

PERSONAL INFORMATION



1	NAME	Dr. MUNESHWAR RAJU AMBADAS
2	DESIGNATION	Associate Professor
3	EMAIL	muneshwarrajesh.10@ncert.nic.in and muneshwarrajesh10@riemysore.ac.in
4	PHONE NO	9028351018
5	SPECIALIZATION	Discrete Mathematics, Topology, Fractional Calculus.
6	RESEARCH ID	
(a)	GOOGLE SCHOLAR	-
(b)	ORCID	https://orcid.org/0000-0002-3814-4224
(c)	SCOPUS ID	-
d)	ANY OTHER	-
11	TEACHING	U.G. & P.G. 14 Years
12	RESEARCH	
(a)	PROJECTS	01 (Minor) 1. Minor Research project on “On RAM Hyperbolic Transforms”, by University Grant Commission.
(b)	PUBLICATIONS	(47)
(c)	PATENT	(01) 1. “An GNN (Graph Neural Network)-based system for predicting genome-wide gene expression given gene knockouts and master regulator perturbations”.
13	SEMINAR/ CONFERENCE/ SYMPOSIUM/ WORKSHOP	(46) 1. International conference on graph labelling and application organized by department of Mathematics, Goa University September 17 - 19, 2020 presented a paper entitled, “some results on complement of open subset inclusion graph of a topological space.”

		<ol style="list-style-type: none"> 2. International conference on number theory and discrete mathematics organised by Ramanujan Mathematical Society and hosted by Rajgiri School of Engineering and Technology, on December 11- 14, 2020, Presented a paper entitled “some properties on complement of inclusion graph of a topological space”. 3. International Conference on Advances in Physical, Chemical & Mathematical Sciences, organized by Department of Mathematics, R.T.M. Nagpur University, Nagpur, February 13-16,2020, presented a paper entitled, “SOME RESULTS ON THE OPEN SUBSET INCLUSION GRAPH OF A PRODUCT TOPOLOGICAL SPACE”. 4. International Conference on Modern Mathematical Methods and High-Performance Computing in Science & Technology, organized by Indraprastha Engineering College, Ghaziabad, Dr. A. P. J. Abdul Kalam Technical University, Delhi, January 09-11, 2020, presented a paper entitled, “SOME SIGNIFICANT RESULTS ON THE UNION GRAPH DERIVED FROM TOPOLOGICAL SPACE”. 5. International Conference on Frontiers in Industrial and Applied Mathematics (Virtual Mode), organized by Department of Mathematics, Sant Longowal Institute of Engineering & Technology, Longowal during 21-22 December 2021, presented a paper entitled: “Solution of Fractional order Epidemic Mathematical Model Using Alpha Fractional Differential Transform Method”. 6. Attended 14 days Instructional School for Lectures on “Linear Algebra” organized by IITB & TIFR in SGGS IE&T Nanded on Dated Nov 23 to Dec 05. 7. National Conference on Recent Trends in Pure and Applied Mathematics, organized by, Department of Mathematics, Deogiri College, Dr. BAM University, Aurangabad, January 09-11,2015, presented a paper entitled “On Graph of a Finite Group”.
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		<p>8. National Conference on Recent Trends in Pure and Applied Mathematics, organized by, Department of Mathematics, N.E.S. Science College, SRTM University, Nanded, January 09-11, 2014, presented a paper entitled, "Some Results on Number Theory".</p> <p>9. National Conference on Recent Trends in Pure and Applied Mathematics, organized by, Department of Mathematics, N.E.S. Science College, SRTM University, Nanded, January 09-11, 2014, presented a paper entitled, "Importance of Topology on $G \times G$ as Product Topology".</p> <p>10. National Conference on Algebra Analysis and Fuzzy Mathematics, organized by, Department of Mathematics, North Maharashtra University Jalgaon, Feb 21-22, 2014, presented a paper entitled, "On Finite Hyperbolic Transformation".</p> <p>11. National Conference on Recent Trends in Mathematics, organized by, Department of Mathematics, GSG Mahavidyalaya, Umarkhed, Sep 21 2013, presented a paper entitled, "On Finite Hyperbolic Transformation".</p> <p>12. National Conference on Recent Trends in Computer Science and Application & Computational Mathematics, organized by, Department of Mathematics, Indira College of Commerce and Science, Pune, Dec 21-22, 2012, presented a paper entitled, "On Finite Hyperbolic Transformation".</p> <p>13. National Workshop on Mathematical Modelling of Uncertainty, organized by, PG Department of Mathematics, SRT University Nanded, Nov 17, 2012.</p> <p>14. National Workshop on Mathematical Software and Application, organized by, Department of Mathematics, Shri Havagiswami College Udagir, March 10-11, 2012.</p> <p>15. Attended a two Weeks Technical Equation Quality Improvement Program, organized by SGGS Institute of Engineering and Technology, Nanded.</p> <p>16. National Workshop on Mathematical software's, organized by, P.G. Department of Mathematics, N.E.S.</p>
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	<p>Science College, SRT University Nanded, January 20-21,2017.</p> <p>17. National Workshop on Fractional Calculus and Its Applications, organized by, P.G. Department of Mathematics, SRT University Nanded, March 23-25, 2017.</p> <p>18. National Workshop on NAAC Re-accreditation, organized by, N.E.S. Science College, SRTM University Nanded, July 13, 2017.</p> <p>19. National Workshop on Advances in Statistics research And Data Analysis, organized by, Department of Statistics, N.E.S. Science College, SRT University Nanded, March 27-29,2015.</p> <p>20. One Week National Workshop on Latex and Sage, organized by, PG Department of Mathematics, SRT University Nanded, Feb 12-18, 2014.</p> <p>21. National Conference on Recent Advances in Science and Technology, organized by, GSG Mahavidyalaya, Umarkhed, March 5-6, 2019, presented a paper entitled, “Some Properties of Graph of A finite Group”.</p> <p>22. One day Workshop on the Scope of New Syllabi of B.Sc., & M.Sc. First Year Mathematics, organized by, DB Arts, Commerce & Science College, Bhokar, 1st August 2019.</p> <p>23. One Day National Workshop on Earth Science Education in Maharashtra (ESEM-2019) Organized by, Department of Geology, N.E.S. Science College, Nanded in Association with School of Earth Sciences, SRT University Nanded & American Institute of Professional Geologists (AIPG) Nanded Students, 1st January 2019.</p> <p>24. Successfully Completed National Online FDP on Scilab organized by Rajeshree Shahu, Mahavidhyalaya, Latur and Spoken Tutorial Project, IIT, Bombay, which is under the Scheme of PMMMNMTT on 1-7 May 2020.</p> <p>25. Successfully completed National online FDP on R-Software Organized by ThakurCollege of Science and Commerce and Spoken Tutorial, IIT, Bombay, which is under Scheme of PMMMNTT, on 18-25 May 2020.</p>
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	<p>26. Successfully completed National FDP on Mahatma Gandhi National Council of Rural Education organized by Dept. Of Higher Education, Ministry of Human Resource Development, Government of India, which is under Scheme of PMMMNTT, on 11-15May, 2020.</p> <p>27. Successfully completed National FDP on Managing Online Classes and Co creating MOOCs 2.0 organized by Teaching and Learning Centre of Ramanujan College, University of Delhi and Ministry of Human Resource Development, Government of India, which is under Scheme of PMMMNTT, on 18 May – 03June 2020.</p> <p>28. Successfully completed National FDP on MATLAB based teaching and learning in Mathematics, Science and Engineering organized by Dept. of electronics engineering, Ramrao Adik Institute of Technology, Nerul, Mumbai on 18-22 May 2020.</p> <p>29. Attend International E-Conference organized by Government Vidarbha Institute of Science and Humanities, Amravati and Government of Maharashtra on 15-17 May2020.</p> <p>30. Successfully completed National FDP on ICT Tools for Effective Teaching Learning organized by S. R. T. Marathwada University, Nanded on 11-16 May 2020.</p> <p>31. Successfully completed National FDP on Latex organized by Government College, Una Government of HP and Spoken Tutorial IIT, Bombay, which is under Scheme of PMMMNTT, on 15-20 May 2020.</p> <p>32. Attend National Level Webinar on Intellectual Property Right and Patent Filling on 1June 2020.</p> <p>33. National Workshop on Latex, NES, Science College, Nanded, 22-23 April 2013. (Organized as a Convener).</p> <p>34. National conference on Algebra, Analysis and Fuzzy Mathematics, Dept. of Mathematics, N.M. University, Jalgaon, 21-22 Feb 2014, presented a paper entitled “On finite hyperbolic transforms” and chaired a session.</p>
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	<p>35. National Workshop on Advances in Statistics Research and Data Analysis, NES, Science College, Nanded, 27-29 March 2015, (Organized as a Convener).</p> <p>36. National workshop on Guidance of SET/NET Examinations in Mathematics, NES Science College, Nanded. 13-20 July 2015, delivered invited talk on Numerical Methods. (Organized as organizing secretary).</p> <p>37. Nanded District level Research festival “Avishkar-2016”, NES Science College, Nanded, 07/12/2016, (Organized as a Member of Organizing Committee).</p> <p>38. National Workshop on Earth Science Education in Maharashtra, Department of Geology, NES Science College, Nanded, 01/01/2019. (Executive Member of Organizing Committee).</p> <p>39. Recent Advances in Science and Technology, G S G Mahavidyalaya Umerkhed, Dist.- Yavatmal, 5-6 March 2019 and presented a paper entitled “Some Properties of Graph of a Finite Group”.</p> <p>40. One week Faculty Development Programme on ICT tools for effective teaching learning, SRTM University, Nanded, 27 April -02 May 2020.</p> <p>41. International Conference on Mathematical Modelling, Applied Analysis and Computational Intelligence (ICMMAACI-2022), organized by Department of Mathematics, The Gandhigram Rural Institute (Deemed to be University), Gandhigram, Tamil Nadu, March 02–04, 2022, Presented a paper entitled, “Some Results on Modified alpha Fractional Differential Transform Method and its Applications”.</p> <p>42. International Conference on Mathematical Techniques and Applications e-ICMTA – 2022(Virtual mode), organized by Department of Mathematics SRM Institute of Science and Technology Kattankulathur – 603 203, Tamil Nadu, India, 23.03.2022 to 25.03.2022, Presented a paper entitled, “Some Properties on Modified α-Fractional Partial Derivative and with its applications”.</p>
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		<p>43. International Conference on Mathematical Sciences & Applications (Virtual) ICMSA - 2022, organized by PG & Research Department of Mathematics School of Computing Sciences St. Joseph's College (Autonomous), Accredited at A++ Grade (4th Cycle) by NAAC Special Heritage Status awarded by UGC College with Potential for Excellence by UGC DBT-Star & DST-FIST sponsored College Tiruchirappalli – 620 002, Tamil Nadu, India, March 9 – 11th, 2022, presented a paper entitled, “Geometric Meaning and Variation of Parameter Method of Modified α-Fractional Derivative”.</p> <p>44. International Conference on Mathematical Techniques and Applications e-ICMTA – 2022 (Virtual mode), organized by Department of Mathematics SRM Institute of Science and Technology Kattankulathur – 603 203, Tamil Nadu, India, 23.03.2022 to 25.03.2022, Presented a paper entitled, “Some Properties of the Complement of Intersection Graph Derived from Topological Space using Intersection of Open Sets”.</p> <p>45. International Conference on Mathematical Modelling, Applied Analysis and Computational Intelligence (ICMMAACI-2022), organized by Department of Mathematics, The Gandhigram Rural Institute (Deemed to be University), Gandhigram, Tamil Nadu, March 02–04, 2022, Presented a paper entitled, “Comparative Study of Properties of Open Subset Intersection Graph of a Topological Space & It's Complement”.</p> <p>46. International Conference on Mathematical Sciences & it's Applications (ICMSA - 2022), organized by School of Mathematical Sciences, Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra, India, during 28 – 30 July 2022, presented a paper entitled, “A Study of the Development of an Open Subset Inclusion Graph of a Topological Space”.</p>
14	DEVELOPMENT	-
15	TRAINING	(04)

		1. 26 th Orientation Course, HRDC, Punjabi University, Patiala, 15 June to 11 July 2015. 2. Refresher Course in Mathematical Sciences, HRDC, Punjabi University, Patiala, 22 June 2014 to 12 July 2014. 3. Refresher Course in Mathematical Sciences, HRDC Punjab University, Chandigarh, 15 January 2021 to 28 January 2021. 4. Refresher Course in Mathematical Sciences, HRDC University of Kerala, Kariavattom Campus, Thiruvananthapuram, 04 Feb 2022 to 17 Feb 2022.
16	EXTENSION	-
17	OTHER INFORMATION	Books and Chapter in Book – 02 (National), 03 (International).

SIGNATURE

Basic Details: -

Name: - Dr. MUNESHWAR RAJU AMBADAS

Present Designation: - Associate Professor in Mathematics, RIE, NCERT, Mysuru - 570006, Karnataka, India.

Full Postal Address: - Department of Education in Science and Mathematics (DESM), RIE, NCERT, Mysuru - 570006, Karnataka, India.

Date of Birth: - 03/04/1981.

Specialization: - Discrete Mathematics, Topology, Fractional Calculus.

Teaching Experience: - U.G. & P.G. 14 Years.

E-mail ID: - muneshwarrajesh.10@ncert.nic.in and muneshwarrajesh10@riemysore.ac.in

Educational Qualifications: - M.Sc., NET, Ph.D.

Experience Details

1. U.G. & P.G. 14 Years experience as a Permanent Assistant Professor in P.G. Dept. of Mathematics, N.E.S. Science College, Nanded - 431605, Maharashtra, India.

Curricular, Co-curricular and Extra-curricular activities:

Academic

1. Member of College Affiliation/Inspection committee.
2. Participation in Examination and Evaluation Work of College and

University.

3. Regular paper setter, Examiner Moderator of N.E.S. Science College Nanded, SRTM University, Nanded.
4. Subject Expert for Teachers Recruitment/ CAS Promotion
 - i) Member of Selection committee as a Subject Expert (HoD) of Mathematics for teacher's recruitment at NES Science College Nanded, 18/12/2021.
 - ii) Member of Selection committee as a Subject Expert (HoD) of Statistics and Computer Science for teacher's recruitment at NES Science College Nanded, 28/08/2022.
5. Guest Lecture/Visiting Faculty
 - i) Visiting faculty for M. Sc. B. Tech. at Department of Botany, Science College Nanded University, Nanded, 01/07/2009 - 30/04/2010.
 - ii) Guest lectures on Linear Algebra for M. Sc. Mathematics in Lecture Series on guidance of SET/NET examinations in Mathematics at NES Science College, Nanded.
 - iii) Guest lectures on Basic Mathematics for B. Sc. F. Y. Computer Science at NES Science College, Nanded Year 2016 - 2017.
 - iv) Guest lecture to M. Sc. Students at NES Science College, Nanded 29 – 30 March 2019.
6. Chief Guest and Examiner for students Activities
 - i) Chief Guest for seminar competition in mathematics, Department of Mathematics, Sharda Mahavidyalaya Parbhani, 24-25 January 2019.
 - ii) Syllabus Restructure.
7. Member Faculty of Science, S.R.T.M. University, Nanded.
8. Member of the subcommittee for restructuring M. Sc. First and Second Year Mathematics, SRTM University, 08/05/2009.
9. Member of the subcommittee for restructuring B. Sc. First, Second and Third-Year Mathematics, SRTM University, 11/01/2013
10. Member of Scientific committees/Association
 - i) Life member of Marathwada Mathematical Society, Aurangabad, from 05/12/2014.
 - ii) Life member of Indian Science Congress Association India.

Administrative

11. I/C Head, P. G. Department of Computer Sciences & Statistics, N.E.S. Science College, Nanded.
12. Board of Studies –
 - i) Invitee member of Board of Studies in Mathematics, SRTM University

Nanded.

13. Admission Committee (member), NES Science College, Nanded.
14. Library Committee (member), NES Science College, Nanded.
15. Scientific Consultancy services committee (member), NES Science College, Nanded.
16. Publicity Committee (member), NES Science College, Nanded.
17. Time Table committee (member), NES Science College, Nanded.
18. Career Guidance Cell (member), NES Science College, Nanded.
19. Remedial Coaching Cell (member), NES Science College, Nanded.
20. Coaching for Entry in Services (member), NES Science College, Nanded.
21. College Magazine committee (member), NES Science College, Nanded.
22. SET/NET Coaching Guidance Cell (Convener), NES Science College, Nanded.
23. Tutor ward committee (member) NES Science College, Nanded.
24. Presiding officer in Parliament Election-2019, 09 - 11 April 2019.
25. Presiding officer in Assembly Elections-2019, 18 - 22 October 2019.

Research Papers Published in Journals (47)

(Scopus Journal & WoS Indexed - 33 and UGC Care listed Journal- 13)

1. R. A. Muneshwar, K. L. Bondar, 'Automorphism group of the open subset inclusion graph of a topological space', Journal of Interdisciplinary Mathematics, Vol. 24, Issue-3, Jan-2021, pp.657-665, **(Refereed Scopus, UGC Care listed) (Taylor & Francis Journal).**
2. R. A. Muneshwar, K. L. Bondar, 'Some properties of open subset intersection graph of a topological space', Journal of Information and Optimization Sciences, Volume 42, Issue 5, June 2021, PP. 1129-1136, **(WoS Indexed and UGC Care listed Journal), (Taylor & Francis Journal).**
3. R. A. Muneshwar, K. L. Bondar, 'Some results of inclusion graph of a topology', Journal of Discrete Mathematical Sciences and Cryptography, Volume 24, Issue 6, Nov 2021, PP. 135-145, **(Scopus, WoS Indexed and UGC Care listed Journal), (Taylor & Francis Journal).**
4. R. A. Muneshwar, K. L. Bondar, "Some significant results on open subset inclusion graph of a topological space", Journal of Information and Optimization Sciences, Vol. 42(1), Mar-2021, pp. 275-285, **(WoS Indexed and UGC Care listed Journal), (Taylor & Francis Journal).**
5. R. A. Muneshwar, K. L. Bondar, "Some results on an intersection graph of a topology", Journal of Discrete Mathematical Sciences & Cryptography, Vol.

- 24 (4), May - 2021, pp. 1053-1062, (**Scopus, WoS Indexed and UGC Care listed Journal**) (**Taylor & Francis Journal**).
6. R. A. Muneshwar, K. L. Bondar, "SOME RESULTS ON THE OPEN SUBSET INCLUSION GRAPH OF A PRODUCT TOPOLOGICAL SPACE", Journal of Dynamical Systems & Geometric Theories, Vol. 21(1) May 2023, pp. 45–59, (**Scopus, WoS Indexed and UGC Care listed Journal**) (**Taylor & Francis Journal**).
 7. Iram Tahleel Jaleel Ahmed, S. M. Jogdand & R. A. Muneshwar, "Some properties of bases intersection graph-I", Journal of Information and Optimization Sciences, Vol. 44(2), June 2023 pp. 231-241, (**Scopus, WoS Indexed and UGC Care listed Journal**) (**Taylor & Francis Journal**).
 8. S. N. Thorat, K. P. Ghadle, R. A. Muneshwar & K. L. Bondar, "Geometric meaning and variation of parameter method of modified α -fractional derivative", Journal of Information and Optimization Sciences, Vol. 44(2), June 2023 pp. 271-283, (**Scopus, WoS Indexed and UGC Care listed Journal**) (**Taylor & Francis Journal**).
 9. Reeta Madan, Soni Pathak, R. A. Muneshwar & K. L. Bondar, 'Some results on the open subset intersection graph of a product topological space', Journal of Information and Optimization Sciences, Vol. 44(4), August 2023 pp. 697-707, (**Scopus, WoS Indexed and UGC Care listed Journal**) (**Taylor & Francis Journal**).
 10. R. A. Muneshwar, K.L. Bondar, 'Some Properties of Graph of a Finite Group', AJANTA Journal of Mathematics, Vol. - VIII, ISSUE-I, 2019 pp. 1-10, (UGC Approved Journal).
 11. R. A. Muneshwar, K. L. Bondar, 'Some Significant Properties of the Intersection Graph Derived from Topological Space using Intersection of Open Sets', Far East Journal of Mathematical Sciences, Vol. 119, No.1, 2019, PP. 29-48, (**Scopus Indexed and UGC Care listed Journal**).
 12. R. A. Muneshwar, K. L. Bondar, 'Some properties of the union graph derived from topological space using union of open sets', Far East Journal of Mathematical Sciences, Vol. 121, No. 2, 2019, PP. 101-121, (**Scopus Indexed and UGC Care listed Journal**).
 13. R. A. Muneshwar, K. L. Bondar, 'Open Subset Inclusion Graph of a Topological Space', Journal of Discrete Mathematical Sciences and Cryptography, Vol. 22, No.6, (2019), pp.1007 – 1018, (**Scopus, WoS Indexed and UGC Care listed Journal**), (**Taylor & Francis Journal**).
 14. R. A. Muneshwar, K. L. Bondar, 'Some properties of Graph of a Finite group', International Journal of Scientific and Innovative Mathematical

- Research, Vol. 3, Issue 1, Jan. 2015, pp. 1 - 5. (UGC Approved Journal).
15. R. A. Muneshwar, K. L. Bondar, 'On Graph of a Finite Group', IOSR Journal of Mathematics, Vol.10, Issue 5, Ver. VI (Sept-Oct 2014), pp. 05 - 09, (UGC Approved Journal).
 16. S. N. Thorat, K. P. Ghadle, R. A. Muneshwar & K. L. Bondar, 'Some properties on modified α -fractional partial derivative with its applications', AIP Conference Proceedings 2852, Volume 2852, Issue 1, Online ISSN 1551-7616 Print ISSN 0094-243X, AUGUST 31 2023, pp. 020005-1–020005-18, (**WoS Indexed and UGC Care listed Journal**).
 17. R. A. Muneshwar, K. L. Bondar, Y. H. Shirole, 'Solution of linear and non-linear partial differential equation of fractional order', Proyecciones Journal of Mathematics, Volume 40, Issue 5, June 2021, pp. 1179-1195, (**Scopus, WoS Indexed and UGC Care listed Journal**).
 18. A. R. Meshram, V. C. Borkar, R. A. Muneshwar, 'Conformable Fractional Order COVID - 19 Model: Discretization and Stability Analysis', AIP Conference Proceedings 2852, Volume 2852, Issue 1, Online ISSN 1551-7616 Print ISSN 0094-243X, AUGUST 31 2023, pp. 110001-1–110001-10, (**WoS Indexed and UGC Care listed Journal**).
 19. A. R. Meshram, V. C. Borkar, R. A. Muneshwar, 'HIV – 1 Infection Model Calculating Infected Cells and Viral Load in Plasma using Differential Transform Method', NOVIY MIR Research Journal, Volume 6, Issue 7, 2021, ISSN NO: 0130-7673, July – 2021, pp. 129 – 140, (**WoS Indexed and UGC Care listed Journal**).
 20. A. R. Meshram, V. C. Borkar, R. A. Muneshwar, 'A Fractional Approach to Solve a Mathematical Model of HIV Infection of CD4+T Cells', Journal of Mathematical and Computational Science, Volume No. 11, Issue – 6, Nov - 2021, pp. 8506 – 8519, (**Scopus Indexed and UGC Care listed Journal**).
 21. A. D. Nagargoje, V. C. Borkar, R. A. Muneshwar, "Analytical solutions and numerical simulation of COVID-19 fractional order mathematical model by Caputo and conformable fractional differential transform method", Journal of Information & Optimization Sciences, Vol. 44, Issue - 4, 2023, pp. 653–673, (**Scopus, WoS Indexed and UGC Care listed Journal**) (**Taylor & Francis Journal**).
 22. A. D. Nagargoje, V. C. Borkar, R. A. Muneshwar, "ANALYSIS OF MILD SOLUTION OF FRACTIONAL NEUTRAL STOCHASTIC FUNCTIONAL DIFFERENTIAL EQUATIONS WITH RANDOM IMPULSES", Advances and Applications in Mathematical Sciences, Vol. 22, Issue 7, April 2023, pp. 1417-1433, (**WoS Indexed and UGC Care listed Journal**).
 23. A. D. Nagargoje, V. C. Borkar, R. A. Muneshwar, 'Existence and

- Uniqueness of Solutions for Neutral Stochastic Fractional Integro-Differential Equations with Impulses by A Rosenblatt Process', NOVIY MIR Research Journal, Volume 6, Issue 6, ISSN No.: 0130-7673, June - 2021, pp. 88 - 97, **(WoS Indexed and UGC Care listed Journal)**.
24. A. D. Nagargoje, V. C. Borkar, R. A. Muneshwar, 'Existence and Uniqueness of Solutions for Fractional SDEs with discontinuous drift and finite activity Jumps and nonlinear Fractional Fredholm- Volterra Integral Equation with modified Argument via Geraghty Contractions', Zeichen Journal, Vol-7, Issue 7, 2021, pp. 62 – 74, **(WoS Indexed and UGC Care listed Journal)**.
 25. A. D. Nagargoje, V. C. Borkar, R. A. Muneshwar, 'Existence and Uniqueness of Solution of Fractional Differential Equation for the Ocean Flow in Arctic Gyres and Mild Solution of Fractional Volterra Integro differential Equations', NOVIY MIR Research Journal, Vol-6, Issue-6, June - 2021, pp. 44 – 56, **(WoS Indexed and UGC Care listed Journal)**.
 26. A. D. Nagargoje, V. C. Borkar, R. A. Muneshwar, 'Qualitative Analysis of Solutions of Non-linear Fractional Integro differential Equation', International Journal of Scientific Research and Engineering Development, Vol. 4 – Issue 6 (Nov-Dec - 2021), ISSN [Online]: 2581 – 7175, PP: 704-720, (UGC Approved Journal).
 27. A. D. Nagargoje, V. C. Borkar, R. A. Muneshwar, 'QUALITATIVE ANALYSIS OF A.P.A. SOLUTION FOR FRACTIONAL ORDER NEUTRAL STOCHASTIC EVOLUTION EQUATIONS DRIVEN BY G-BROWNIAN MOTION', Journal of Mathematical and Computational Science, Vol. 12 (Feb-2022), ISSN: 1927-5307, PP. 01 - 13, **(Scopus Indexed and UGC Care listed Journal)**.
 28. A. D. Nagargoje, V. C. Borkar and R. A. Muneshwar, 'Analytical solutions of covid-19 fractional order mathematical model by conformable fractional differential transform method', Advances and applications in mathematical sciences, vol. 22, issue 8, June 2023, pp. 1957-1969, (UGC Approved Journal).
 29. A. D. Nagargoje, V. C. Borkar, R. A. Muneshwar, 'EXISTENCE AND UNIQUENESS OF SQUARE-MEAN PSEUDO ALMOST AUTOMORPHIC SOLUTION FOR FRACTIONAL STOCHASTIC EVOLUTION EQUATIONS DRIVEN BY G-BROWNIAN MOTION', J. Appl. Math. & Informatics, Vol. 41(2023), No. 5, pp. 923 – 935, (UGC Approved Journal).
 30. Reeta Madan, Soni Pathak, R. A. Muneshwar, K. L. Bondar, 'STUDY OF SOME PROPERTIES OF COMPLEMENT OF OPEN SUBSET

INCLUSION GRAPH OF A TOPOLOGICAL SPACE' Journal of Mathematical and Computational Science, Vol. 12 (March - 2022), ISSN: 1927-5307, PP: 1 - 12, **(Scopus Indexed and UGC Care listed Journal)**.

31. Reeta Madan, Soni Pathak, R. A. Muneshwar, K. L. Bondar, 'Some properties of the complement of intersection graph derived from topological space using intersection of open sets', AIP Conference Proceedings 2852, Volume 2852, Issue 1, Online ISSN 1551-7616 Print ISSN 0094-243X, AUGUST 31 (2023), pp. 110006-1–110006-5, **(WoS Indexed and UGC Care listed Journal)**.
32. Reeta Madan, Soni Pathak, R. A. Muneshwar, K. L. Bondar, 'Some Results on Complement of Open Subset Inclusion Graph of a Topological Space', GANITA, Vol.72(1), (2022), pp. 121-126, (UGC Approved Journal).
33. R. S. Teppawar, R. A. Muneshwar & A. D. Nagargoje, 'Solving Mathematical Model by Using Modified Fractional Differential Transform Mehtod with Adomian', Proyecciones Journal of Mathematics, Vol. 44, No 3, (2025), pp. 528-540, **(Scopus, WoS Indexed and UGC Care listed Journal)**.
34. R. S. Teppawar, R. N. Ingle and R. A. Muneshwar, 'Solving systems of fractional differential equations by modified fractional differential transform method with adomian polynomials', Journal of Interdisciplinary Mathematics, Vol.27(1), (2024), pp. 17-32, **(Scopus Indexed and UGC Care listed Journal)**.
35. R. S. Teppawar, R. N. Ingle and R. A. Muneshwar, 'Solving Mathematical Model by using Modified Fractional Differential Transform Method with Adomian Polynomials', Journal of Scientific Research, Vol. 16 (3), (2024), PP: 771-781, **(Scopus Indexed and UGC Care listed Journal)**.
36. R. S. Teppawar, R. N. Ingle and R. A. Muneshwar, 'SOLVING SYSTEMS OF FRACTIONAL DIFFERENTIAL EQUATIONS USING CONFORMABLE FRACTIONAL DIFFERENTIAL TRANSFORM METHOD', South East Asian J. of Mathematics and Mathematical Sciences Vol. 21, Proceedings (2022), pp. 01-12.
37. R. S. Teppawar, R. N. Ingle and R. A. Muneshwar, 'Solving Nonlinear Time-Fractional Partial Differential Equations Using Conformable Fractional Reduced Differential Transform with Adomian Decomposition Method', Contemporary Mathematics, Universal Wiser Publisher, Vol. 5, Issue - 1, (2024), pp. 853-872, **(Scopus Indexed and UGC Care listed Journal)**.
38. S. N. Thorat, K. P. Ghadle and R. A. Muneshwar, 'Simulation of Fractional Order 2D-Mathematical Model Using α -Fractional Differential Transform Method', Contemporary Mathematics, Universal Wiser Publisher, Vol. 5,

Issue - 1, (2024), pp. 685-697, (**Scopus Indexed and UGC Care listed Journal**).

39. S. K. Talankar, A. B. Jadhav, R. A. Muneshwar, 'A novel approach to initial boundary value problems using Laplace transform Adomian decomposition method' *Journal of Interdisciplinary Mathematics*, Vol. 27(7), (March - 2024), ISSN: 0972-0502 (Print), ISSN: 2169-012X (Online), PP: 1701–1717, (**Scopus Indexed and UGC Care listed Journal**).
40. S. K. Talankar, A. B. Jadhav, R. A. Muneshwar, 'Existence and uniqueness of solution of fractional order differential equation of finite delay in cone metric space' *J. Math. Comput. Sci.*, Vol. 12 (March - 2022), ISSN: 1927-5307, PP: 1-11, (**Scopus Indexed and UGC Care listed Journal**).
41. P. D. Khandare, S. M. Jogdand, R. A. Muneshwar, 'The modified divisor graph of finite commutative ring', *Ratio Mathematica*, Vol. 51, (2024), PP: 1 – 14, (UGC Approved Journal).
42. P. D. Khandare, S. M. Jogdand, R. A. Muneshwar, 'ON THE DIVISOR GRAPH OF FINITE COMMUTATIVE RING', *Journal of Mathematical and Computational Science*, Vol. 12 (March - 2022), ISSN: 1927-5307, PP: 1 - 15, (**Scopus Indexed and UGC Care listed Journal**).
43. V. S. Thosare, N. S. Ambarkhane, R. A. Muneshwar, K. L. Bondar, 'Shifting Properties of Finite Sine Hyperbolic Transform', *International Journal of Scientific and Innovative Mathematical Research*, Vol.3, Issue 4, April 2015, PP. 53-59, (UGC Approved Journal).
44. V. S. Thosare, H. A. Dhirbasi, R. A. Muneshwar, K. L. Bondar, 'Shifting Properties of Finite Cosine Hyperbolic Transform', *International Journal of Research in Science and Technology*, Apr-Jun 2015, Vol.5, Isss. II, pp. 52-59, (UGC Approved Journal).
45. R. A. Muneshwar, K. L. Bondar, V.S. Thosare, 'On RAM Finite Hyperbolic Transforms', *IOSR Journal of Mathematics*, Vol.10, Issue 6, Ver. IV (Nov-Dec 2014), pp.63-70, (UGC Approved Journal).
46. R. A. Muneshwar, S. S. Agrawal, S. G. Jakkewad, 'Some Properties of Graph of a Finite Group', *IOSR Journal of Mathematics*, Vol. 10, Issue 06, 2014, PP. 55 - 58, (UGC Approved Journal).
47. R. A. Muneshwar, Shaikh Irfan, 'Proof of Beal's Conjecture', *Elixir International Journal of Applied Mathematics*, Vol. 83, (June-2015), PP: 33005-33008, (UGC Approved Journal).

Research Papers Published in Proceedings (01)

1. STUDY OF SOME RESULTS ON OPEN SUBSET INCLUSION GRAPH OF ATPOLOGICAL SPACE, International Conference on Mathematical Techniques in Application of Science and Technology, 22-23 December, 2021, Department of Mathematics & IQAC, Indian Association of Physics Teachers (IAPT) & Chhattisgarh Science Centre (CSC), Dr. C. V. Raman University, Kargi Road, Kota, Dist. – Bilaspur (C.G.) – 495113., P.P: 11.

Books Published (National-02)

1. K. L. Bondar, V. D. Borgaonkar, R. A. Muneshwar, P. S. Sutkar, P. R. Kulkarni, Fundamental Mathematics., Creative Publications, Nanded, (2014).
2. Arun Digambar Nagargoje, Dr. V. C. Borkar, Dr. R. A. Muneshwar, Some Special Methods to Solve Fractional Differential Equations with Applications, Ramanshil Publication, Aurangabad, (2023).

Chapters Published in Books (International-03)

1. R. A. Muneshwar, K. L. Bondar, ‘Some Significant Results on the Union Graph Derived from Topological Space’, Recent Trends in Mathematical Modelling and High-Performance Computing, pp. 3-12, Feb 2021 (Springer Nature Publication).
2. R. A. Muneshwar, K. L. Bondar, V. D. Mathpati, and Y. H. Shirole, ‘Generalized Results on Existence & Uniqueness with Wronskian and Abel Formula for α -Fractional Differential Equations’, Springer Proceedings in Mathematics & Statistics, pp. 363-378, January 2022.
3. R. S. Teppawar, R. N. Ingle, and R. A. Muneshwar, ‘Solution of Fractional Differential Equations by Using Conformable Fractional Differential Transform Method with Adomian Polynomials’, Springer Proceedings in Mathematics & Statistics, pp. 349-362, January 2022.

Research Projects: (01)

2. Minor Research project on “On RAM Hyperbolic Transforms”, by University Grant Commission.

Patent: (01)

2. “An GNN (Graph Neural Network)-based system for predicting genome-wide gene expression given gene knockouts and master regulator perturbations”.

Refresher / Orientation Courses Attended (04)

5. 26th Orientation Course, HRDC, Punjabi University, Patiala, 15 June to 11 July 2015.

6. Refresher Course in Mathematical Sciences, HRDC, Punjabi University, Patiala, 22 June 2014 to 12 July 2014.
7. Refresher Course in Mathematical Sciences, HRDC Punjab University, Chandigarh, 15 January 2021 to 28 January 2021.
8. Refresher Course in Mathematical Sciences, HRDC University of Kerala, Kariavattom Campus, Thiruvananthapuram, 04 Feb 2022 to 17 Feb 2022.

**Conferences / Seminars / Symposia / Workshops Participated - (46),
Conferences (19), Presented papers (12), Workshops (13), Organized
(04), Delivered invited Talks (03), Chaired sessions (02)**

1. International conference on graph labelling and application organized by department of Mathematics, Goa University September 17 - 19, 2020 presented a paper entitled, "some results on complement of open subset inclusion graph of a topological space."
2. International conference on number theory and discrete mathematics organised by Ramanujan Mathematical Society and hosted by Rajgiri School of Engineering and Technology, on December 11- 14, 2020, Presented a paper entitled "some properties on complement of inclusion graph of a topological space".
3. International Conference on Advances in Physical, Chemical & Mathematical Sciences, organized by Department of Mathematics, R.T.M. Nagpur University, Nagpur, February 13-16, 2020, presented a paper entitled, "SOME RESULTS ON THE OPEN SUBSET INCLUSION GRAPH OF A PRODUCT TOPOLOGICAL SPACE".
4. International Conference on Modern Mathematical Methods and High-Performance Computing in Science & Technology, organized by Indraprastha Engineering College, Ghaziabad, Dr. A. P. J. Abdul Kalam Technical University, Delhi, January 09-11, 2020, presented a paper entitled, "SOME SIGNIFICANT RESULTS ON THE UNION GRAPH DERIVED FROM TOPOLOGICAL SPACE".
5. International Conference on Frontiers in Industrial and Applied Mathematics (Virtual Mode), organized by Department of Mathematics, Sant Longowal Institute of Engineering & Technology, Longowal during 21-22 December 2021, presented a paper entitled: "Solution of Fractional order Epidemic Mathematical Model Using Alpha Fractional Differential Transform Method".
6. Attended 14 days Instructional School for Lectures on "Linear Algebra"

organized by IITB & TIFR in SGGS IE&T Nanded on Dated Nov 23 to Dec 05.

7. National Conference on Recent Trends in Pure and Applied Mathematics, organized by, Department of Mathematics, Deogiri College, Dr. BAM University, Aurangabad, January 09-11, 2015, presented a paper entitled “On Graph of a Finite Group”.
8. National Conference on Recent Trends in Pure and Applied Mathematics, organized by, Department of Mathematics, N.E.S. Science College, SRTM University, Nanded, January 09-11, 2014, presented a paper entitled, “Some Results on Number Theory”.
9. National Conference on Recent Trends in Pure and Applied Mathematics, organized by, Department of Mathematics, N.E.S. Science College, SRTM University, Nanded, January 09-11, 2014, presented a paper entitled, “Importance of Topology on $G \times G$ as Product Topology”.
10. National Conference on Algebra Analysis and Fuzzy Mathematics, organized by, Department of Mathematics, North Maharashtra University Jalgaon, Feb 21-22, 2014, presented a paper entitled, “On Finite Hyperbolic Transformation”.
11. National Conference on Recent Trends in Mathematics, organized by, Department of Mathematics, GSG Mahavidyalaya, Umarkhed, Sep 21 2013, presented a paper entitled, “On Finite Hyperbolic Transformation”.
12. National Conference on Recent Trends in Computer Science and Application & Computational Mathematics, organized by, Department of Mathematics, Indira College of Commerce and Science, Pune, Dec 21-22, 2012, presented a paper entitled, “On Finite Hyperbolic Transformation”.
13. National Workshop on Mathematical Modelling of Uncertainty, organized by, PG Department of Mathematics, SRT University Nanded, Nov 17, 2012.
14. National Workshop on Mathematical Software and Application, organized by, Department of Mathematics, Shri Havagiswami College Udagir, March 10-11, 2012.
15. Attended a two Weeks Technical Equation Quality Improvement Program, organized by SGGS Institute of Engineering and Technology, Nanded.
16. National Workshop on Mathematical software's, organized by, P.G. Department of Mathematics, N.E.S. Science College, SRT University Nanded, January 20-21, 2017.
17. National Workshop on Fractional Calculus and Its Applications, organized by, P.G. Department of Mathematics, SRT University Nanded, March 23-25,

2017.

18. National Workshop on NAAC Re-accreditation, organized by, N.E.S. Science College, SRTM University Nanded, July 13, 2017.
19. National Workshop on Advances in Statistics research And Data Analysis, organized by, Department of Statistics, N.E.S. Science College, SRT University Nanded, March 27-29, 2015.
20. One Week National Workshop on Latex and Sage, organized by, PG Department of Mathematics, SRT University Nanded, Feb 12-18, 2014.
21. National Conference on Recent Advances in Science and Technology, organized by, GSG Mahavidyalaya, Umarkhed, March 5-6, 2019, presented a paper entitled, "Some Properties of Graph of A finite Group".
22. One day Workshop on the Scope of New Syllabi of B.Sc., & M.Sc. First Year Mathematics, organized by, DB Arts, Commerce & Science College, Bhokar, 1st August 2019.
23. One Day National Workshop on Earth Science Education in Maharashtra (ESEM-2019) Organized by, Department of Geology, N.E.S. Science College, Nanded in Association with School of Earth Sciences, SRT University Nanded & American Institute of Professional Geologists (AIPG) Nanded Students, 1st January 2019.
24. Successfully Completed National Online FDP on Scilab organized by Rajeshree Shahu, Mahavidyalaya, Latur and Spoken Tutorial Project, IIT, Bombay, which is under the Scheme of PMMMNMTT on 1-7 May 2020.
25. Successfully completed National online FDP on R-Software Organized by Thakur College of Science and Commerce and Spoken Tutorial, IIT, Bombay, which is under Scheme of PMMMNTT, on 18-25 May 2020.
26. Successfully completed National FDP on Mahatma Gandhi National Council of Rural Education organized by Dept. Of Higher Education, Ministry of Human Resource Development, Government of India, which is under Scheme of PMMMNTT, on 11-15 May, 2020.
27. Successfully completed National FDP on Managing Online Classes and Co creating MOOCs 2.0 organized by Teaching and Learning Centre of Ramanujan College, University of Delhi and Ministry of Human Resource Development, Government of India, which is under Scheme of PMMMNTT, on 18 May – 03 June 2020.
28. Successfully completed National FDP on MATLAB based teaching and learning in Mathematics, Science and Engineering organized by Dept. of

electronics engineering, Ramrao Adik Institute of Technology, Nerul, Mumbai on 18-22 May 2020.

29. Attend International E-Conference organized by Government Vidarbha Institute of Science and Humanities, Amravati and Government of Maharashtra on 15-17 May 2020.
30. Successfully completed National FDP on ICT Tools for Effective Teaching Learning organized by S. R. T. Marathwada University, Nanded on 11-16 May 2020.
31. Successfully completed National FDP on Latex organized by Government College, Una Government of HP and Spoken Tutorial IIT, Bombay, which is under Scheme of PMMMNTT, on 15-20 May 2020.
32. Attend National Level Webinar on Intellectual Property Right and Patent Filling on 1 June 2020.
33. National Workshop on Latex, NES, Science College, Nanded, 22-23 April 2013. (Organized as a Convener).
34. National conference on Algebra, Analysis and Fuzzy Mathematics, Dept. of Mathematics, N.M. University, Jalgaon, 21-22 Feb 2014, presented a paper entitled "On finite hyperbolic transforms" and chaired a session.
35. National Workshop on Advances in Statistics Research and Data Analysis, NES, Science College, Nanded, 27-29 March 2015, (Organized as a Convener).
36. National workshop on Guidance of SET/NET Examinations in Mathematics, NES Science College, Nanded. 13-20 July 2015, delivered invited talk on Numerical Methods. (Organized as organizing secretary).
37. Nanded District level Research festival "Avishkar-2016", NES Science College, Nanded, 07/12/2016, (Organized as a Member of Organizing Committee).
38. National Workshop on Earth Science Education in Maharashtra, Department of Geology, NES Science College, Nanded, 01/01/2019. (Executive Member of Organizing Committee).
39. Recent Advances in Science and Technology, G S G Mahavidyalaya Umerkhed, Dist.- Yavatmal, 5-6 March 2019 and presented a paper entitled "Some Properties of Graph of a Finite Group".
40. One week Faculty Development Programme on ICT tools for effective teaching learning, SRTM University, Nanded, 27 April -02 May 2020.
41. International Conference on Mathematical Modelling, Applied Analysis and Computational Intelligence (ICMMAACI-2022), organized by Department of

Mathematics, The Gandhigram Rural Institute (Deemed to be University), Gandhigram, Tamil Nadu, March 02– 04, 2022, Presented a paper entitled, “Some Results on Modified alpha Fractional Differential Transform Method and its Applications”.

42. International Conference on Mathematical Techniques and Applications e-ICMTA – 2022(Virtual mode), organized by Department of Mathematics SRM Institute of Science and Technology Kattankulathur – 603 203, Tamil Nadu, India, 23/03/2022 to 25/03/2022, Presented a paper entitled, “Some Properties on Modified α -Fractional Partial Derivative and with its applications”.
43. International Conference on Mathematical Sciences & Applications (Virtual) ICMSA - 2022, organized by PG & Research Department of Mathematics School of Computing Sciences St. Joseph’s College (Autonomous), Accredited at A++ Grade (4th Cycle) by NAAC Special Heritage Status awarded by UGC College with Potential for Excellence by UGC DBT-Star & DST-FIST sponsored College Tiruchirappalli – 620 002, Tamil Nadu, India, March 9 – 11th, 2022, Presented a paper entitled, “Geometric Meaning and Variation of Parameter Method of Modified α -Fractional Derivative”.
44. International Conference on Mathematical Techniques and Applications e-ICMTA – 2022 (Virtual mode), organized by Department of Mathematics, SRM Institute of Science and Technology Kattankulathur – 603 203, Tamil Nadu, India, 23.03.2022 to 25.03.2022, Presented a paper entitled, “Some Properties of the Complement of Intersection Graph Derived from Topological Space using Intersection of Open Sets”.
45. International Conference on Mathematical Modelling, Applied Analysis and Computational Intelligence (ICMMAACI-2022), organized by Department of Mathematics, The Gandhigram Rural Institute (Deemed to be University), Gandhigram, Tamil Nadu, March 02– 04, 2022, Presented a paper entitled, “Comparative Study of Properties of Open Subset Intersection Graph of a Topological Space & It's Complement”.
46. International Conference on Mathematical Sciences & it's Applications (ICMSA - 2022), organized by School of Mathematical Sciences, Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra, India, during 28 – 30 July 2022, presented a paper entitled, “A Study of the Development of an Open Subset Inclusion Graph of a Topological Space”.