

## BIO DATA



Name : Dr. G. SELVARAJ

Designation : Associate Professor

Department : Mathematics

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### 1. Educational Qualification

Degree	Branch / Specialization	Institute/University	Year of Passing
B. Sc.,	Mathematics	GTN Arts College, Dindigul.	2009
M. Sc.,	Mathematics	Gandhigram Rural Institute (DU), Dindigul.	2011
M. Phil.,	Mathematics	Bharathidasan University, Trichy.	2012
Ph. D.,	Neural Network and Optimization	VIT University, Vellore.	2016

### 2. Professional/ Industry Experience

: (in chronological order)

S.No	Designation	Institution/ Organization	Period	
			From	To
1	Asst. Prof	Sree Vidhyanikethan Engg College, Tripathi.	28.06.2016	09.12.2016
2	Asst. Prof	Ramco Institute of Technology	20.02.2017	Till Now
3	Assistant Professor (Sr. Gr.)	Ramco Institute of Technology	01.01.2023	31.07.2024
4	Associate Professor	Ramco Institute of Technology	01.08.2024	Till Now

### 3. Research Interest

1. NEURAL NETWORK
2. OPTIMIZATION

Updated as on June 2026

## 4. Publications

### 4.1 JOURNAL PUBLICATIONS

1. G. Selvaraj and P. Pandian, "A New Crisp Neural Network for Solving Fuzzy Linear Programming Problems", *Global Journal of Pure and Applied Mathematics*, (2014) 10(5) pp:685-695.
2. P. Pandian and G. Selvaraj, "A Single Neuron Model For Solving Both Primal And Dual Linear Programming Problems", *International Journal of Engineering and Technology*, (2015) 7(1) pp: 91-98.
3. G. Selvaraj and P. Pandian, "Parametric - Neural Approach For Linear Fractional Programming Problems", *International Journal of Applied Engineering Research*, (2015) 10(1) pp: 1321-1332.
4. G. Selvaraj and P. Pandian, "A fuzzy neural network for fully fuzzy linear programming problems", *International Journal of Mathematical Modelling and Numerical Optimisation*, (2016) 7(3) pp: 231-243.
5. T. Selvaganesh, T. Manimaran, K. Subramanian, G. Selvaraj, R. Saravanakumar, Muthukrishnan Anand "A Note On Strongly Gorenstein  $\mathcal{X}$ -Flat Modules" *Journal of Advanced Zoology*(2024) Vol 45(S3), 2024, pg 82-86
6. T. Manimaran, T. Selvaganesh, K. Subramanian, G. Selvaraj, S. Karthikeyan "Edge Irregularity Strength of Graphs on Mean Labeling" *Library progress international* (2024) Vol 44(3).
7. T. Manimaran, T. Selvaganesh, G. Selvaraj, K. Subramanian, S. Karthikeyan "Strength of Vertex Irregularity of Some Product of Graphs" *Advances in non-linear variational inequalities*, (2025) Vol. 28 No. 6s, pp. 601-610.
8. S. Swathi Sundari, G. Kannan, S. Balamurali, K. Lakshmanan, G. Selvaraj "Designing of Single Acceptance Sampling Plan based on Time Truncated Life Test under New Weibull-Pareto Distribution" *International Journal of Mathematics in Operational Research*,(2026) Vol. 33 No.4, pp. 489-500.
9. G. Kannan, S. Balamurali, G. Selvaraj, Selvaganesh T "Estimation of Lot Acceptance Probabilities for Certain Special Purpose Sampling Plans for Induced Hormone Gastrin Secretion using Crisp and Fuzzy Weibull Distributions" accepted in *International Journal of Mathematics in Operational Research*

### 4.2 CONFERENCE PUBLICATIONS

1. G. Selvaraj and P. Pandian, "A neural network approach for Fuzzy linear programming problems" in the proceedings of National Conference on Recent Trends in Mathematical Computing NCRTMC'13 (2013), pp: 21-27. Published by Bonfring publications
2. G. Selvaraj, "Computational Model for Fuzzy Shortest Path Problem" in the proceedings of Second national conference on innovations in engineering, science and technology (2017)
3. G. Selvaraj, "Numerical Solution for linear programming problem with a fuzzy objective function" in the proceedings of International Web Conference on Smart Engineering Technologies (2020)
4. G. Selvaraj and L. Jarina Banu, "Solving Fuzzy Quadratic Programming Problems by Fuzzy Neural Network" in the 6th International Conference of Advanced Computing and Intelligent Engineering (ICACIE - 2021) on Lecture Notes in Networks and Systems (2022), vol 428. Springer, Singapore.

5. R. Saravanakumar and G. Selvaraj, has presented a paper entitled, "A Semi-Analytical Approach for the Reversible Schnakenberg Reaction Diffusion System" in International Conference on Sustainable Technology in Civil Engineering and Applied Sciences, (ICSTCA'23) , organized by RIT on 24 – 25 March 2023.
6. X. F. Joseph, G. Selvaraj, M. A. Babu, A. S. Banu, A. Bhuvanesh and R. Keerthanadevi, "A Robust Evolutionary Gravity Neocognitron Neural Network Model for Construction Cash Flow Prediction in Complex Project Management," 2024 IEEE International Women in Engineering (WIE) Conference on Electrical and Computer Engineering (WIECON-ECE), Chennai, India, 2024, pp. 140-144.
7. L. Jarina Banu and G. Selvaraj, " Synchronization of Discrete Time Complex Dynamical Networks with Time Varying Delays " in the International Conference on Artificial Intelligence, Cyber Security and Game Design 2024 organized by Ramco Institute of Technology, India and Ball State University, USA.
8. Sarika Nibhanupudi, Jameer Basha SK, G Selvaraj, Ranu Gupta, M Padmarasan "Explainable AI for Diabetic Retinopathy Screening: Enhancing Clinician trust in Deep learning predictions" in proceedings of IEEE Contemporary Computing Innovations Conference 2026

**5. Funded Projects : Nil**

**6. Ph.D. guidance : Nil**

**7. Short term Courses / Seminars /FDP/Workshop/ConferenceAttended:**

Sl.No.	Name of Programme/event	Duration		Total number of days
		From	To	
1.	Five day Faculty Development Programme on Advance Trends in Mathematical Modelling	09-01-2023	13-01-2023	5
2.	5 day online FDP on "AICTE Incorporating Universal Human Values in Education" Conducted by AICTE	06-03-2023	10-03-2023	5
3.	Anna University sponsored Online Six-Day FDTP on "MA8351-Discrete Mathematics"	28-06-2021	03-07-2021	6
4.	Six day FDP on Applications of Mathematics in Engineering	20-07-2020	25-07-2020	6
5.	NITTTRC - Online Short Course FDPOM - 93 on "MATLAB Programming for Engineering Applications" organized by NITTTRC, Chennai	23-11-2020	27-11-2020	5
6.	5-Day Online FDP on "Universal Human Values for DEEKSHARAMBH", organized by NIT, Patna	21-09-2020	25-09-2020	5

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7.	Online Faculty Development Program On “Introduction to Fuzzy Sets and Its Generalization”	10-06-2020		1
8.	Web-based Training on Virtual Classroom	02-05-2020		1
9.	Online Faculty Development Program on “Fuzzy Sets and Systems”	16-05-2020		1
10.	Faculty Development Programme on “Real Life Applications of Fuzzy Mathematics”	22-05-2020		1
11.	National Level Faculty Development Programme on LaTeX Organized By School of Computer Science & Engineering, Poornima University, Jaipur, INDIA	04-05-2020	08-05-2020	5
12.	“Online Workshop on Mathematical Science for CSIR-NET/SET/GATE” conducted by Department of Mathematics, Sree Narayana Guru College, Coimbatore	11-05-2020	15-05-2020	5
13.	Three Days National Level Online Course on “Operations Research” conducted by Department of Mathematics, Virudhunagar Hindu Nadar’s Senthikumara Nadar College, Virudhunagar	18-05-2020	20-05-2020	3
14.	Two day Online FDP on “MA8551 Algebra and Number Theory” conducted by Department of Mathematics, RIT, Rajapalayam	26-05-2020	27-05-2020	2
15.	Webinar on “Recent Research directions in Distance in Graphs” conducted by Department of Mathematics, Ayya Nadar Janaki Ammal College, Sivakasi	28-05-2020		1
16.	Teachers Enrichment Workshop on "Linear Algebra and Multivariable Calculus" conducted by National Centre for Mathematics at MEPCO Schlenk Engineering College, Sivakasi	13-05-2019	18-05-2019	6
17.	Two Days Workshop on Linear Algebra organized by Department of Mathematics, Ramco Institute of Technology, Rajapalayam	27-06-2018	28-06-2018	2
18.	FDP on MATLAB onramp organized by department of EEE, RIT	22-11-2018		1

**8. Short term Courses / Seminars /FDP/Workshop/Conference organized:**

Sl.No.	Name of Programme/event	Duration		Total number of days
		From	To	
1.	Special Lecture and Hands on training on “Statistical Tool with R-Programing”	09.03.2023	10.03.2023	2
2.	Webinar on “Applications of Combinatorial Objects to Graph Labeling Problems”	12-04-2023		1
3.	International Conference on Sustainable Technology in Civil Engineering and Applied Sciences (ICSTCA 2023)	24.03.2023	25.03.2023	2
4.	International conference on Smart Technologies and Applications (ICSTA 2022)	11.03.2022	12.03.2022	2
5.	International Conference on Analysis and Applied Mathematics 2022(ICAAM-22)	26.04.2022	28.04.2022	3
6.	Hands on Workshop on Softwares in Mathematics	18.08.2022	18.08.2022	1
7.	International Conference on Analysis and Number Theory 2022 (ICAN-2022)	27.10.2022	28.10.2022	2
8.	AUFDTP on Discrete Mathematics	28.06.2021	03.07.2021	6
9.	National Web Conference on Challenges and Innovation in Engineering and Technology	19.03.2021	20.03.2021	2
10.	International Web Conference on Smart Engineering Technologies.	26.06.2020	27.06.2020	2

**9. Online Courses**

1. Introduction to Complex Analysis/ Wesleyan University
2. Calculus 1A: Differentiation / MIT
3. Differential Equations: 2x2 Systems/ MIT
4. Calculus 1B: Integration/ MIT
5. Calculus 1C: Coordinate Systems & Infinite Series/ MIT
6. Differential Equations: Fourier series and Partial Differential Equations. / MIT
7. Mathematics for machine learning: Multivariate calculus/ Imperial College London
8. Mathematics for machine learning: Linear Algebra/ Imperial College London

9. Differential Equations for Engineers/ The Hong Kong University of Science and Technology
10. Discrete Mathematics/ Shanghai Jiao Tong University
11. Introduction to Differential Equations/ MIT
12. Operations Research: An Active Learning Approach/ The Hong Kong Polytechnic University
13. Transfer functions and the Laplace Transform/ MIT
14. Probability - The Science of Uncertainty and Data/ Massachusetts Institute of Technology
15. Module 1 – Orientation Towards Technical Education and Curriculum Aspects / NITTT
16. Introduction to Programming with MATLAB/ Vanderbilt University
17. Module 3 – Communication Skills, Modes & Knowledge Dissemination / NITTT
18. Module 4 – Instructional Planning and Delivery / NITTT
19. Module 5 - Technology Enabled Learning & Life Long Self Learning / NITTT
20. Module 6 - Student Assessment and Evaluation / NITTT
21. Module 7 - Creative Problem Solving, Innovation and Meaningful R & D / NITTT
22. Differential Equations: Linear Algebra and NxN Systems of Differential Equations / Massachusetts Institute of Technology
23. Module 2 - Professional Ethics & Sustainability / NITTT
24. Data Science Math Skills / Duke University
25. Statistics 1 Part 1: Introductory statistics, probability and estimation / The London School of Economics and Political Science

**10. Patents filed/awarded**

**11. Membership in Professional societies :** ISTE

**12. Awards, Recognition & Achievements :** GATE, SLET Qualified

**Any others (Board of studies/Governing Council/Staff Selection/ Reviewer/other duties)**

**Guest Lectures Delivered:**

- Delivered a lecture on “ Making Science Come Alive” at One day teacher development programme (TDP) for High school & Higher secondary school teachers of Mathematics and science organized by S&H department, Ramco Institute of Technology, Rajapalayam in association with Rotary club of Rajapalayam held on 19th may 2026.
- Delivered the lecture in delivered a lecture on “ Visualization of function in MATLAB” in Rajapalayam Raju’s College on 20.12.2025
- Delivered the lecture on “Bar diagram, multiple bar plot, pie chart, histogram, frequency polygon and Ogives using single and multiple groups using R

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programming” on June 10, 2025 at Five-Day National Level Faculty Development Programme (FDP) on Computational Intelligence and Data Science for STEM Faculty Using R & Python Guest lecture delivered in the topic " Introduction to Fuzzy Set Theory " at Sri Kaliswari College of Arts and Science

- Delivered the lecture on “Statistical tools with R programming” on March 18th and 19th, 2024 for the UG students of Ayya Nadar Janaki Ammal College.
- Acted as a session chair in the International Conference on Mathematical Challenges and Novel Applications organized by ANJAC, RIT and SFRC on 21st and 22nd March 2024.

**Details of Books/manuals/other teaching materials developed:**

Sl. No.	Title of Book/ Lab Manual	Author(s)	Publisher details	Level (International, National)
1.	Math Workbook	Dr. K. Basarikodi, Dr.L.Sathikala, Dr.T.Manimaran, Mr.K.Subramanian, Dr.U.Kumaran, Dr.R.Subasree, <b>Dr.G.Selvaraj</b> , Mr. T. Selvaganesh	-	Institute level
2.	Statistics and Numerical Methods	Dr. K. Basarikodi, Dr.L.Sathikala, Dr.T.Manimaran, Mr.K.Subramanian, Dr.R.Subasree, <b>Dr.G.Selvaraj</b>	VRB Publishers, Chennai <b>ISBN :</b> 978-93-95018-56-2	National
3.	Matrices and Calculus	Dr. K. Basarikodi, Dr.T.Manimaran, Mr.K.Subramanian, Dr.R.Subasree, <b>Dr.G.Selvaraj</b>	Pearson <b>ISBN :</b> 978-81-198-4774-7	International
4.	Statistics and Numerical Methods	Dr. K. Basarikodi, Dr.L.Sathikala, Dr.T.Manimaran, Mr.K.Subramanian, Dr.R.Subasree, <b>Dr.G.Selvaraj</b>	Pearson <b>ISBN:</b> 978-93-615-9771-8	International
5.	Matrices and Calculus II Edition	Dr. K. Basarikodi, Dr.T.Manimaran, Mr.K.Subramanian, Dr.R.Subasree, <b>Dr.G.Selvaraj</b>	Pearson <b>ISBN :</b> 978-93-615-9123-5	International
6.	Applied Calculus	Dr. K. Basarikodi, Dr.T.Manimaran, Mr.K.Subramanian, Dr.R.Subasree, <b>Dr.G.Selvaraj</b>	Pearson <b>ISBN :</b> 978-93-615-9123-5	International