

## **Asst. Prof. Nasreen KAUSAR**

### **Personal Information**

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### **International Researcher IDs**

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Publons / Web Of Science ResearcherID: AAF-3386-2020

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Yoksis Researcher ID: 382336

### **Education Information**

Doctorate, Quaid-i-Azam University Islamabad, Pakistan 2010 - 2015

Postgraduate, Quaid e Azam University Islamabad, Pakistan 2008 - 2010

### **Research Areas**

Fuzzy Sets and Systems, Optimization Theory and Methods, Multiobjective Optimization, Nonlinear Programming, Linear Programming, Decision Theory, Multi Criteria Decision Making, Supply Chain and Logistics Management, Associative Rings and Algebras, Nonassociative Rings and Algebras, Algebraic Topology, Commutative Rings and Algebras, Differential Equations, Group Theory and Generalizations, Integral Equations, Partial Differential Equations, Optimization, Numerical Analysis

### **Academic Titles / Tasks**

Assistant Professor, Yildiz Technical University, Faculty Of Arts & Science, Department Of Mathematics, 2022 - Continues

Assistant Professor, Govt. College for women's, Samna Abad Faisalabad, Pakistan, Department of Mathematics, 2021 - 2021

Assistant Professor, University of Agriculture Faisalabad, (Pars Campus) Pakistan, Department of Mathematics, 2019 - 2020

Assistant Professor, Government College University Faisalabad, Pakistan, Department of Mathematics, 2019 - 2020

Assistant Professor, University of Agriculture Faisalabad, Pakistan, Department of Mathematics, 2018 - 2020

Assistant Professor, University of Sargodha (Lyallpur Campus), Faisalabad, Pakistan, Department of Mathematics , 2016 - 2019

Assistant Professor, University of Sargodha (Sargodha Campus), Pakistan, Department of Mathematics, 2015 - 2016

### **Academic and Administrative Experience**

Head of Department, University of Sargodha (Lyallpur Campus) Faisalabad, Pakistan, 2018 - 2019

## **Published journal articles indexed by SCI, SSCI, and AHCI**

- I. **Diophantine spherical vague sets and their applications for micro-technology robots based on multiple-attribute decision-making**  
Palanikumar M., KAUSAR N., Stević Ž., Zolfani S. H.  
Engineering Applications of Artificial Intelligence, vol.139, 2025 (SCI-Expanded)
- II. **Artificial hybrid neural network-based simultaneous scheme for solving nonlinear equations: Applications in engineering**  
Shams M., KAUSAR N., Araci S., Oros G. I.  
Alexandria Engineering Journal, vol.108, pp.292-305, 2024 (SCI-Expanded)
- III. **Complex Pythagorean Normal Interval-Valued Fuzzy Aggregation Operators for Solving Medical Diagnosis Problem**  
Palanikumar M., KAUSAR N., Pamucar D., Khan S., Shah M. A.  
International Journal of Computational Intelligence Systems, vol.17, no.1, 2024 (SCI-Expanded)
- IV. **Entropy for q-rung linear diophantine fuzzy hypersoft set with its application in MADM**  
Surya A., Vimala J., KAUSAR N., Stević Ž., Shah M. A.  
Scientific Reports, vol.14, no.1, 2024 (SCI-Expanded)
- V. **On the Construction of Congruences over Generalized Fuzzy G-Acts**  
Kousar S., Shaheen S., KAUSAR N., Pamucar D., Simic V., Salman M. A.  
International Journal of Computational Intelligence Systems, vol.17, no.1, 2024 (SCI-Expanded)
- VI. **Various distance between generalized Diophantine fuzzy sets using multiple criteria decision making and their real life applications**  
Palanikumar M., KAUSAR N., Pamucar D., Simic V., Tolasa F. T.  
Scientific Reports, vol.14, no.1, 2024 (SCI-Expanded)
- VII. **Generalized roughness of three dimensional ( $\epsilon, \epsilon \vee q$ )-fuzzy ideals in terms of set-valued homomorphism**  
Bashir S., Mazhar R., KAUSAR N., Yaman S., Ali S. S., Afzal M. U. H.  
Scientific Reports, vol.14, no.1, 2024 (SCI-Expanded)
- VIII. **A new Fermatean fuzzy Spearman-like correlation coefficient and its application in evaluating insecurity problem via multi-criteria decision-making approach**  
Ejegwa P. A., Kausar N., Aydin N., Feng Y., Olanrewaju O. A.  
HELIYON, vol.10, no.22, pp.1-30, 2024 (SCI-Expanded)
- IX. **Complex Pythagorean neutrosophic normal interval-valued set with an aggregation operators using score values**  
Palanikumar M., KAUSAR N., Deveci M.  
Engineering Applications of Artificial Intelligence, vol.137, 2024 (SCI-Expanded)
- X. **Contra-hormonic generalized fuzzy numerical scheme for solving mechanical engineering problems**  
KAUSAR N., Garg H.  
Journal of Applied Mathematics and Computing, vol.70, no.5, pp.4629-4653, 2024 (SCI-Expanded)
- XI. **An MCDM approach on Einstein aggregation operators under Bipolar Linear Diophantine Fuzzy Hypersoft Set**  
Nithya Sri S., Vimala J., KAUSAR N., Ozbilge E., Özbilge E., Pamucar D.  
Heliyon, vol.10, no.9, 2024 (SCI-Expanded)
- XII. **Selection process based on new building construction work using square root vague sets and their aggregated operators**  
Palanikumar M., KAUSAR N., Garg H., Nasseredine H., Pamucar D.  
Engineering Applications of Artificial Intelligence, vol.131, 2024 (SCI-Expanded)
- XIII. **Novelty of Different Distance Approach for Multi-Criteria Decision-Making Challenges Using q-Rung Vague Sets**  
Palanikumar M., Kausar N., Pamucar D., Kadry S., Kim C., Nam Y.  
CMES - Computer Modeling in Engineering and Sciences, vol.139, no.3, pp.3353-3385, 2024 (SCI-Expanded)

- XIV. **On the stability analysis of numerical schemes for solving non-linear polynomials arises in engineering problems**  
 Shams M., KAUSAR N., Araci S., Kong L.  
 AIMS Mathematics, vol.9, no.4, pp.8885-8903, 2024 (SCI-Expanded)
- XV. **Optimizing road safety: integrated analysis of motorized vehicle using lattice ordered complex linear diophantine fuzzy soft set**  
 Banu K. A., Vimala J., KAUSAR N., Stević Ž.  
 PeerJ Computer Science, vol.10, 2024 (SCI-Expanded)
- XVI. **Determination of medical emergency via new intuitionistic fuzzy correlation measures based on Spearman's correlation coefficient**  
 Ejegwa P. A., KAUSAR N., Agba J. A., Ugwu F., Özbilge E., Ozbilge E.  
 AIMS Mathematics, vol.9, no.6, pp.15639-15670, 2024 (SCI-Expanded)
- XVII. **Highly efficient family of two-step simultaneous method for all polynomial roots**  
 Shams M., KAUSAR N., Araci S., Kong L., Carpentieri B.  
 AIMS Mathematics, vol.9, no.1, pp.1755-1771, 2024 (SCI-Expanded)
- XVIII. **Construction of Nilpotent and Solvable Lie Algebra in Picture Fuzzy Environment**  
 Kousar S., Arshad S., KAUSAR N., Hong T.  
 International Journal of Computational Intelligence Systems, vol.16, no.1, 2023 (SCI-Expanded)
- XIX. **A novel approach based on neutrosophic Bonferroni mean operator of trapezoidal and triangular neutrosophic interval environments in multi-attribute group decision making**  
 Nagarajan D., Kanchana A., Jacob K., KAUSAR N., Edalatpanah S. A., Shah M. A.  
 Scientific Reports, vol.13, no.1, 2023 (SCI-Expanded)
- XX. **Robotic sensor based on score and accuracy values in q-rung complex diophantine neutrosophic normal set with an aggregation operation**  
 Palanikumar M., KAUSAR N., Garg H., Kadry S., Kim J.  
 Alexandria Engineering Journal, vol.77, pp.149-164, 2023 (SCI-Expanded)
- XXI. **Optimal type-3 fuzzy control and analysis of complicated financial systems**  
 Xu A., Tian M., KAUSAR N., Mohammadzadeh A., Pamucar D., Ozbilge E.  
 Journal of Intelligent and Fuzzy Systems, vol.44, no.5, pp.7121-7134, 2023 (SCI-Expanded)
- XXII. **On efficient fractional caputo-Type simultaneous scheme for finding all roots of polynomial equations with biomedical engineering applications**  
 Shams M., KAUSAR N., Samaniego C., Agarwal P., Ahmed S. F., Momani S.  
 Fractals, vol.31, no.4, 2023 (SCI-Expanded)
- XXIII. **Generalized fuzzy sets and their applications in purchase satisfaction, personnel posting and disease diagnosis**  
 Munir M., Kausar N., Khan S. I.  
 SOFT COMPUTING, vol.27, no.7, pp.3907-3920, 2023 (SCI-Expanded)
- XXIV. **Modified Block Homotopy Perturbation Method for solving triangular linear Diophantine fuzzy system of equations**  
 Shams M., KAUSAR N., Khan N., Shah M. A.  
 Advances in Mechanical Engineering, vol.15, no.3, 2023 (SCI-Expanded)
- XXV. **q-Rung orthopair fuzzy hypersoft ordered aggregation operators and their application towards green supplier**  
 Khan S., Gulistan M., Kausar N., Pamucar D., Ozbilge E., El-Kanj N.  
 Frontiers in Environmental Science, vol.10, 2023 (SCI-Expanded)
- XXVI. **A non-singleton type-3 fuzzy modeling: Optimized by square-root cubature kalman filter**  
 Aoqi X., Alattas K. A., KAUSAR N., Mohammadzadeh A., Ozbilge E., Cagin T.  
 Intelligent Automation and Soft Computing, vol.37, no.1, pp.17-32, 2023 (SCI-Expanded)
- XXVII. **Aggregation Operators for Decision Making Based on q-Rung Orthopair Fuzzy Hypersoft Sets: An Application in Real Estate Project**  
 Khan S., Gulistan M., KAUSAR N., Pamucar D., Hong T., Wahab H. A.

- CMES - Computer Modeling in Engineering and Sciences, vol.136, no.3, pp.3141-3156, 2023 (SCI-Expanded)
- XXVIII. Multimodal Fuzzy Downstream Petroleum Supply Chain: A Novel Pentagonal Fuzzy Optimization**  
 Freen G., Kousar S., Kausar N., Pamucar D., Oros G. I.  
 Computers, Materials and Continua, vol.74, no.3, pp.4861-4879, 2023 (SCI-Expanded)
- XXIX. New applications of various distance techniques to multi-criteria decision-making challenges for ranking vague sets**  
 Palanikumar M., KAUSAR N., Ahmed S. F., Edalatpanah S. A., Ozbilge E., Bulut A.  
 AIMS Mathematics, vol.8, no.5, pp.11397-11424, 2023 (SCI-Expanded)
- XXX. OPTIMIZING TRANSPORTATION COST FOR BIOMASS SUPPLY CHAIN**  
 Kousar S., Sangi M. N., KAUSAR N., Agarwal P., Ozbilge E., Bulut A.  
 Thermal Science, vol.27, no.Special Issue 1, 2023 (SCI-Expanded)
- XXXI. Efficient Numerical Scheme for Solving Large System of Nonlinear Equations**  
 Shams M., Kausar N., Ahmed S. F., Badruddin I. A., Javed S.  
 Computers, Materials and Continua, vol.74, no.3, pp.5331-5347, 2023 (SCI-Expanded)
- XXXII. Numerical scheme for estimating all roots of non-linear equations with applications**  
 Shams M., KAUSAR N., Araci S., Oros G. I.  
 AIMS Mathematics, vol.8, no.10, pp.23603-23620, 2023 (SCI-Expanded)
- XXXIII. Semi-Analytical Scheme for Solving Intuitionistic Fuzzy System of Differential Equations**  
 Shams M., Kausar N., Alayyash K., Al-Shamiri M. M., Arif N., Ismail R.  
 IEEE Access, vol.11, pp.33205-33223, 2023 (SCI-Expanded)
- XXXIV. Input-output scaling factors tuning of type-2 fuzzy PID controller using multi-objective optimization technique**  
 Sabahi K., Zhang C., Kausar N., Mohammadzadeh A., Pamucar D., Mosavi A. H.  
 AIMS Mathematics, vol.8, no.4, pp.7917-7932, 2023 (SCI-Expanded)
- XXXV. Medical robotic engineering selection based on square root neutrosophic normal interval-valued sets and their aggregated operators**  
 Palanikumar M., KAUSAR N., Garg H., Iampan A., Kadry S., Sharaf M.  
 AIMS Mathematics, vol.8, no.8, pp.17402-17432, 2023 (SCI-Expanded)
- XXXVI. Robot sensors process based on generalized Fermatean normal different aggregation operators framework**  
 Palanikumar M., KAUSAR N., Garg H., Ahmed S. F., Samaniego C.  
 AIMS Mathematics, vol.8, no.7, pp.16252-16277, 2023 (SCI-Expanded)
- XXXVII. Techniques for Finding Analytical Solution of Generalized Fuzzy Differential Equations with Applications**  
 Shams M., KAUSAR N., Yaqoob N., Arif N., Addis G. M.  
 Complexity, vol.2023, 2023 (SCI-Expanded)
- XXXVIII. Stable Computer Method for Solving Initial Value Problems with Engineering Applications**  
 Shams M., Kausar N., Ozbilge E., Bulut A.  
 Computer Systems Science and Engineering, vol.45, no.3, pp.2617-2633, 2023 (SCI-Expanded)
- XXXIX. Multi-objective optimization model for uncertain crop production under neutrosophic fuzzy environment: A case study**  
 Kousar S., Sangi M. N., Kausar N., Pamucar D., Ozbilge E., Cagin T.  
 AIMS Mathematics, vol.8, no.3, pp.7584-7605, 2023 (SCI-Expanded)
- XL. ON HIGHLY EFFICIENT SIMULTANEOUS SCHEMES FOR FINDING ALL POLYNOMIAL ROOTS**  
 Shams M., Rafiq N., Kausar N., Agarwal P., Mir N. A., Li Y.  
 FRACTALS-COMPLEX GEOMETRY PATTERNS AND SCALING IN NATURE AND SOCIETY, vol.30, no.10, 2022 (SCI-Expanded)
- XLI. Efficient iterative scheme for solving non-linear equations with engineering applications**  
 Shams M., Kausar N., Agarwal P., Oros G. I.  
 APPLIED MATHEMATICS IN SCIENCE AND ENGINEERING, vol.30, no.1, pp.708-735, 2022 (SCI-Expanded)
- XLII. ON INVERSE ITERATION PROCESS FOR FINDING ALL ROOTS OF NONLINEAR EQUATIONS WITH**

## **APPLICATIONS**

- Shams M., Rafiq N., KAUSAR N., Agarwal P., Mir N. A., El-Kanj N.  
Fractals, vol.30, no.10, 2022 (SCI-Expanded)
- XLIII. Computationally semi-numerical technique for solving system of intuitionistic fuzzy differential equations with engineering applications**  
Shams M., KAUSAR N., Kousar S., Pamucar D., Ozbilge E., Tantay B.  
Advances in Mechanical Engineering, vol.14, no.12, 2022 (SCI-Expanded)
- XLIV. A type-3 fuzzy control for current sharing and voltage balancing in microgrids**  
Taghieh A., Mohammadzadeh A., Zhang C., KAUSAR N., Castillo O.  
Applied Soft Computing, 2022 (SCI-Expanded)
- XLV. Multi-objective Intuitionistic Fuzzy Linear Programming model for optimization of industrial closed-loop supply chain network**  
Kousar S., Batool M., KAUSAR N., Pamucar D., Ozbilge E., Tantay B.  
Advances in Production Engineering And Management, vol.17, no.3, pp.381-393, 2022 (SCI-Expanded)
- XLVI. N-Cubic q-Rung Orthopair Fuzzy Sets: Analysis of the Use of Mobile App in the Education Sector**  
Madasi J. D., Khan S., Kausar N., Pamucar D., Gulistan M., Sorowen B.  
COMPUTATIONAL INTELLIGENCE AND NEUROSCIENCE, vol.2022, 2022 (SCI-Expanded)
- XLVII. Codes over Lattice-Valued Intuitionistic Fuzzy Set Type-3 with Application to the Complex DNA Analysis**  
Riaz A., Kousar S., Kausar N., Pamucar D., Addis G. M.  
COMPLEXITY, vol.2022, 2022 (SCI-Expanded)
- XLVIII. Novel Development to the Theory of Dombi Exponential Aggregation Operators in Neutrosophic Cubic Hesitant Fuzzy Sets: Applications to Solid Waste Disposal Site Selection**  
Rehman A. U., Gulistan M., Kausar N., Kousar S., Al-Shamiri M. M., Ismail R.  
COMPLEXITY, vol.2022, 2022 (SCI-Expanded)
- XLIX. Sustainable Energy Consumption Model for Textile Industry Using Fully Intuitionistic Fuzzy Optimization Approach**  
Kousar S., Shafqat U., Kausar N., Pamucar D., Karaca Y., Salman M. A.  
COMPUTATIONAL INTELLIGENCE AND NEUROSCIENCE, vol.2022, 2022 (SCI-Expanded)
- L. A Novel Decision-Making Process in the Environment of Generalized Version of Fuzzy Sets for the Selection of Energy Source**  
Madasi J. D., Khan S., Kausar N., Pamucar D., Addis G. M., Gulistan M.  
ADVANCES IN MATHEMATICAL PHYSICS, vol.2022, 2022 (SCI-Expanded)
- LI. Joule heating and viscous dissipation effects in hydromagnetized boundary layer flow with variable temperature**  
Naseem T., Fatima U., Munir M., Shahzad A., Kausar N., Nisar K. S., Saleel C. A., Abbas M.  
CASE STUDIES IN THERMAL ENGINEERING, vol.35, 2022 (SCI-Expanded)
- LII. A New Type-3 Fuzzy PID for Energy Management in Microgrids**  
Fan W., Mohammadzadeh A., Kausar N., Pamucar D., Ide N. A. D.  
ADVANCES IN MATHEMATICAL PHYSICS, vol.2022, 2022 (SCI-Expanded)
- LIII. Analysis of Cryptocurrency Market by Using q-Rung Orthopair Fuzzy Hypersoft Set Algorithm Based on Aggregation Operators**  
Khan S., Gulistan M., Kausar N., Kousar S., Pamucar D., Addis G. M.  
COMPLEXITY, vol.2022, 2022 (SCI-Expanded)
- LIV. The Characterization of Substructures of c-Anti Fuzzy Subgroups with Application in Genetics**  
Kalaiarasi K., Sudha P., Kausar N., Kousar S., Pamucar D., Ide N. A. D.  
DISCRETE DYNAMICS IN NATURE AND SOCIETY, vol.2022, 2022 (SCI-Expanded)
- LV. An Analysis of Algebraic Codes over Lattice Valued Intuitionistic Fuzzy Type-3 R-Submodules**  
Riaz A., Kousar S., Kausar N., Pamucar D., Addis G. M.  
COMPUTATIONAL INTELLIGENCE AND NEUROSCIENCE, vol.2022, 2022 (SCI-Expanded)
- LVI. Intelligent Gamification Mechanics Using Fuzzy-AHP and K-Means to Provide Matched Partner**

## **Reference**

- Marisa F., Ahmad S. S. S., Kausar N., Kousar S., Pamucar D., Ide N. A. D.  
DISCRETE DYNAMICS IN NATURE AND SOCIETY, vol.2022, 2022 (SCI-Expanded)
- LVII. Perfect Fuzzy Soft Tripartite Graphs and Their Complements**  
Kalaiarasi K., Mahalakshmi L., Kausar N., Kousar S., Kattel P.  
DISCRETE DYNAMICS IN NATURE AND SOCIETY, vol.2022, 2022 (SCI-Expanded)
- LVIII. Topological Indices of Families of Bistar and Corona Product of Graphs**  
Khalid A., Kausar N., Munir M., Gulistan M., Al-Shamiri M. M., Lamoudan T.  
JOURNAL OF MATHEMATICS, vol.2022, 2022 (SCI-Expanded)
- LIX. Generalization of Tangential Complexes of Weight Three and Their Connections with Grassmannian Complex**  
Hussain S., Kausar N., Kousar S., Kattel P., Shahzad T.  
MATHEMATICAL PROBLEMS IN ENGINEERING, vol.2022, 2022 (SCI-Expanded)
- LX. Fault Diagnosis in Regenerative Braking System of Hybrid Electric Vehicles by Using Semigroup of Finite-State Deterministic Fully Intuitionistic Fuzzy Automata**  
Kousar S., Aslam F., Kausar N., Pamucar D., Addis G. M.  
COMPUTATIONAL INTELLIGENCE AND NEUROSCIENCE, vol.2022, 2022 (SCI-Expanded)
- LXI. Energy Source Allocation Decision-Making in Textile Industry: A Novel Symmetric and Asymmetric Spherical Fuzzy Linear Optimization Approach**  
Kousar S., Shafqat U., Kausar N., Pamucar D., Gaba Y. U.  
MATHEMATICAL PROBLEMS IN ENGINEERING, vol.2022, 2022 (SCI-Expanded)
- LXII. Fruit Production Planning in Semi-arid Zones: A Novel Triangular Intuitionistic Fuzzy Linear Programming Approach**  
Kousar S., Zafar A., Kausar N., Pamucar D., Kattel P.  
MATHEMATICAL PROBLEMS IN ENGINEERING, vol.2022, 2022 (SCI-Expanded)
- LXIII. Fuzzy Theory in Fog Computing: Review, Taxonomy, and Open Issues**  
Al-Araji Z. J., Ahmad S. S. S., KAUSAR N., Farhani A., Ozbilgekahveci E., Cagin T.  
IEEE Access, vol.10, pp.126931-126956, 2022 (SCI-Expanded)
- LXIV. Bipolar Interval-Valued Neutrosophic Optimization Model of Integrated Healthcare System**  
Khalil S., Kousar S., Kausar N., Imran M., Oros G. I.  
CMC-COMPUTERS MATERIALS & CONTINUA, vol.73, no.3, pp.6207-6224, 2022 (SCI-Expanded)
- LXV. Homomorphisms of Lattice-Valued Intuitionistic Fuzzy Subgroup Type-3**  
Kousar S., Saleem T., KAUSAR N., Pamucar D., Addis G. M.  
Computational Intelligence and Neuroscience, vol.2022, 2022 (SCI-Expanded)
- LXVI. Computer Oriented Numerical Scheme for Solving Engineering Problems**  
Shams M., Rafiq N., Kausar N., Mir N. A., Alalyani A.  
COMPUTER SYSTEMS SCIENCE AND ENGINEERING, vol.42, no.2, pp.689-701, 2022 (SCI-Expanded)
- LXVII. Parameter identification for multiperiodic functions**  
Munir M., Kausar N., Shakil M.  
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE, vol.173, 2021 (SSCI)
- LXVIII. Computer-Based Fuzzy Numerical Method for Solving Engineering and Real-World Applications**  
Rafiq N., Yaqoob N., Kausar N., Shams M., Mir N. A., Gaba Y. U., Khan N.  
MATHEMATICAL PROBLEMS IN ENGINEERING, vol.2021, 2021 (SCI-Expanded)
- LXIX. On iterative techniques for estimating all roots of nonlinear equation and its system with application in differential equation**  
Shams M., Rafiq N., Kausar N., Agarwal P., Park C., Mir N. A.  
ADVANCES IN DIFFERENCE EQUATIONS, vol.2021, no.1, 2021 (SCI-Expanded)
- LXX. Efficient iterative methods for finding simultaneously all the multiple roots of polynomial equation**  
Shams M., Rafiq N., Kausar N., Agarwal P., Park C., Momani S.  
ADVANCES IN DIFFERENCE EQUATIONS, vol.2021, no.1, 2021 (SCI-Expanded)
- LXXI. Fuzzy Product KM-Subalgebras and Some Related Properties**

- Kalaiarasi K., Manimozhi V., Kausar N., Pamucar D., Kousar S., Gaba Y. U.  
 COMPLEXITY, vol.2021, 2021 (SCI-Expanded)
- LXXII. **On highly efficient derivative-free family of numerical methods for solving polynomial equation simultaneously**  
 Shams M., Rafiq N., Kausar N., Agarwal P., Park C., Mir N. A.  
 ADVANCES IN DIFFERENCE EQUATIONS, vol.2021, no.1, 2021 (SCI-Expanded)
- LXXIII. **Numerical Scheme for Finding Roots of Interval-Valued Fuzzy Nonlinear Equation with Application in Optimization**  
 Elmoasry A., Shams M., Yaqoob N., Kausar N., Gaba Y. U., Rafiq N.  
 JOURNAL OF FUNCTION SPACES, vol.2021, 2021 (SCI-Expanded)
- LXXIV. **Sensitivity analysis of solute kinetics in a four compartmental model for hemodialysis patients**  
 Munir M., Panni U. S. K., Kausar N., Anjum R.  
 KUWAIT JOURNAL OF SCIENCE, vol.48, no.3, 2021 (SCI-Expanded)
- LXXV. **The Degree-Based Topological Indices for Two Special Families of Graphs of Diameter Three**  
 Khalid A., KAUSAR N., Munir M., Aydi H., Kousar S., Gaba Y. U.  
 Advances in Mathematical Physics, vol.2021, 2021 (SCI-Expanded)
- LXXVI. **Use of Intuitionistic Fuzzy Numbers in Survey Sampling Analysis with Application in Electronic Data Interchange**  
 Rasheed F., Kousar S., Shabbir J., KAUSAR N., Pamucar D., Gaba Y. U.  
 Complexity, vol.2021, 2021 (SCI-Expanded)
- LXXVII. **Neutrosophic Rayleigh Model with Some Basic Characteristics and Engineering Applications**  
 Khan Z., Gulistan M., KAUSAR N., Park C.  
 IEEE Access, vol.9, pp.71277-71283, 2021 (SCI-Expanded)
- LXXVIII. **Some Studies in Hemirings by the Falling Fuzzy k -Ideals**  
 Anjum R., Sarfraz F., KAUSAR N., Gaba Y., Aydi H., Munir M., Salahuddin S.  
 Journal of Function Spaces, vol.2021, 2021 (SCI-Expanded)
- LXXIX. **OPTIMIZATION OF THE AVERAGE MONTHLY COST OF AN EOQ INVENTORY MODEL FOR DETERIORATING ITEMS IN MACHINE LEARNING USING PYTHON**  
 Kalaiarasi K., Soundaria R., KAUSAR N., Agarwal P., Aydi H., Alsamir H.  
 Thermal Science, vol.25, no.SpecialIssue 2, 2021 (SCI-Expanded)
- LXXX. **Inverse Family of Numerical Methods for Approximating All Simple and Roots with Multiplicity of Nonlinear Polynomial Equations with Engineering Applications**  
 Shams M., Rafiq N., KAUSAR N., Ahmed S. F., Mir N. A., Chandra Saha S.  
 Mathematical Problems in Engineering, vol.2021, 2021 (SCI-Expanded)
- LXXXI. **The commutator of fuzzy congruences in universal algebras**  
 Addis G. M., KAUSAR N., Munir M., Chu Y.  
 International Journal of Computational Intelligence Systems, vol.14, no.1, pp.1322-1336, 2021 (SCI-Expanded)
- LXXXII. **A certain class of T-intuitionistic fuzzy subgroups**  
 Gulzar M., Alghazzawi D., Mateen M. H., KAUSAR N.  
 IEEE Access, vol.8, pp.163260-163268, 2020 (SCI-Expanded)
- LXXXIII. **Characterizations of ordered h-regular semirings by ordered h-ideals**  
 Anjum R., Ullah S., Chu Y., Munir M., KAUSAR N., Kadry S.  
 AIMS Mathematics, vol.5, no.6, pp.5768-5790, 2020 (SCI-Expanded)
- LXXXIV. **A Novel Applications of Complex Intuitionistic Fuzzy Sets in Group Theory**  
 Gulzar M., Mateen M. H., Alghazzawi D., KAUSAR N.  
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- LXXXV. **Characterizations of non-associative rings by the properties of their fuzzy ideals**  
 KAUSAR N., Islam B. u., Javaid M. Y., Ahmad S. A., Ijaz U.  
 Journal of Taibah University for Science, vol.13, no.1, pp.820-833, 2019 (SCI-Expanded)
- LXXXVI. **Characterizations of non-associative ordered semigroups by their fuzzy bi-ideals**  
 Shah T., KAUSAR N.

- Theoretical Computer Science, vol.529, pp.96-110, 2014 (SCI-Expanded)
- LXXXVII. **Intuitionistic fuzzy Normal Subrings over a non-associative ring**  
 Shah T., KAUSAR N., nayatur R.  
 Analele Stiintifice ale Universitatii Ovidius Constanta, Seria Matematica, vol.20, no.1, pp.369-386, 2012 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Characterization of various ( $\beta$ ,  $\ell$ ) neutrosophic ideals of an ordered  $\Gamma$ -semigroups**  
 Rajalakshmi A., KAUSAR N., Vrioni B., Kumaran K. L. M., AYDIN N., Palanikumar M.  
 International Journal of Neutrosophic Science, vol.25, no.2, pp.325-337, 2025 (Scopus)
- II. **Finding new similarities measures for Type-II Diophantine neutrosophic interval valued soft sets and its basic operations**  
 Ahmad S. S. S., KAUSAR N., Palanikumar M.  
 International Journal of Neutrosophic Science, vol.25, no.1, pp.505-517, 2025 (Scopus)
- III. **Digitizing DNA Sequences Using Multiset-Based Nucleotide Frequencies for Machine Learning-Based Mutation Detection**  
 Anjum S., Kousar S., Kausar N., Aydin N., Olanrewaju O. A., Mncwango B.  
 Decision Making: Applications in Management and Engineering, vol.7, no.2, pp.516-529, 2024 (Scopus)
- IV. **Multicriteria group decision making for prioritizing IoT risk factors with linear diophantine fuzzy sets and MARCOS method**  
 Jayakumar V., Kannan J., KAUSAR N., Deveci M., Wen X.  
 Granular Computing, vol.9, no.3, 2024 (ESCI)
- V. **Multi-Criteria Decision-Making for Smog Mitigation: A Comprehensive Analysis of Health, Economic, and Ecological Impacts**  
 Kausar N.  
 Spectrum of Decision Making and Applications, vol.2, pp.53-67, 2024 (Peer-Reviewed Journal)
- VI. **EXPLORING THE ALGEBRAIC AND TOPOLOGICAL PROPERTIES OF SEMIGROUPS THROUGH THEIR PRIME m-BI IDEALS**  
 Munir M., KAUSAR N., Anitha K., Mani G., Tehreem T.  
 Kragujevac Journal of Mathematics, vol.48, no.3, pp.407-421, 2024 (ESCI)
- VII. **Extending the concepts of complex interval valued neutrosophic subbisemiring of bisemiring**  
 Palanikumar M., KAUSAR N., Özbilge E., Özbilge E.  
 International Journal of Neutrosophic Science, vol.23, no.4, pp.117-135, 2024 (Scopus)
- VIII. **New algebraic structures approach towards complex interval valued Q-neutrosophic subbisemiring of bisemiring**  
 Ahmad S. S. S., KAUSAR N., Palanikumar M.  
 International Journal of Neutrosophic Science, vol.24, no.4, pp.451-463, 2024 (Scopus)
- IX. **ON EMBEDDING FAMILY OF NUMERICAL SCHEME FOR SOLVING NON-LINEAR EQUATIONS WITH ENGINEERING APPLICATIONS**  
 Shams M., KAUSAR N., Ozbilge E., Özbilge E.  
 Turkish World Mathematical Society Journal of Applied and Engineering Mathematics, vol.14, no.4, pp.1636-1654, 2024 (ESCI)
- X. **Triangular intuitionistic fuzzy linear system of equations with applications: an analytical approach**  
 Kausar N.  
 INVERSE PROBLEMS IN SCIENCE AND ENGINEERING, vol.32, pp.1-46, 2024 (Scopus)
- XI. **Some Inferences on Three Parameters Birnbaum-Saunders Distribution: Statistical Properties, Characterizations and Applications**  
 Kausar N.  
 Computational Journal of Mathematical and Statistical Sciences, vol.2, no.2, pp.197-222, 2023 (Peer-Reviewed)

- Journal)
- XII. **SOLVING AN INTEGRAL EQUATION VIA INTUITIONISTIC FUZZY BIPOLAR METRIC SPACES**  
 Mani G., Gnanaprakasam A. J., KAUSAR N., Munir M., Khan S., Ozbilge E.  
*Decision Making: Applications in Management and Engineering*, vol.6, no.2, pp.536-556, 2023 (Scopus)
- XIII. **CHARACTERIZING HYPERGROUPOIDS THROUGH M-RELATIONS AND M-CONSISTENCIES**  
 Kausar N.  
*JOURNAL OF THE INTERNATIONAL MATHEMATICAL VIRTUAL INSTITUTE*, vol.13, no.1, pp.55-71, 2023 (Peer-Reviewed Journal)
- XIV. **DECISION MAKING UNDER INCOMPLETE DATA: INTUITIONISTIC MULTI FUZZY IDEALS OF NEAR-RING APPROACH**  
 Batool N., Hussain S., KAUSAR N., Munir M., Li R. Y. M., Khan S.  
*Decision Making: Applications in Management and Engineering*, vol.6, no.1, pp.564-582, 2023 (Scopus)
- XV. **An Integrated Fuzzy Structured Methodology for Performance Evaluation of High Schools in a Group Decision-Making Problem**  
 Li P., Edalatpanah S. A., Sorourkhah A., Yaman S., KAUSAR N.  
*Systems*, vol.11, no.3, 2023 (Scopus)
- XVI. **Conormal Product for Intuitionistic Anti-Fuzzy Graphs**  
 Kalaiarasi K., Mahalakshmi L., KAUSAR N., Islam A. B. M. S.  
*International Journal of Fuzzy Logic and Intelligent Systems*, vol.23, no.1, pp.79-90, 2023 (Scopus)
- XVII. **Simplifying the Complexity in the Problem of Choosing the Best Private-Sector Partner**  
 Qiu P., Sorourkhah A., Kausar N., Cagin T., Edalatpanah S. A.  
*Systems*, vol.11, no.2, 2023 (Scopus)
- XVIII. **A Fuzzy Intelligent Computing Approach for Energy/Voltage Control of Microgrids**  
 Xu A., Bouteraa Y., KAUSAR N., Mohammadzadeh A., Pamucar D., Abdullah Salman M.  
*Journal of Mathematics*, vol.2023, 2023 (Scopus)
- XIX. **On family of the Caputo-type fractional numerical scheme for solving polynomial equations**  
 Shams M., KAUSAR N., Agarwal P., Jain S., Salman M. A., Shah M. A.  
*Applied Mathematics in Science and Engineering*, vol.31, no.1, 2023 (Scopus)
- XX. **Direct Product of Finite Intuitionistic Fuzzy Normal Subrings over Non-Associative Rings**  
 Kausar N., Munir M., Kousar S., Farajzadeh A., ERSOY B. A.  
*THAI JOURNAL OF MATHEMATICS*, vol.20, no.3, pp.1041-1064, 2022 (ESCI)
- XXI. **Solution of Integral Equation via Orthogonally Modified  $\mathcal{F}$ -Contraction Mappings on O-Complete Metric-Like Space**  
 Prakasam S. K., Gnanaprakasam A. J., KAUSAR N., Mani G., Munir M., Salahuddin S.  
*International Journal of Fuzzy Logic and Intelligent Systems*, vol.22, no.3, pp.287-295, 2022 (Scopus)
- XXII. **Direct Product of Finite Intuitionistic Fuzzy Normal Subrings over Non-Associative Rings**  
 Kausar N.  
*THAI JOURNAL OF MATHEMATICS*, vol.20, no.3, pp.1041-1064, 2022 (ESCI)
- XXIII. **SOFT INTERSECTION AND SOFT UNION k-IDEALS OF HEMIRINGS AND THEIR APPLICATIONS**  
 Anjum R., Lodhi A. R. K., Munir M., KAUSAR N.  
*Korean Journal of Mathematics*, vol.30, no.2, pp.263-281, 2022 (Scopus)
- XXIV. **The Characterization of Fuzzy and Anti Fuzzy Ideals in AG-groupoid**  
 Kausar N.  
*THAI JOURNAL OF MATHEMATICS*, vol.20, no.2, pp.653-667, 2022 (ESCI)
- XXV. **The Characterization of Fuzzy and Anti Fuzzy Ideals in AG-groupoid**  
 Kausar N., Munir M., Agarwal P., Kalaiarasi K.  
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- XXVI. **Reduced rings and modules arising from Morita contexts**  
 Kausar N.  
*International Journal of Algebra*, vol.16, no.3, pp.97-108, 2022 (Peer-Reviewed Journal)
- XXVII. **Highly efficient numerical scheme for solving fuzzy system of linear and non-linear equations with**

- application in differential equations**  
 Shams M., KAUSAR N., Agarwal P., Momani S., Shah M. A.  
*Applied Mathematics in Science and Engineering*, vol.30, no.1, pp.777-810, 2022 (Scopus)
- XXVIII. Fuzzy homomorphism theorems on rings**  
 Addis G. M., KAUSAR N., Munir M.  
*Journal of Discrete Mathematical Sciences and Cryptography*, vol.25, no.6, pp.1757-1776, 2022 (ESCI)
- XXIX. On the Left and Right Almost Hyperideals of LA-Semihypergroups**  
 Nawaz S., Gulistan M., KAUSAR N., Salahuddin S., Munir M.  
*International Journal of Fuzzy Logic and Intelligent Systems*, vol.21, no.1, pp.86-92, 2021 (ESCI)
- XXX. Orthogonal F-Contraction Mapping on O-Complete Metric Space with Applications**  
 Mani G., Gnanaprakasam A. J., KAUSAR N., Munir M., Salahuddin S.  
*International Journal of Fuzzy Logic and Intelligent Systems*, vol.21, no.3, pp.243-250, 2021 (ESCI)
- XXXI. Hypergroupoids as Tools for Studying Blood Group Genetics**  
 Munir M., KAUSAR N., Salahuddin S., Anjum R., Xu Q., Ahmad W.  
*International Journal of Fuzzy Logic and Intelligent Systems*, vol.21, no.2, pp.135-144, 2021 (ESCI)
- XXXII. Studying semigroups using the properties of their prime m-ideals**  
 Munir M., KAUSAR N., Davvaz B., Gulistan M., Gulzar M.  
*Bulletin of Irkutsk State University, Series Mathematics*, vol.4, pp.109-125, 2021 (ESCI)
- XXXIII. Study on left almost-rings by anti fuzzy bi-ideals**  
 KAUSAR N., Munir M., Gulzar M., Addis G. M., Gulistan M.  
*International Journal of Nonlinear Analysis and Applications*, vol.11, no.2, pp.483-498, 2020 (ESCI)
- XXXIV. Left Regular Ordered AG-Groupoids**  
 Kausar N.  
*Advanced Mathematical Models & Applications*, vol.5, no.3, pp.307-312, 2020 (Peer-Reviewed Journal)
- XXXV. ANTI FUZZY BI-IDEALS ON ORDERED AG-GROUPOIDS**  
 KAUSAR N., Munir M., Gulzar M., Addis G. M., Anjum R.  
*Journal of the Indonesian Mathematical Society*, vol.26, no.3, pp.299-318, 2020 (ESCI)
- XXXVI. A Characterization of Semigroups Through Their Fuzzy Generalized m-Bi Ideals**  
 Kausar N.  
*KOREAN JOURNAL OF MATHEMATICS*, vol.28, no.3, pp.623-638, 2020 (ESCI)
- XXXVII. Introducing Fuzzy Almost m-Ideals, Fuzzy Generalized Almost m-Ideals and Related Objects in Semigroups**  
 Kausar N.  
*MALAYSIAN JOURNAL OF MATHEMATICAL SCIENCES*, vol.14, no.3, pp.351-371, 2020 (ESCI)
- XXXVIII. Ordered LA-groups and ideals in ordered LA-semigroups**  
 Kausar N.  
*ITALIAN JOURNAL OF PURE AND APPLIED MATHEMATICS*, vol.44, pp.723-730, 2020 (ESCI)
- XXXIX. Ideals in LA-rings**  
 Kausar N.  
*ITALIAN JOURNAL OF PURE AND APPLIED MATHEMATICS*, vol.44, pp.731-744, 2020 (ESCI)
- XL. Fuzzy bi-ideals in LA-rings**  
 Kausar N.  
*ITALIAN JOURNAL OF PURE AND APPLIED MATHEMATICS*, vol.44, pp.745-763, 2020 (ESCI)
- XLI. Certain properties of-fuzzy subrings**  
 Alghazzawi D., Hanoun W. H., Gulzar M., Abbas G., KAUSAR N.  
*Indonesian Journal of Electrical Engineering and Computer Science*, vol.21, no.2, pp.822-828, 2020 (Scopus)
- XLII. Anti fuzzy interior ideals on Ordered AG-groupoids**  
 KAUSAR N., Alesemi M., Salahuddin S.  
*European Journal of Pure and Applied Mathematics*, vol.13, no.1, pp.113-129, 2020 (ESCI)
- XLIII. Characterizing the Ordered AG-Groupoids through the Properties of Their Different Classes of Ideals**  
 Реттелген AG-группоидтардың әртүрлі идеалды кластарының қасиеттері бойынша

- сипаттамасы Характеризация упорядоченных AG-группоидов через свойства их различных классов идеалов**  
KAUSAR N., Munir M., Gulzar M., Addis G.  
Bulletin of the Karaganda University. Mathematics Series, vol.100, no.4, pp.101-112, 2020 (ESCI)
- XLIV. Direct product of finite anti fuzzy normal sub-rings over non-associative rings**  
KAUSAR N., Munir M., Salahuddin S., Baharudin Z., Islam B. U.  
Journal of Mathematics and Computer Science, vol.22, no.4, pp.399-411, 2020 (ESCI)
- XLV. Characterisation of Non-Associative Ordered Semigroups by the Properties of F-Ideals**  
Kausar N., Munir M., Kousar S., Gulistan M., Anitha K.  
FUZZY INFORMATION AND ENGINEERING, vol.12, no.4, pp.490-508, 2020 (ESCI)
- XLVI. Characterizing semi-groups through the properties of their fuzzy m-bi-ideals**  
Munir M., KAUSAR N., Salahuddin S., Shafiq A., Habib M.  
Journal of Mathematics and Computer Science, vol.23, no.3, pp.170-180, 2020 (ESCI)
- XLVII. Characterizations of Non-Associative Ordered Semigroups by Their Intuitionistic Fuzzy Bi-Ideals**  
KAUSAR N., Alesemi M., Salahuddin S., Munir M.  
Discontinuity, Nonlinearity, and Complexity, vol.9, no.2, pp.257-275, 2020 (Scopus)
- XLVIII. FUZZY IDEALS ON ORDERED AG-GROUPOIDS**  
KAUSAR N., Alesemi M., Salahuddin S.  
International Journal of Analysis and Applications, vol.18, no.2, pp.277-303, 2020 (ESCI)
- XLIX. Characterizations of non-associative rings by their intuitionistic fuzzy bi-ideals**  
KAUSAR N., Waqar M. A.  
European Journal of Pure and Applied Mathematics, vol.12, no.1, pp.226-250, 2019 (Scopus)
- L. Intuitionistic fuzzy ideals with thresholds  $(\alpha; \beta]$  in LA-rings**  
KAUSAR N., Ul Islam B., Ahmad S. A., Waqar M. A.  
European Journal of Pure and Applied Mathematics, vol.12, no.3, pp.906-943, 2019 (Scopus)
- LI. DIRECT PRODUCT OF FINITE FUZZY NORMAL SUBRINGS OVER NON-ASSOCIATIVE RINGS**  
KAUSAR N., Waqar M. A.  
International Journal of Analysis and Applications, vol.17, no.5, pp.752-770, 2019 (Scopus)
- LII. Characterizations of non associative ordered semigroups by the properties of their fuzzy ideals with thresholds  $(\alpha, \beta]$**   
KAUSAR N.  
Prikladnaya Diskretnaya Matematika, no.43, pp.37-59, 2019 (Scopus)

## Activities in Scientific Journals

JOURNAL OF FUZZY EXTENSION & APPLICATIONS, Advisory Committee Member, 2023 - Continues  
DECISION MAKING: APPLICATIONS IN MANAGEMENT AND ENGINEERING, Editor, 2023 - Continues

## Memberships / Tasks in Scientific Organizations

The Institute of Research engineers and Doctors, Member, 2010 - Continues, Pakistan  
Pakistan Mathematical Society, Member, 2010 - Continues, Pakistan

## Scientific Refereeing

Partial Differential Equations in Applied Mathematics, Other Indexed Journal, September 2023  
INTERNATIONAL JOURNAL OF COMPUTATIONAL INTELLIGENCE SYSTEMS, SCI Journal, May 2023  
Journal of Fuzzy Extension and Applications, Other Indexed Journal, January 2023

Journal of Intelligent & Fuzzy Systems, SCI Journal, September 2022  
SOFT COMPUTING, SCI Journal, June 2022  
Mathematics ( MDPI), SCI Journal, March 2022  
SYMMETRY, INTEGRABILITY AND GEOMETRY - METHODS AND APPLICATIONS, SCI Journal, March 2022  
Axioms, SCI Journal, March 2022  
INVERSE PROBLEMS IN SCIENCE AND ENGINEERING, SCI Journal, January 2022  
COMPUTATIONAL AND APPLIED MATHEMATICS, SCI Journal, January 2022  
International Journal of Fuzzy Logic and Intelligent Systems, Journal Indexed in ESCI, July 2021

## Congress and Symposium Activities

International Conference on Recent Development and Techniques in pure and applied Mathematics (ICRDT-PAM)  
Alagappa University, Karaikudi, Tamil Nadu, India, Invited Speaker, Tamil Nadu, India, 2023  
Fuzzy concepts in non-associative and non-commutative algebraic structures" Department of Mathematics, Faculty of Arts and Sciences, Yildiz Technical University, Istanbul ,Türkiye, Invited Speaker, İstanbul, Turkey, 2022  
the "17th International Pure Mathematics Conference 2016", organized by Preston University, Islamia University Bahawalpur and Pakistan Mathematical Society, Islamabad, Pakistan, Audience, Islamabad, Pakistan, 2016  
"11th International Pure Mathematics Conference 2010", organized by Preston University, Quaid-i-Azam University and Pakistan Mathematical Society, Islamabad, Pakistan, Audience, Islamabad, Pakistan, 2010

## Scholarships

Indigenous PhD Scholarship of HEC, Islamabad, Pakistan, Ministry of Education, 2010 - 2015

## Awards

Kausar N., Research publication Award, Yildiz Technical University, April 2023  
Kausar N., Startup Research Grant Program, Higher Education Commission, Pakistan, February 2016  
Kausar N., Interim Placement of Fresh PhDs Program, Higher Education Commission, Pakistan, August 2015