


MY PROFILE
Department Of Humanities And Sciences

Name : Dr. V. SUMATHI	
Designation :	Associate Professor
Qualification :	M.Sc., M.Phil., Ph.D., SET-2017 Qualified
Area of Specialization:	Wavelet Analysis
Experience	Teaching : UG : 18 yrs.,(Approx.) PG : 4
	Industry : Nil
No. of Workshop / Conferences / FDP attended:	54
Research paper Publication : 18 Patents Published :10	Journal National : 5 International : 3
	Conference National : 5 International : 3
Other Qualification	B.A., (Hindi), Typewriting –Senior Grade both in English and Tamil

Book Publication: 4 (Four)	<p>(i) Published text book entitled “ Probability and Queueing Theory” ISBN NO: 978-93-5625-128-1, Year 2022.</p> <p>(ii) Author for the book titled “ Fundamental of Fluid Dynamics” Published by AGPH Books with “ISBN -978-93-95936-02-6”, Year 2023.</p> <p>(iii) Published text book titled “ Mathematical Foundations of Computer Science” Published by SIPH , ISBN:978-93-5757-237-8</p> <p>(iv) Engineering Mathematics- Published in Pencil Bitz, ISBN-978-93-89911-06-0</p>
----------------------------	--

As a Resource Person for UHV -Outside World

- ❖ Invited as a Chief Guest and inaugurated the Expo on National Mathematics Day – Ganitha Pradharshana '23 on 2nd December 2023 at VGN Chinmaya Vidhalaya Sr.Sec. School, Avadi.
- ❖ Inaugurated UHV cell and presented an Invited talk on “A Glimpse on Holistic Development through Universal Human Values at Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology on 27th March 2024.
- ❖ Appointed as a Member of the Board of Studies of KCG College of Technology under the Faculty of Science and Humanities for framing the Curricula and Syllabi for Universal Human Values course to be offered in UG & PG degree Programme under Regulation 2023 in accordance with the Choice Based Credit System on 04th April 2024.
- ❖ Co-opted Expert Member for Universal Human Value in Board of Studies of Humanities and Sciences Raja Lakshmi Engineering College (Autonomous) Thandalam, Chennai – 602 105, on 9th February 2024.
- ❖ Invited as a Resource Person for a Seminar on Imparting UHV- A Student Centric Approach at KCG College of Technology on 16th July 2024.
- ❖ Invited as a Resource Person to give a talk on “Introduction to Wavelets” organized by PG and Research Department of Mathematics and Physics- IIC Activity on 2nd August 2024 at Theivanai Ammal College For Women, Villupuram.
- ❖ Invited as a Chief Guest to deliver a talk on “Universal Human Values” during Student Induction Program at VELS institute of Science, Technology & Advanced Studies, Pallavaram on 10.08.2024.
- ❖ Actively Participated and Contributed as an Observer from AICTE Approved 8 Days Face -to-Face FDP on UHV-IV Conducted from 18-25 January 2025 at SRMIST, KTR Campus, Chennai.

As a Resource Person in UHV at Sairam

- ❖ Invited as a Resource Person to give a Seminar on “Universal Human Values in Higher Education(UHV-II)” at **Sri Sai Ram Institute of Technology** on 05th August 2024 organized by the Department of Computer Science and Engineering.
- ❖ As a speaker on “A Glimpse on Universal Human Values” for the Orientation Program in the department of Artificial Engineering and Data Science on 27th September 2024 at VRR Hall.
- ❖ As a speaker on “A Glimpse of Universal Human Values” for the Orientation Program in the department of M.Tech Computer Science and Engineering on 28th September

2024.

- ❖ As a speaker on “Role of Education of Universal Human Values” for the Orientation Program in the department of M.Tech Computer Science and Engineering on 16th September 2022.
- ❖ Invited as a Guest Speaker to give Lecture on Holistic development on UHV-II on 23rd September 2022 in the department of Electronics and Instrumentation Engineering.
- ❖ As an Expert Talk on Universal Human Values (UHV) in the department of Artificial Intelligence and Data Science on 26th September 2022.
- ❖ As a Guest Speaker on UHV-II - **Holistic Perspective of Life** in the department of Civil Engineering on 14th October 2022.
- ❖ As a Guest Speaker on **Universal Human Values** in the department of Civil Engineering on 17th April 2023.
- ❖ As a Session Resource Person "Holistic Sharing on Universal Human Values and its implication at all Levels for AI&DS Students on 26.07.2023 at Sri Sai Ram Institute of Technology.

As a UHV Volunteer

- ❖ Attended First UHV Regional Conference meet at RV College of engineering, Bengaluru, Karnataka between 28th to 30th April 2022 conducted by AICTE- NCCIP.
- ❖ Attended UHV Faculty Volunteers Meeting at Pune Vidyarthi Griha's College of Engineering and Technology & G. K. Pate (Wani) Institute of Management, Pune (PVG's COET & GKPIOM, Pune)
Agenda:
 - o Strengthening the Vision for Humane Society
 - o The refinement of participation in scaling up of UHV activities.**Dates:** 20-22 January 2023.

Educational Qualification: M.Sc., M.Phil., Phd., SET(Qualified)

Category	Name of the Degree	Specialization	Year of Passing	Name of the College	Name of the University	% of Marks / Grades obtained	Class obtained
UG	B.Sc.	Mathematics	1998	AU	Annamalai University	60%	I
PG	M.Sc.	Mathematics	2001	AU	Annamalai University	61%	I

	M.Phil.	Mathematics	2004	MKU	Madurai Kamaraj University	51%	II
Ph.D.	Ph.D.	Wavelet Analysis	2022	S.D.N.B. Vaishnav College for Women	Madras University	Awarded	Degree Awarded

Academic Experience: Nearly 17 Years

Name of the College	Designation	Joining Date	Relieving Date	Experience		
				Years	Months	Days
Mailam Engineering College	Lecturer	01.06.2006	31.04.2010	3	10	-
Sri Sai Ram Engineering College	Assistant Professor	06.06.2011	31-08-2023	12	3	-
Sri Sai Ram Engineering College	Associate Professor	01-09-2023	Till date	2	5	
Total				18	06	-

PUBLICATIONS

Journals:

1. Published research paper titled, "Employing a Machine Learning-Based Approach for Enhanced Big Data Analysis in Supply Chain Management" in the International Conference on Advances in Data Engineering and Intelligent Computing Systems, ADICS 2024.
2. Published research paper titled, "A robust image registration using multi scale feature extraction techniques using deep learning" in 2023- 4th International conference on smart Electronics and Communication. Publication date: 07/2023.
3. Published research paper titled, "Genetic Algorithm with ant colony optimization to enhance multi-hop routing efficiency in wireless Ad Hoc Network", pages:1437-1441, Publisher:IEEE- 2023 Second International conference on Augmented Intelligence and sustainable system(ICAISS).

4. Published research paper titled ,” Improved pattern recognition techniques for monitoring human activity recognition in digital platforms using image processing techniques.”
Publisher:IEEE- 2023 Second International conference on Augmented Intelligence and sustainable system(ICAISS).
5. Published my research paper titled “ The Taylor wavelets method for the numerical solution of nonlinear coupled reaction-diffusion equation in chemical engineering” in the journal of AIP Conference Proceedings 2464, 050002(2022):
<https://doi.org/10.1063/5.0083902> Published Online: 26 May 2022.
6. Published my research paper titled “ Brain tumor image classification using brain tumor in the context of medical image processing” in the journal of Bulletin of Environment, Pharmacology and Life Sciences, Vol 11[5] April 2022:50-55 Online ISSN 2277-1808.
7. Published my research paper titled ‘A comparative study of two dimensional Legendre and Chebyshev wavelet with an extended case’ in the Journal of Physics Conference series 1377 (2019) 01.2009
8. “Numerical Solution of PDE using two dimensional Chebyshev wavelet collocation Method” was published in the International Journal of Innovative Technology and Exploring Engineering (IJITEE); ISSN: 2278-3075, Volume-8 Issue-4, February 2019.
9. “Application of Two-Dimensional Legendre wavelet collocation method for solving PDE’s” was published in the International Journal of Pure and Applied Mathematics in the Volume 119, No.13 2018, 61-69 ISSN:1314-3395 (on-line version).
10. “A New legendre wavelet in solving Falkner skan Equation” was published in the International Journal of Pure & Applied Mathematics Volume 114No.5 2017, 21-30, ISSN: 1311-8080 (printed version), ISSN : 1314-3395 (online version) .
11. “Wavelet based spectral method to Non- linear BVP in immobilized Glucoamylase Kinetics was published in the International
- 12.
- 13.
14. Journal of Advanced Research in Computer Science - Volume 8, No.6 July 2017 ISSN No. 0976-5697.
15. Published my research paper “Wavelet based solution for certain Non-Linear Boundary value Problems” in Global Journal of Pure and Applied Mathematics (GJPAM)ISSN 0973 -1768 Volume12, Number2(2016).

Patents Published:

1. Published Design Patent on OPTICAL FILTER FOR MICROSCOPE CONDENSER LENS with Design number 409873-001 on 11/05/2024. Date of filing: 08/03/2024
2. Published an Application Patent on “ Effective Computational Techniques for Resolving Non-Linear

- PDE's" on 22/12/2023. Application Number 202341077071. Date of filing: 10/11/2023.
3. Published an Application Patent on IMAGE PROCESSING BASED AUTOMATIC FISH CUTTING MACHINE. Application Number:202341023737 on 21/04/2023
Date of filing:30/03/2023
 4. Published Application Patent on IOT Module with AI Based Mathematical Model for curve fitting for sensory data on 30th December 2022., Application No. 202241071546 A. Date of filing:12/12/2022.
 5. Published Patent on Parallel algorithms for solving ordinary differential equation on 30th September 2022. Date of filing: 21/09/2022
 6. Published Patent on Optimization of thermal conductivity and viscosity of refrigerants on 25th March 2022.
 7. Published Patent on 11th June 2021 on Multi-Rotor Horizontal wind Turbine Application No. 202141021169A. Date of filling:10/05/21.
 8. Published Patent on Embedded system based sensing of flow behavior of Bio-Compatible Titanium alloy Ti-6Al-7Nb at higher elevate temperature on 15th October 2021. Date of filling: 22/9/21.
 9. Published Patent on A device for Turning operation in Monel K-500 with a Tungsten Carbide Tool Thereof on 31st December 2021.

Conferences:

1. Presented my research paper "Exploring Prostate Cancer Survival Prediction by a comparative study of various Machine Learning Techniques" in the 2nd international Conference on Challenges in information, Communication and Computing Technology on April 26th and 27th , 2024.
2. Presented my research paper in the International Conference on Mathematical Analysis and Its Applications (ICMAA-2019) from December 14-16 at South Asian University, New Delhi.
3. Presented my research paper in the National conference on progress in mathematics towards industrial application at SRM Institute of science and Technology, Ramapuram campus on 27 and 28 of Sep 2019.
4. Presented my Research paper "Numerical Solution of PDE Using Two Dimensional Chebyshev Wavelet Collocation Method". At Loyola Research Institute of Mathematics and Computing Sciences (LIMCOS) held during November 16-17, 2018.
5. Presented my research paper "Application of Two-Dimensional Legendre wavelet collocation method for solving PDE.,s at SRM university, Vadapalani campus in February 2018.

6. Presented my research paper "Wavelet based spectral method to Non- linear BVP in immobilized Glucoamylase Kinetics" in July 2017 at Sri Padmavati Mahila Visvavidyalayam: Tirupati.
7. Presented my research paper "A New legendre wavelet in solving Falknerskan Equation" at SRM University, Vadapalani campus in February 2017.
8. Presented my research paper Wavelet based solution for certain non-linear boundary value Problems" in 2016 at SRM, Vadapalani campus on February 2016.

Workshops:

1. Attended online workshop successfully "How to conduct the student induction program" Conducted by AICTE on 20th September 2021.
2. Attended online ATAL-AICTE training on Learning Management System from March 15 2021, March 19, 2021.
3. Attended online ATAL-AICTE training on Blended Learning and Flipped Classroom from January 18, 2021 to January 22, 2021.
4. Attended online ATAL-AICTE training on Ethics, Moral Values, Behavioral Science and Attitude from October 12, 2020 to October 16, 2020.
5. Attended online ATAL-AICTE training on Sustainability Engineering from August 17, 2020 to August 21, 2020.
6. Attended Online Workshop Mathematical Sciences for CSIR-NET/SET//GATE conducted by Sree Narayana Guru College from 11.05.2020 to 15.05.2020.
7. Attended National Seminar on Algebra & Analysis-Gateway to Technology on 29th and 30th January 2013 at Meenakshi College for Women, Kodambakkam, Chennai.
8. Attended one-day workshop on Fuzzy Logic & Queueing Theory on 20.04.2012 at Sri Sairam Institute of Technology.
9. Attended one-day workshop on Art of Journal and Thesis Writing on 19th January 2012.
10. Three days Workshop on Engineering Mathematics at Krishnasamy college of Engg., on 2006.
11. Attended two days Quality Management System and Audit training program during 11th & 12th October 2011.
12. Two days Instructional Workshop on Graph Theory and Discrete Mathematics held at Sri Sairam Institute of Technology, Chennai on 20th & 21st August 2015.
13. Participated in Global Initiative of Academic Networks (GIAN) From Subdivision to Wavelets and Fractals at IIT, Madras from 4th to 11th December 2017.
14. Attended Quality Management System and Audit Training ISO 9001:2015 during June 2018.

FDP:

1. Completed Successfully **Eight days AICTE** sponsored Face to Face FDP on **UHV-III** during 1st May 2024- 8th May 2024 at SRMIST, Chennai.
2. **NPTEL_AICTE FDP** Online Certification the on **“Effective Engineering Teaching in Practice”** on Jan-Feb 2024 Funded by the Ministry of HRD, Govt. of India.
3. **NPTEL_AICTE FDP** Online Certification on **“Teaching and Learning in Engineering”** on Jan-Feb 2024 Funded by the Ministry of HRD, Govt. of India.
4. **NPTEL_AICTE FDP** Online Certification on **“Accreditation and Outcome Based Learning”** during August –October 2023. Funded by the Ministry of HRD, Govt. of India.
5. Completed successfully Five days Hybrid FDP on **“Innovative and Exploratory ideas in Data Science”** held from 02-01-2023 to 06-01-2023 in the department of Computer Science and Engineering at Sri Sai Ram Engineering College, Chennai-44.
6. Completed successfully 6 days online FDP on **UHV-II** organized by AICTE from 23rd May to 28th May 2022.
7. Completed successfully 6 days online FDP on **Part-2 “UHV Refresher 1** organized by AICTE from 17th January, 2022 to 22nd January, 2022.
8. Completed successfully 5 days online FDP on **Part-1 “UHV Refresher1”** FDP organized by AICTE from 30th August 2021 to 4th September 2021.
9. Completed successfully 5 days online FDP on the theme **“Inculcating Universal Human Values in Technical Education”** organized by AICTE from 8 March,2021 to 12 March 2021.
10. Attended Faculty Development Programme conducted by NPTEL-AICTE (funded by the Ministry of HRD, Govt. of India) on **“Descriptive Statistics with R Software”** on Feb-Apr 2021.
11. Attended Online One Week National Level Online FDP on hands on training in R Language conducted by Auxilium College, Gandhi Nagar, Vellore from 13.05.2020 to 20.05.2020.
12. Attended Online Applications and Techniques in Mathematics conducted by Sri Sairam Institute of Technology from 20-7-2020 to 24-7-2020.
13. Attended Online Digital Teaching Techniques conducted by ICT Academy from 29.06.2020 to 04.07.2020
14. Attended Faculty Development Programme Conducted by NPTEL-AICTE (funded by the Ministry of HRD, Govt. of India) on **“Advanced Engineering mathematics”** on Jan-Apr 2019
15. Attended Faculty Development Programme Conducted by NPTEL-AICTE (funded by the Ministry of HRD, Govt. of India) on **“Introduction to Abstract and Linear Algebra** during

August – October 2018.

16. Attended SDP at Mailam Engineering College on Fuzzy Logic and its Applications on 2009.
17. Attended FDP at Sowdambika College of Engineering for 15 days on Probability and Random processes on 2007.
18. Attended FDP at Mailam Engineering College on Discrete Mathematics from 14th to 26th May 2007.

ONLINE COURSES:

1. **NPTEL** Online Certification and awarded Elite for successfully completing the course on **“Effective Engineering Teaching in Practice”** on Jan-Feb 2024 Funded by the Ministry of HRD, Govt. of India.
2. **NPTEL** Online Certification and awarded **ELITE - SILVER** for successfully completing the course on **“Teaching and Learning in Engineering”** on Jan-Feb 2024 Funded by the Ministry of HRD, Govt. of India.
3. **NPTEL** Online Certification for successfully completing the course on **“Discrete Mathematics”** on Funded by the Ministry of HRD, Govt. of India during July-October 2023.
4. **NPTEL** Online Certification and awarded **ELITE- SILVER** for successfully completing the course on **“Accreditation and Outcome Based Learning”** during August –October 2023. Funded by the Ministry of HRD, Govt. of India.
5. Successfully completed Module 3: Communication Skills, Modes and Knowledge Dissemination of National Initiative for Technical Teachers Training by AICTE on February 2023.
6. Successfully completed Module 4: Instructional Planning and Delivery of National Initiative for Technical Teachers Training by AICTE on February 2023.
7. Successfully completed Module 8: Institutional Management and Administrative Procedures of National Initiative for Technical Teachers Training by AICTE on February 2023.
8. Successfully completed Module 1: Orientation towards technical education and curriculum aspects of National Initiative for Technical Teachers Training by AICTE on July 2022.
9. Successfully completed Module 5: Technology enabled learning and Life –Long Self Learning of National Initiative for Technical Teachers Training by AICTE on July 2022.
10. Successfully completed Module 6: Student Assessment and Evaluation of National Initiative for Technical Teachers Training by AICTE on July 2022.

11. Successfully completed Module 7: Creative problem solving, Innovation and Meaningful R&D of National Initiative for Technical Teachers Training by AICTE on July 2022.
12. Successfully completed Module 2: Professional Ethics and Sustainability of National Initiative for Technical Teachers Training by AICTE on September 2021.
13. Applied NPTEL Online Certification and awarded Elite for successfully completing the course on “**Descriptive Statistics with R Software**” on Feb-Apr 2021 Funded by the Ministry of HRD, Govt. of India
14. Successfully Completed Covid-19: What you need to know (CME eligible) (Coursera) [Osmasis.org](https://www.osmasis.org) on 04.05.2020.
15. Successfully Completed Spreadsheets for beginners using Google sheets Coursera project network on 05.05.2020.
16. Successfully Completed Data Science Math Skills Conducted by Duke University on 16.05.2020.
17. Successfully Completed Mathematics for Machine learning-Linear algebra (Coursera) Conducted by Imperial College. London on 22.05.2020.
18. Successfully Completed Create your first python program conducted by coursera project net work on 22.05.2020.
19. Successfully Completed Introduction to Psychology conducted by Yale University 21.05.2020.
20. Successfully Completed COVID - 19 Contact tracing conducted by Johns Hopkins University 01.06.2020.
21. Successfully completed a crash course in data science conducted by Johns Hopkins University 04.07.2020.
22. GUVI- Successfully completed Step into Robotic Process Automation during Guvi’s RPA SKILL-A-THON 2020 on 01/06/2020.
23. NPTEL Online Certification for successfully completing the course on “**Advanced Probability Theory**” on Jan-Apr 2020 Funded by the Ministry of HRD, Govt. of India .
24. NPTEL Online Certification and awarded Elite for successfully completing the course on “**Advanced Engineering mathematics**” on Jan-Apr 2019 Funded by the Ministry of HRD, Govt. of India .
25. Applied NPTEL Online Certification and awarded Elite for successfully completing the course “**Introduction to Abstract and Linear Algebra**” Funded by the Ministry of HRD, Govt. of India during August- October 2018.
26. Applied NPTEL Online Certification and awarded certificate for successfully completing the course “**Introduction to Probability and Statistics**” Funded by the Ministry of HRD, Govt. of India during August- September 2018.

Webinar:

1. Introduction to Graphs from Algebraic Structures G.T.N ARTS COLLEGE, Dindigul on 22.05.2020.
2. Secret to get unshakeable confidence at Easwari Engineering College on 16.05.2020.
3. Leadership Talk with Dr. Pramod Chaudhari & Dr. Abhay Jere MHRD's Innovation Cell on 16.5.2020
4. Key Issues in Research Methodology G.T.N ARTS COLLEGE, Dindigul on 03.06.2020
5. Webinar on CSIR NET/SET in Mathematical Sciences at Urumu Dhanalakshmi College, Trichy on 27.05.2020.
6. Application of Fourier series and Laplace equation at Kaamadenu Arts and Science College on 30.04.2020.
7. A Comprehensive Roadmap to pursue Academic Research at SRMIST on 29.05.2020.
8. Effective Virtual classroom teaching for Teachers at Sri Sairam Engineering College on 19.06.2020.
9. Mathematical Modeling in Biological Networks at Sri Malolan College of Arts & Science on 18.06.2020.
10. Healthy Womenhood during COVID-19 at Sri Sairam Engineering College on 04.07.2020.
11. Resilience and Emotional Well being at Sri Sairam Engineering College on 07.07.2020.
12. Yogamum Magalir Manbum at Sri Sairam Engineering College on 11.07.2020.
13. Home Gardening For Beginners at Sri Sairam Engineering College on 18.07.2020.
14. Leadership talk with Ms.Ashwini Deshpande MHRD Innovation cell on 06.06.2020.
15. Mathematical Modeling on Infectious Diseases: application to COVID 19 at Patrician College of Arts and Science on 27.05.2020.
16. India First Leadership Talk webinar with Prof D.P. Singh MHRD'S Innovation Cell on 09.05.2020.
17. India's First Leadership Talk with Shri Shashi Shekhar MHRD'S Innovation Cell on 11.07.2020
18. Graphs In Life At Don Bosco College of Arts And Science on 29.05.2020
19. International Webinar on Emerging Trends in Graph Theory at Sacred Heart College during 14.05.2020 -16.05.2020
20. Imparting Quality Education in HEIs-NAAC Perspective at Amrita College of Engineering & Technology on 17.06.2020
21. Decision Making with the Application of Data Mining at Ramakrishnan College of

Technology, Trichy on 05.06.2020

22. National Webinar series on “Multi-Wavelength Astronomy: From Ground and Space on 24th November 2021, organized by NMSS Vellaichamy Nadar College, Madurai.