

Prasanth G Narasimha-Shenoi

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Personal Details

date of birth 07 November 1972

nationality Indian

Education

2010 **Ph.D.**, *Mathematics*, University of Kerala, Trivandrum
Kerala, India

1998 **M.Phil.**, *Mathematics*, University of Kerala, Trivandrum
Kerala, India

1997 **B.Ed.**, *Mathematics*, University of Kerala, Trivandrum
Kerala, India

1995 **M.Sc.**, *Mathematics*, University of Kerala, 89%

1993 **B.Sc.**, *Mathematics*, University of Kerala, 89.9%

Ph.D. thesis

title *A study of betweenness using some metric related transit functions on graphs.*

supervisor **Dr.Manoj Changat**

Research Interests

Transit Functions on Graphs, Hypergraphs, Digraphs, Graph Products, Bio informatics

Work Experience

2013 **Visitor**, *University of Leipzig & Max Plank Institute Germany*

2005-till date **Assistant Professor**, *Dept. Mathematics, Government College Chittur*, Palakkad, Kerala, India

2004-2005 **Assistant Professor**, *Dept. of Mathematics, M.G. College,* Trivandrum, India

2000-2004 **Lecturer**, *Institutions of IHRD*, Tridandrum, India

2002-2009 **Research Scholar**, *Dept. of Futures Studies*, University of Kerala, Trivandrum, India

2008 **Visitor**, *University of Maribor*, Slovenia

List of Publications

- Changat, M., Kamalolbhan-Sheela, L. K., & **Prasanth G.Narasimha-Shenoi** (2024). "The axiomatic characterization of the interval function of distance hereditary graphs". *Discrete Applied Mathematics*, 350, 62-70.
- Changat, M., Gopakumar-Sheejakumari, G. K., & **Prasanth G.Narasimha-Shenoi**. (2024). "The median function of a block graph: Axiomatic characterizations". *Discrete Applied Mathematics*, 348, 246-259.
- Changat, M., **Prasanth G.Narasimha-Shenoi**., Thottungal Joseph, M. S., Sivadas, A., & Narasimha-Shenoi, P. G. (2023). "Anticenter of Profiles in Products of Graphs". *Indian Journal of Pure and Applied Mathematics*, 1-10.
- Changat, Manoj, Lekshmi Kamal K. Sheela, and **Prasanth G.Narasimha-Shenoi**. "Axiomatic characterizations of Ptolemaic and chordal graphs." *Opuscula Mathematica* 43.3 (2023): 393-407.

- M. Changat, **Prasanth G. Narasimha-Shenoi** and M. S. Thottungal Joseph, "Center and periphery of lexicographic product of digraphs", *Art Discrete Appl. Math.* (2023), doi:10.26493/2590-9770.1639.4c9
- Anand, Bijo S., Mitre C. Dourado, **Prasanth G. Narasimha-Shenoi**, and Sabeer S. Ramla. "On the Δ -interval and the Δ -convexity numbers of graphs and graph products." *Discrete Applied Mathematics* 319 (2022): 487-498.
- **Prasanth G. Narasimha-Shenoi**, Mary Shalet Thottungal Joseph, *Center of Cartesian and strong product of digraphs*, *J. Ramanujan Math. Soc.* 36, No.4 (2021) 267–273
- Changat, Manoj, **Prasanth G. Narasimha-Shenoi**, Mary Shalet Thottungal Joseph, and Bijo S. Anand. *Boundary-type sets of strong product of directed graphs*. *ARS MATHEMATICA CONTEMPORANEA* (2021).
- Changat, Manoj, Nella Jeena Jacob, and **Prasanth G. Narasimha-Shenoi**. *Axiomatic Characterization of the Median Function of a Block Graph*. *Conference on Algorithms and Discrete Applied Mathematics*. Springer, Cham, 2021.
- Changat, Manoj, **Prasanth G. Narasimha-Shenoi**, and Mary Shalet Thottungal Joseph. *Lexicographic Product of Digraphs and Related Boundary-Type Sets*. *Conference on Algorithms and Discrete Applied Mathematics*. Springer, Cham, 2021.
- Changat, M., **Prasanth G. Narasimha-Shenoi**, Nezhad, F. H., Kovše, M., Mohandas, S., Ramachandran, A., & Stadler, P. F. (2021). *Transit sets of two-point crossover*. *The Art of Discrete and Applied Mathematics*, 4(1), P1-09.
- Anand, Bijo S., **Prasanth G. Narasimha-Shenoi**, and Sabeer Sain Ramla. *Δ -Convexity Number and Δ -Number of Graphs and Graph Products*. *Conference on Algorithms and Discrete Applied Mathematics*. Springer, Cham, 2020.
- Anand, B. S., SV, U. C., Changat, M., Dourado, M. C., Nezhad, F. H., & **Prasanth G. Narasimha-Shenoi**. (2020). *On the Carathéodory and exchange numbers of geodesic convexity in graphs*. *Theoretical Computer Science*, 804, 46-57.
- Changat, M., **Prasanth G. Narasimha-Shenoi**, Nezhad, F. H., Kovše, M., Mohandas, S., Ramachandran, A., & Stadler, P. F. (2019). *Transit sets of k-point crossover operators*. *AKCE International Journal of Graphs and Combinatorics*
- Changat, Manoj, **Prasanth G. Narasimha-Shenoi**, Mary Shalet Thottungal Joseph, and Ram Kumar. "Boundary Vertices of Cartesian Product of Directed Graphs." *International Journal of Applied and Computational Mathematics* 5, no. 1 (2019)
- Balakrishnan, Sneha, Sreelakshmi K, and Suresh Kumar K. A, **Prasanth G. Narasimha-Shenoi**. "Mathematical Interpretation of Aesthetic Value of Floral Structure and Mode of Pollination in Some Angiosperm Plants, *Life Sciences Leaflets* 115 (2019): 01-11.
- Manoj Changat, **Prasanth G. Narasimha-Shenoi** and Peter F. Stadler "Axiomatic Characterization of transit functions of weak hierarchies", *The Art of Discrete and Applied Mathematics Vol 2(1)* 2018.
- Changat, Manoj, **Prasanth G. Narasimha-Shenoi**, and Geetha Seethakuttyamma. "Betweenness in graphs: A short survey on shortest and induced path betweenness." *AKCE International Journal of Graphs and Combinatorics* (2018).
- Changat, M., Mohandas, S., Mulder, H. M., **Prasanth, G. Narasimha-Shenoi.**, Powers, R. C., & Wildstrom, D. J. (2018). *Axiomatic characterization of the center function. The case of non-universal axioms*. *Discrete Applied Mathematics*, 244, 56-69.
- Changat, Manoj, Shilpa Mohandas, **Prasanth G. Narasimha-Shenoi**, *Axiomatic Characterization of Anticenter Function of Some Classes of Graphs*, DOI: 10.17654/DM018020157, 2017.
- Changat, Manoj, Shilpa Mohandas, Henry Martyn Mulder, **Prasanth G. Narasimha-Shenoi**, Robert C. Powers, and D. Jacob Wildstrom. "Axiomatic characterization of the center function. The case of universal axioms", *Discrete Applied Mathematics* (2017).
- Changat, M., Balakrishnan, K., Kumar, R., **Prasanth, G. Narasimha-Shenoi.**, Sreekumar, A. *On the Center Sets of Some Graph Classes*. In *Algorithms and Discrete Applied Mathematics* (pp. 240-253), (2016) Springer International Publishing.
- Anand, Bijo S., Manoj Changat, and **Prasanth G. Narasimha-Shenoi**, *Helly and exchange numbers of geodesic and Steiner convexities in lexicographic product of graphs*, *Discrete Mathematics, Algorithms and Applications* 7 (04) (2015)

- Kannan Balakrishnan, Manoj Changat, Anandavally K. Lakshmikuttyamma, Joseph Mathew, Henry Martyn Mulder, **Prasanth G. Narasimha-Shenoi**, N. Narayanan, *Axiomatic characterization of the interval function of a block graph*, Discrete Mathematics, 338(6), (2015)
- Anand, Bijo S., Changat, Manoj, Peterin, Iztok, **Prasanth G. Narasimha-Shenoi**, *Some Steiner concepts on lexicographic products of graphs*, Discrete Mathematics, Algorithms and Applications, 06, (2014), 1450060-1 – 1450060-14
- M. Changat, A. K. Lakshmikuttyamma, Joseph Mathews, Iztok Peterin, **Prasanth. G. Narasimha-Shenoi**, Geetha Seethakuttyamma, Simon Špacapan, *A forbidden subgraph characterization of some graph classes using betweenness axioms*, Disc. Math., 313,(2013), 951–958
- M. Changat, A. K. Lakshmikuttyamma, Joseph Mathews, Iztok Peterin, **Prasanth. G. Narasimha-Shenoi**, Aleksandra Tepeh, *A note on 3-Steiner intervals and betweenness*, Disc Math, 311, (2011), 2601–2609
- Changat, Manoj; **Prasanth G. Narasimha-Shenoi**.; Pelayo, Ignacio M., *The longest path transit function of a graph and betweenness*. Util. Math. 82 (2010), 111–127.
- M. Changat, J. Mathews, **Prasanth.G. Narasimha-Shenoi**, I. Peterin, *n-ary transit functions in graphs*, Discussiones Mathematicae Graph Theory 30, 4(2010), 671-685.
- Boštjan Brešar, Manoj Changat, Joseph Mathews, Iztok Peterin, **Prasanth G. Narasimha-Shenoi**, Aleksandra Tepeh Horvat; *Steiner intervals, geodesic intervals, and betweenness*; Disc. Math., Volume 309,(20):(2009) 6114–6125.
- B.Brešar, M. Changat, S.Klavžar, J. Mathews, A. Mathews, **Prasanth. G.Narasimha-Shenoi**, *Characterizing posets for which their natural transit functions coincide*,ARS MATHEMATICA CONTEMPORANEA 2 (2009) 27–33
- Manoj Changat, **G.N. Prasanth** Joseph Mathews, *Triangle path transit functions, betweenness and pseudo-modular graphs*, Disc. Math. 309 (2009), 1575-1583
- **Prasanth G. Narasimha-Shenoi**, *On a Metric related Transit Function and its Betweenness*, In: Convexity in Discrete Structures (M. Changat, S. Klavžar, H.M. Mulder, A. Vijayakumar, eds.), Lecture Notes Ser. 5, Ramanujan Math. Soc. (2008), 83–90
- K. Balakrishnan, M. Changat, S. Klavžar, J. Mathews, I. Peterin, **Prasanth G.N.** and S. Špacapan, *Antimedial graphs*, Australasian J. Combinatorics, 41(2008) 159- 170

List of Publications(Submitted)

- **Prasanth G. Narasimha-Shenoi**, Mary Shalet Thottungal Joseph, Mithra R, and Prakash G. Narasimha-Shenoi, "Boundary Vertices of Cartesian and Corona Product of Digraphs With Respect to a Sum Metric"
- Manoj Changat, Antony Mathews, **Prasanth G. Narasimha-Shenoi**, Jayasree Thomas, "Axiomatic Characterization of the Center Function on Crown Graphs"

List of Articles(Under Preparation)

- Manoj Changat, Antony Mathews, **Prasanth G. Narasimha-Shenoi**, Jayasree Thomas, "Axiomatic Characterization of the Center Function on Barbell Graphs and (m, n) - Lollipops
- Bijo S. Anand, Manoj Changat, Mitre C. Dourado, **Prasanth G. Narasimha-Shenoi** and Sabeer S. Ramla. "On the Δ - partition number of graphs and graph products"
- **Prasanth G. Narasimha-Shenoi** et al. ,Carathéodory Number and Exchange number in Δ -Convexity
- **Prasanth G. Narasimha-Shenoi** et. al, "Boundary type vertices w.r.to Detour distance"
- Manoj Changat, Mitre C. Dourado, **Prasanth G. Narasimha-Shenoi**, Ferdoos H. Nezhad. " *Axiomatic Characterization of the interval function of unit interval graphs*"
- Manoj Changat, **Prasanth G. Narasimha-Shenoi**, *Axiomatic Characterization of Δ and I^Δ transit function*
- **Prasanth G. Narasimha-Shenoi**, *Axiomatic Characterization of Antimedial on Block Graphs*.

Conferences

- Gave a talk on Axiomatic Chacaterization of Anticenter profiles in the International Conference on Algebra and Discrete Mathematics, February 20 - 22, 2024, held at Kattappana, Idukki

- "Axiomatic Characterizations of Center function on Various Graphs" in the International Conference on Algebra and Discrete Mathematics, March 4 - 6, 2014, held at Kattappana, Idukki
- Structural and Betweenness Properties of k -point Crossover Operators in the International Conference on Algebra and Discrete Mathematics, March 4 - 6, 2014, held at Kattappana, Idukki
- Presented a talk on "Betweenness relations and transit functions" at Maxplank Institute, Germany in 2013.
- Attended Indo-Slovenia Conference on Graph Theory and Applications on 2013 and presented a paper on "Convexity parameter on Lexicographic product of graphs"
- Attended the International Congress of Mathematicians (ICM 2010) at Hyderabad during August 19-27, 2010 and presented a paper titled " Transit functions of higher arity " .

Research Projects

- 8 Co-Investigator of a DST - DAAD project "Bubbles and Directed Transit Functions Structures and Algorithms", Principal investogator from India is Dr. Manoj Changat of Department of Futures Studies and Principal Investigator from Germany is Peter Stadler of University of Leipzig, Germany
- 7 Principal Investigator of a DST-SERB Project "A study of convexity parameters, ℓ_p - functions, Steiner sets and related problems on Graphs
- 6 Principal Investigator of a KSCSTE Student Project "Applications of Mathematics in other areas".
- 5 Principal Investigator of a DST-SERB Project "A Study on axiomatic characterizations, convexity and distance related problems on graphs and its products and, Graphs arising from Rings".
- 4 Co-investigator of a National Board for Higher Mathematics,DAE, Govt. of India sponsored project. Principal Investigator being Dr. Manoj Changat of Department of Futures Studies, University of Kerala, India
- 3 Associated with India - Slovenia Joint research project on "Metric Graph Theory and Graph Products"
- 2 Principal Investigator of a minor research project, supported by University Grants Commission, Govt. of India
- 1 Associated with India - Slovenia Joint research project on "Metric Graph Theory"

Teaching Experience

I have always been attracted to the profession of teaching, mainly because of the way some great teachers influenced me in my educational career. I believe that, by being a teacher I can contribute to or rather pay back the society in a fundamental way. My philosophy of teaching is rooted on a strong teacher-student interaction. I believe that the process of inculcation is never complete without the presence of exercises and examples which help the student to assimilate the idea properly.

Papers Taught

- Masters Introduction to Group Characters
- Masters Cryptography
- Masters Python
- Masters Linear Algebra
- Masters Coding Theory
- Masters Functional Analysis , 2nd Edn by B.V. Limaye along with Introduction to Functional analysis of E. Kreyzig as a Reference.
- Complex Analysis to 6th Semester B.Sc Mathematics students
- Introduction to Algebra by Fraleigh 8th Edn, to undergraduates, Introduction to Calculus by Thomas and Finney to undergraduates

University Related Activities

- Chairman 1st Semester PG Camp 2024 - Palakkad Region of University of Calicut
- Chairman 5th and 6th Semester UG Camp Mathematics since 2021 - Palakkad Region of University of Calicut

Professional Services

Languages

Konkani	Mother Tongue
Malayalam	Native
English	Very Good
Hindi	Good
Tamil	Reasonable

Computer skills

OS Linux

typography \LaTeX

Interests

recreation Karnatik music, Kathakali,
other shuttle badminton, yoga, trekking, reading

References

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+91-9446967394 (Mob)
- 2 **Dr. Sandi Klavžar**
Faculty of Mathematics and Physics
University of Ljubljana
Jadranska 19 (room 4.03)
SI-1000 Ljubljana, Slovenia
e-mail: sandi.klavzar@fmf.uni-lj.si
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- 3 **Peter F Stadler**
Professor of Bioinformatics
University of Leipzig
Germany
e-mail:stadler@bioinf.uni-leipzig.de
Tel: +49 341 97 16691
- 4 **Dr. Kannan.B**
Professor, Emiretus
Department of Computer Applications
CUSAT
Kerala
India
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