

Bio-Data

Name : Dr. A. Muthusamy
Designation : Professor
Office Address : Department of Mathematics,
Periyar University,
Salem - 636 011, TN, INDIA.
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Contact No. : +91 – 9842035190
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Date of Birth : 07.06.1964
Educational qualifications : M.Sc., M.Phil., Ph.D.
Professional Experience : Research – 20 years

Teaching Experience : 20 years

S.No.	Designation	College / University	Period
1.	Lecturer	Islamiah College, Vaniyambadi	24 th July, 1994 – 19 th March, 1995
2.	Lecturer	MEPCO Engineering College, Sivakasi	9 th August, 1995 – 10 th August, 1999
3.	Lecturer	Sri Vasavi College, Erode	11 th August, 1999 – 28 th September, 2005
4.	Reader	Bharathidasan University, Trichy	29 th September, 2005 – 4 th November, 2008
5.	Professor	Periyar University, Salem	5 th November, 2008 – Till Date

Area of specialization: Graph Theory, Design Theory

Research Guidance : M.Phil. – Awarded: 22, Registered: 05

Ph.D. – Awarded: 05, Registered: 06,

S.No	Name	Title	Remark
1.	M. G. Karunambigai	Decompositions of Product Graphs into Paths and Cycles	Awarded August 2009
2.	V. Chitra	Decompositions and Factorizations of Graphs	Awarded October 2012
3.	P. Hemalatha	Star - Factorizations of Product Graphs	Awarded April 2013
4.	R. Sangeetha	Decompositions of Graphs into Cycles	Awarded June 2013
5.	H. M. Priyadharsini	Multidecomposition and Multifactorization of Multigraphs	Awarded July 2013

Membership in Professional Bodies:

1. Life member of the Ramanujan Mathematical Society
2. Life Member of the Indian Society for Technical Education.
3. Member of the Institute of Combinatorics and its Applications.
4. Life member of the Academy of Discrete Mathematics and Applications.

(1) List of Publications:

Publications:

1. **A. Muthusamy**, Counterexample to a conjecture on Hamilton cycles, Charles Babbage Co., **ARS Combinatoria**, 34(1992)223-224, (**MR1206564**).
2. **A. Muthusamy** and P.Paulraja, Hamilton cycle decomposition of line graphs and a conjecture of Bermond, Academic Press, **J. Combinatorial Theory Ser. B**, 64(1995)1-16, (**MR1328291**).
3. **A. Muthusamy** and P. Paulraja, Factorizations of product graphs into cycles of uniform length, Springer-Verlag, **Graphs and Combinatorics**, 11(1995)69-90, (**MR1326929**).
4. **A. Muthusamy** and P. Paulraja, Path factorizations of product graphs, **Proceedings of the National Workshop on Graph theory and its Applications**, M.S. University, Tirunelveli, TMH, 1996, 77-88, (**MR1486153**).
5. **A. Muthusamy** and P. Paulraja, Path factorizations of complete multipartite graphs, North Holland, **Discrete Mathematics**, 195 (1999) 181-201, (**MR1663835**).
6. **A. Muthusamy**, On resolvable multipartite G-designs, Springer-Verlag, **Graphs and Combinatorics**, 20(2004)377-382 (**MR2093491**).

7. **A. Muthusamy** and J. Bond, Non-existence of a pair of compatible euler tours in regular digraphs, **Proceedings of the National Seminar on Recent Trends and Applications of Mathematics in Engineering, Mepco Schlenk Engg. College, Sivakasi, 2004**, 9-11.
8. M.G.Karunambigai and **A. Muthusamy**, On resolvable multipartite G-designs II, **Graphs and Combinatorics**, 22 (2006), 59-67 (**MR2221009**).
9. M.G.Karunambigai and **A. Muthusamy**, Cycle factorizations of Tensor product of complete graphs, **Bull. ICA**, 52(2008), 89-100, (**MR2394746**).
10. **A. Muthusamy** and P. Hemalatha, \tilde{S}_k - factorization of symmetric Digraphs of Tensor product of Graphs', **Ramanujan Lecture Notes Series**, Vol 7, 233 – 236, 2008. (Proceedings of ICDM-2006 held at IISc, Bangalore).
11. H.M.Priyadharsini, **A.Muthusamy**, (G_n, H_n) - Multidecomposition of λK_{n+1} , Proceedings of the National Conference on Algebra and Graph Theory, held at Manonmaniam Sundaranar University, Tirunelveli, during 4- 6, February 2009, pages 68 - 71, ISBN 978 -81 – 908352- 4 -4.
12. H. M. Priyadharsini and **A. Muthusamy**, (G_m, H_m) -multifactorization of λK_m , **The Journal of Combinatorial Mathematics and Combinatorial Computing**, Vol 69, (2009), 145-150. (Proc. International Conference on Recent Development in Combinatorics and Graph Theory-2007), (**MR2517315**).
13. V. Chitra and **A. Muthusamy**, P_3 -factorization of Cartesian Product of Complete graphs, **Bull. ICA**, 63 (2011), 60-72, (**MR2951564**).
14. V. Chitra and **A. Muthusamy**, Bipartite Variation of the Cheesecake Factory Problem: $mH(k,2l+1)$ -factorization of $K_{n,n}$, **Discrete Mathematics** 312 (2012) 381–389, (**MR2852596**).
15. R. Sangeetha and **A. Muthusamy**, Hamilton cycle rich 2-factorization of Complete Equipartite Graphs-II, **Graphs and Combinatorics**, 28 (2012), 877-887, (**MR2991181**).
16. V. Chitra, A. Shanmuga Vadivu and **A. Muthusamy**, C_{4p} -frames of Complete Multipartite Multigraphs, **Aequationes Mathematicae**, 85 (2013), 563–579, (**MR3063890**).
17. S. Jeevadoss and **A. Muthusamy**, Sufficient condition for $\{C_4, C_{2l}\}$ -decomposition of $K_{2m,2n}$ – an improved bound, **LNCS 7643, Springer-Verlag Berlin Heidelberg** 2012, 143- 147 (Proc. IWOCA -2012, eds : S. Arumugam and B. Smyth), (**MR3056385**).
18. H. M. Priyadharsini and **A. Muthusamy**, (G_m, H_m) - Multidecomposition of $K_{m,m}$, **Bull. ICA**, 66(2012), 42-48.

19. P. Hemalatha and **A. Muthusamy**, \tilde{S}_k -factorization of complete multipartite symmetric digraphs, **The Journal of Combinatorial Mathematics and Combinatorial Computing**, 84 (2013) 51-60, (MR3076754).
20. R. Sangeetha and **A. Muthusamy**, Hamilton-Waterloo Problem: Existence of larger order from smaller order **The Journal of Combinatorial Mathematics and Combinatorial Computing**, 84 (2013) 137-143, (MR3076762)
21. V. Chitra and **A. Muthusamy**, Note on Semi-perfect 1-factorization and Craft's conjecture, **Graph Theory Notes of New York LXIV** (2013), 58–62, (MR3089150).
22. V. Chitra and **A. Muthusamy**, Symmetric Hamilton Cycle decomposition of Complete Multigraphs, **Discussions Mathematicae Graph Theory** 33 (2013) 695–707, (MR3117049).
23. H. M. Priyadharsini and **A. Muthusamy**, A Path analogue of Oberwalfach Problem, **Bull. ICA**. Vol.69 (2013) 89-94, (MR3155875).
24. H. M. Priyadharsini and **A. Muthusamy**, (K, H) - multifactorization of $\lambda K_{m,m}$, **AKCE Int. J. Graphs Comb.**, Vol.10, No. 4 (2013), 405-413, (MR3154913).
25. A. Tamil Elakkiya and **A. Muthusamy**, P_5 -factorization of Cartesian Product of Graphs, **Discrete Mathematics, Algorithms and Applications**, Vol. 6, No. 2 (2014).
26. S. Jeevadoss and **A. Muthusamy**, Decomposition of Complete bipartite graphs into paths and cycles, **Discrete Mathematics** 331 (2014) 98-108.
27. P. Hemalatha and **A. Muthusamy**, \tilde{S}_k -factorization of the symmetric digraph of wreath product of graphs, **Discrete Mathematics, Algorithms and Applications** Vol. 6, No. 4 (2014) 1450048.1-12.
28. **A. Muthusamy** and A. Shanmuga Vadivu, Cycle frames of Complete Multipartite Multigraphs – III, **Journal of Combinatorial Designs**, 22 (2014) 473-487.
29. R. Sangeetha and **A. Muthusamy**, Hamilton-Waterloo Problem: Bipartite Case, **accepted for publication in Journal of Combinatorial Mathematics and Combinatorial Computing**.
30. A. Tamil Elakkiya and **A. Muthusamy**, Note on (0, j) – prism factorization of Complete Bipartite Multigraph, **accepted for publication in Bull. ICA**.
31. A. Tamil Elakkiya and **A. Muthusamy**, P_3 -factorization of triangulated Cartesian product of complete graphs, **accepted for publication in Discrete Mathematics, Algorithms and Applications**.

Papers Submitted:

1. **A. Muthusamy** and P. Paulraja, Edge-disjoint Hamilton cycles in line graphs of regular graphs, revised version submitted to **Discrete Mathematics**.
2. **A. Muthusamy**, R.S. Manikandan and M.G. Karunambigai, \tilde{C}_{ap} – Decomposition of Complete Multipartite Symmetric Digraphs, **AKCE International Journal of Graphs and Combinatorics**.
3. R. Sangeetha and **A. Muthusamy**, Hamilton-cycle Rich 2-factorization of Complete Bipartite graphs, revised version submitted to **Arabian Journal of Mathematics**.
4. H. M. Priyadharsini and **A. Muthusamy**, On Variation of Hamilton – Waterloo Problem for complete bipartite multigraphs, submitted to **Australasian Journal of Combinatorics**.
5. A. Shanmuga Vadivu and **A. Muthusamy**, Note on a solution to the three-table Oberwolfach problem, submitted to **Australasian Journal of Combinatorics**.
6. R. Sangeetha and **A. Muthusamy**, 3-Simple 2-Fold 5-Cycle System, revised version submitted to **AKCE International Journal of Graphs and Combinatorics**.
7. S. Jeevadoss and **A. Muthusamy**, Decomposition of Product graphs into paths and cycles of length four, submitted to **Graphs and Combinatorics**.
8. A. Shanmuga Vadivu and **A. Muthusamy**, Odd Cycle Frames of Complete Multipartite Multigraphs, submitted to **Journal of Combinatorial Designs**.
9. A. Tamil Elakkiya and **A. Muthusamy**, Gregarious Kite Decomposition and Factorization of Tensor Product of Complete Graphs, submitted to **Graphs and Combinatorics**.
10. T.Govindan and **A. Muthusamy** On 4-regular Digraphs and the Conjecture of Bermond, submitted to **JCMCC**.
11. A. Shanmuga Vadivu and **A. Muthusamy**, Cycle frames and Oberwolfach problem, submitted to **Discrete Mathematics, Algorithms and Applications**.
12. S. Jeevadoss and **A. Muthusamy**, Decomposition of complete bipartite multigraphs into paths and cycles having same number of edges, submitted to **Discussions Mathematicae Graph Theory**.

13. T.Govindan and **A. Muthusamy**, Note on submitted to **Discrete Mathematics, Algorithms and Applications**

Reviewer for the Journals:

1. Graphs and Combinatorics.
2. Journal of Combinatorial Mathematics and Combinatorial Computing.

Conference/ Workshop Organized:

1. **Fifth Annual Instructional Conference of ADMA and Graph Theory Day V** has been organized at the Department of Mathematics, Periyar University, Salem, during June 8 -10, 2009.
2. **National Workshop on Decompositions of Graphs and Product Graphs** has been organized at the Department of Mathematics, Periyar University, Salem, during June 22 -25, 2011.
3. **National Conference on Recent Advances in Graph Theory** has been organized at the Department of Mathematics, Periyar University, Salem, during March 06-07, 2014.

Research Projects:

1. Research project entitled **“Hamilton cycle decompositions and path factorizations of graphs”** funded by **DST, Govt. of India** (for Rs. 1,61,600/-) has been completed during Oct.2000 – Sep. 2002.
2. Research project entitled **“Decompositions and Factorizations of graphs** (Grant No: SR/S4/MS:376/06, dated Sep 10, 2007).” funded by **DST, Govt. of India** (for Rs. 10,56,390/-) has been completed during November 2007 to October 2010.
3. Research project entitled **“Decompositions of Graphs and Product Graphs into Paths, Cycles and Stars”** (Grant No: SR/S4/MS:828/12, dated 20.01.2014).” funded by **DST, Govt. of India** (for Rs. 11,85,500/- on going)

Country visited: National Taiwan University, Taiwan

Departments visited:

1. Visited the Department of Mathematics, Annamalai University for collaborative research for a period of 2 months from 22.11.96 to 21.01.97 as a SERC visiting fellow under SERC visiting fellowship scheme sanctioned by the DST, Govt. of India, New Delhi.
2. Visited the Department of Mathematics, Annamalai University for Research Discussion on invitation basis under UGC-SAP program during May 20-30, 2010.

Member of Board of studies:

1. Periyar University, Salem.
2. Bharathidasan University, Tiruchirappalli.
3. Gandhigram Rural University, Dindugal.
4. Bharathiar University, Coimbatore

Conferences/Seminars/Workshops participated:

International :

1. International Conference on Discrete Mathematics and Number theory, organized by the Ramanujan Mathematical Society at Trichy during January 3-6, 1996 and **presented a paper on P_k -factorizations of product graphs.**
2. Presented a paper on ‘ \hat{S}_k - factorization of symmetric Digraphs of Tensor product of Graphs’ in The International conference on Discrete Mathematics held during December 15 – 18, 2006 at IISc, Bangalore.
3. Presented a paper entitled “ **C_{15} -decomposition of symmetric digraph of tensor product of complete graphs**” in the International Conference on Discrete Mathematics – 2008 held at Mysore University, Mysore during June 6-10, 2008.
4. Delivered a talk in the **First India-Taiwan conference on Discrete Mathematics**, held at National Taiwan University, Taipei, Taiwan during Nov 9-12, 2009.
5. Participated in the **International Conference on Recent Trends in Graphs and Combinatorics** held at the department of Mathematics, Cochin University of Science and Technology, Cochin during August 12 – 15, 2010.
6. Participated in the **International Congress for Mathematicians (ICM)** conducted by the Department of Mathematics, University of Hyderabad, Hyderabad during August 19 – 27, 2010.
7. Participate in the **Second India-Taiwan conference on Discrete Mathematics**, held at Amirta University, Coimbatore, during September 8-10, 2011.

National:

1. National seminar on Current Trends in Graph theory and its Applications at the Department of Mathematics, Annamalai University during Feb.21 – 28, 1990 and presented a paper on Nonhamiltonian regular planar graphs with only two types of faces.
2. Fifth annual conference of the Ramanujan Mathematical Society at the Dept. of Mathematics, Regional College of Education, Mysore during June 7-9,1990.
3. Seminar on Graph theory and Combinatorics at the Dept. of Mathematics, Cochin

University of Science & Technology, Cochin during May 17-19, 1991.

4. Seventh Annual Conference of the Ramanujan Mathematical Society and all India Symposium on Mathematical Biology at the School of Mathematics and Allied Sciences, Jiwaji University, Gwalior during June 25-27, 1992 and presented a paper on Hamilton cycle decompositions of line graphs and a conjecture of Bermond.
5. Seminar on Graph theory at the School of Mathematical Sciences, Madurai Kamaraj University, Madurai during Sep. 11-12, 1992 and presented a paper on Edge-disjoint Hamilton cycles in line graphs of regular graphs.
6. National Seminar on Graph theory and its Applications at the Dept. of Mathematics, Annamalai University during January 5-7, 1993 and presented a paper on Factorizations of product graphs into cycles of uniform length.
7. National workshop on Graph theory and its Applications at the Dept. of Mathematics, Manipal Institute of Technology, Manipal during April 4-10, 1994.
8. National Workshop on Graph theory and its Applications at the Dept. of Mathematics, Manonmaniam Sundaranar University, Tirunelveli during Feb. 21-27, 1996 and presented a paper on Path factorizations of product graphs.
9. National Seminar on Combinatorial theory and its Applications at the Dept. of Mathematics, Karnatak University, Belgaum Campus during Sep. 25-27, 1997.
10. National Symposium on Mathematical Methods and Applications at the Dept. of Mathematics, IIT Madras on Dec. 22, 2001 and presented a paper entitled Dicycle factorizations of complete symmetric multipartite multi-digraph.
11. National Seminar on Graph theory at the Dept. of Mathematics, St. Mary's College, Thirussur during Sep. 5-7, 2002 and presented a paper on Existence and non-existence of cycle factorizations of multipartite symmetric digraphs.
12. Twenty-ninth PAC-MS meeting of the DST at the Dept. of Math.&Stat., University of Hyderabad on January 17, 2003 and presented the project completion report of the research project "Hamilton cycle decompositions and path factorizations of graphs".
13. National Seminar on Recent Trends and Applications of Mathematics in Engineering at the Dept. of Mathematics, MEPCO Schlenk Engg. College, Sivakasi during March 5-6, 2004 and presented a paper on Non-existence of a pair of compatible Euler tours in regular digraphs.
14. Delivered invited lecture in the 'National workshop on Decompositions of Graphs and Product Graphs' held at the Department of Mathematics, Annamalai University, Annamalai nagar during January 03 – 07, 2006.
15. Delivered a lecture on "Applications of Graph Theory in the National conference on Recent Trends in the applications of Mathematics and Statistics" held during March 23 – 24, 2007, at Vasavi college, Erode.

16. National conference on Graph Theory, Algorithms and their Applications held during June 6 – 7, 2007, at Annamalai University, Chidambaram.
17. Delivered a lecture on \mathbb{S}_k - factorization of symmetric Digraphs' in the International Conference on Recent Development in Combinatorics and Graph Theory held during June 10 -13, 2007, at Kalasalingam University, Srivilliputtur.
18. Delivered a talk in the National seminar on Applications of Mathematical Sciences held at Vellaler College for Women, Erode on 31. 08. 2007.
19. Delivered lectures in the UGC- sponsored Refresher course in Mathematical Sciences held at the Department of Mathematics, Bharathidasan University, during 22.11.2007 to 12.12. 2007.
20. Third Indo- US lecture Series on Discrete Mathematical Chemistry held at Bharathidasan University during January 7 – 10, 2008
21. Delivered a Special lecture on applications of Graph Theory at the department of Mathematics, National College, Tiruchirappalli-1 on January 30, 2008.
22. Delivered a Special lecture on “Factorizations of Graphs” in the one day seminar on recent trends in Mathematics held at the department of Mathematics, Shrimathi Indira Gandhi College for Women, Tiruchirappalli-1 on September 20, 2008.
23. Delivered Lectures in the UGC-sponsored Refresher course in Mathematical sciences held at Department of Mathematics, Bharathidasan University, Tiruchirappalli – 620 024 on Nov 8, 2008.
24. Delivered a lecture in the National Conference on Algebra, Graph Theory and their Applications held during Feb 4 – 6, 2009 at Manonmaniam Sundaranar University.
25. 48th DST – PAC meeting on Mathematical Sciences held at Bhaskarachariya Prathisthana, Pune, during April 24 – 25, 2009 and Presented the annual progress report of the DST project entitled “Decompositions and Factorizations of Graphs” delivered a talk on Star factorization of graphs.
26. Delivered series of lectures in the National workshop on Graph Theory held at the Dept. of Mathematics, Annamalai University during Dec 27, 2009 – Jan 11, 2010.
27. Delivered lectures in the UGC-SAP seminar held at the Dept. of Mathematics, Gandigram Rural Institute, Dindigul on 12th Feb, 2010.
28. Delivered a lecture in the UGC-sponsored Refreshers Course conducted by the Department of Mathematics, Bharathidasan University, Tiruchirappalli during November 19-20, 2010.
29. Delivered series of Lectures in the DST-INSPIRE Internship Training Program held at KSR College of Technology during November 24-25 2010.

30. Delivered a lecture in National conference on recent trends in Discrete Mathematics held at the Department of Mathematics, Nazareth Margoschis College, Pillaiyanmanai, Thoothukudi during December 9-11, 2010.
31. Delivered a lecture in the Ramanujan Day celebration event on 22.12.2010 at the Government Arts College, Tiruvannamalai.
32. Delivered series of Lectures in the DST-INSPIRE Internship Training Program held at KSR College of Technology during February 10-11, 2011.
33. Delivered a lecture in National conference on Analysis and Applications held at Karnataka University, Dharwad during March 15-17, 2011.
34. Delivered a lecture "On Research Methodology" in the AICTE-sponsored Staff Development Programm on 19th April 2011, held at Sona College of Technology, Salem.
35. Delivered a lecture in the UGC-sponsored Refreshers Course conducted by the Department of Mathematics, Bharathidasan University, Tiruchirappalli on June 28, 2011.
36. Delivered a lecture on Oberwolfach Problem in the National Conference on Applications and Mathematical Sciences held at the P.K.R. college of Arts and Science for women, Gopichettipalayam on 15.02.2012.
37. Delivered a lecture on Graph Theory in the UGC – SAP held at Dept. of Mathematics, Gandigram Rural Institute, Dindigul on 18.02.2012.
38. Delivered a lecture in the National Conference on Fuzzy Optimization and Graph Theory with Applications held at Mepco Schlenk Engineering College, Sivakasi on 23.02.2012.
39. Delivered a lecture on Applications of Graph Theory in the National Seminar on Emerging Trends in Mathematics held at the Muthayammal college of Arts and Science, Rasipuram on 03.03.2012.
40. Delivered a lecture in the UGC Sponsored National Seminar on Recent Development in Mathematics and its Application held at Kandaswami Kandar's College, Velur on 08.03.2012.
41. Delivered a lecture in the National Workshop on Matroids and Hyper graphs held at the Department of Mathematics, Annamalai University, Annamalainagar on 30.03.2012.
42. Delivered a lecture in the Ramanujam Day Celebration held at Sona College of Technology on 13.10.2012.

44. Delivered a lecture in the Regional Science Congress on Science for Shaping the future of India jointly organized by The Indian Science Congress Association, Coimbatore Chapter held at Kongunadu Arts and Science College, Coimbatore on 16.12.2012.
45. Delivered a lecture in TANSICHE Sponsored National Seminar on Graph Theory and its Applications held at Providence College for Women, Coonoor on 17.12.2012.
46. Delivered Valedictory address in the Inter-Collegiate meet SIGMA'13 on 19th February, 2013 at P.K.R. college of Arts and Science for women, Gopichettipalayam.
47. Delivered a talk in the National Workshop on Computational and Applied Mathematics held during March 8-9, 2013 at Sona College of Technology, Salem.
48. Delivered series of Lectures in the DST-INSPIRE Internship Training Program held at KSR College of Technology during July 11- 2014.
49. Delivered a lecture in the UGC-sponsored Refreshers Course conducted by the Department of Mathematics, Bharathidasan University, Tiruchirappalli on July 8, 2013.
50. Delivered Special Lecture at the DST-INSPIRE Camp held at Knowledge Institute of Technology, Salem on 10.07.2013.
51. Delivered Special Lecture at the DST-INSPIRE Camp held at KSR College of Technology, Tiruchengode during July 17-18, 2013.
52. Delivered Special Lecture at the DST-INSPIRE Camp held at MEPCO SCHLENK Engineering College, Sivakasi on 01.08.2013.
53. Delivered a lecture in the UGC-sponsored Refreshers Course conducted by the Department of Mathematics, Bharathiar University, Coimbatore on September 30, 2013.
54. Delivered Special Lecture at the DST-INSPIRE Camp held at Selvam College, Namakkal on 28.11.2013.
55. Delivered Special Lecture at the DST-INSPIRE Camp held at Vidhya Mandir Arts and Science College, Uthangarai on 29.11.2013.
56. Delivered a lecture in National Conference on Emerging Trends in Graph Connection held during January 09-10, 2014 at Department of Mathematics, University of Kerala, Kariavattom.
57. Delivered a lecture in State level Seminar on Applications of Graph Theory on January 28, 2014 at MK Jain College for women, Vaniyambadi.

Number of Lectures delivered: 35

Extension Activities:

1. Served as NSS / RRC Coordinator of Periyar University, Salem during 09.07.2010 – 15.08.2012
2. Periyar University Nodal Officer for All India Survey on Higher Education since 18.07.2011.