.3, 2021 .(SCOPUS)  
 "An effective Algorithm to enumerate Spectrum of Laplacian Matrix for Complete Fuzzy Graphs", Advances in Intelligent System and Computing, Springer Publications, ISSN 2194-5357, <https://doi.org/10.1007/978-981-16-0171-2> Vol. 1, pp.341-349, 2021.(SCOPUS)
42. Optimization of Harmonious Coloring Problem in Mesh Derived Architecture", Journal of Physics: Conference Series, IOP Publication, ISSN:1742-6596, Vol.1770, No.12, pp. 1-4, doi:10.1088/1742-6596/1770/1/012082, I.F: 0.59, April 8, 2021.(SCOPUS, Web of Science)
43. Structural Behaviour on Slope Number of Jahangir Graphs, Journal of Physics: Conference Series, IOP Publication, ISSN:1742-6596, Vol.1770, No.12, pp. 1-4, doi:10.1088/1742-6596/1770/1/012082, I.F: 0.59, April 8, 2021.(SCOPUS Web of Science)

44. An Effective Algorithm to Enumerate Spectrum of Laplacian Matrix for Complete Fuzzy Graphs. In: Bhateja, V., Satapathy, S.C., Travieso-Gonzalez, C.M., Aradhya, V.N.M (eds) Data Engineering and Intelligent Computing. Advances in Intelligent Systems and Computing, vol 1407. Springer, Singapore, 2021.
45. Fuzziness on Interconnection Networks Under Ratio Labelling, Intelligent data Engineering and Analytics, Part of Smart innovation, Systems and Technologies ISBN978-981-16-6623-0 Vol.266, pp.165-173, DOI: [https://doi.org/10.1007/978-981-16-6624-7\\_17](https://doi.org/10.1007/978-981-16-6624-7_17), Springer Publications Jan-2022 (SCOPUS)
46. Algorithmic approach of spur on Laplacian matrix for certain fuzzy graphs, Advances and Applications in Mathematical Sciences, Volume 22, Issue 8, Pages:1915-1924, 2023.
47. Fuzzy tree t- spanners of Ratio Labelled Butterfly Network, Indian Journal of Science and Technology, ISSN 0974-5645,17(SP1);58-63.DOI: <http://oi.org/10.17485/IJST/v17sp1.164>, May 2024(Web of Science)

### **Proceedings**

1. "Centrality of Interval Graphs", Proceedings of the Challenges in Research and Teaching of Mathematics, (CITROM), Stella Maris College, Chennai, January 31-February 1, 2002.
2. "Special Class of Chordal Graphs", Proceedings of the Latest Trends in Mathematics, Anna Adarsh College for Women, Chennai, pp. 29, December 4, 2002.
3. "Study on Centers of Chordal Graphs", Proceedings of the The 2002 International Arab Conference on Information Technology, (ACIT2002), Computer Center - University of Qatar, Vol.2, pp. 635-642, December 16-18, 2002.
4. "Tree Spanners", Cayley Graphs and Diametrically Uniform Graphs", Proceedings of the The 29th International Workshop on Graph Theoretic Concepts in Computer Science, (WG2003), Information and Computing Sciences of Utrecht University, ISBN:978-3-540-20452-7, pp. 334-345, June 19 - 21, 2003.
5. "Minimum Tree Spanner Problem for Generalized Theta Graphs", Proceedings of the Third National Conference Mathematical and Computational Models, (NCMCM-2005), PSG College of Technology, Coimbatore, pp. 441-447, December 15-16, 2005.
6. "Minimum Tree Spanner Problem of Butterfly and Benes Networks", Proceedings of the The 4th International Multiconference on Computer Science and information Technology, (CSIT 2006) University of Amman, Amman-Jordan, Vo.1, pp. 459-463, April 5-7, 2006.
7. "Minimum Tree Spanner Problem of Circulant Graphs", Proceedings of the The International Conference on Computer and Communication Engineering,(ICCCE'06), Kuala Lumpur, Malaysia, ISBN:983-43090-0-7, Vol.1, pp. 590-594, May 9-11, 2006.
8. "Minimum Tree Spanner Problem for Toridal Meshes", Proceedings of the International Conference on Trendz in Information Sciences and Computing, (TISC 2007), Sathyabama University, Chennai, Vol.1, pp. 459-461, December 12-14, 2007

9. "Super Strongly Perfect Graph of Some Special Graphs", Proceedings of the Second International Conference on Intelligent Science & Technology, (IIST 2010), Sun College of Engineering and Technology, Nagercoil, Vol.3, pp. 1-5, March 18-19, 2010.
10. "Contributions to a Characterization of the Structure of Super Strongly Perfect Graphs", Proceedings of the National Conference on Recent Developments in Mathematics and its Applications, (NCRDMA-2011) SRM University, Chennai, pp. 287-293, January 31-February 1, 2011.
11. "An Introduction to the Family Members of the Architecture Super Strongly Perfect Graph (SSP)", Proceedings of the 2011 International Conference on Emerging Trends in Electrical and Computer Technology, (ICETECT -2011), IEEE Explore, St. Xavier's Catholic College of Engineering, Nagercoil, DOI:10.1109@ICETECT.2011.5760280, pp. 1087-1091, March 23-24, 2011.
12. "On Minimum Spanner of Diametrically Uniform Graphs", Proceedings of the National Seminar on Discrete Mathematics and its Applications, M.E.S. College, Nedumkandam, Kerala, pp. 1-4, February 6-8, 2012.
13. "Structural Characterization of Super Strongly Perfect Graphs in Ladder and Grid Graphs", Proceedings of the National Seminar on Discrete Mathematics and its Applications, M.E.S. College, Nedumkandam, Kerala, pp. 31-34, February 6-8, 2012.
14. "On the Covering Number of Fence Graphs", Proceedings of the National Seminar on Discrete Mathematics and its Applications, M.E.S. College, Nedumkandam, Kerala, pp. 61-64, February 6-8, 2012.
15. "Characterization of Super Strongly Perfect Graphs in Bipartite Graphs", Proceedings of the International Conference on Mathematics Engineering and Business Management, (ICMEB 2012), Stella Mary's College, Chennai, Vol.1, pp. 183-185, March 9-10, 2012.
16. "Characterization of Super Strongly Perfect Graphs in Butterfly and Benes Networks", Proceedings of the National Conference on Emerging Trends in Information and Communication Technologies, (NCETICT 2012), Sathyabama University, Chennai, ISBN:978-81-922119-4-7, pp. 76-79, March 30, 2012.
17. "Characterizing a Class of Super Strongly Perfect Graphs not Containing Odd Cycle of Length atleast 5", Proceedings of the National Conference on Mathematical and Computational Modeling, (NCMCM 2012), Sathyabama University, Chennai, pp. 142-147, June 27-29, 2012.
18. "Characterization of Trees Using Covers", Proceedings of the National Conference on Mathematical and Computational Modeling, Sathyabama University, Chennai, ISBN:978-81-923853-0-3, pp. 148-152, June 27-29, 2012.
19. "Super Strongly Perfectness of Mesh and Torus Networks", Proceedings of the Third International Conference on Theoretical and Mathematical Foundations of Computer Science, (ICTMF 2012), Lecture notes in Information Technology, Bali, Indonesia, ISBN:978-1-61275-051-4, Vol.38, pp. 529-534, December 1-2, 2012.
20. "Optimal Covering on Hypercube Networks", Proceedings of the Third International Conference On Theoretical and Mathematical Foundations of Computer Science, Information Engineering Research Institute, Bali, Indonesia, ISBN:978-1-61275-051-4, Vol.38, pp. 522-528, December 1-2, 2012.
21. "An Investigation on the Structure of Super Strongly Perfect Graphs on Trees", Proceedings of the Second International Conference on Soft Computing for Problem Solving, (Soc ProS 2012),

Advances in Intelligent Systems and Computing, Springer Publications, JK University, Jaipur, DOI:10.1007/978-81-322-1602-S\_31, Vol. 236, pp. 279 - 285, December 28-30, 2012.

22. "Super Strongly Perfectness of Hypercube Network", Proceedings of the International Conference on Mathematical Sciences and Statistics 2013, (ICMSS 2013), AIP Conference Proceedings, AIP Publishing LLC, Kuala Lumpur, Malaysia, DOI:10.1063/1.4823883, Vol.1557, pp. 99-102, February 5-7, 2013.
23. "Super Strongly Perfectness of Prism and Rook's Networks", Proceedings of the International Conference on Pattern Recognition, Informatics and Mobile Engineering, (PRIME 2013), IEEE Explore, Periyar University, Salem, DOI:10.1109@ICPRIME.2013.6496506 February 21-22, 2013.
24. "n-Colourable Super Strongly Perfect Graphs", Proceedings of the Indo-Slovenia Conference on Graph Theory and Applications, (Indo-Slov 2013), University of Kerala, Thiruvananthapuram, Kerala, pp. 29, February 22-24, 2013.
25. "Characterization of Complete Flowers using Covers", Proceedings of the Indo-Slovenia Conference on Graph Theory and Applications, (Indo-Slov 2013), University of Kerala, Thiruvananthapuram, Kerala, pp. 27, February 22-24, 2013.
26. "On the Covering Number of Jahangir Graphs  $J_{2,m}$ ", Proceedings of the Fifth National Conference on Mathematical Techniques and its Applications (NCMTA-2013), SRM University, Chennai, ISSN:0974-6846, Vol.6, pp. 148-151, March 1-2, 2013.
27. "Analyzation of Super Strongly Perfect Graphs in Certain Graphs", Proceedings of the National Conference on Mathematical sciences and Applications, (NCMSA-2013), Karunya University, Coimbatore, pp. 314-321, March 14-15, 2013.
28. "A Study On the Covering Number of Generalized Jahangir Graphs", Proceedings of the National Conference on Mathematical Sciences and Applications, (NCMSA-2013), Karunya University, Coimbatore, pp. 26, March 14-15, 2013.
29. "Structural Analyzation of SSP", Proceedings of the 2nd International Conference on Emerging Trends in Engineering & Technology, College of Engineering, Teerthanker Mahaveer University, Uttar Pradesh, April 12-13, 2013.
30. "Relevance Classes of Super Strongly Perfect Graphs", Proceedings of the International Conference on Mathematical and Computer Engineering, (ICMCE 2013), VIT University, Chennai, ISBN:978-93-82338-89-5, Vol.2, pp. 764-772, November 29-30, 2013.
31. "Optimal Covering on Butterfly and Benes Networks", Proceedings of the International Conference on Mathematical and Computer Engineering, (ICMCE-13), VIT University, Chennai, ISBN:978-93-82338-85-7, Vol.1, pp. 363-372, November 29-30, 2013.
32. "On Minimum Covering of Star Interconnection Networks", Proceedings of the International Conference on Mathematical Sciences, (ICMS-2014) Sathyabama University, Chennai, ISBN:978-93-5107-261-4, Vol.1, pp. 874-877, June 17-19, 2014.
33. "On Minimum Covering of Invertible Honeycomb Meshes", Proceedings of the Fifth International Conference on Computing, Communication and Networking Technologies, (ICCCNT-2014), Hefei University of Technology, Hefei, China, DOI:10.1109/ICCCNT.2014.6963044, pp. 1-6, July 11-13, 2014.
34. "Cartesian Product of Some Super Strongly Perfect Graphs", Proceedings of the International Conference on Mathematical Sciences, (ICMS 2014), Elsevier Publications, Sathyabama University, Chennai, ISBN:978-93-5107-261-4, pp. 568-572, July 17-19, 2014.

35. "Recognizing the Structure of Super Strongly Perfect Graphs using Colourability", Proceedings of the International Conference on Mathematics And its Applications, (ICMAA 2014), University College of Engineering, Villupuram, Anna University, Chennai, pp. 878-886, December 15-17, 2014,
36. "Structural Analysis of Invertible Graphs", Proceedings of the Nineth International Conference on Intelligent Systems and Control, (ISCO-2015), Karpagam College of Engineering, Coimbatore, DOI:10.1109@isco.2015.7282329, pp. 1-4, January 9-10, 2015.
37. "Slope Number On Complete Graphs", Proceedings of the Global Congress on Computing and Media Technologies-2015, (GCMT-2015) Sathyabama University, Chennai, ISBN:978-93-83409-11-2, pp. 207, November 25-27, 2015.
38. "A Study On Harmonious Colouring Of Snake Derived Networks", Proceedings of the Global Congress on Computing and Media Technologies-2015, (GCMT-2015) Sathyabama University, Chennai, ISBN:978-93-83409-11-2, pp. 173, November 25-27, 2015.
39. "Perfect Matching and Slope Number Related to Honeycomb Networks", Proceedings of the International Conference on Mathematical Computer Engineering, (ICMCE 2015), VIT University, Chennai, ISBN:978-93-81899-64-9, Vol.1, pp. 224-226, December 14-15, 2015.
40. "Characterisation of Harmonious Coloring, Matching and Covering Number for Central Graph of Certain Symmetric Interconnection Networks", Proceedings of the International Conference on Mathematical Computer Engineering-2015, (ICMCE 2015), VIT University, Chennai, ISBN:978-93-81899-64-9, Vol.2, pp. 128-129, December 14-15, 2015.
41. "Slope Number of Hypercube and Butterfly Network", Proceedings of the 3rd International Conference on innovation in information, Embedded and communication Systems, (ICIIECS-2016), Karpagam College of Engineering, Coimbatore, ISBN:978-1-4673-8207-6, vol.5, pp. 793-796, March 17-18, 2016.
42. "Characterization of Harmonious Coloring, Matching and Covering Number of Central Graph of Generalized Petersen Graph", Proceedings of the 3rd International Conference on innovation in information, Embedded and communication Systems-2016, (ICIIECS-2016), Karpagam College of Engineering, Coimbatore, ISBN:978-1-4673-8207-6, vol.5, pp. 773-776, March 17-18, 2016.
43. "A Study on Harmonious Coloring of N copies Of Barbell Graph and Central Graph of N Copies of Barbell Graph", Proceedings of the International Conference on Discrete Mathematics-2016, (ICDM-2016) Siddaganaga Institute of Technology, Karnataka, June 9-11, 2016.
44. "Analysis of Minimum Vertex Cover on Hypercubes and Line Graph of Hypercubes", Proceedings of the International Conference on Engineering and Technology, (ICET-2016), Karpagam College of Engineering, Coimbatore, ISBN:978-1-5090-3212-9, Vol.4, pp. 401-404, December 16-17, 2016.
45. "Domestic Number of a Butterfly Networks", Proceedings of the International Conference on Mathematical Computer Engineering, (ICMCE-2016), VIT University, Chennai, ISBN:978-93-81899-72-4, pp. 282, December 16-17, 2016.
46. "A Study On Harmonious Coloring of Central Graph of Jahangir Graph", Proceedings of the International Conference on Mathematical Computer Engineering-2016, (ICMCE-2016), VIT University, Chennai, ISBN:978-93-81899-72-4, pp. 284, December 16-17, 2016.
47. "Analysis of Minimum Vertex Cover on Tori and Centrally Connected Torus Networks", Proceedings of the International Conference on Theoretical Computer Science and Discrete Mathematics, (ICTCSDM-2016), Kalasalingam University, Krishnankoil, pp. 124, December 19-21, 2016.

48. "Minimum Vertex Cover, Invertible Graphs, Cayley and Diametrically Uniform Graphs", Proceedings of the 9th National Conference on Mathematical Techniques and Their Applications, (NCMTA-2017), SRM University, Chennai, pp. 34-35, January 27-28, 2017.
49. "A Study on Domatic Number of Silicate Networks", Proceedings of the International conference on Discrete and Computational Mathematics, (ICDCM-2017), Gandhigram University, Dindigul, pp. 59, February 16-18, 2017.
50. "A Study On Slope Number Of Oxide Networks", Proceedings of the 2nd National Conference On Emerging Trends in Mathematical Sciences, (NCETMS-2017), SA Engineering college, pp. 131, December 22, 2017.
51. "Harmonious Labeling Of Some Special Classes Of Graphs", Proceedings of the 2nd National Conference On Emerging Trends in Mathematical Sciences, (NCETMS-2017), SA Engineering college, pp. 131, December 22, 2017.
52. "A Study On Slope Number Of Certain Classes Of Bipartite Graphs", Proceedings of the 10th National Conference on Mathematical Techniques and Applications, (NCMTA-2018), SRM University, Chennai, pp. 24, January 5-6, 2018.
53. "A Study On Harmonious Coloring Of Circulant Networks", Proceedings of the 10th National Conference on Mathematical Techniques and Applications, SRM University, Chennai, pp. 92, January 5-6, 2018.
54. "An Exact Algorithm for Minimum Vertex Cover of Bloom Interconnection Networks", Proceedings of the International Conference on Computing Sciences, (ICCS 2018), Loyola College, Chennai, pp. 98-99, January 8-9, 2018.
55. "A Study on Slope Number of Silicate Networks", Proceedings of the International conference on Algebra and Discrete Mathematics, (ICADM-2018), Madurai Kamaraj University, Madurai, pp. 92, January 8-10, 2018.
56. "A Study On Slope Number of Cycle Related Graphs", Proceedings of the International Conference On Computing Sciences, (ICCS-2018), Loyola College, Chennai, pp. 107, January 8-9, 2018.
57. "A Study On Harmonious Coloring Of Certain Classes Of Graphs with Diameter Atmost 3", Proceedings of the International Conference On Computing Sciences-2018, (ICCS-2018), Loyola College, Chennai, pp. 106-107, January 8-9, 2018.
58. "Slope Number Of Prism Graphs", Proceedings of the National Conference On Modern Mathematics and its Applications, The American College, Madurai, January 22-23, 2018.
59. "On Harmonious Coloring Of Subdivision Of Some Classes Of Graphs", Proceedings of the National Conference On Modern Mathematics and its Applications, The American College, Madurai, pp. 56, January 22-23, 2018.
60. "Domatic Number Of Middle and Central Graph Of Cycle Related Graphs", Proceedings of the International Conference on Mathematical Computer Engineering, (ICMCE-2018), VIT University, Chennai, November 23-24, 2018.
61. "Harmonious Coloring Of Total Graph Of Central Graph Of Generalized Petersen Graph", Proceedings of the National Conference On Mathematical Analysis and Computing, (NCMAC-2018), SSN College of Engineering, Chennai, pp. 35, December 13-14, 2018.
62. "A Study On Slope Number Of Jahangir Graphs", Proceedings of the International Conference On Mathematical Sciences-2020, (ICMS20), Sathyabama Institute of Science & Technology, Chennai, ISBN:978-93-83409-56-3, pp. 37, March 4-6, 2020.

63. "A Comparative Study On Harmonious Coloring and Labelling Problem", Proceedings of the International Conference On Mathematical Sciences-2020, (ICMS20), Sathyabama Institute of Science & Technology, Chennai, pp. 38-39, March 4-6, 2020
64. "An effective algorithm to enumerate Spectrum of Laplacian matrix for Complete Fuzzy Graphs" Proceedings of 4<sup>th</sup> International conference on Intelligent Computing and Communication 2020, Dayananda Sagar University, Bengaluru, September 18-20 2020
65. "Harmonious Coloring of Central Graph of Triangular Graphs with Chromatic Number At most  $\Delta[C(G)] + \Delta(G)$ ", Proceedings of 22nd FAI International Conference on Mathematical, Computational Intelligence and Engineering Approaches to Healthcare, Business and Tourism Analytics 2020, (ICMCIE-2020), ISBN:978-81-947154, Vol-4, pp-98 The American College, Madurai, December 20-22, 2020
66. "A Study On Slope Number And Domatic Number On Certain Classes Of Non-Cayley Graphs", Proceedings of 22nd FAI International Conference on Mathematical, Computational Intelligence and Engineering Approaches to Healthcare, Business and Tourism Analytics 2020, (ICMCIE-2020), ISBN:978-81-947154, Vol-4, pp-97 The American College, Madurai, December 20-22, 2020.
67. "A Study On Slope Number And Domatic Number On Certain Classes Of Cayley Graphs", Proceedings of 22nd FAI International Conference on Mathematical, Computational Intelligence and Engineering Approaches to Healthcare, Business and Tourism Analytics 2020, (ICMCIE-2020), Vol-4, pp-99, The American College, Madurai, December 20-22, 2020
68. "Identification of Fuzzy Graphs using Ratio Labelling", Proceedings of 22nd FAI International Conference on Mathematical, Computational Intelligence and Engineering Approaches to Healthcare, Business and Tourism Analytics 2020, (ICMCIE-2020), Vol-4, pp-85, The American College, Madurai, December 20-22, 2020
69. "Fuzziness on Interconnection Networks under Ratio Labelling", Proceedings of 9<sup>th</sup> International Conference on frontiers of Intelligent Computing: Theory and Applications (FICTA2021) through online at NIT, Mizoram, India on 25-26 June 2021
70. "Analytical Approach of Spur on Laplacian Matrix of Certain Fuzzy Graphs" Proceedings of two day International Conference on Exploration of Contemporary Mathematical Sciences-2022, (ICECMS-2022), Mannar Thirumalai Naicker College, Madurai, pp.38, 17-18 March 2022.
71. "Fuzzy Spanners on Certain Classes of Graphs", Proceedings of two day International Conference on Exploration of Contemporary Mathematical Sciences-2022, (ICECMS-2022), Mannar Thirumalai Naicker College, Madurai, pp.38, 17-18 March 2022.
72. "Diameter of Ratio Labelled Interconnection Networks", Proceedings of International Conference on Recent Strategies in Mathematics and Statistics 2022 jointly organized by Stella Maris College and IIT Madras on 19-21 May 2022
73. "Laplacian Spectrum of Fuzzy Cycle", Proceedings of International Conference on Recent Strategies in Mathematics and Statistics 2022 jointly organized by Stella Maris College and IIT Madras on 19-21 May 2022
74. "On Laplacian Spectrum of General Fuzzy Graphs" Proceedings of 3<sup>rd</sup> International Conference on Computational Intelligence-ICCI-2022 at IIIT Pune on 29-30 December 2022

75. "Investigation of the admittance of Fuzziness by Ratio Labelling on General Graphs"  
Proceedings of 3<sup>rd</sup> International Conference on Computational Intelligence-ICCI-2022 at IIIT Pune on 29-30 December 2022
76. "Laplacian Spectrum of Fuzzy Generalised Petersen Graph," Proceedings of 9<sup>th</sup> International Conference on Discrete Mathematics and Mathematical Modelling in Digital Era-ICDMMMDE-2023 at Gandhigram Rural Institute on 23-25 March 2023
77. "Fuzzy tree t- spanners of Ratio Labelled Butterfly Network," Proceedings of 9<sup>th</sup> International Conference on Discrete Mathematics and Mathematical Modelling in Digital Era-ICDMMMDE-2023 at Gandhigram Rural Institute on 23-25 March 2023
78. "Analysis of Fuzziness using Ratio Labelling with Polynomial Time Algorithm", Proceedings of A Two Day International Conference on Computational Engineering-ICCE-2023 at SIMATS Engineering, Saveetha Institute of Medical And Technical Sciences, Chennai on 8-9 December 2023

#### **Papers presented in International Conference / Workshop held in Abroad**

1. A Study on Centers of Chordal Graphs, Proceedings of the international Arab Conference on Information Technology, Qatar (ACIT-2002), vol.2, pp. 635-642 (2002).
2. Minimum Tree Spanners of Butterfly and Benes Networks, Proceedings of the 4th international Multi conference on Computer Science and information Technology (CSIT-2006) University of Amman, Amman-Jordan, Vo.1, pp. 459-463, 5-7<sup>th</sup> April 2006.
3. Minimum Tree Spanners of Circulant Graphs, Proceedings of the International Conference on Computer and Communication Engineering (ICCCEE-06), Kuala Lumpur, Malaysia, Vol-1, pp. 590-594, 9-11<sup>th</sup> May 2006.
4. Super Strongly Perfectness of Mesh and Torus Networks, Lecture Notes in Information Technology, Information Engineering Research Institute, Bali, Indonesia, pp. 529-534, 1-2<sup>th</sup> December 2012.
5. Optimal Covering on Hypercube Networks, Lecture Notes in Information Technology, Information Engineering Research Institute, Bali, Indonesia, pp. 529-534, 1-2<sup>th</sup> December 2012.
6. On Minimum Covering Of Invertible Honeycomb Meshes, 5th ICCCNT - 2014 Hefei, China, July 11 - 13, 2014.

#### **Workshop/Seminar Attended**

1. National Workshop on Mathematical Aspects of Scientific Computing, April 24-26, 2008, Sathyabama University, Chennai
2. One Day Workshop on Graph - A String that cuts across all Disciplines, July 1, 2011, Jeppiaar Engineering College, Chennai.
3. National Seminar on Applicable Mathematics, 13-15<sup>th</sup> January 2011, M.E.S college, Kerala

4. Online workshop on Data Analysis Using SPSS, May28-30, 2020, Organized by the Department of Mathematics, The American College, Madurai.
5. Online workshop on “Basic author workshop research article writing & Reference Management using Mendeley” , 22<sup>nd</sup> June 2020, organized by Annamalai University associated with Elsevier.
6. Online NAAC sponsored National conference on Quality Enhancement and Sustenance in Higher Education organized by the Internal Quality Assurance Cell (IQAC),The American College, Madurai, on 6<sup>th</sup> March 2020.

### Awards and prizes

1. Venus International Faculty Awards - VIFA 2016, OUTSTANDING FACULTY in GRAPH THEORY based on the Expert Committee report and APEX Committee recommendations.
2. Honored as a member of **World Book of Record** in a mass event, organized by ESN Publication held at Hotel Turyaa, Chennai, One of the longest International Conference following the duration of 150 hours continually from 03-09 September-2020

### Project – Funding

1. Super Strongly Perfect Graphs, The Ministry of Higher and Scientific Research is a government agency of Algeria. Amount DZD-100000 in Rs-61,934.62, period: 04/2012-04/2018.
2. Developing an applications for finding the Laplacian spectrum of Fuzzy graphs, science and Engineering Research Board(SERB)- Matrix, Government of India, File Number: MTR/2022/000873 Amount 6 Lakhs,Period:31<sup>st</sup> May 2022-31<sup>st</sup> May 2025

### Books Published

1. Engineering Mathematics-II, for I year B.E/B.Tech., II-semester, Printed and published by Sathyabama University, Chennai. Second Edition: January-2017. ISBN NO.9788182094888.

### Professional Activities

3. *M. Phil Thesis Evaluator and Examiner*, Dissertation entitled “A Study of Cryptosystem and other public key cryptography” (2009), Indian Institute of Technology(IIT), Chennai.
4. *M. Phil Thesis Evaluator and Examiner*, Dissertation entitled “Lattices and other properties” (2009), Indian Institute of Technology(IIT), Chennai.
5. *M. Phil Thesis Examiner*, (2010&2011) Madras University, Chennai.
6. *Doctoral Committee Expert* in Madras University, Chennai.
7. *Doctoral Committee Expert* in Sathyabama University, Chennai.

8. **Editorial Board Member** Proceedings of the National Conference on Mathematics and Computer Science, 2011, Sathyabama University, Chennai.
9. **Thesis Evaluator in** Mahatma Gandhi University, Thesis entitled “Product in Edge Graphs”, 2014.
10. **Reviewer in** International conference in Mathematical Sciences-2008, Loyola College, Chennai.
11. **Reviewer in** International Conference in Mathematical Sciences-2014, Sathyabama University, Chennai.
12. **Editorial Board Member** in International Association of Engineers IAENG
13. **Editorial Board Member** in International Journal of Professional Studies, IRA, Up, India.
14. **Editorial Board Member** in International Journal of Advances in Engineering Research IRA, Up, India.
15. **Editorial Board Member** in International Journal of Inventions in Electronics and Electrical Engineers, IRA, Up, India.
16. **Editorial Board Member** in International Journal Innovations and Applied sciences and Engineering, IRA, Up, India.
17. **Editorial Board Member** in International Journal of Universal Science and Engineering, IRA, Up, India.
18. **Editorial Board Member** in International Journal of Inventions in Engineering & Science Technology, IRA, Up, India
19. **Editorial Board Member** in International Journal of Research in Science Technology, IRA, Up, India.
20. **Advisory committee member** in National conference on Mathematical and Computational Modeling(NCMCM-2012), Sathyabama University, June 27- 29 2012.
21. **Scientific Committee Member** in International Conference on Mathematical Computer Engineering (ICMCE-2015), VIT University, 14-15 December-2015.
22. **Reviewer in** Special issue of International Journal of Pure and Applied Mathematics, Academic Publications, Bulgaria,2016.
23. **Reviewer in** Frontier in Intelligent Computing theory and Applications(FICTA-16), Springer, AISC.
24. **Organizing Secretary** in 22nd FAI International Conference on Mathematical, Computational Intelligence and Engineering Approaches to Healthcare, Business and Tourism Analytics 2020, (ICMCIE-2020), Organized by The American College associated with Fater India Academy, Madurai, December 20-22, 2020.
25. **Being a Life member** in Fater India Academy from Jan 2021.
26. **Organizing Secretary** in 24th FAI International Conference on Global Trends of Data Analytics in Business Management, Social Sciences Medical Sciences and Deision Making.(ICDBSMD-2021), Associated with Insititute of Technology Gopeshwar and UNIFACVEST University Centre Brazil on June 25,26,27, 2021.

27. **Organized Secretary** in VIGYAN SARVATRA PUJYATE- FESTIVAL of SCoPE FOR ALL Organized by Ministry of Culture Government of India and supported by DST, DBT, CSIR, MOES, ISRO, DAE, ICMR, DRDO at The American College, Madurai, during the month of February 22-28, 2022.

28. **Reviewer** in Fuzzy sets and systems, Elsevier Journal

### **Chairing Technical Session in National / International Conferences**

1. National Conference on Mathematics and Computer Science, 2011, Loyola College, Chennai.
2. International Conference on Mathematics and Computer Engineering, 2013, VIT University, Chennai.
3. Served as Chairperson in International Conference on Mathematical Sciences, ICMS-2020, Sathyabama Institute of Science & Technology, Chennai.
4. Served as Chair person in the ESN International Conference on Multidisciplinary research and innovation (ICMRI-2020), ESN Publication held at Hotel Turyaa, Chennai, September 03-09, 2020.
5. Served as Chair person in the 22<sup>nd</sup> FAI International Conference on Mathematical, Computational Intelligence and Engineering Approaches to Healthcare, Business and Tourism Analytics 2020. (ICMCIE-2020), Associated with The American College, Madurai, December 20, 21, 22, 2020.
6. Served as Chair person in the 24<sup>th</sup> FAI International Conference on Global Trends of Data Analytics in Business Management, Social Sciences Medical Sciences and Decision Making. (ICDBSMD-2021), Associated with Institute of Technology Gopeshwar and UNIFACVEST University Centre Brazil on June 25, 26, 27, 2021.
7. Served as

### **Resource Person**

1. Served as a resource person in the UGC sponsored National Seminar on Applicable Mathematics, MES College Nedumkandam, 13-15<sup>th</sup> January 2011.
2. Served as a resource person in the National workshop on Structural Analysis of Diametrically Uniform Graph and Tree Spanner Problems, Justice Basheer Ahmed Sayeed College, 13 January 2012.
3. Served as a resource person in the UGC sponsored National Seminar on Discrete Mathematics and its Applications, MES College Nedumkandam, 6-8<sup>th</sup> February 2012.
4. Served as a resource person and chief guest to the valedictory function in the Mathematics Association of the department of Mathematics, Gurunanak College, Chennai, on the topic of "Resolvability in Graphs" 29<sup>th</sup> March 2014.
5. Served as a resource person in view of the International Conference On Mathematical Sciences (ICMS 2014), Pre Conference Workshop on How to Write the Research paper in LaTeX", and How to Frame the Thesis in LaTeX (Scientific Word) on 16<sup>th</sup> July-2014.
6. Served as a resource person in the Research Interactive Talk (2015-2016) on Motivational Talk on the topic of Graph Theory, Sathyabama University, Chennai on 18<sup>th</sup> March 2015.
7. Served as a resource person in the Math-Synergia-2018, on the Topic of Research in Graph Theory, on 16-3-18 at CSI Arts and Science College for Women, Madurai.

8. Served as a resource person in the National Seminar on Advances in Pure and Applied Mathematics on the topic of Domatic and Slope Number for Symmetric Interconnection Networks, on 18<sup>th</sup> February 2019, at Sermathivasan College for Women, Madurai.
9. Served as a resource person in the Ramanujan Club, Department of Mathematics in association with IQAC is organizing, One Day National Webinar on Advances in Graph Theory on the topic of The Position of Diametrically Uniform graphs in general, on 29th June 2020, at U.T Administration of DNH & DD Government College Daman.
10. Served as resource person in the ESN International Conference on Multidisciplinary research and innovation (ICMRI-2020) on the topic of Research Problems –A Glance ESN Publication held at Hotel Turyaa, Chennai, on September 03-09, 2020.
11. Served as a resource person in the National Conference on Recent trends in Pure and Applied Mathematics on the topic of Domatic and Slope Number on 13th November 2020, organized by the Department of Mathematics, Kristu Jayanti College, Autonomous, Bengaluru.
12. Served as resource person in the 22nd FAI International Conference on Mathematical, Computational Intelligence and Engineering Approaches to Healthcare, Business and Tourism Analytics 2020, (ICMCIE-2020), on the topic of An Algorithmic Approach to Analyze the Super Strongly Perfect Graphs organized by The American College, Madurai associated with Fatter India Academy, December 20-22, 2020.
13. Served as resource person in the International Conference on Exploration of Contemporary Mathematical Sciences-2022, on the topic of Covering Number Problem in Interconnection Networks, organized by Mannar Thirumalai Naickar College, 17-18 March 2022
14. Served as resource person in the Lecture series in Mathematics webinar on Innovative-2022, on the topic of Analytical Approach of Harmonious Coloring Problem in Graphs, organized by Saveetha Institute of Medical and Technical Sciences, Chennai, 23<sup>rd</sup> September 2022.
15. Served as a resource person in the virtual event 3<sup>rd</sup> international conference on advanced nano technology and Nano materials-2023, Berlin Canada, on the topic of On harmonious chromatic number of total graph of central graph in general, Sep 14, 2023.
16. Served as resource person in the National Conference on Emerging trends in Applied Mathematics, entitled on Minimum Tree Spanners on Diametrically Uniform Graphs, at GVN College Kovilpatti on 4<sup>th</sup> October 2024.
17. Served as Resource Person in the Subject Refresher Course – Mathematics on the topic of Certain NP Complete Problem in Graph Theory- A Glance organized by UGC Malaviya Mission Teacher Training centre (MMTTC) at The Gandhigram Rural Institute –DTBU, Gandhigram, Dindigul, Tamil Nadu India from 17<sup>th</sup> October to 30<sup>th</sup> October 2024.

## Personal Information

Father's Name : Alaguvel Mark C.  
Date of Birth : 24.02.1977  
Nationality : Indian  
Religion : CSI - Christian

## Computer Knowledge

Software Known : MS-Office, LaTeX Type Setting, Turbo C, C++ with OOPS  
Drawing Tools : Flash and Concept Draw