

## Dr. Sunny Joseph Kalayathankal

MSc., BEd, MPhil, CIC, PGDCA, ADCA, MCA, M.Tech (IT)

Ph.D (Mathematics), Ph.D (Computer Science)

Professor & Dean of Research

Jyothi Engineering College, Jyothi Hills, Panjal Road

Vettikattiri P.O, Cheruthuruthy, Thrissur, Kerala - 679531

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EDUCATION			
Program	Institution	%/Grade	Year
Ph.D.(Computer Science)	Bharathiar University	Awarded	2018
Ph.D.(Mathematics)	Kerala University	Awarded	2010
M.Tech. IT	Karnataka State Open University	Passed	2013
MCA	Indira Gandhi National Open University	70.0%	2002
ADCA	Indira Gandhi National Open University	Passed	2000
PGDCA	Indira Gandhi National Open University	Passed	1999
Certificate in Computing	Indira Gandhi National Open University	Passed	1999
M.Phil.(Maths)	Kerala University	A grade	1993
B.Ed.(Maths)	Calicut University	Passed	1989
M.Sc.(Maths)	Kerala University	Distinction	1986

## TEACHING EXPERIENCE

- Date of appointment: 10 -08 -1987.
- Date of Retirement: 30 – 04 - 2020.
- 32 years and 8 months teaching experience and 16 years research experience at Kuriakose Elias College, Mannanam, Kottayam, Kerala, India affiliated to Mahatma Gandhi University, Kottayam, Kerala.
- Presently Working as Professor & Dean of Research at Jyothi Engineering College, Thrissur affiliated to APJ Abdul Kalam Technological University located in Thiruvananthapuram, Kerala, India.

<b>Name of Institution</b>	<b>From</b>	<b>To</b>	<b>Designation</b>
K.E.College, Mannanam	10-08-1987	01-01-2006	Assistant Professor
K.E.College, Mannanam	01-01-2006	01-06-2016	Associate Professor
K.E.College, Mannanam	01-06-2016	01-06-2019	Head of Department
K.E.College, Mannanam	01-06-2019	30-04-2020	Associate Professor
Jyothi Engineering College	09-06-2020		Professor & Dean

## RESEARCH GUIDESHIP

- Mahatma Gandhi University, Kottayam, Kerala.
- Bharathiar University, Coimbatore, Tamil Nadu.
- Karpagam University, Coimbatore, Tamil Nadu.
- APJ Abdul Kalam Technological University.
- Number of Ph.D. Students in M.G. University: 3
- Number of Ph.D Produced : 2

### Details of Ph.D Produced

1. Susanth C Associate Professor, Dept.of Mathematics  
Vidya Academy of Science & Technology, Trissur, Kerala.  
University Name: Bharathiar University, Coimbatore  
Tile of Thesis : A Study on Graph Parameters and Associated Graphs  
Year : 2018
2. Ann Mary Philip, Assistant Professor, Dept.of Mathematics  
Assumption College, Changanacherry, Kerala  
University Name: Mahatma Gandhi University, Kerala  
Tile of Thesis : A Study of Inter-Valued Fuzzy Graphs  
Year : 2020

## RESEARCH AREAS

- Graph Theory and Fuzzy Graph,
- Fuzzy Modeling and Decision Making
- Fuzzy Data Mining, Neural Networks, History of Mathematics.

## TITLE OF THE Ph.D. THESIS IN MATHEMATICS

- Mathematical Modeling of Change in Space of Surface Water in Tropical River System – Rain to Repository.

## TITLE OF THE Ph.D. THESIS IN COMPUTER SCIENCE

- Fuzzy Logic and Decision Making

## PROJECTS

- A Fuzzy Modeling of Flood Alarm and Simulation : A case study from selected Sites of Kerala, India
- Principal Investigator : Dr. Sunny Joseph Kalayathankal
- Sponsored by University Grant Commission (September 2012 to February 2014).

## POSITIONS OF RESPONSIBILITY & ACHIEVEMENTS

- **Head of the Department of Mathematics**, K.E.College, Mannanam Kottayam, Kerala, India ( 01-06-2016 to 01-06-2019 )
- Conference Chair of the 1<sup>st</sup> International Conference on Science, Engineering, Technology & Management , ICSETM -2017 (March 8 – 9, 2017)
- Conference Chair of the 2<sup>nd</sup> International Conference on Science, Engineering, Technology & Social Sciences , ICSETS – 2018 (January 18 – 19, 2018)
- Conference Chair of the 3<sup>rd</sup> International Conference on Science, Engineering, Technology & Social Sciences , ICSETS – 2019 (March 11 – 12, 2019)
- Conference Chair of the 4<sup>th</sup> International Conference on Science, Engineering, Technology & Social Sciences , ICSETS – 2020 (February 1 – 2, 2020)
- **Best NSS Programme officer of M.G.University** (2013-14)
- National Service Scheme Programme officer (2011-2014).
- **Subject Expert of Computer Science in Mahatma Gandhi University.**
- President of K. E. College Staff Co-Operative Society (2010 – 2015)
- Co-ordinator of the UGC Sponsored National Conference Mathematical Modeling and Simulation (August 16 - 18 (2007).
- Convener of the UGC Sponsored National Conference Recent Trends in Information Technology ( 17 - 19 August 2009 )
- Convener of the UGC Sponsored National Conference Mathematical Models and Methods in Applied Sciences (M3AS) (23- 25 November 2009).
- Convener of the UGC Sponsored National Conference Fuzzy Logic and its Applications ( 27- 29 September 2011).
- Convener of the UGC Sponsored National Conference Mathematical Models and Methods in Applied Sciences (M3AS) (19 - 21 November 2015)
- Invited Speaker of various National and International conferences.

- Public Relations Officer (PRO) of K.E.College, Mannanam
- Arts Club Director of K.E.College (2016 – 2017).
- Outstanding Performance and Contribution award in SICEST 2016 held at Santika Hotel Bangka Island Indonesia.
- Former AICUF Director of K.E.College Unit, Mannanam ( 1987-1997)
- Former Organizing Secretary of Mission League, Trivandrum region.
- Former President of AICUF Trivandrum Region (1985-1986)
- Former Best Camper of Mission League, Changanacherry Diocese (1979)

**Placement Director, K. E. College, Mannanam**

- Contacted various companies and invited them to take part in the
- K. E. College Placement Season.
- Assisted the Principal in compiling placement feedbacks of senior batches.
- Organized Pre-Placements talks and ensured its smooth running.

## TRAINING PROGRAMMES ATTENDED

**1. Title : Empanelled Training for National Service Scheme**

Sponsored by : Ministry of Youth Affairs and Sports, Government of India

Conducted by : Rajagiri College of Social Sciences, Kalamassery

Period : 15 -10 - 2012 to 21 - 10 - 2012

**2. Title : Refresher Course in Computer Science**

Sponsored by : University Grants Commission and M.G.University

Period : 12 - 02 - 2004 to 08 - 03 - 2004

**3. Title : Refresher Course in Mathematics**

Sponsored by : University Grants Commission and M.G.University

Period : 05 - 04 - 1999 to 30 - 04 - 1999

**4. Title: Refresher Course in Mathematics**

Sponsored by: University Grants Commission and M. G. University

Period: 27 – 02 - 1997 to 25 – 03 – 1997

**5. Title: Refresher Course in Mathematics**

Sponsored by: University Grants Commission and M. G. University

Period: 29 – 06 - 1992 to 23 – 07 - 1992

**6. Title: Orientation Course**

Sponsored by: University Grants Commission and Academic Staff College Kerala

University. Period: 22 – 07 - 1988 to 31 – 07 – 1988.

## RESEARCH PUBLICATIONS

- Number of Publications and Accepted in Journals : 58
- Number of Publications in Proceedings : 25
- Number of Papers Communicated : 5
- Number of Seminars attended in National and International : 74
- Keynote / Invited / Chair Positions : 38

## REVIEWER & EDITORIAL MEMBER

- Reviewer of Iranian Journal of Fuzzy System
- Reviewer of International Journal of Fuzzy system
- Reviewer of Journal of Mathematical Modeling and Computer Simulation.
- Reviewer of IIENG Journals.
- Reviewer of Science Publication Journals.
- Editorial Board Member of International Journal of Advances in Computer Science and Information Technology (IJACSIT).
- Editorial Board Member of International Journal of Fuzzy Mathematics with Applications (IJFMA).

## TEACHING

- Object oriented Programming with C++
- Mathematical Economics,
- Software Engineering, Database Management System
- Fuzzy Sets and System
- Complex Analysis

## PERSONAL DETAILS

• Date of Birth	: 03 – 04 – 1964
• Name of Father	: K.A.Joseph
• Communication Address	: Kalayathankal, Mannanam, Kottayam, Kerala, India Pin-686561

## LIST OF PUBLICATIONS

1. Ann Mary Philip, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara, The Interval Valued Fuzzy Graph Associated with a Crisp Graph, Italian Journal of Pure and Applied Mathematics, 2020 (Accepted).
2. Ann Mary Philip, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara, Laplacian Energy of Interval Valued Fuzzy Graphs, AIP Conference Proceedings, 2020 (Accepted)
3. Ann Mary Philip, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara, Strongly Connected Interval Valued Fuzzy Graphs, Advances in Mathematics: Scientific Journal Volume 9, 2020, 7105-7116 .
4. Ann Susa Thomas, Sunny Joseph Kalayathankal, Spectra of Corona Products based on Splitting Graph, AIP Proceedings, 2020 (Accepted).
5. E.M.Suji, S.J.Kalayathankal, J.V.Kureethara, Bounds for Zagreb class of indices on Alkylating agents, AIP Proceedings, 2020 (Accepted).
6. E.M.Suji, S.J.Kalayathankal, J.V.Kureethara, Mathematical approach to the study on alkylating agents, AIP Proceedings, 2020 (Accepted).
7. Ann Mary Philip, Sunny Joseph Kalayathankal, and Joseph Varghese Kureethara, On Interval Valued Fuzzy Graphs Associated with a Finite Group, AIP Conference Proceedings 2236, 060005-1 to 060005-8, 2020.
8. E.M. Suji, S.J.Kalayathankal, Topological Indices: Study of a Chemical Molecular Structure, Think India Journal, 22(14) 9341-9351, 2019
9. Sajan Mathew, John T Abraham, Sunny Joseph Kalayathankal, Data Mining Applications in Higher Education and Innovation Advancements, Think India Journal, 22(14) 9380-9384, 2019
10. Ann Mary Philip, Sunny Joseph Kalayathankal, and Joseph Varghese Kureethara, On interval-valued fuzzy graphs associated with a crisp graph, Italian Journal of Pure and Applied Mathematics (Accepted).
11. Sunny Joseph Kalayathankal, John T Abraham, Joseph Varghese Kureethara, A Fuzzy Approach To Project Team Selection, International Journal of Scientific and Technology Research 8(09) 1794- 1798 (2019)
12. Ann Mary Philip, Sunny Joseph Kalayathankal, and Joseph Varghese Kureethara, On some matrices associated with interval valued fuzzy graphs, New Trends in Mathematical Sciences, NTMSCI 7, No. 3, 268-277 (2019).

13. Ann Mary Philip, Sunny Joseph Kalayathankal, and Joseph Varghese Kureethara, Characterization of interval- valued fuzzy bridges and cutnodes, AIP Conference Proceedings, 2095, 030002 (2019).
14. Ann Mary Philip, Sunny Joseph Kalayathankal, and Joseph Varghese Kureethara, On Different kinds of arcs in interval valued fuzzy graphs, Malaya Journal of Matematik 7(2) (2019) 309-313.
15. Edithstine Rani Mathew, Sunny Joseph Kalayathankal, A New Ranking Method Using Dodecagonal Fuzzy Number To Solve Fuzzy Transportation Problem, International Journal of Applied Engineering Research 14(4) (2019) 948-951
16. Sunny Joseph Kalayathankal, John T. Abraham, and Joseph Varghese Kureethara, A fuzzy computing software quality model, AIP Conference Proceedings 2080, 050004 (2019)
17. N K.Sudev, Susanth C, K.P.Chithra, S.J Kalayathankal, ,Some New results on Curling Number of Graph, Journal of Combinatorial Mathematics and Combinatorial Computing, 105 (2018) 117-130.
18. Susanth C, Sunny Joseph Kalayathankal, N K Sudev, J. Kok, Some New Results on the Rainbow Neighbourhood Number of Graphs, National Academy Science Letters, Science Citation Index Expanded, 17 October 2018.
19. Susanth C, Sunny Joseph Kalayathankal, N K Sudev, J. Kok, A Note on the Rainbow Neighbourhood Number of Certain Graph Classes, National Academy Science Letters, Science Citation Index Expanded, 25 September 2018.
20. Sajjan Mathew, John T Abraham, Sunny Joseph Kalayathankal, Data Mining Techniques and Methodologies, International Journal of Civil Engineering and Technology, 9(7) 2018, 246 - 252.
21. Joyce Kurian, Sunny Joseph Kalayathankal, A study on some of the contributions of Francois Viete in Algebra, Centum, 10 (2), 2017, pp.118-121
22. Joyce Kurian, Sunny Joseph Kalayathankal, A study on some of the contributions of Thabit Ibn Qurra in Algebra, Human Concerns and Issues in Science- Newman Publication, 1, 2017, pp. 82-84
23. S. J. Kalayathankal, J. V. Kureethara, J. T. Abraham, A Modified Fuzzy Approach To Prioritize Project Activities, International Journal of Engineering & Technology, 7(2.6) 2018, 158 – 162.
24. Susanth C, S.J Kalayathankal, Operations on independence numbers of certain graph classes, Journal of Discrete Mathematical Sciences and Cryptography, 21:1, 75-82 (2018).

25. Susanth C, S.J Kalayathankal, Operations on independence numbers of certain graph classes, *Journal of Discrete Mathematical Sciences and Cryptography*, 21:1, 75-82 2018.
26. S. J. Kalayathankal, J. T. Abraham, J. V. Kureethara, An IFS Model of SLCM Selection, *International Journal of Computer Sciences and Engineering*, 6(1), 2018, 42-48
27. S. J. Kalayathankal, J. T. Abraham, J. V. Kureethara, A Modified Fuzzy Similarity Measure Decision Making Approach to SLCM Selection, *International Journal of Computer Sciences and Engineering*, 5(9), 2017, 32-39.
28. Ann Susa Thomas, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara, An Introductory Note on the Spectrum and Energy of Molecular Graphs, *Mapana Journal of Sciences*, 16(2), 2017, 17-27.
29. Susanth C, N K Sudev, S.J Kalayathankal, On Chromatic Curling Number of Graphs, *Cotemporary Studies in Discrete Mathematics*, 1(1), 21- 30, 2017.
30. Susanth C, N K Sudev, S.J Kalayathankal, A Study on Equitable Chromatic Curling Number of Graphs, *Cotemporary Studies in Discrete Mathematics*, 1(1), 53-60, 2017.
31. Sunny Joseph Kalayathankal, John T Abraham, Joseph Varghese Kureethara, An Ordered Ideal Intuitionistic Fuzzy Software Quality Model, *International Journal of Mechanical Engineering and Technology*, 8(10) 2017, 535 - 546.
32. Sunny Joseph Kalayathankal, John T Abraham, A Fuzzy Soft Software Life Cycle Model, *International Journal of Civil Engineering and Technology*, 8(8) 2017, 755 - 761.
33. Sunny Joseph Kalayathankal, John T Abraham, A Fuzzy Decision Making Approach to SLCM Selection, *International Journal of Civil Engineering and Technology*, 8(6) 2017, 178 – 185.
34. Sunny Joseph Kalayathankal, , *Sixteenth Centuary European Mathematics*, Centum, Volume 9(1), 2016.
35. Sunny Joseph Kalayathankal, J.Kok, Susanth C, Brush numbers of certain Mycielski graphs, *International Journal of Pure and Applied Mathematics*, 106 (2), (2016), 663-675.
36. Sunny Joseph Kalayathankal, J.Kok, Susanth C, A Note on The Gutman Index of Jaco Graphs, *International Journal of Pure and Applied Mathematics*, 106 (2), (2016), 583-591.
37. Sunny Joseph Kalayathankal, Susanth C, N.K.Sudev, A Note on McPherson Numbers of Graphs, *Journal of Informatics and Mathematical Sciences - a special issue on Jaco graphs*, (2016).
38. Sunny Joseph Kalayathankal, Susanth C , Operations on covering numbers of certain graph classes, *International Journal of Advances Mathematical Sciences*, 4(1), (2016), 1-3.



39. Sunny Joseph Kalayathankal, Susanth C, The sum and Product of Chromatic Numbers of Graphs and their Line Graphs, *British Journal of Mathematics & Computer Science*, 12(2) : 1-7, 2016.
40. Sunny Joseph Kalayathankal, Susanth C, On the Sum and Product of Covering Numbers of Graphs and their Line Graphs, *Communications in Mathematics and Applications*, 6(1), 9-16,2015.
41. Sunny Joseph Kalayathankal, J.Kok, Susanth C., A Study on Linear Jaco Graphs, *Journal of Informatics and Mathematical Sciences*, 7(2), 69-80, 2015.
42. Sunny Joseph Kalayathankal, J.Kok, Susanth C, Competition Graphs of Jaco Graphs and the Introduction of the Grog Numbers of a Simple Connected Graph, *Fundamental Journal of a Mathematics and Mathematical Sciences*, 3(1), 33-52 (2015).
43. Sunny Joseph Kalayathankal, Susanth C, The sum and Product of independence numbers graphs and their line graphs, *Journal of Informatics and Mathematical Sciences*, 6(2), 77-85, (2014).
44. Sunny Joseph Kalayathankal et al., Handling MADM Problems Based on Ordered Intuitionistic Fuzzy sets, *Journal of fuzzy mathematics*, 22(3), 2014, 581-586.
45. Sunny Joseph Kalayathankal et al., "Algebra" The Symbolic Language of Mathematics, *Entire Research*, 5 (3), 2013, 16-19.
46. Sunny Joseph Kalayathankal et al., Ordered Ideal Intuitionistic Fuzzy Model of Flood Alarm, *Iranian Journal of Fuzzy Systems*, 9(3), 2012, 47-60.
47. Sunny Joseph Kalayathankal et al., Similarity Measures of Ordered Ideal Intuitionistic Fuzzy Sets, *Journal of fuzzy mathematics*, 20(3), 2012, 743-750.
48. Sunny Joseph Kalayathankal et al., Ordered Ideal Intuitionistic Fuzzy Flood Index Model, *Journal of fuzzy mathematics*, 20(3), 2012, 731-742.
49. Sunny Joseph Kalayathankal et al., A Fuzzy Network Flood Alarm Model, *Journal of fuzzy mathematics*, 20(3), 2012, 693-705.
50. Sunny Joseph Kalayathankal et al., Intuitionistic Fuzzy Soft Flood Index Model, *Journal of fuzzy mathematics*, 20(3), 2012, 683-692.
51. Sunny Joseph Kalayathankal et al., Ordered Intuitionistic Fuzzy Flood Index Model, *Journal of fuzzy mathematics*, 19(1), 2011, 211-221.
52. Sunny Joseph Kalayathankal et al., Similarity Measures of Ordered Intuitionistic Fuzzy Sets, *International Journal of Fuzzy Mathematics and Systems* V(1), 2011, 155-159.
53. Sunny Joseph Kalayathankal et al., Ordered intuitionistic fuzzy soft model of flood alarm, *Iranian Journal of Fuzzy Systems* Vol. 8, No.1, (2011), 29-39.

54. Sunny Joseph Kalayathankal et al., Ordered Intuitionistic Fuzzy Soft sets, Journal of fuzzy Mathematics, 18(4), 2010, 991-998.
55. Sunny Joseph Kalayathankal et al., A Fuzzy Soft Flood Alarm Model, Mathematics and Computers in Simulation, 80, 2010, 887-893.
56. Sunny Joseph Kalayathankal et al., OIIF Model of Flood Alarm, Global Journal of Mathematical Sciences : Theory and Practical 1 (2009) 1 - 8.
57. Sunny Joseph Kalayathankal et al., MADM models using ordered ideal intuitionistic fuzzy sets, Advances in fuzzy mathematics 4(2) (2009) 101 - 106.
58. Sunny Joseph Kalayathankal and G.Suresh Singh, IFS Model of Flood Alarm, Global Journal of Pure and Applied Mathematics 9 (2009) 15 - 22.

#### LIST OF PUBLICATIONS IN CONFERENCE PROCEEDINGS

59. Sarannya Kumari R, Sunny Joseph Kalayathankal, Cylindrical Fuzzy Sets and its Applications, 4<sup>th</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, February 1-2, 2020
60. Agnes Antony, Sunny Joseph Kalayathankal, History of Mathematics : Mathematical Activity in Trigonometry in Medieval Arabia, 4<sup>th</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, February 1-2, 2020
61. Suji Elizabeth Mathew, Sunny Joseph Kalayathankal, Joseph Varghese, A Mathematical approach to the bounds of classical antimetabolite drugs using QSPR, 4<sup>th</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, February 1-2, 2020
62. Sajan Mathew, John T.Abraham, Sunny Joseph Kalayathankal, Data Mining Applications in Higher Education and Innovation Advancements, 3<sup>rd</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, March 11-12, 2019
63. Sunny Joseph Kalayathankal, Edithstine Rani Mathew, A Novel Approach to Solve Interval Valued Fuzzy Transportation Problem, 3<sup>rd</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, March 11-12, 2019
64. Sunny Joseph Kalayathankal, Ann Susa Thomas, Joseph Varghese, Laplacian Spectrum of Corona Product of Graphs and its Applications, 3<sup>rd</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, March 11-12, 2019

65. Sunny Joseph Kalayathankal, Ann Mary Philip, Joseph Varghese, On Interval Valued Fuzzy Graphs Associated with a Finite Group, 3<sup>rd</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, March 11-12, 2019.
66. Sunny Joseph Kalayathankal, Sarannya Chaloor, On  $g$ -Fuzzy Quotient Topological Spaces, 3<sup>rd</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, March 11-12, 2019
67. Sunny Joseph Kalayathankal, Suji Elizabeth Mathew, Joseph Varghese, Topological Indices Study of a Chemical Molecular Structure, 3<sup>rd</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, March 11-12, 2019
68. Sunny Joseph Kalayathankal, John T Abraham, A Fuzzy approaches to decision making, in Proceedings of the Asian Mathematical Conferences (AMC 2016 ) held at BNDCC, Bali Indonesia, July 25 - 29, 2016.
69. Sunny Joseph Kalayathankal, A Study on the curling number of certain graph classes, in Proceedings of the National conference on bridging innovative trends in pure and applied Mathematics held at Bennari Ammen Institute of Technology, Sathyamangalam, July 15 - 16, 2016.
70. Sunny Joseph Kalayathankal, A Modified Fuzzy Multiple Criteria Decision Making Approach to SLCM Selection, in : Proceedings of the National conference on bridging innovative trends in pure and applied Mathematics held at Bennari Ammen Institute of Technology, Sathyamangalam, July 15 - 16, 2016.
71. Sunny Joseph Kalayathankal , Fuzzy approach to decision making, in : Proceedings of the National Seminar on Mathematical Models and Methods in Applied Sciences held at Department of Mathematics, K.E.College, Mannanam, Kerala, November 19 - 21, 2015.
72. Sunny Joseph Kalayathankal and Stancy V Sebastian, Fuzzy Database for Heart Disease, in Proceedings of the National Seminar on Mathematical Models and Methods in Applied Sciences held at Department of Mathematics, K.E.College, Mannanam, Kerala, November 19 - 21, 2015.
73. Sunny Joseph Kalayathankal and Beena T Balan, Solving Fuzzy Multi-objective Linear Programming with Triangular Membership Functions, in : Proceedings of the National Seminar on Mathematical Models and Methods in Applied Sciences held at Department of Mathematics, K.E.College, Mannanam, Kerala, November 19 - 21, 2015
74. Sunny Joseph Kalayathankal and Susanth C, On curling Number of Graphs, in Proceedings of the National Seminar on Mathematical Models and Methods in Applied

- Sciences held at Department of Mathematics, K.E.College, Mannanam, Kerala, November 19 - 21, 2015.
75. Sunny Joseph Kalayathankal and Bobina J. Mattam, A property of line Graphs, in Proceedings of the National Seminar on Mathematical Models and Methods in Applied Sciences held at Department of Mathematics, K.E.College, Mannanam, Kerala, November 19 - 21, 2015.
  76. Sunny Joseph Kalayathankal and G.Suresh Singh, Ordered ideal intuitionistic fuzzy model for flood prediction, in : Proceedings of the National Conference on Discrete and Fuzzy Mathematics held at Department of Mathematics, Karunya University, Coimbatore, India, December 9 - 10 , 2009, pp 14 -15
  77. Sunny Joseph Kalayathankal and G.Suresh Singh, Multiple attribute decision making using ordered intuitionistic fuzzy sets, in : Proceedings of the National Seminar on Discrete Mathematics and Applications held at Department of Mathematics, Marthoma College,Thiruvalla, 2009, pp. 56 - 61.
  78. G.Suresh Singh and Sunny Joseph Kalayathankal, An Overview of stochastic modeling of rainfall with emphasis to spatial - temporal point process, in : Proceedings of the National Seminar on Mathematical Modeling and Simulation held at Department of Mathematics, K.E.College, Mannanam, Kerala, August 2007, 1 - 22.
  79. Sunny Joseph Kalayathankal and G. Suresh Singh, Need and Significance of fuzzy modeling of Rainfall, in : Proceedings of the National Seminar on Mathematical Modeling and Simulation held at Department of Mathematics, K.E.College, Mannanam, Kerala, August 2007, pp. 77 - 89.
  80. Sunny Joseph Kalayathankal and G. Suresh Singh, Fuzzy Computing Modeling and Simulation, in : Proceedings of the National Seminar on Recent Trends in Information Technology held at Department of Statistics and Computer Applications, K.E.College, Mannanam, Kerala, August 17-19, 2009, pp 99-102.
  81. Sunny Joseph Kalayathankal and G. Suresh Singh, OIFS Model and its Applications in Multiple attribute decision making, in : Proceedings of the National Seminar on Mathematical Models and Methods in Applied Sciences held at Department of Mathematics, K.E.College, Mannanam, Kerala, November 23-25, 2009, pp 67-77.
  82. Sunny Joseph Kalayathankal and G.Suresh Singh, IFS model of Flood Alarm, in : Proceedings of the National Seminar on Fuzzy Logic and its Applications held at Department of Mathematics, K.E.College, Mannanam, Kerala, September 27-29, 2011, pp 58-67.

83. Sunny Joseph Kalayathankal, Fuzzy approach of decision making, in : Proceedings of the State Level Seminar on Mathematical Modeling – A Tool to Life Sciences held at Department of Mathematics, N.S.S College, Cherthala, Kerala, August 5-6, 2009.

#### **LIST OF COMMUNICATED PAPERS**

84. Ann Mary Philip, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara, Energy of Interval Valued Fuzzy Graphs, Iranian Journal of Mathematical Sciences and Informatics (Communicated)
85. Ann Mary Philip, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara, Interval Valued Fuzzy Trees and Interval Valued Fuzzy Cycles, Soft Computing Letters (Communicated)
86. Ann Mary Philip, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara, On Total Regularity of the Modular Product of two Interval Valued Fuzzy Graphs, Fuzzy Mathematical Analysis and Advances in Computational Mathematics, Springer (Communicated)
87. Mathews M George, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara, Representation of the Fuzzy Branch Algebra using Fuzzy Spectral Measure, Analele Stiintifice ale Universitatii Ovidius Constanta (Communicated)
88. E.M.Suji, S.J.Kalayathankal, J.V.Kureethara, A mathematical approach to the bounds of classical antimetabolite drugs using QPSR, Springer Series (Communicated)

#### **CONFERENCE CHAIR / KENOTE / INVITED SPEAKER / SEMINAR ATTENDED**

1. Keynote Speaker of the National Webinar on Recent Trends in Fuzzy Modeling and Decision Making Applications in the Real World Organised by Institute of Technical and Scientific Research (ITSR), India, August 2, 2020.
2. Keynote Speaker of the National Webinar on Fuzzy Modeling & Decision Making Applications Organised by Saintgits College of Engineering, Kottayam, Kerala, India, August 1, 2020.
3. Keynote Speaker of the National Webinar on Research Methodologies Organised by Bell Institute of Research and Development Studies, Kochi, Kerala, India, June 18, 2020.
4. Keynote Speaker of the National Webinar on Fuzzy Applications Organised by PG & Research Department of Mathematics St. Josephs College of Arts and Science Coimbatore, Tamilnadu, June 18, 2020.
5. Technical committee member of 9<sup>th</sup> International Conference on Software and Computer Applications (ICSCA 2020), held in Langkawi, Malaysia during February 18-21, 2020.

6. Conference Chair of the 4<sup>th</sup> International Conference on Science, Engineering, Technology & Social Sciences (ICSETS – 2020) organized by Department of Mathematics, K.E.College, Mannanam, Kottayam, Kerala, India, February 1– 2, 2020.
7. Session Chair of the 4<sup>th</sup> International Conference on Science, Engineering, Technology & Social Sciences (ICSETS – 2020) organized by Department of Mathematics, K.E.College, Mannanam, Kottayam, Kerala, India, February 1– 2, 2020.
8. Invited Speaker of 3<sup>rd</sup> International Conference on Sustainable Sciences and Technology (ICSuSaT 2020) July 2-5, 2020 Istanbul, Turkey.
9. Special Session Chair of International Conference on New Computer Science and Engineering Trends (NCSETS 2020) July 1-2, 2020 Istanbul, Turkey.
10. Programme Chair of 2020 International Conference on Communication Technology and Data Mining (ICTDM 2020) May 29-31, Bangkok Thailand.
11. Invited Speaker of 2<sup>nd</sup> International Conference on Vocational Innovation and Applied Sciences 2019 (2<sup>nd</sup> ICVIAS 2019 ) held by Faculty of Vocational Studies - University of Airlangga, Surabaya, Indonesia, November 5<sup>th</sup> , 2019.
12. Invited Speaker of Lecturer Series Organised by Faculty of Vocational Studies - University of Airlangga, Surabaya, Indonesia, November 6<sup>th</sup> , 2019.
13. Keynote Speaker of National Seminar on Fuzzy Algebra and Applications of Technical Knowledge in Analysis (NASFATKA - 2019) Organised by Department of Mathematics S.T.Hindu College, Nagercovil, Tamilnadu, October 17, 2019.
14. Keynote Speaker of International Conference on Pure and Applied Mathematics (ICPAM - 2019) Organised by PG & Research Department of Mathematics St. Josephs College of Arts and Science Coimbatore, Tamilnadu, February 15-16, 2019.
15. Invited Speaker of 5<sup>th</sup> International Symposium on Current Progress in Mathematics and Sciences 2019 (5<sup>th</sup> ISCPMS 2019 ) Organised by University of Indonesia, July 9 - 10, 2019.
16. Keynote Speaker of 4<sup>th</sup> International Conference on Innovative Education and Technology (4<sup>th</sup> ICIET 2019) Organised by Rajamangala University of Technology Thanyaburi, Bangkok, July 11- 13, 2019
17. Conference Chair of 3<sup>rd</sup> International conference on science , Engineering, Technology & Social sciences held at K.E.College, Mannanam, Kerala, March 11-12, 2019
18. Keynote Speaker of International Conference on Digital Image Processing and Biomedical Informatics (SAPIENCE 2018), September 27- 28, 2018 Organized by Sree Narayana Gurukulam College of Engineering Kolenchery, Kerala.
19. Keynote Speaker of 3<sup>rd</sup> RSU National and International Research Conference on Science and Technology, Social Science, and Humanities (RSUSSH 2018), May 3- 4, 2018

20. Chairman of the Plenary Science Session of 3<sup>rd</sup> RSU National and International Research Conference on Science and Technology, Social Science, and Humanities (RSUSSH 2018), May 3- 4, 2018
21. Keynote Speaker of the International Conference on Science, Engineering, Technology & Social Sciences (ICSETS – 2018) organized by Department of Mathematics, K.E.College, Mannanam, Kottayam, Kerala, India, January 18 – 19, 2018.
22. Conference Chair of the 2<sup>nd</sup> International Conference on Science, Engineering, Technology & Social Sciences (ICSETS – 2018) organized by Department of Mathematics, K.E.College, Mannanam, Kottayam, Kerala, India, January 18 – 19, 2018.
23. Keynote Speaker of National Level Workshop on Discrete Mathematics (NCDCM 2018), organized by Department of Mathematics, University of Kerala, Thiruvanthapuram, January 9 - 13, 2018.
24. Keynote Speaker of National Level Conference on Discrete and Computational Mathematics (DCM 2018), organized by Department of Mathematics, University of Kerala, Thiruvanthapuram, January 9 - 13, 2018.
25. Keynote Speaker of National Seminar on Recent Trends in Pure and Applied Mathematics (RTPAM 2017), organized by Department of Mathematics, Annai Velankanni College, Tholayavattam, Marthandam , Tamilnadu, India, December 19- 20 2017.
26. Keynote Speaker of National Seminar on Discrete Mathematics and Applications (NSDMA 2017), organized by Centre for Studies in Discrete Mathematics (CSDM), Vidya Academy of Science & Technology, Thrissur, June 5- 9, 2017.
27. Keynote Speaker of National Level Workshop on Discrete Mathematics, organized by Department of Mathematics, University of Kerala, Thiruvanthapuram, June 5- 9, 2017
28. Session Chair of the International Conference on Science, Engineering, Technology & Management organized by Department of Mathematics, K.E.College, Mannanam, Kottayam, Kerala, India, March 8 – 9, 2017.
29. Conference Chair of the 1<sup>st</sup> International Conference on Science, Engineering, Technology & Management (ICSETM – 2017) organized by Department of Mathematics, K.E.College, Mannanam, Kottayam, Kerala, India, March 8 – 9, 2017.
30. Invited Speaker of UGC Sponsored National Conference on Recent Trends in Fuzzy set theory, Christ College, Irinjalakuda, 16- 17, February 2017
31. Invited Speaker of National Conference on Advanced Computing and Communication Technology , Santhigiri College Vazhithla, 25, January 2017
32. Invited Speaker of International Conference on Researches in Science and Technology (ICRST- 2016) , Asian Institute of Technology, Bangkok, 29 – 30, December 2016.

33. Invited Speaker of International Conference on Researches in Science and Technology (ICRST- 2016) , Linton University College Malaysia, 8 - 9 December 2016.
34. Invited Speaker of Sriwijaya International Conference on Engineering , Science and Technology held at Santika Hotel, Bangka Island Indonesia, 8-10 November 2016.
35. Session Chair of Sriwijaya International Conference on Engineering , Science and Technology held at Santika Hotel, Bangka Island Indonesia, 8-10 November 2016
36. Session Chair of Asian Mathematical Conference (AMC 2016) held at BNDCC, Bali Indonesia July 25-29 (2016).
37. Asian Mathematical Conference (AMC 2016) held at BNDCC, Bali Indonesia July 25-29 (2016).
38. 4<sup>th</sup> International Research Conference held at Institute of Management Studies & Research in association with Shri. J.J.T University, Rajasthan, February 13-14, 2016.
39. National Seminar on Recent Research Opportunities in Computer Science and its Applications held at MACFAST Thiruvalla, Kottayam, 5 – 6 September 2016
40. National conference on bridging innovative trends in pure and applied Mathematics held at Bennari Ammen Institute of Technology, Sathyamangalam, July 15 - 16, (2016).
41. UGC Sponsored National Workshop on New Frontiers in Teaching Chemistry held at Research and Post Graduate Department of Chemistry, K.E.College, Mannanam, Kottayam, December 8 – 10, 2015
42. Invited Speaker of National Seminar on Mathematical Models and Methods in Applied Sciences held at Department of Mathematics, K.E. College, Mannanam, Kottayam, Kerala, India November 19 - 21 (2015).
43. 4<sup>th</sup> IEEE International conference on Advances in Computing, Communications & Informatics (ICACCI) held at SCMS School of Engineering & Technology, Kochi, Kerala, 10 – 13 August 2015.
44. 12<sup>th</sup> IEEE International conference on Computer Science and Software Engineering (JCSSE ) held at Prince Songkla University, Hat Yai, 22-24 July 2015.
45. UGC Sponsored National Seminar on Autonomy and Quality Assurance in Higher Education Achievements, Issues and Challenges held at K.E.College, Mannanam, 12-13 February 2015
46. National workshop on Recent Research Trends in Fuzzy Systems - An Industrial Perspective held at School of Computer Science & Technology, Karunya University, Coimbatore, March 1, 2013
47. Regional workshop on Isotope Hydrology held at School of Civil Engineering, Karunya University, Coimbatore, October 11 (2012).



48. National Conference on Optimization Techniques in Engineering Science and Technologies held at Department of Mathematics, Bannari Amman Institute of Technology April 20-21 (2012).
49. Invited Speaker of Faculty Development Program on Applications of Mathematics, Rajagiri School of Engineering & Technology, Cochin, Kerala, December 03-15, 2012
50. National Conference on Optimization and Graph Theory with Applications held at Department of Mathematics, Mepco Engineering College 23-24 February (2012).
51. National Seminar on Discrete Mathematics and Computational Statistics held at Department of Mathematics, Bishop Kurialacherry College for Women, June 23 - 24 (2011).
52. National Seminar on Fuzzy Logic and its Applications held at Department of Mathematics, K.E. College, Mannanam, Kottayam, Kerala, September 27-29 (2011).
53. National Workshop on Research Methodology And Data Analysis (SPSS) held at Department of Economics, K.E. College, Mannanam, Kottayam, Kerala, December 8-9 (2011).
54. International Workshop on Indian Ocean : Challenges in Meteorology and Oceanography, Nansen Winter School 2010, Organised by Nansen Scientific Society Norway, February 8 - 12 (2010).
55. National Seminar on Emerging Trends in Fluid Mechanics and Graph Theory held at Department of Mathematics, Christ University, Bangalore, February 25 - 26 (2010).
56. International Seminar on Groupoids, Semigroups, and Automata held at Department of Mathematics, University of Kerala, August 10-12 (2010).
57. The Indian Science Congress Association held at University of Kerala, Kariavattom, Trivandrum January 3 - 7, 2010
58. National Seminar on Mathematics for Computer Science held at Department of Mathematics, BharathaMatha College, Kochi-21, Kerala, January 07 - 09 (2010).
59. National Seminar on Discrete Mathematics : Theory, Algorithms and Applications held at Department of Mathematics, S.B. College, Changanacherry, Kerala, December 29 - 31 (2009).
60. National Conference on Discrete and Fuzzy Mathematics held at Department of Mathematics, Karunya University, Coimbatore, December 9 - 10 (2009).
61. National Seminar on Mathematical Models and Methods in Applied Sciences held at Department of Mathematics, K.E. College, Mannanam, Kottayam, Kerala, November 24 - 25 (2009).

62. National Seminar on Advanced Quantum Mechanics held at Department of Physics, K.E. College, Mannanam, Kottayam, Kerala, September 23 - 25 (2009).
63. National Seminar on Recent Trends in Information Technology held at Department of Statistics, K.E. College, Mannanam, Kottayam, Kerala, August 17 - 19 (2009).
64. National Seminar on Mathematical Modeling - A Tool To Life Science held at Department of Mathematics, N.S.S College, Cherthala, Kerala, August 5 - 6 (2009).
65. National Seminar on Discrete Mathematics and Applications held at Department of Mathematics, Marthoma College, Thiruvalla, Kerala, March 23 - 25 (2009).
66. National Seminar on Cryptography and its Application in Computer Science held at Department of Mathematics, B.C.M College, Kottayam, Kerala, November 21 - 22 (2008).
67. National Seminar on Mathematical Modeling and Simulation held at Department of Mathematics, K.E. College, Mannanam, Kottayam, Kerala, August 16 - 18 (2007).
68. National Seminar on Algebra and Discrete Mathematics held at Department of Mathematics, University of Kerala, Kariavattom July 14 - 16 (2007).
69. National Seminar on Modern Trends in Graph Theory held at Department of Mathematics, Newman College, Thodupuzha, Kerala, January 20 - 21 (2006).
70. National Conference on Recent Trends in Discrete and Fuzzy Mathematics held at Department of Mathematics, BharathaMatha College, Kochi - 21, Kerala, November 10-12, (2005).
71. All India Refresher Course on Probability, Stochastic Processes and Applications held at Department of Mathematics, Cochin University of Science and Technology, September 26 – October 07, (2005).
72. National Seminar on Algebra, Analysis and Discrete Mathematics held at Department of Mathematics, University of Kerala, Kariavattom January 12- 14, (2005).
73. Course on Mathematical Modeling and Computer Simulation held at CSIR Centre for Mathematical Modeling and Computer Simulation, Bangalore , June 06-10, (2005).
74. National Conference on Mathematical Modeling held at Department of Mathematics, Baselius College, Kottayam, Kerala, March14 - 16 (2002).