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Assistant Professor-II, Department of Mathematics
Velammal College of Engineering and Technology (Autonomous), Madurai-625009.
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Educational Qualification:

Ph.D.-Fuzzy Algebra- August 2016-Bharathidasan University

M.Phil.- D.D.E.-October 2005- Madurai Kamaraj University

PGDCA-The American College (Autonomous)-April 1996-Madurai Kamaraj University

M.Sc. (Mathematics) - Madura College (Autonomous) –March 1995 - Madurai Kamaraj University

B.Sc. (Mathematics) - S.V.N.College – April 1993- Madurai Kamaraj University

Experience in Years: 20.5 years

Employment History:

1. Velammal College of Engg. & Tech. (Autonomous), Madurai- Assistant Professor-II – from September 2024 to till now.
2. Velammal College of Engg. & Tech. (Autonomous), Madurai- Assistant Professor-III – from July 2012 to August 2024.
3. Raja College of Engg. And Tech., Madurai.-Assistant Professor- from September 2006 to July 2012
4. Sethaiammal Engg. College, Sivagangai - Lecturer – from September 2005 to September 2006
5. Syed Ammal Engg. College, Ramanathapuram – Lecturer-from January 2005 to September 2005

Interested Research Areas:

Fuzzy Algebra, Decision making problems, Algebra, Optimization techniques, MCDM techniques, Fuzzy Set Theory and its Applications, Applied Mathematics, etc.

Scholarships and Awards received: Nil

Funded Research Projects: Nil

Patent rights received: 01

Publications Details:

1. Patent Journal Publication Details:

- 1) Hybrid Fixed Point-Theoretic models for Robust Differentiation and Integration in multi dimensional spaces <https://search.ipindia.gov.in/DynamicUtility/Journal/Patent>

2. International Journal Publication Details:

- 1) "MCDM in IMFS by Normalized Geometric Similarity Measures", International Journal of Engineering Science And Computing (ISSN:2250-1371), Volume6,IssueNo.7,July2016
- 2) "Multi-anti fuzzy group and its Lower level Subgroups", Int. Journal of Engineering Research and Applications, Vol.3, Issue 6, pp.1498-1501 (Nov-Dec 2013), , ISSN:2248-9622.
- 3) "A Study on Intuitionistic Multi-Fuzzy Subgroups", Intl. Jour. of Applications of Fuzzy Sets and Artificial Intelligence, Vol. 4 , pp.153 – 172 (2014), ISSN: 2241-1240(E).
- 4) "Some Characterization of Multi-anti fuzzy group", Research journali's Journal of Mathematics, Vol.1, Issue1, pp.1-25 (March 2014), ISSN:2349-5375.
- 5) "Correspondence Theorem for Normal Multi-fuzzy Subgroups", SSRG International Journal of Mathematics Trends and Technology (IJMTT), ISSN: 2231-5373, pp.1-3 (2014).
- 6) "MCDM by Normalized Euclidean Distance in Intuitionistic Multi-Fuzzy Sets", International Journal of Mathematics Trends and Technology (IJMTT), Volume- 35, No.1, July 2016, pp.19-23, ISSN: 2231-5373.
- 7) "Some Characterization of Normal Multi-fuzzy and Normal Multi- anti fuzzy Subgroup", IOSR Journal of Mathematics (IOSR-JM), Volume 10, Issue 1, Ver. IV,pp.116-122 (Feb.2014), e-ISSN:2278-5728, p-ISSN:2319-765X.
- 8) "Some Characterization of Multi-fuzzy group", International Journal of Innovative Research and Development, Vol.3, Issue 2, pp.243-257 (Feb.2014), ISSN:2278-0211(Online).
- 9) "Multi-fuzzy group and its Level Subgroups", Gen. Math. Notes, Vol.17, No.1, pp.74-81 (July2013), ISSN:2219-7184
- 10) "Some Characterization of Multi-fuzzy and Multi-anti fuzzy Subgroup", SVRM Science Journal, Volume1, Issue1, pp.36-46 (Oct-Dec 2013), E-ISSN: 2348- 2923.
- 11) "A Study on Multi-Fuzzy Cosets", International Journal of Engineering Associates (ISSN: 2320-0804) # 1 / Volume 5, Issue7, pp.1-7, July 2016.
- 12) "Properties of Multi-fuzzy Cosets under Homomorphism and Anti-homomorphism", International Journal of Engineering Associates ISSN (Online) : 2320-0804,Volume05, Issue08 (August 2016) of IJEa.
- 13) "Properties of Quotient Multi-fuzzy Subgroup under Homomorphism and Anti-homomorphism", International Journal of Engineering Associates ISSN(Online):2320-0804, Volume 5, Issue 08 (August 2016) of IJEa.
- 14) "MCDM by Hausdroff Distance Similarity Measure in IMFS on Matrimonial Matching ", Kari Research International Journal, Vol.1, No.1, October 2016, pp. 51-61,ISSN:2456-6136.
- 15) "Correspondence Theorem for Normal Multi-anti fuzzy Subgroups",Discovery, 21(68), pp.113-117(July2014).
- 16) "A Study on Intuitionistic Multi-Anti Fuzzy Subgroups", Applied Mathematics and

Sciences: An International Journal (MathSJ), , ISSN:2349-6223, Vol.1, No.2, pp.35-52 (August 2014).

- 17) "Characterization of Quotient Multi-Fuzzy Subgroup", International Journal for Research in Applied Science and Engineering Technology (IJRASET), ISSN:2321-9653, pp.23-30, Special Issue, ICLIASET2017 (December 2017).
- 18) "Characterization of (alpha, beta)-Lower level normal subgroups of Intuitionistic Multi-anti fuzzy Normal Subgroup", International Journal of Fuzzy Systems and Advanced Applications (North Atlantic University Union-NAUN), ISSN: 2313-0512, Vol.5, 2018, pp.7-16.
- 19) "Characterization of Quotient Multi-Anti Fuzzy Subgroup", Journal of Engineering Mathematics & Statistics (**National Journal**), Vol.5, Issue 1, (June 2021), pp.85-96,
- 20) "Characterization of Intuitionistic Multi-Fuzzy Normal Subgroup", International Journal of Engineering, Science and Mathematics, Vol. 10, Issue 09, **September 2021**, ISSN: 2320-0294 .
- 21) "Estimation of the Error Performance of Waiting Time on Fuzzy Queueing System", Journal of Algebraic Statistics, Vol.13, Iss.3, June **2022**, pp. 5214-5219, ISSN: 1309-3452.
- 22) "Homomorphism of IMAF normal subgroup", International Journal of Scientific Research in Engineering and Management (IJSREM), Volume 07, Issue 09, **September 2023**, pp.1-7, ISSN:2582-3930.
- 23) "Fore Scan Guard : Proactive Monitoring and Detection for Sustainable Forest Conservation", pp.641-648, 2024, ICICT 2024.
- 24) "Adaptive Deep Ensemble Learning for Robust Network Intrusion Detection in Industrial IoT Networks", 12.06.2024.
- 25) "Resilient Framework for Next-Generation Heterogeneous Wireless Networks in Disaster Management", 18-20.11.2024.
- 26) "A Machine Learning Framework for Integrating Multi-Omics Data for Early Leukemia Detection", Oct. 2024, DOI: [10.1109/I-SMAC61858.2024](https://doi.org/10.1109/I-SMAC61858.2024)
- 27) "Multi-Modal Deep Learning for User-Centric Car Recommendations", January 2025. ISBN:979-8-3315-0982-8

3. International Conference Presentation Details:

- 1) S.Balamurugan , et al., " A Machine Learning Framework for Integrating Multi-Omics Data for Early Leukemia Detection, **2024 8th International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC)**, 3-5 Oct. 2024, DOI: [10.1109/I-SMAC61858.2024](https://doi.org/10.1109/I-SMAC61858.2024)
- 2) S.Balamurugan , et al. "Multi-Modal Deep Learning for User-Centric Car Recommendations", January 2025. International conference on Multi-agent systems for collaborative Intelligence (ICMSCI-2025), ISBN:979-8-3315-0982-8
- 3) S.Balamurugan , et al., "Resilient Framework for Next-Generation Heterogeneous Wireless Networks in Disaster Management", 18-20.11.2024, Proceedings of the International Conference on Sustainable Expert Systems (ICSES-2024), IEEE Xplore Part Number: CFP24VS6-ART; ISBN: 979-8-

3315-4036-4

- 4) S.Balamurugan , et al., “Adaptive Deep Ensemble Learning for Robust Network Intrusion Detection in Industrial IoT Networks”, 12.06.2024
- 5) S. Balamurugan , et al., “Fore Scan Guard : Proactive Monitoring and Detection for Sustainable Forest Conservation”, pp.641-648, 2024, ICICT 2024.
- 6) Presented a paper entitled “Multi-Fuzzy Cosets” in the CSIR Sponsored **International Conference** on Mathematical Computation and Modelling, 06th January 2014 at The Madura College (Autonomous), Madurai, (ISBN:978-81-928113-3-8/Vergal publication, pp.17-21).
- 7) Presented a Paper entitled “Characterization of Quotient Multi-fuzzy Subgroup”, in the **International Conference** on Mathematical Impacts in Science and Technology-17 on 17th - 18th November 2017 at Bannari Amman Institute of Technology, Sathyamangalam, Erode.

4. National Conference Presentation Details:

- 1) Presented a paper entitled “Multi-Fuzzy Group and its Level Subgroups” in UGC Sponsored **National Seminar** on Discrete Mathematics and its Applications, 09th March 2013 at PG & Research Department of Mathematics, Jamal Mohamed College (Autonomous), Tiruchirappalli.
- 2) “Correspondence Theorem for Normal Multi-Anti Fuzzy Subgroups”, in the **National Conference** on Mathematical Modelling and Applications-NCMMA2014, 28th March 2014 at SSM Institute of Engineering and Technology, Dindigul.
- 3) Presented a paper entitled “Correspondence Theorem for Normal Multi-Fuzzy Subgroups”, in **National Conference** on Fuzzy Algebra sponsored by UGC-SERO, Hyderabad, 11th April 2014 at Govt. Arts College, Paramakudi, (ISSN:2231-5373).
- 4) Presented a paper entitled “ Multi-Criteria Decision Making by Normalized Geometric Measure in Intuitionistic Multi-fuzzy Sets”, in **National Conference** on Mathematical Modelling sponsored by UGC, (NCOMM-2014), 25th-26th September 2014, at C.P.A. College, Bodinayakanur. pp.1-6, (ISBN:9789380657448).
- 5) Presented a paper entitled “Multi-Criteria Decision Making by Normalized Hamming Distance Measure in Intuitionistic Multi-Fuzzy Sets”, in **National Conference** on Analysis and Applied Mathematics (NCAAM 2014), Sponsored by DRDO, November 27-28, 2014 at National Institute of Technology, Trichirappalli, pp.64-68, (ISBN:9789384743062).
- 6) Presented a paper entitled “Some Properties of Intuitionistic Multi-fuzzy Normal subgroup”, in A Two day **National Conference** on Discrete Mathematics and its Applications, (NCDMA-2022), on 15th-16th July 2022, conducted by Department of Mathematics, Velammal College of Engineering and Technology (Autonomous), Madurai. pp. 37-38.

6. Books Publication Details:

1) “Advanced Engineering Mathematics”, ISBN No.: 978-81-966422-9-7,
Infinite Research, Published on October 2023 ,
[*https://isbn.gov.in/Home/SearchIsbn#*](https://isbn.gov.in/Home/SearchIsbn#*)

2) “Algebra and Differential Equations”, ISBN No.: 978-93-5762-316-2,
Alpha International Publication, Published on June 2024,
https://isbn.gov.in/Home/SearchIsbn#*

7. Google Scholar Report:

<https://scholar.google.co.in/citations?user=ctsLOv0AAAAJ&hl=en>

	All	Since 2020
Citations	101	55
h-index	5	4
i10-index	1	1