Dr. Ranganatha D.

CONTACT INFORMATION	**Present Address:**
	Assistant Professor Email: ddranganatha@gmail.com &
	Department of Mathematics ranganathad@cuk.ac.in
	Central University of Karnataka Mob. No: +91-7892841723,
	Aland road, Kalaburagi-585367, India +91-9686277862

EDUCATION

Ph.D., Mathematics

University of Mysore, Karnataka, India   2014- 2018

- Advisor: Prof. Chandrashekar Adiga

Thesis Topic: On Study of Partition Identities and Modular Relations

Master of Science (Pure Mathematics)   2010-2012

University of Mysore, Karnataka, India

B.Sc. Physics, Chemistry & Mathematics   2007-2010

Tumkur University, Karnataka, India

RESEARCH INTERESTS

Theory of Partitions, q-Series, Special Functions, Ramanujan's Mathematics, and Number Theory.

PROJECTS

- Congruence properties of restricted partition functions in the spirit of Ramanujan's congruences, CUK Seed Money Research Grant.
- A study on congruences for certain restricted partition functions and modular relations, UGC -Start-Up Research Grant.

ADVISING

Ph.D. Students: 1. Channabasavyya (currently in his second year)
                2. G. K. Keerthana (currently in her first year)

PUBLICATIONS

In preparation: -

1. A note on the overpartition function
2. On the generating functions for some restricted partition functions
3. On a generalization of vanishing coefficients in two q-series expansions (With Channabasavayya)

"Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning." - Albert Einstein

Under review: -

4. Some continued fractions of Ramanujan of order twelve (with N.A.S. Bulkhali, Channabasavyya, M. S. Surekha)
5. On further modular relations for the Rogers-Ramanujan functions, (with Channabasavayya and G. K. Keerthana)
6. On some new arithmetic properties of certain restricted color partition functions, (with Channabasavayya and G. K. Keerthana)

Accepted for publication: -

7. On a generalized basic series and Rogers-Ramanujan type identities (with P. Sonik and M. Goyal), Contribution to Discrete Mathematics, Accepted for publication (2021)

Year 2021

8. Modular relations for the Rogers-Ramanujan functions with its applications to partitions (with N.A.S. Bulkhali), Ramanujan J., 56, 121-139 (2021).
9. Some properties of partition k-tuple t core partitions, Ramanujan J., 369-385 (2021)

Year 2020

10. Some new congruences modulo 5 for the general partition function, Russian Mathematics, Vol. 64, No. 7, pp. 73–78 (2020). (with B.R. Srivastsa Kumar and Shruthi).
11. On eight color partitions, Indian Journal of Pure and Applied Mathematics, Vol. 51, pp.1843-1856, (2020). (with B. Hemanthkumar and H.S. Sumanth Bharadwaj)

Year 2019

12. On 3-regular tripartitions, Acta Mathematica Sinica, 35 (3), 355—368 (2019). (with C. Adiga).
13. Some new congruences for (s, t)-regular bipartitions, Publication De L'institute Mathematique, (2019) accepted for publication. (with C. Adiga & A. Bayad)

Year 2018

14. Congruences for 7 and 49-regular partitions modulo powers of 7, Ramanujan J., 46 821—833 (2018). (with C. Adiga).
15. On (2, k)-regular overpartitions for odd k>1, Arabian Journal of Mathematics, 7 (2018) 61—75. (with C. Adiga, M.S.M. Naika, & C. Shivashankar).
16. On Some New Congruences for ℓ-regular overpartitions. Palestine journal of mathematics, 7(1), (2018) 345-362.
17. Congruences modulo 7 and 11 for (s, t)-regular bipartitions, Proc. Jangjeon Math. Soc., 21 (2018), No.2. pp. 171-183.
18. On overpartition pairs into odd parts modulo powers of 2, Discrete Mathematics Journal, 341 (2018), 3141--3147. (with C. Adiga)

Year 2017

19. Congruences modulo powers of 2 for ℓ-regular overpartitions, J. Ramanujan Math. Soc., 32 (2) (2017), 147—163. (with C. Adiga).
20. Ramanujan-type congruences modulo powers of 5 and 7, (2017), Indian J. Pure and Applied Maths., 48(3) (2017), 449--465.

21. A Simple Proof of a Conjecture of Dou on (3. 7)-regular bipartitions modulo 3, Integers, 17 (2017), #14. (with C. Adiga)

Year 2016

22. Some new modular relations for the Rogers-Ramanujan type functions of order eleven with applications to partitions, *J. Number Theory* 158, (2016), 281–297. (with C. Adiga, N.A.S. Bulkhali, & H. M. Srivastava).

23. Arithmetic properties of partition four tuples with 3-Cores, Adv. Studies Contemp. Math., 26 (2016) 417--434. (with C. Adiga).

24. On a generalization of some combinatorial identities, J. of Ramanujan Society of Math. And Math. Sc., 5 (2016) 47--56. (with C. Adiga, A.K. Agarwal).

25. On a Ramanujan-type Congruence for Bipartitions with 5-Cores, Journal of Integer Sequences, 19 (2016), 1--5.

26. New Modular Relations for the Rogers-Ramanujan Type Functions of Order Thirteen with Applications to Partitions, **S**ohag J. Math. 3, No. 2, (2016), 67-75. (with N.A.S. Bulkhali).

HONORS AND AWARDS

- CSIR-NET (2015) conducted (jointly) by the Council of Scientific and Industrial Research (CSIR) and University Grants Commission (UGC), New Delhi, India.
- KSET (2013) conducted by the University of Mysore.
- University Grants Commission, New Delhi has awarded Research Fellowship in Science for Meritorious Students (RFSMS) under UGC-Basic Scientific Research Scheme Order No. MG/MATHS/168/UGC-BSR/2014-15, Dated: 14-07-2014.
  - Junior Research Fellow from 15 July 2014 to 14 July 2016
  - Senior Research Fellow from 15 July 2016 to 21 June 2017
- Third Rank in B.Sc., Tumkur University, Tumakuru, Karnataka (2010).
- First Rank in M.Sc., University of Mysore, Mysuru, Karnataka (2012).
- Professor N. Rudraiah Felicitation Committee Endowment Gold Medal, Professor K.S. Iyengar Gold Medal, The Sridhar Kumar Gold Medal, Han's (South Korea) Cash Prize, The M.T. Narayan Iyengar Memorial Prize, Professor K. Venkatachala Iyengar Endowment Cash Prize for Highest marks in M.Sc. Awarded by the University of Mysore, Mysuru in 2012.
- "Best Paper Presentation Award"-The 29th International Conference of Jangjeon Mathematical Society on Number Theory, Special Functions, and its Applications, 8th -10th August 2016, Pondicherry University, Pondicherry, India.
- IMS Prize for the year 2020 for presenting the best research paper in the area of Number Theory.
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REVIEWER/ MEMBERSHIP IN ACADEMIC BODIES

- Life member of the Indian Mathematical Society.
- Life member of the Ramanujan Mathematical Society.
- Life member of the Society of Special Functions and its Applications.
- Reviewer for Mathematical Reviews, American Mathematical Society.
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TEACHING EXPERIENCE	- P.E.S. Arts, Science and Commerce, Mandya, Karnataka, Aug. 2012 to May 2014
	  Courses Taught: Real Analysis, ODE & PDE, Topology.
	- Siddaganga Institute of Technology, Tumakuru, July 2017 to Mar. 2018
	  Courses Taught: Engineering Mathematics I, II, III & IV.
	- Central University of Karnataka, Kalaburagi, India From 5th March 2018
	  Courses Teaching: Algebra, Topology, Measure & Integration,
	  Theory of Numbers, Theory of Partitions, Complex Analysis,
	Advance Calculus

TALKS /PAPER PRESENTATION AT THE CONFERENCE	- Some properties of k-tuple t-core partitions, The 86th Annual conference of the Indian Mathematical Society-An International Meet, VIT Vellore, 17th -20th December 2020. - New Modular Relations for the Rogers-Ramanujan Type Functions of Order Thirteen with Applications to Partitions—National Conference on Mathematics and its applications, AIT, Chikkamagaluru, Karnataka, 22-23rd, December 2015. - Arithmetic Properties of Partition Four Tuple with Three Cores--31^{st}Conference of Ramanujan Mathematical Society, National College, Trichy, Tamil Nadu, 18-21, June 2016. - New Congruences for l-regular overpartitions for l $\epsilon\{5, 3^r\}$ r ≥ 2.--The 29th International Conference of Jangjeon Mathematical Society on Number Theory, Special Functions and its Applications, 8th -10th August 2016, Pondicherry University, India.(Best Paper presentation Award). - Ramanujan-type congruences modulo powers of 5 and 7—83rd Annual conference of IMS-an International meet, 12—15th December-2017, S.V. University, Tirupati, Andra Pradesh. - On overpartition pairs into odd parts modulo powers of 2, The international conference on special functions and applications, 22-24 November 2018, Amal Jyothi College of Engineering, Kottayam, Kerala. - Ramanujan-type congruences for partitions in eight colours modulo powers of 2, The International Conference on Number Theory and Graph Theory, University of Mysore, Mysuru, 27-29 June 2019. - Arithmetic properties for k-tuples t-core partitions, The 85th Annual Conference of Indian Mathematical Society, November, IIT Kharagpur, 2019. - Some properties of k-tuple t-core partitions, The 86th Annual conference of the Indian Mathematical Society-An International Meet, VIT Vellore, 17th -20th December 2020. - Modular relations for the Rogers-Ramanujan functions with Application to partitions, The international conference on special functions and applications, 22-23 December 2020, Babu Banarasi Dasi University, Uttar Pradesh. - On Some New Arithmetic Properties of Certain Restricted Color Partition Functions, The International Conference on Special Functions & Applications (ICSFA-2022) 26-28 November 2022, University of Mysore. -

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WORKSHOPS & CONFERENCES ATTENDED	• International Conference on Number Theory, Kerala School of Mathematics, Kozhikode, 23rd to 26th January 2020. • Seminar on Unpublished Mathematical Manuscripts in India, National Institute of Prakrit Studies and Research, Shravanbelagola, 17-18, March 2017. • The 103rd Indian science congress, UOM, Manasagangotri, Mysuru, 3-7, January 2016. • Two days' national workshop on Number theory and works of Srinivasa Ramanujan, UOM, Manasagangotri, Mysuru, 26-27, February 2016. • National Conference on Mathematics and its applications, UOM, Manasagangotri, Mysuru, 21 February 2015. • Two days' national workshop on Algebra, UOM, Manasagangotri, Mysuru, 22-23, August 2015. • One-day National Conference on Graph theory and Number theory, UOM, Manasagangotri, Mysuru, 24 August 2015. • One-day national seminar on Graphs in Network Theory, Government first grad college, Puttur Taluk, 15th February 2014. • One-day state-level seminar on Analysis and Algebra Geometry, P.E.S. College, Mandya, 5th April 2014. • National Conference on Advances in Geometry, Analysis, and Fluid Mechanics, Kuvempu University, Shimoga, 26-27, August 2014. • Workshop on Use of Anti-Plagiarism software and J-Gate plus discovery Tool, UOM, Mysuru,10 December 2014. • Two days' international conference on Mathematics-Yesterday and Today, JSS College, Mysore, 26-27, December 2014. • International Conference on Advances in Mathematical sciences and applications, AIT, Chikkamagaluru, 22-23, December 2014. • One-day national seminar on Computational science held at Bharathi College, Mandya, 2nd March 2013. • National conference on Functional analysis and its applications, P.E.S. College, Mandya, 17-18, February 2012. • National Conference on Graph theory and Number theory, UOM, Manasagangotri, Mysore, 21-22, March 2012. • One-day state-level workshop on Algebra and Graph theory, Maharani's science college for women, Mysore, 19 March 2012. • Suvarna Manasa 2011 held at UOM, Manasagangotri, Mysuru, 15-24, February 2011. •
ACADEMIC RESPONSIBILITY	• Organized International e-Conference on Number theory and Differential Equations, December 20-24, 2021 (On the eve of National Mathematics Day) •

Training Courses, Faculty Development Programme attended	• In-house Faculty Development Programme Work Series-XLII, July 23-28, 2017, SIT, Tumakuru. • One-day orientation program, 9th December 2029, Central University of Karnataka, India • 3rd Faculty Induction Programme from 27th January 2021 to 25th February 2021, at HRDC, Pondicherry University, Pondicherry. • Inter/ Multi-Disciplinary Refresher Course in Mathematics, Statistics, and Computer Science from 8th December 2021 to 21st December 2021, HRDC Kannur University, Kerala. •