

Curriculum Vitae

1. Name: Dr. S. M. HEGDE,
2. Date of birth: 8th February. 1959,
3. Address for correspondence:

Dr. S.M. Hegde
Professor & Dean Students' Welfare
Dept. of Mathematical & Computational Sciences.
National Institute of Technology Karnataka,
Surathkal, Srinivasnagar-575025
Karnataka. INDIA.
e-mail: smhegde@nitk.ac.in, smhegde59@yahoo.com
Phone: 91-824-2473252

4. Educational qualifications:

- i. M. Sc. Mathematics (Specialization: Graph Theory and Numerical Analysis)
- ii. Ph.D. in Mathematics, Delhi Univ. 1991 (Graph Theory).
Title of the Thesis: Numbered graphs and Applications.
Guides: Dr. B.D. Acharya and Prof. R.N. Kaul

5. Administrative experience:

- i. Working as Dean Students Welfare since 7th October, 2016
- ii. Worked as Co-ordinator, Centre for Continuing Education and QIP Centre, NITK Surathkal, 2014-2016
- ii. Worked as Head, Dept. of Mathematical & Computational Sciences. (17-8-2009 to 16-8-2012)
- iii. Worked as Warden, Finance Warden and Chief Warden, NITK Hostels (Jan. 2004 to August 2009)
- iv. Worked as Executive Editor, NITK NewsLetter.

6. Teaching experience: 25 years.

Presently working as Professor in the department of Mathematical and Computational Sciences, NITK Surathkal.

7. Research experience : 25 years

Collaborators:

1. Prof. L.W. Beineke, Purdue University, USA ,
2. Prof. Vance Faber Center for Computing Sciences, Bowie, MD, USA
3. Prof. Mirka Miller, University of Newcastle, Australia
4. Prof. P.J. Slater, Univ. of Alabama, USA
5. Prof. Thomas Zaslavsky, Binghamton Univ. New York.

6. Prof. S B Rao, Ex-Director ISI Kolkata.
7. Prof. G R Vijaykumar, TIFR. Mumbai.
8. Prof. V Arvind, IMSc. Chennai
9. Prof. Amitava Battacharya, TIFR Mumbai

Published 49 papers in refereed National/International journals and 7 papers in refereed conference proceedings. Guided 6 and guiding 2 Ph.D students. Guided 30 M. Tech., 3 M. Phil, 50 MCA and 4 undergraduate projects. Presented papers/given invited talks at 30 national and 20 international conferences held in India/abroad.

Ph. D students:

1. Dr Sudhakar Shetty 2004
2. Dr P Sankaran 2008
3. Dr Vasudeva 2011
4. Dr. Shivarajkumar 2012
5. Dr. Lolita Priya Cestelino 2013
6. Dr. T Srinivasmurty 2015
7. Mrs. Kumudakshi 2016
8. Mr. Suresh Dara 2017

I am placed in the 5th position among the researchers working on Graph labeling problems.

One of my student's, Dr Vasudeva got Bites, (Board for IT Education Standards,) Best Ph. D thesis award in Computer Science, for 2011. (Title: AN ANALYTICAL STUDY OF SUM AND DIFFERENCE LABELINGS OF GRAPHS AND THEIRAPPLICATIONS)

One of my student's, Dr ShivarajKumar got Best Paper award at the National Research Scholars Meet held at IIT Madras, during 2010.

One of my student's, Mr. Suresh Dara got 2nd Best Paper award at the International Conference on Interdisciplinary mathematical, Statistical and Computational Sciences, held at NITK Surathkal, during December, 2014.

Sponsored Projects:

Completed a project entitled "Graceful Directed Graphs", sponsored by Dept. of Science. & Technology, Govt. of India, in 2013. In this project 3 open problems are solved and 2 Ph. D thesis are written.

Got Post Doctoral Fellowship of IMSC Chennai.

Organized

23rd International conference of the Forum for Interdisciplinary Mathematics: Interdisciplinary Mathematical, Statistical and Computational Techniques, 18-20 December, 2015

A three days workshop on "Graph and Geometric Algorithms" during 10-12 January 2012, jointly with Prof. Subir Kumar Ghosh, TIFR Mumbai, sponsored by NBHM, Mumbai.

A 10 Day workshop on Graph Labeling Problems during 16-25 August, 1999, sponsored by Dept. of Science. & Technology., Govt. of India.

A Two day workshop on Effective teaching of Mathematics at PUC level, during 3-4 March, 2007, sponsored by TEQIP, NITK Surathkal.

8. Academic visits abroad (Research interaction)

- 1. Visited the Dept. of Applied Mathematics and Computer Science, Chulalongkorn University Bangkok during 15th to 26th June, 2015. Associated with Prof. Wanida Hemkul.**
- 2. Visited the Dept. of Mathematics, Hongkong University of Science and Technology, Hong kong during 24th May to 3rd June, 2014. Associated with Prof. Bei-fang Chen.**
- 3. Visited the Dept. of Applied Mathematics, National Chaio Tung University , Taiwan during 04-15 June, 2014. Associated with Prof. Hung-Lin Fu.**
- 4. Visited the Dept. of Applied Mathematics, Thunghai University , Taiwan during 13-18 Nov., 1013. Associated with Prof. Tao-Ming Wang.**
- 5. Visited the Dept. of Mathematics, University of Alabama, during 17th June- 4th July, 2010. Associated with Prof. Peter Sl**
- 6. Visited the Dept. of Mathematics, Purdue University, during November-December, 2008 as a Visiting Scholar. Associated with Prof. L W Beineke.**
- 7. Visited the Dept. of Electrical Engineering and Computer Science, University of Central Florida, during October-November, 2008 as a Visiting Academic. Associated with Prof. Narsingh Deo.**
- 8. Visited the Dept. of Electrical Engineering and Computer Science, University of Newcastle, Australia, during October-December, 2003 as a Visiting Academic. Had collaboration with Prof. Mirka Miller.**

Gave Invited talks

9. At the 9th International Conference on Science and Mathematics Education in Developing Countries, Mandalay University, Mandalay, Myanmar, 4-6 November, 2016.
10. At the 2nd Graph theory Conference, Bangkok, 14-16 Jan. 2016.
11. At the Hongkong Univ. of Sci. & Tech. Hongkong on 28/05/2014.
12. at the National Chaio Tung Univ. Hsinchu, Taiwan on 10th June, 2014.
13. At the Tunghai Univ. Taichung on 11/06/2014.
14. at the 3rd India-Taiwan conference on discrete Mathematics held at National Chaio Tung university, during 18-22 November, 2013. The local hospitality was given by the organizers and travel was sponsored by National Board of Higher Mathematics, DOAE, Govt. of India.
15. at the International Conference on Graph Theory and Information security held at Institute of Teknology Bandung, Indonesia, during February 2007. The local hospitality was given by the organizers and travel was sponsored by Center for Cooperation in Science and Technology among Developing Societies (CCSTDS), Chennai.
16. at the International Workshop on Graph Labeling held at Indonesia during December 2004. The local hospitality was given by the University of Islam Malang and travel was sponsored by DST and CSIR.
17. at the International Workshop on Graph Labeling held at the University of Newcastle, Australia, during October, 2003. The local hospitality was given by the University of Newcastle and travel was sponsored by International Mathematical Union (American Mathematical Society).
18. at the Australian National University, Canberra Australia, on 13th Nov., 2003.
19. at the International conference on Statistics, Combinatorics and Related Areas, held in Wollongong,

Australia, during December, 2001. The local hospitality was given by the Organizers and travel was sponsored by UGC and AICTE.

Contributed talks (conferences abroad)at the

1. ICM 2014 held at Coex Seoul, Korea, 12-21 August, 2014.
2. 24th British combinatorial conference held at royal Holloway, University of London during 30th June 5th July 2013.
3. SIAM conference on Discrete Mathematics held at Texas during 13-17 June, 2010
4. International Conference Applied Combinatorics and its connections to Algebra, geometry and graph theory held at University of Brescia, Verona, Italy, during 22-28 June, 2008.
5. 7th International Colloquium on Graph Theory held at Hyeres, (INRIA) France, during 12-16 September, 2005.
6. the International conference on Combinatorics, Information theory and Statistics, held in Portland, USA, during 1997.
7. the International conference on Graph Theory and Combinatorics held in Western Michigan University, during 2^{9th} May-3rd June, 1988 and an International Workshop on Graph theory and Networks on 6th June, 1988 at Pordham University Bronx, USA.

9. Visits to other Institutions in India:

1. Visited Harischandra Research Institute (the then Mehta Research Institute of Mathematics and Mathematical Physics) Allahabad for an year in 1985-86.
2. Visited Institute of Mathematical Sciences, Chennai (MATSCIENCE) for two months in 2000 and one month in 2002-03. Travel and local hospitality was given by MATSCIENCE.

10. List of papers published/accepted/ by Dr. S.M. Hegde . (M R Classification:05C78)

The following is the list of Research papers accepted/ published/ communicated by Dr. S. M. Hegde (MR Classification: 05C78):

National/International Journals

he following is the list of Research papers accepted/ published by Dr. S. M. Hegde (MR Classification: 05C78):

National/International Journals

1. *First-Fit EFL., AMO-Advanced Modeling and Optimization, 18(2) (2016) 279-283 (with Suresh Dara, Vance Faber and Noah Streib , USA)*
2. The dynamic of the forest graph operator, *Discussiones Mathematicae Graph Theory, 36(4) (2016) 899-913 (with Suresh Dara, S B Rao< Former Diretor, ISI Kolkata and T Zaslasky)SCI journal*
3. *Construction of Graceful Directed graphs using algebraic structures, J. Discrete Mathematical Sciences & Cryptography,19(1) (2016) 103-116, Scopus indexed journal(with Kumudakshi S)*
4. *Set Colorings of Digraphs, Utilitas Mathematica 100 (2016), 357-374 (with Lolita Priya Castelino)SCI Journal*
5. *Further results on Graceful directed graphs, Electronic Notes in Discrete Mahematics, 53(2016) 252- 263. Scopus indexed journal. (with Kumudakshi)*
6. *A Partial Solution to Linear Congruence Conjecture, National Academy Science Letters (2016), 39(6):451-453.(with T Srinivasmurthy) SCI Journal*
7. *Clique convergence of graphs, AKCE International Journal of Graphs and Combinatorics, 13(2)(2016)160-166 (with Suresh Dara) Scopus and ESC Indexed journal.*
8. *Further results on graceful digraphs, International Journal of Applied and Computational Mathematics, 2(3)(2016) 315-325 (with Shivarajkumar) Springer.*
9. *Hegde, S. M.; Kumudakshi Graceful digraphs and complete mappings. The Eighth International Workshop on Graph Labelings (IWGL 2014), 151 -156, Electron. Notes Discrete Math., 48, Elsevier Sci. B. V., Amsterdam, 2015*
10. *Construction of Graceful Directed graphs, JCISS, 40(2015) 253-262 (with Kumudakshi S)*
11. *Graceful digraphs and complete mappings, Electronic Notes in Discrete Mahematics, 48(2015) 252-263. Scopus indexed journal. (with Kumudakshi)*
12. *Harmonious colorings of regular digraphs, J. Graph Labeling, Vol. 1 No. 1 (2015) 55-63. (with Lolita Priya Castelino)*

13. **Harmonious colorings of digraphs**, *Ars. Combinatoria*, 119 (2015)339-352. (with Lolita Priya)SCI Journal
14. **Weakly indexable graphs**, *J. Combinatorics, Information and System Sciences*, Vol.39 (2014) 173-207. (with Shankaran P)
15. **A partial solution to cordial Tree Conjecture**, *Journal of Discrete Mathematical Sciences & Cryptography* Vol.17 No. 3(2014) pp.257-263. (with T Srinivasmurthy)MR3255908 **Scopus indexed journal**
16. **On k-graceful labeling of directed graphs**, *Utilitas Mathematica*, Vol. 95, (2014),161-173 (with Shivarajkumar)SCI Journal MR3243928
17. **On graceful unicyclic wheels**, *Ars. Combinatoria*, 117(2014), 47-64 (with Shivraj Kumar) SCI Journal MR3243829
18. **Two conjectures on graceful digraphs**, *Graphs and Combinatorics*,29(4) (2013)933-954 (with Shivarajkumar). SCI Journal MR3070067
19. **Further results on proper and strong set colorings of graphs**, *Austral. J. of Combinatorics*. 52(2012),55-65. (with Sumana M.K) **Scopus and ESCI Journal** MR2917916
20. **Further results on harmonious colorings of digraphs**, *AKCE Int. J. Graphs and Combinatorics* 8(2) (2011)151-159 (with Lolita Priya Castelino) **Scopus and ESC Indexed journal**. MR2895432
21. **Further results on super edge-magic deficiency of graphs**, *Ars Combinatoria*, 99(2011), 487-502. (with Sudhakar Shetty and Shankaran P) [MR2663870](#) SCI Journal
22. **Strongly indexable graphs and their applications**, *Discrete Mathematics*, 309(21) (2009)6160-6168. (with Sudhakar Shetty) MR2551971 SCI Journal
23. **Amicability of forests**, *AKCE J. of Graphs and Combinatorics*, 6(1) (2009),85-89.(with G.R. Vijaykumar, TIFR Bombay)Scopus and ESC Indexed journal.. MR 2010m:05277
24. **On mod difference labelings of digraphs**, *AKCE J. of Graphs and Combinatorics*, 6(1) (2009) 79-84. (with Vasudeva, M) Scopus and ESC Indexed journal.. MR2010g:05153
25. **Set colorings of graphs**, *European J. Combinatorics*, 30(4), (2009)986-995.MR 2010i:05119 SCI Journal
26. **Geometric labeled graphs**, *AKCE International journal of Graphs and Combinatorics*. 5(1) (2008) 83-97. (with Shankaran, P)Scopus and ESC Indexed journal.. MR 2009f:05234
27. **On Multiplicative labelings of a graph**, *J. of Combinatorial Mathematics and Combinatorial Computation*, 65(2008), 181-195. Scopus Indexed Journal. MR 2009c:05209 .

28. *Further results on sequentially additive graphs*, *Discussiones Mathematicae: Graph Theory*. 27(2) (2007), 251-268. (with Mirka Miller, Univ. of Newcastle, Australia)MR2008m:05257 SCI Journal
29. *Combinatorial labelings of graphs*, *Applied Mathematics E-Notes: International Electronic J. of Mathematics* 6(2006), 251-258. MR2007d:05136G *Scopus indexed journal*. (with Sudhakar Shetty)
30. *Edge sum labelings of a graph*, *J. of Combinatorics, Information and system sciences*, vol. 1-4(2004) 163-172. (with Shankaran, P).MR2008b:05151
31. *On magic graphs*, (2003), *Australasian J. Combinatorics*, 27, 277-284 (with Sudhakar Shetty) *Scopus and ESCI Journal*. MR1955408.
32. *On arithmetic graphs*, (2002), *Indian J. Pure & Applied Mathematics*, 33(8), 1275-1283. (with Sudhakar shetty) MR2003g: 05112 SCI Journal
33. *Further results on set sequential and set graceful graphs. Electronic notes in discrete mathematics. Vol. 15, 98-102, Elsevier Sci. B. V., Amsterdam, 2003 Scopus indexed journal.*
34. *Super edge least-magic graphs. Electronic notes in discrete mathematics. Vol. 15, 97, Electron. Notes Discrete Math., 15, Elsevier Sci. B. V., Amsterdam, 2003 (Shetty, Sudhakar) Scopus indexed journal*
35. *Strongly multiplicative graphs*. (2001), *Discussiones Mathematicae: Graph Theory*, 21, 65-73. (with L.W. Beineke, Purdue University, USA) MR2002g: 05161 SCI Journal
36. *On graceful trees*, (2002), *Applied Mathematics, E-Notes: International Electronic J. of Mathematics*, (2002), 192-197. (with Sudhakar shetty) *Scopus Indexed journal* MR2004:05177
37. *On locally semi consecutive edge labelings of graphs*, (2001), *Nat. Acad. Sci. Letters: Monthly J. of Research*, 24(5-12), 124-129 (with B. D. Acharya) MR2003k: 05118 SCI Journal
38. *Sequential and magic labelings of a graph*. (2001), *Nat. Acad. Sci. Letters : A Monthly J. of Research*, 24(5-12), 137-141. (with Sudhakar Shetty) MR1946807 SCI Journal
39. *On (k,d)-graceful graphs*, (2000), *J. Combinatorial, Information and System Sciences*, 25(1-4), 255-265. MR 2001k: 05117
40. *On k-sequential graphs*, (1993), *Nat. Acad. Sci. Letters: A monthly J. of Research*, 16(11-12), 299-301. MR 93m:05164 SCI Journal
41. *On indexable graphs*, (1992), *J. Combinatorics, Information and System Sciences*. 17(3-4) 316-331. MR 95j:05154.

42. *Construction of sequential and sequentially additive graphs*, (1992), *J.Ramanujan Mathematical Society*, 7(2), 165-173. MR 93m:05174. SCI Journal
43. *On certain vertex valuations of a graph*, (1991), *Indian J. Pure and Applied Mathematics*, 22(7), 553-560. (with B.D. Acharya, DST) MR 92k:05111 SCI Journal
44. *Strongly indexable graphs*, *Discrete Maths* (1991), Vol. 93. 123-129 (with B.D. Acharya,) MR 93f:05078. SCI Journal
45. *Arithmetic graphs*, (1990), *J. Graph Theory*, 14(3), 275-299. (with B. D. Acharya) MR 91c:05153. SCI Journal
46. *On set valuations of graphs*, (1991), *Nat.Acad. Sci. Letters.: A Monthly J. of Research* ,14(4), 181-182. MR 94k:05169. SCI Journal
47. *Additively graceful graphs*(1989),*Nat.Acad.Sci. Letters :A Monthly J. of Research*,12(11),387-390 MR93f:0508 SCI Journal
48. *Set sequential graphs*, (1985), *Nat. Acad. Sci. Letters : A Monthly J. of Research*,8(12), 387-39.(with B.D. Acharya). MR 89k:0511 SCI Journal
49. *Further results on k-sequential graphs*, (1985), *Nat. Acad. Sci. Letters: A Monthly J. of Research*, 8(5), 119-122.(with B.D. Acharya,) MR 89k:05113 SCI Journal

Refereed Proceedings of the Conferences

1. *On vertex dependent characteristic of a graph*, Proc. International Conference on Mathematics and Computer Science, 1-3 March, 2007, Loyola College Chennai, India, pp 3-7. (with Shankaran P)
2. *Triangular sum labelings of graphs*, Proceedings of the group discussion on Labeling of Discrete Structures and Applications, 18-28 April, 2006, Mananthawady, Kerala (eds: B.D. Acharya, S. Arumugam and A. Rosa), Narosa Publishing House, New Delhi., India, (2008), 83-96. (with Shankaran, P).MR 2009e:05281
3. *On multiplicative labelings of a graph*, Proc. Of the Group Discussion on Labelings of Discrete Structures and Applications, 18-28 April, 2006, held at Mananthawady, Kerala. (eds: B.D. Acharya, S. Arumugam and A. Rosa), Narosa Publishing House, New Delhi., India, (2008), 83-96. MR 2009e:05281
4. *On set labelings of graphs*, Proc. Group Discussion on Labelings of discrete structures and Applications 18-28

April, 2006, held at Mananthawady, Kerala. (eds: B.D. Acharya, S. Arumugam and A. Rosa), Narosa Publishing House, New Delhi., India, (2008), 83-96. MR 2009e:05281

5. Sum hypergraph based access structure for secret sharing schemes using CRT, proceedings of the International conference on Mathematical and Computational Models (ICMCM 09) held at PSG college of Technology, Coimbatore during 21-23 December, 2009. Published by Narosa publishers, pp. 388-393. (with Vasudeva)

6. Integer signatures for directed graphs, Proceedings of the International Conference on Mathematical Modeling and applications to Industrial Problems MMIP 2011, 387-392, held at the Department of Mathematics, NIT Calicut in March 2011. (with Vasudeva)

7. Integer representations of graphs through sum labeling: Some upper bound related results, Proceedings of the International Conference on Frontiers in Computer Science, held at IISC Bangalore in August 2011. (with Vasudeva, 8(5), 119-122. (with B.D. Acharya,) MR 89k:05113 SCI Journal

CITATION INDEX OF DR. S.M. HEGDE: 189 citations (reference: Research Gate).

Report on Attending the 2nd Combinatorics and Graph theory Conference held in Bangkok, during 14-16 January, 2016 by Dr S M Hegde:

Dr S M Hegde was invited to give a talk at the 2nd Combinatorics and Graph theory Conference held in Bangkok during 14-16 January 2016. The conference was organized by Engineering Information Institute, Bangkok. The conference was sponsored by Scientific Research Publishing, Bangkok. The conference was conducted at Hotel Arnoma Grand Bangkok. Conference was attended by many academics from many countries. There were Invited talks and parallel sessions (attached the program schedule).

I gave my Invited talk on 15th January 2016, from 13-13.40, entitled A partial solution of the Erdos-Faber-Lovasz conjecture. The talk was well received.

I started my journey to Bangkok on 10th January and came back to India on 18th January, 2016.

I attended the sessions and discussed with the other participants. I got some interdisciplinary knowledge by attending the conference.

10. Details of Academic achievements in Academic field

Collaborators:

1. Prof. L.W. Beineke, Purdue University, USA ,
2. Prof. Mirka Miller, University of Newcastle, Australia
3. Prof. P.J. Slater, Univ. of Alabama, USA
4. Prof. Thomas Zaslavsky, Binghamton Univ. New York. USA
5. Prof. S B Rao, Ex-Director ISI Kolkata.

6. Prof. G R Vijaykumar, TIFR. Mumbai.
7. Prof. V Arvind, IMSc. Chennai
8. Prof. Amitava Battacharya, TIFR Mumbai

Solved 4 open problems on Graph labeling/coloring problems

Published 42 papers in refereed National/International journals out of which 31 are SCI Journals. Guided 8 Ph.D, 35 M. Tech. AND 50 MCA projects. Given invited talks at 30 international conferences held in India/abroad.

I am placed in the 5th position among the researchers working on Graph labeling problems all over the world.

One of my student's, Dr Vasudeva got Bites (Board for IT Education Standards, Govt. of Karnataka) Best Ph. D thesis award in Computer Science, for 2011. (Title: AN ANALYTICAL STUDY OF SUM AND DIFFERENCE LABELINGS OF GRAPHS AND THEIRAPPLICATIONS)

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One of my student's, Mr. Suresh Dara got 2nd Best Paper award at the International Conference on Interdisciplinary mathematical, Statistical and Computational Sciences, held at NITK Surathkal, during December, 2014 .

Got Post Doctoral Fellowship of IMSC Chennai.

Citation Index : 131 (Research gate)

Academic visits abroad (Research Interaction):

i) chulalongkorn Univ. Bangkok, 15th to 26th June, 2015. ii) Hongkong Univ. of Sci.& Technology, May-June, 2014

iii) National Chaio Tung Univ. , Taiwan d 04-15 June, 2014.

iv) University of Alabama, during 17th June- 4th July, 2010. v) Purdue University, November-December, 2008

vi) University of Central Florida, d October-November, 2008

vii) University of Newcastle, Australia, during October-December, 2003

9. Details of HODship/Administrative position :

- i) Worked as HOD Dept. of MACS from 17-08-2009 to 16-08-2012 .**
- ii) Worked as CHIEF WARDEN NITK Hostels from 31-08-2007 to 31-08-2009**
- iii) Worked as FINANCE WARDEN, NITK HOSTELS from 24-07-2005 to 30-08-2007**
- iv) Working as Chairman/coordinator, Centre for Continuing Education (CCE) and QIP Center, from April 2014.**
- v) Worked as**
 - a. Executive Editor, NITK News letter**
 - b. Secretary, NITK/KREC Student's Cooperative Society
 - c. Secretary, NITK/KREC Consumer Cooperative Society
 - d. Secretary, NITK/KREC Cooperative Canteen Society
 - e. Secretary, NITK Staff Recreation Club**