

# Dr.S.Hema Surya

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## Education

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- **GATE** Qualified in Mathematics, 2022
- **Joint CSIR - UGC NET** Qualified in Mathematics, 2023
- **TN SET** Qualified in Mathematics, 2025
- **Ph.D.** in Mathematics, SRM Institute of Science and Technology, Chennai, 2024
- **M.Phil** in Mathematics, St. Joseph's College, Trichy, 2017
- **M.Sc** in Mathematics, St. Joseph's College, Trichy, 2016
- **B.Sc** in Mathematics, Shrimati Indira Gandhi College, Trichy, 2014

## Teaching Experience

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- **Assistant Professor** (2025–present), Department of S&H, Loyola - ICAM College of Engineering and Technology, Chennai
- **Assistant Professor** (2024–2025), Rajalakshmi Engineering College, Thandalam

## Academic Responsibilities

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## Research and Academic Projects

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## Publications and Book Chapters

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- S. Hema Surya, T. Nirmala and K. Ganesan, Interval linear algebra - A new perspective, Journal of King Saud University - Science, Q1, 35, (2023), 102502. <https://doi.org/10.1016/j.jksus.2022.102502>.
- S. Hema Surya, T. Nirmala and K. Ganesan, Diagonal canonical form of interval matrices and applications on dynamical systems, Phys. Scr., Q2, 98, (2023), 075201. <https://doi.org/10.1088/1402-4896/acd731>.
- S. Hema Surya, T. Nirmala and K. Ganesan, Jordan Canonical Form of Interval Matrices and Applications, Aust. J. Math. Anal. Appl., Q3, 20(2), (2023), Art. 8, 17 pp.
- S. Hema Surya, T. Nirmala and K. Ganesan, Implementing Interval Linear Equations Systems for Enhanced Circuit Analysis, Mathematical Modelling of Engineering Problems, Q3, 10(6), (2023), 2217-2222. <https://doi.org/10.18280/mmep.100636>.
- S. Hema Surya and K. Ganesan, The principal axis theorem for real symmetric interval matrices with applications on spring - mass system, IAENG International Journal of applied Mathematics, Q4, 54(5), (2024), 859-865

## Areas of Interest

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**By Research:** Linear Algebra, Interval Analysis, Machine Learning, Mathematical modelling on water waves phenomenon

**By Teaching:** Analysis, Statistics, Advanced Data Analytics, Python Programming, Natural Language Processing

## Software Skills

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- Programming: Python, R, MATLAB, SCILAB
- Tools: TensorFlow, Scikit-learn, Git, L<sup>A</sup>T<sub>E</sub>X

- Databases: SQL, BigQuery
- Machine Learning, Deep Learning, Feature Engineering, Data Visualisation, Data Preprocessing, Natural Language Processing

## Conferences Attended (National / International)

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### International Conferences

- 4th International Conference on Mathematical Techniques and Applications (ICMTA-2023) organised by the Department of Mathematics, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur - 603203
- 5th International Conference on Mathematical Techniques and Applications (ICMTA-2023) organised by the Department of Mathematics, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur - 603203
- International virtual Conference on Progress in Mathematics towards Industrial Applications organised by the Department of Mathematics, SRMIST, Ramapuram, Chennai - 600089
- International virtual Conference on Progress in Mathematics towards Industrial Applications organised by the Department of Mathematics, SRMIST, Ramapuram, Chennai - 600089

## Paper Presentations

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2022 ‘Diagonal Canonical Form of Interval Matrices’- Presented in the International virtual Conference on Progress in Mathematics towards Industrial Applications organised by the Department of Mathematics, SRMIST, Ramapuram, Chennai - 600089 during 28th 29th of October 2022

2023 Application of Interval Matrices on Mesh

Current Analysis” - Presented in the 4th International Conference on Mathematical Techniques and Applications (ICMTA-2023) organised by the Department of Mathematics, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur - 603203 during March 22-24, 2023.

## Workshop / FDP: Attended

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Year	Title/Organiser
2025	“LaTeX for Academic Writing” – Online SWAYAM
2025	“Computational Mathematics for Sustainable Development and Innovations–SIMATS Engineering(5 days)
2024	“Recent Advances in Formal Languages and Graph Theoretical Applications – INSTITUTIONS’S INNOVATION COUNCIL(Ministry of HRD Initiative)
2024	“Two-Day National Level Online Workshop on Concepts, Assumptions and Diagnostics in ANOVA and Regression Models – Centre for Data Analytics & Research
2024	“Machine Learning“ - Reccsar Private Limited

## MOOCs Course Details

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- FITA Academy – “Data Science, Data Analytics, Machine Learning, Deep Learning with Python and SQL (Advanced Data Analytics)

## Any Other Details

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- Journal Reviewer for PHYSICA SCRIPTA , IOP Publishing ( Web of Science )