

Name of Faculty Dr. M. SantoshiKumari
 Designation Assistant Professor
 Nature of Job/Appointment Contract
 Date of Joining 17-04-2023



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| Education Qualifications | Name of the Degree | Class |
|--------------------------|--|---------------------------------|
| Ph. D | Doctor of Philosophy (Mathematics) Visveswaraya Technological University, Karnataka. | Awarded |
| SET | TS-SET, KSET | Qualified |
| PG | M.Sc. (Pure Mathematics) | First Class with Distinction |
| UG | B.Sc (MPC) | First Class with Distinction |

Work Experience

| | |
|------------------------|-------------------|
| Teaching | 10 Years |
| Research | 06 years |
| Industry | -- |
| Others | -- |
| Area of Specialization | Numerical methods |

Professional Memberships IIFERP

Responsibilities held at Institution Level

1. Member of BOS, SMEC, Hyderabad 2022
2. R&D Coordinator, SMEC, Hyderabad 2022-2023
3. SIP Induction Program Coordinator, DBIT, Bangalore - 2021.

Responsibilities held at Department Level

1. Course Coordinator for Fundamentals of Quantum Computing and Quantum Machine Learning, CBIT, 2023-present

Awards Received

1. Received Second Proficiency Prize in Bachelor's degree from St. Francis College for women, Hyderabad.
2. Received Second Proficiency Prize in Master's degree from St. Francis College for women, Hyderabad.

Courses Handled at Under Graduate / Post Graduate Level.

Ordinary and Partial differential equations, Integral Equations, Real Analysis, Linear Algebra, Calculus of Variation, Topology, Numerical methods, Complex Analysis, Operational Research, Fourier series and Fourier transforms, Vector Calculus, Probability and Statistics, Fundamentals of Quantum Computing and Quantum Computing for Machine Learning.

No. of Papers Published

National Journals – 00 International Journals – 6
National Conference – 01 International Conference – 7

Projects Carried out

Ongoing In house seed grant of Rs. 1.7 Lakhs funded project at CBIT, Hyderabad, India

Title: A Hybrid Quantum Convolutional Neural Network for Skin Lesion Classification

Patents

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Technology Transfer

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Invited Speaker

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No. of Books/Chapter Published with details

Published one book Titled "Ordinary Differential Equations and Vector Calculus", M/s Sun Techno Publications, 978-81-945268-9-6, February, 2023.

Co-ordinator for IPR awareness program under NIPAM during July 1st 2022 at St. Martin's Organized Online Workshop on "**Writing a Research Proposal**" during 3rd March 2023, at St. Martin's Engineering College, Hyderabad.

Co-ordinated in conducting International Conference on **Recent trends in Science and Engineering** during 24th- 25th Feb, 2023 at St. Martin's Engineering College, Hyderabad.

Details of Short-Term Training Programs/Faculty Development Programs/Seminars/Workshops. Other Training (**Attended and/or Organized**).

Coordinator for Faculty Development program on **Research Pedagogy and Contemporary research** during June 23rd- 25th, 2022 at St. Martin's Engineering College, Hyderabad.

Coordinator for two-days International conference on **ICCIASH** during 16-17th September, 2022 at St. Martin's Engineering College, Hyderabad.

Coordinator

for one day webinar on **COVID Do's and Don'ts** in Don Bosco Institute of Technology, Bangalore during June, 2022.

Coordinated for one week **Student Induction Program** in DBIT, Bangalore during May, 2022.

State Level seminar on "**Impact of Mankind on Environment**" held during 25th and 26th August at B.M.S. College for Women, Bangalore.

National Conference on "**An Insight into Analysis and Applications of Mathematics**" held during 24th August, 2016 at National College, Jayanagar, Bangalore.

Open Lecture Series on "**Recent advances in Science and Technology: Mathematics**" held during 19th September 2016, Organized by department of Mathematics, MES College, Bangalore.

Three day workshop on "**Research Methodology and Latex**" Conducted by VTU at RRCE, Bangalore from 20th to 22nd December 2017.

Workshop on "**Analysis and Linear Algebra**" from 6th to 7th January 2017 at National College, Bangalore.

Five day workshop on, "**Advanced Numerical Techniques for Engineers and Researchers**" held during 23rd to 28th January 2017 at B.M.S. College of Engineering Bangalore.

Two day workshop on "**Role of Statistics in Scientific Research**" Organized by Karnataka Science and Technology Academy, DST, GOK, Bangalore held during 04- 05th January 2018.

Five day International FDP on, "**Recent trends in Applied Mathematics**", during July 2020 Organized by SNS College of Technology, Coimbatore.

Attended One week short term course on "**Differential Equations: solution Techniques and Applications**" at IIT Guwahati during September 7-12, 2020.

Attended the International Conference on, "**Differential equations and Numerical Analysis**", Organized by department of Mathematics, Indian Institute of Technology Guwahati, India from 2-15th October 2020.

Attended "**Two Day Online Workshop on LaTeX**" Organized by School of Advanced Sciences, Vellore Institute of Technology from 27-28th May 2021.

Attended One week National level FDP on "**Number Theory and its Applications**" Organized by department of H&S, Gates Institute of Technology, Gooty, Anantapur, AP, India from 14th to 19th June, 2021.

Attended two weeks International FDP on "**The Art of doing Research**" organized by Jyothi Engineering College, Trissur, India during 12-22 July, 2021.

On line Short term Training Programme on "**Role of Statistics in Machine Learning and Data Science**" Organized by UGC-HRDC, JNTUH, Hyderabad during 29 November 2021- 4th December 2021.

Attended one week AICTE- VTU Joint Teachers Training Programme on "**An overview of Teaching Techniques in Data Science and Analytics**" between

25th and 29th April 2022
Organized by VTUHRDC, Chikkaballapur, Karnataka.

Attended 5-Day Workshop on "**Statistical Analysis using Python**" held at VNRVJI ET, Hyderabad, Telangana, India during 6-11th March 2023, Organized by the Dept. of H & S, CSE.

Attended 5-Day Workshop on "**Mathematics & its Applications**" held at Madanapalle Institute of Technology, Andhra Pradesh, India during 5-9th June 2023.

Attended one week Online FDP on "**Mathematics and its Applications in Technology & Science**" organized by Madanapalle Institute of Technology & Science, Madanapalle, India during 5th- 9th June, 2023.

Online one week FDP on "**Quality Education through OBE**" organized by Chaitanya Bharathi Institute of Technology, Hyderabad, India. In association with IEEE Educational Society student branch chapter, CBIT during 22nd-27th January, 2024.

Online one week International short term Training Program (STTP) on, "**Comprehensive Cyber Security and Ethical Hacking from Fundamental to Advanced Techniques**", held from 4th March To 9th March 2024, organized by Department of CET, Chaitanya Bharathi Institute of Technology, Hyderabad, India.

Online one week Faculty development programme on "**Quantum Computing Building a Rapid and Secure Information Tomorrow**" held in June, 2024, organized by Department of CSE, Chaitanya Bharathi Institute of Technology, Hyderabad, India.

Details of Journal Publications/
Conferences (National and
International)

International Journal from the year 2021

1. Madhukar, K., M. C. Jayaprakash, M. Santoshi Kumari, H. Y. Shrivalli, K. V. Nagaraja, Raman Kumar, and R. Naveen Kumar. "**Behavior of suspended natural rubber balls in water at small Reynolds numbers**" *Modern Physics Letters B* (2024): 2450477.
2. Sindhuja, N., M. Santoshi Kumari, K. Kalaiarasi, G. J. Manjula, and H. Y. Shrivalli. "**Energizing Inventory Management to Optimize Energy Consumption of Handling Shortages by Neutrosophic Fuzzy Trapezoidal Number**" *International Journal of Neutrosophic Science* 1 (2024): 219-19.
3. M. Santoshi Kumari, Shrivalli H.Y., B. Mallikarjuna, Vijaya Kumar V. "**Natural cubic spline for parabolic equation with constant and variable coefficients**" *International Journal of Computing and Digital Systems* 16, no. 1 (2024): 1-27.
4. Prabha, S. Krishna, M. Clement Joe Anand, V. Vidhya, G. Nagarajan, Utpal Saikia, Nivetha Martin, M. Santoshi Kumari, and Mohit Tiwari. "**Sorting out interval valued neutrosophic fuzzy shortest cycle route problem by reduced matrix method.**" *International Journal of Neutrosophic Science* 2 (2024): 91-1.
5. B. Mallikarjuna, M. Santoshi Kumari, Shrivalli H.Y., "**Natural Cubic Spline for Singular boundary value problems**", *Journal of Xidian University*, ISSN: 1001-2400, 16(2022)562- 575, <https://doi.org/10.37896/jxu16.5/059>.
6. B. Mallikarjuna, M. Santoshi Kumari, Shrivalli H.Y., "**Natural Cubic Spline for Nonlinear Singular**

International /National Conferences from the year 2020

1. M. SantoshiKumari, "**Natural Cubic Splinesfor Singular Boundary Value Problems**" International Conference on differentialequationsandNumericalAnalysis, IndianInstituteofTechnologyGuwahati, October, 2020.
2. M. SantoshiKumari, "**Natural Cubic SplinesforNonlinearBoundaryValueProblems**" InternationalConferenceonMathematical, Physical andComputationalsciences, Aurora'sDegreeandPGCollege, Hyderabad, August2021.
3. M. SantoshiKumari, "**Natural Cubic Splinesfor Parabolic Equations with Constant and Variable Coefficients**" InternationalConference on Applied Mathematical and Computational Sciences, DITUniversity, Dehradun, October2022.
4. M. SantoshiKumari, "**Natural cubic splines for solution of hyperbolic equations with constant coefficients**", Two-Day National seminar in Recent trends in MathematicalSciences, St.PiousXDegree and PGCollege, Hyderabad, April 26-27th, 2023.
5. M.SantoshiKumari, "**Natural CubicSplinesfor linearandnonlinearboundaryvalue problems, International conference on Modelling**", Simulation and Optimization of EnergySystems(MSOES2023), CanadianUniversity, Dubai, UAE, July17-18th2023.
6. M. SantoshiKumari, "**Quantum Computing in Modern Era**" in 5th research day at ChaitanyaBharathi Institute of Technology, Hyderabad, November 18th, 2023.
7. M. SantoshiKumari, "**Improving Breast cancer diagnosis with variational quantum classifiers**", in ICRAMDS at NIT Bhopal, June 28th2024.

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