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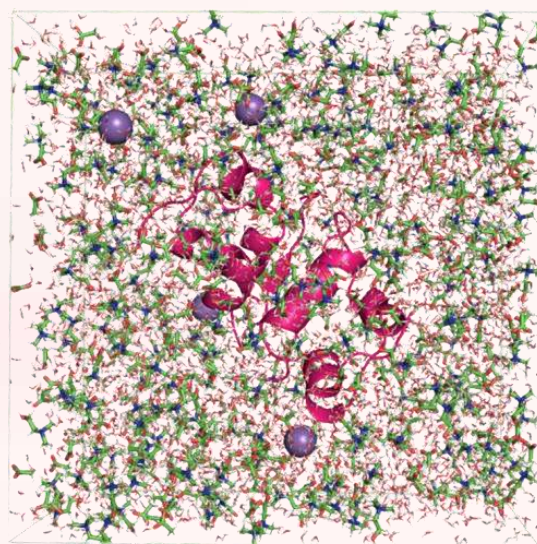
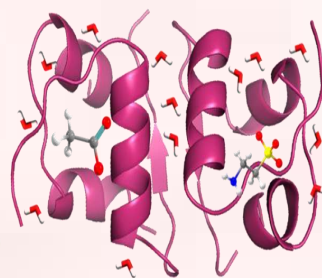
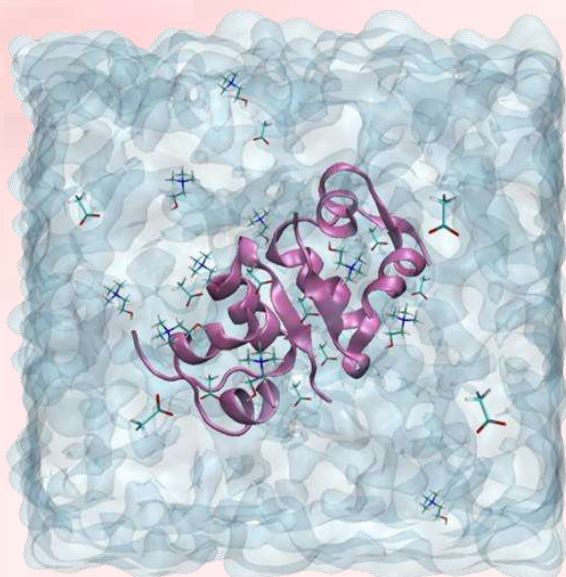
INSTITUTE OF SCIENCE & TECHNOLOGY
Deemed to be University u/s 3 of UGC Act, 1956

Horizon

Quarterly Newsletter

Volume 4, Issue 1

(January to March 2025)



School of Basic Sciences

**College of Engineering and Technology
SRM Institute of Science and Technology**

Kattankulathur - 603 203, Chengalpattu District

Tamil Nadu, India

 NAAC A++	 Category I with 12B Status	 (2024) 12 th Ranked University	 (2025) World Ranking one among 46 Indian Universities	 (2024) World Ranking one among 91 Indian Universities	 VERY GOOD QS 4 Star Rated Globally	 (2024) World Ranking Ranked 5-7 in Indian Universities
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Message from the Chairperson



Dr. M. Arthanareeswari

**Professor & Chairperson
School of Basic Sciences
College of Engineering and Technology
SRM Institute of Science and Technology
Kattankulathur 603 203**

As I take on the role of Chairperson of the School of Basic Sciences, my heartfelt congratulations to our esteemed faculty members of Departments of Mathematics, Physics and Nanotechnology and Chemistry on their outstanding scientific achievements and securing QS World University Rankings by subject. Special congratulations to Physics and Nanotechnology Department for moving up (#351-400) in the rankings and the new entrant, Department of Mathematics (#451-500). My appreciations to the faculty members, research scholars and students for their high impact publications, patents and securing the research grants.

I would also like to take this opportunity to extend my sincerest gratitude to Prof. D. John Thiruvadigal sir, former Dean (Sciences) for his exceptional leadership and tireless efforts which shaped the School of Basic Sciences in to the thriving community of excellence it is today. We are forever grateful to his dedication and service.

Let's work together with passion, energy and enthusiasm to reach new heights in Academics and Research of the School of Basics Sciences.

Cover page theme:

The theme of this issue of "Horizon" portrays the significance of water molecules and the hydration pattern plays a vital role in developing IL-based oral drug formulation of insulin.


(Dr. M. Arthanareeswari)

Message from the HoD, Chemistry



Dr. Prakash Muthuramalingam

**Research Professor and Head
Department of Chemistry
College of Engineering and Technology
SRM Institute of Science and Technology
Kattankulathur 603 203**

The annual flagship event of the Department of Chemistry, ICRAMC 2025 was held during February 13-15, 2025. It is our great privilege that our department is organizing this flagship event for 9 continuous years. Notable eminent speakers from academia and industry actively participated in ICRAMC-2025 and shared their excitement and knowledge to conference participants.

Best presentations were awarded with cash prize. In addition, our scholars have participated in Research day and Dr. Paarivendhar Research Colloquium (DPRC) and won various awards.

I extend my appreciation to our faculty members who received funded projects from various government agencies to the tune of 241.88 lakhs for a period of three years.

In this period, our dynamic research activities also lead to three granted and four published patents. During January to March 2025, 108 international publications were published with an average impact factor of 5.46, including 2 nature indexed journals.

On behalf of the Department of Chemistry, I would like to extend our heartfelt congratulations and best wishes to our newly appointed Chairperson, Prof. Arthanareeswari, former Head of the Department. We look forward to her leadership and continued support as we strive together for the further growth and excellence of the department.

We are thrilled to welcome our newly joined faculty member - Dr. V. Ravikumar to the Department! We are sure that his research expertise would add significant value both in research and academics. Sincere involvement of our alumni, particularly through guest lectures delivered as part of alumni activities is greatly appreciated. I would like to express my gratitude to our dedicated faculty, hardworking students, and supporting staff for their continued contributions to the department.

Message from the HoD, Mathematics



Dr. Ritesh Kumar Dubey

Research Professor and Head
Department of Mathematics
College of Engineering and Technology
SRM Institute of Science and Technology
Kattankulathur 603 203

As we stepped into 2025, our Department of Mathematics reached an inspiring milestone — for the first time, it was ranked within the 451–500 band in the prestigious QS World University Rankings by QS Quacquarelli Symonds. It's a powerful reminder of how far we've come and the global recognition our hard work has started to receive. As we celebrate this achievement, I want to thank the exceptional team — the teaching and non-teaching faculties and UG/PG/PhD students — behind it. Let this recognition be not a final destination, but a springboard. Stay curious, stay bold, and keep pushing the boundaries of your work. As Nelson Mandela once said, *'After climbing a great hill, one only finds that there are many more hills to climb.'* The world is taking notice — now it is our time to deepen our impact, lift one another up, and continue striving for excellence. True success lies not just in what we accomplish, but in how we grow and lead together.

As we look toward the future, I'm pleased to share another promising development — a Memorandum of Understanding (MoU) has been signed between our Department and 1 Decembrie 1918 University of Alba Iulia, Romania. This partnership marks a new chapter of collaboration, opening doors for joint research, academic exchange, and shared innovation.

None of this would have been possible without the unwavering support of our beloved administrators. Their vision, encouragement, and commitment to academic excellence have laid the foundation for achievements like this. On behalf of the entire department, I extend our heartfelt thanks for believing in our potential and providing the environment we needed to thrive. Congratulations to Dr. Abhishek Banerjee, for receiving ANRF PMECRG grant support for research. We commend the efforts of Mr. Santhosh Kumar Sahani, III year BSc, for clearing JAM 2025. Let's take a moment to applaud our women faculties and students who actively participated in the International Women's Day 2025. Congratulations to those research scholars who were awarded the Dr. APJ Abdul Kalam Research Award-2025. I express my sincere gratitude to the members of the department for their dedication and contribution.

Message from the HoD, Physics & Nanotechnology



Dr. E. Senthil kumar

**Research Professor and Head
Department of Physics
and Nanotechnology
College of Engineering and Technology
SRM Institute of Science and Technology**

It gives me great pleasure to connect with you all again through this volume 4 issue 1 of our newsletter "HORIZON". I am delighted to share some of our department's recent achievements and ongoing initiatives. It has been marked by significant progress in both academic and research spheres, reflecting the hard work and dedication of our students and faculty. We are excited to share with you about the events - Conference on Cosmology Astrophysics and Particle Physics (CCAPP-2025). Efforts of our faculty members in arranging an Industry visit to ARCI Hyderabad are specially appreciated.

Our faculty members continue to push the boundaries of knowledge through cutting-edge research, with 84 papers published in prestigious journals (average impact factor of ~ 5.1) including 3 publications with impact factor greater than 10.

The count includes 4 Nature-indexed journals. Congratulations to Dr. Sougata Mallick, Dr. Banasree Sadhukan, Dr. Bharath, Dr Shailendra Kumar Saxena for securing prestigious DST ANRF grants. Appreciations to Dr. K. Kamala Bharathi and Dr. G. Devanand Venkatasubbu for their outreach with invited talks. Congratulations to the students for their achievements with best oral/poster awards, conference presentations and for clearing competitive tests such as JAM and GATE.

We are thrilled to welcome our newly joined faculty members - Dr. Sujoy Kumar Ghosh, Dr. Moovendaran Kalimuthu, Dr. Manas Ranjan Panda, Dr. Mohit Saraf and Dr. Anil Kumar Pal to the Department! We are sure that their expertise and perspectives would add significant value both in research and academics. Also, it is truly heartening to witness the active involvement of our alumni, particularly through guest lectures delivered as part of alumni activities. I would like to express my gratitude to our dedicated faculty, hardworking students, and supporting staff for their continued contributions to the department. Their efforts are what make the department thrive.

Editorial Team

Prof. M. Arthanareeswari

Professor & Chairperson
School of Basic Sciences

Prof. M. Prakash

Head,
Department of Chemistry

Prof. Ritesh Kumar Dubey

Head,
Department of Mathematics

Prof. E. Senthil Kumar

Head,
Department of Physics
and Nanotechnology

Dr. K. Ananthanarayanan

Research Associate Professor
Department of Chemistry

Dr. K. K. R. Datta

Research Professor
Department of Chemistry

Dr. Venkatramaiah Nutalapati

Research Associate Professor
Department of Chemistry

Dr. Susnata Pramanik

Assistant Professor
Department of Chemistry

Dr. A. Anuradha

Associate Professor
Department of Mathematics

Dr. E. Suresh

Assistant Professor
Department of Mathematics

Dr. S. Venkataprasad Bhat

Research Professor
Department of Physics
and Nanotechnology

Dr. Mohit Saraf

Research Assistant Professor
Department of Physics
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Dr. Rudra Banarjee

Assistant Professor
Department of Physics
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From the Editors Desk

Dear Readers,

Greetings!

We take pleasure in announcing the release of the Volume 4, Issue 1 of HORIZON, the quarterly newsletter of school of Basic Sciences that showcases the activities and achievements of our students and faculty members in the last three months (January 2025 – March 2025).

The issue spotlights the breadth and depth of the contribution of students and faculty members towards teaching, research and consultancy which makes the school of basic sciences special. The issue also highlights the numerous accomplishments by the members of the school in research article publication, acquiring grants and fellowship, patenting and alumni activities.

We invite all the readers' inputs for the betterment of the newsletter. Please write to us at chair.sobs.ktr.et@srmist.edu.in

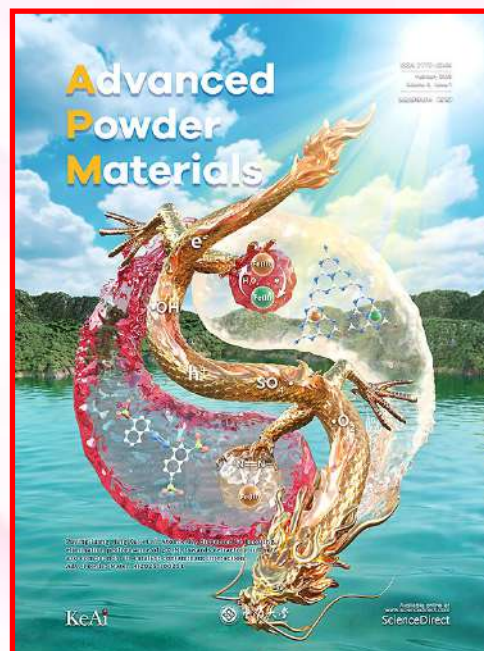
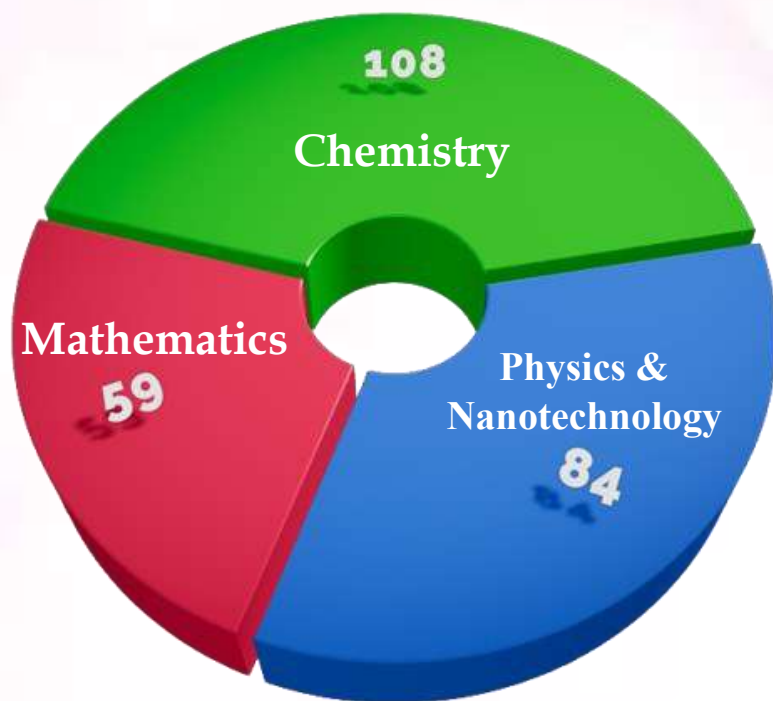
Please enjoy reading our newsletter !!

Highlights

School of Basic Sciences

Key Metrics	October to December 2024	January to March 2025
Total No. of publications (SCI/Scopus)	252	251
Highest Impact Factor Journal Publication	20.6	28.7
No of projects sanctioned	12	12
Total grant outlay	223.93	484.98
No of patents filed / granted	12	9
No of book chapters	4	4
MoUs (International / National)	1	2
Number of Ph.D's completed	15	43

Total number of research publications:
(January to March 2025)



(Impact factor : 28.7)

Academics - Chemistry

QS world ranking **351-400** by subject.

10th position (joint) among Indian universities.

2nd position (joint) under the private institutes.

The Department of Chemistry, SRM IST organized the 9th International Conference on Recent Advances in Material Chemistry (ICRAMC-2025) between February 13-15, 2025 at SRM Institute of Science and Technology, Chennai, Tamil Nadu. This conference is one of the most comprehensive materials related conferences to take place in India in 2025. The three-day conference was organized in association with Alternative Energies and Atomic Energy Commission (CEA), France and University Gustave Eiffel, France. ICRAMC-2025 provided an excellent platform for the world's material scientists to share the latest developments in Materials Chemistry.



Release of Proceedings of ICRAMC-2025 was held on February 13-15, 2025 at SRM Institute of Science and Technology, KTR Campus.



MoU Signing between Kyoto University, Japan and SRMIST



Group photograph of the participants of ICRAMC-2025



Best poster award winner receiving the certificate



Dr. M. Prakash delivered an invited talk on the **Evolution of Electronic Structure Theory** and Experimental Realization (EESTER) conference on January 8-10, 2025 at IIT Madras entitled "DFT Studies on CO₂ Reduction at Functionalized IL@ Au (111) Surface."



Dr. Priyadip Das, delivered an Invited talk for 16th National Symposium on Radiation and Photochemistry (NSRP-2025) organized at the National Institute of Science Education and Research (NISER) Bhubaneswar, Odisha, during January 23-25, 2025.



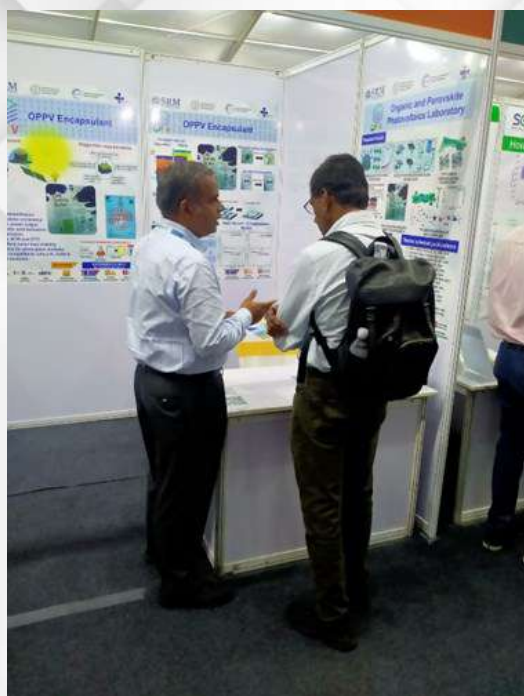
Prof. Ajayaghosh and **Dr. Rahul Dev Mukhopadhyay** participated in Indo-French symposium on (Macro) molecular Assembly and Materials (MAM) at Mahabalipuram organised by CEFIPRA during January 12-14, 2025 .



Dr. Kasibhatta Kumara Ramanatha Datta delivered a talk in the Conference on Applied Membrane Technology and Translational Research (AMTTR 2025) during March 3-4, 2025. This event was held at Indian Institute of Technology Bombay, India.



Dr. S. Shanmugam, delivered a talk for the international conference on Main-Group Molecules to Materials-4 (MMM-4) was held from February 9-12, 2025 at Department of Chemistry, Indian Institute of Technology Bombay.



Dr. K. Ananthanarayanan and his team showcased a breakthrough encapsulation material that enhances the stability of all types of solar cells at the recently concluded IInvenTiv 2025 event held at IIT Madras and was organised under the auspices of the Ministry of Education, Government of India. Dr. K. Ananthanarayanan and his team's patented product, a polymer encapsulant for solar cells was selected for demonstration under the theme Circularity and Sustainability. The product developed by them is now at TRL-7 stage. The encapsulation process has been validated for real-world applications, making it ready for pilot-scale deployment.

About the event: Indian Institute of Technology Madras (IIT Madras) hosted 'IInvenTiv 2025', to showcase groundbreaking innovations from IITs, NITs, IISc, IISERs, and other top 50 NIRF-ranked premier institutes in India. Around 150 entries were shortlisted for showcasing during the event under seven different themes. The event was held on 28th February and 1st March 2025 at the IIT Madras campus. The objective of the event is to drive the commercialization of lab research into real-world products and applications through technology transfer, licensing and other venues of industry-academic collaboration.

Awards Received by Students: International Internship

Mr. Bharathi Kannan Raja (RA2233003011012) Research Scholar, 2022 batch received Short-Term Research Internship from Taiwan Experience Education Program (TEEP). He will carry out his internship at Kaohsiung Medical University in Taiwan, under the guidance of Prof. Hsuan-Ying Chen, Department of Medicinal and Applied Chemistry for a period of 3 months (01.12.2024 – 28.02.2025).



Ms. Mageshwari Anandan (Reg. No. RC2133003011030) was awarded best poster presentation award at **Pravaha-2025** has been awarded a **Best Poster Award**



Ms. Keerthika P (Reg. No. RC2333003011008) was awarded best poster presentation award at **National conference** on recent advances in chemical and biological applications in chemistry -2025.

The following students received **Dr. A. P. J. Abdul Kalam Research award**, SRMIST on 28.2.2025

Dr. Banu K - RC2133003011039

Dr. R. Mahaan - RA2133003011064

Dr. Neeraja Bose B - RC2133003011012

Dr. S. Sankeetha - RC2133003011035

Mr. K. Tamil Selvan - RA2233003011017

Ms. R. Preetha - RC2133003011024



Ms. K. Santhi, Research Scholar won **First Prize** in chess competition conducted on **International Women's Day** event at SRMIST (3rd March 2025)



Mr. A. Tharun, (Reg. No. RA2331011010003) Won Third Prize in Chemfest-2025 organized by the Department of Chemistry, School of Advanced Sciences, Vellore Institute of Technology, and Chennai on 22nd March 2025.

Ms. S. Ragasudha (Reg. No. RA2233003011029) has been awarded a poster prize in the International Conference - ICOLD25 (March 6-8, 2025) held at the Convention centre, IIT Hyderabad.



Mr. C. Gopalakrishnan, (RC2333003011025) has been awarded a **poster prize** for "Screening of Metal Salt Amalgam at Graphene Surface: Electronic Structure and Optical Properties" in **8th International Conference on Nanoscience and Nanotechnology ICONN-2025**, organized by the Department of Physics and Nanotechnology was held on March 24-26 2025.



Dr. Abhijit Saha, Assistant Professor, Dept. of Chemistry, SRMIST gave a talk in the chemistry department association seminar.



Dr. Malay Patra, Associate Professor, Dept. of Chemical Sciences, TIFR, Mumbai gave a talk in the chemistry department association seminar.



Prof. Balaji R Jagirdar, Dept. of Inorganic and Physical Chemistry IISc, Bangalore gave a talk in the chemistry department association seminar.



Prof. Yong-Song Chen, Department Chair Mechanical Engineering, National Chung Cheng University Chiayi, Taiwan, delivered a special talk.

Outreach Activities:



10th Indian Peptide Symposium February 26-28, 2025

Dr. P. Gopinath attended Indian peptide symposium which is a flagship symposium organized every two years. 40 scientific talks were given by various experts during the event.

Dr. E. Sundaravadivel attended a two-day workshop on Structural Analysis (covering X-Ray Diffraction, Rietveld Refinement, HRTEM, and SAED) at Sathyabama University during February 24-25, 2025 .

Dr. S. Ganesan attended a two-day workshop on Structural Analysis (covering X-Ray Diffraction, Rietveld Refinement, HRTEM, and SAED) at Sathyabama University during February 24-25, 2025 .



Dr. M. Mariappan attended an **International Conference on Frontiers in Chemical Sciences (ICFCS2025)** during February 17-18, 2025 organised by the department of chemistry, Pondicherry University.

Extracurricular Activities & Sports:



Mr. Sandeepkumar Veeran (RA24320080100380) | M.Sc Chemistry Students has successfully participated in 24 hours continuous High service in Ball badminton to create Nova World Record-Awareness for Anti-Drugs and Promoting Indian Sport Ball Badminton among the Younger Generation, Organised by Directorate of Sports on February 27–28, 2025 .

Ms. Mullaimalar. A (Reg. No. RA2233003011008) has been awarded a Merit Certificate for poster Presentation in the event Microplast 2025- A one-day workshop on Micro Plastics and Human Health which was held on February 8, 2025 , organized by Tamilnadu State Council for Science & Technology (TNSCST) & the Centre for Energy Storage Technologies (CEST) at Anna University, Chennai.



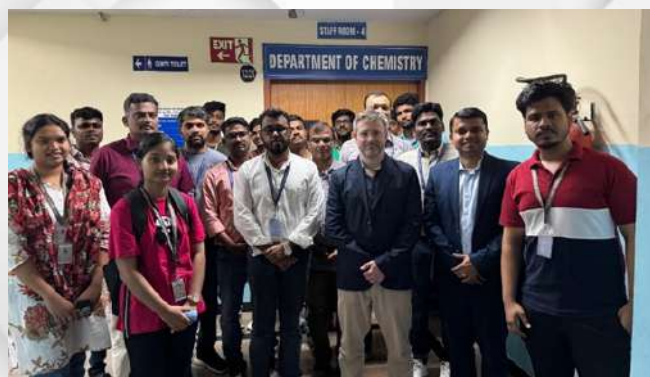
International Collaborations:

Two students from Japan, **Mr. Kazuyuki SHIBAKAWA**, (First year of master course (M1)), Graduate School of Engineering, Osaka Metropolitan University and **Mr. Shion ISIKAWA**, (4th year of Bachelor (B4)), Department of Applied Chemistry, Osaka Prefecture University are working in EERL, SRMIST, KTR as part of SPARC project a period of 1 month until 5th April 2025.

Prof. Manickam Minakshi Sundaram, Murdoch University, Australia gave an invited lecture on the topic “**Role of Long-Duration Energy Storage in the Energy Transition –open opportunities for Australia and India**” at SRM IST. He had explained the basic research on energy storage devices including supercapacitors and batteries and emphasized on possibility of strong research collaboration between India and Australia.



Dr. Manickam Minakshi sundanram, Associate Professor College of SHEE, Murdoch University Murdoch delivered a special talk on February 18, 2025.



Dr. Sumit Roy, Associate Professor & Prof. Oliver CECG, Coventry University, UK delivered a special talk on February 11, 2025.



Dr. Christian SERRE, Research Director, Institut des Matériaux Poreux de Paris (IMAP) from Centre National de la Recherche Scientifique (CNRS), Ecole Normale Supérieure (ENS) and the Ecole Supérieure de Physique et de Chimie Industrielles de Paris (ESPCI), France visited SRMIST along with research scientist Dr. Georges Mouchaham on February 7, 2025.

Newly joined faculty:

Dr. V. Ravikumar joined as a Research Assistant Professor at the Department of Chemistry, SRMIST Kattankulathur Campus in the month of January 2025. He received his PhD from the Indian Institute of Science, Bangalore, India (2017). His PhD thesis work was adjudged as the [Best Thesis](#) in National Laser Symposium held in Mumbai (2017). He was awarded the prestigious Newton International Fellowship in 2017 for his first postdoctoral work at the University of Bristol, United Kingdom. Before he joined SRMIST he also worked as a postdoctoral researcher in world-class Ultrafast Spectroscopy labs addressing cross-disciplinary research problems including chemistry, physics and biology; at King Fahd University of Petroleum and Minerals, Saudi Arabia; University of Texas at Austin, USA; & University of Sheffield, UK. His research interests include: Time-resolved spectroscopy in liquid solutions and understanding the influence of solvents on various fundamental and technologically relevant photochemical pathways; Fundamental understanding of molecular vibrational strong coupling; Mechanistic inorganic photochemistry of earth-abundant inner and outer transitions metals.



Academics - Mathematics



The year 2025 began with a notable accomplishment for the Department of Mathematics, which was recognized for the first time in the 451–500 range of the QS World University Rankings by QS Quacquarelli Symonds. This important achievement highlights the department's expanding global reputation for academic strength and excellence.



The Department of Mathematics signed a Memorandum of Understanding (MoU) with the 1 Decembrie 1918 University of Alba Iulia, Romania on 18th March 2025. The SRMIST Panel of Board members: Dr. S. Ponnusamy, Honorable Registrar, Dr. Ritesh Kumar Dubey, Research Professor & Head, Dept. of Mathematics, Dr. K. Ganesan, Professor and SRMIST Coordinator for the MOU, Dept. of Mathematics during the execution of MoU. Dr. S. Ponnusamy, Honorable Registrar, SRMIST during the execution of MoU.



The 12th edition of the National Conference on Mathematical Techniques and Applications (NCMTA-2025) was a significant event that was successfully organized by the department on January 9 and 10, 2025. Release of the souvenir during the grand inauguration of NCMTA-2025, at Mini Hall I, T.P. Ganesan Auditorium, SRMIST



Dr. Ritesh Kumar Dubey, Research Professor & Head, Dept. of Mathematics honoring the esteemed guest Dr. A. Adimurthi, Professor, Centre For Applicable Mathematics (CAM), Tata Institute of Fundamental Research (TIFR), Bengaluru.



With 22 Senior scientists, around 250 young scientists, and 50 students as participants, NCMTA-2025 proved to be a good start for the year 2025 for the Department of Mathematics



NCMTA-2025 was a culmination of multiple research ideas and was a robust basis for ongoing excellence on mathematics research and collaborations in the future.

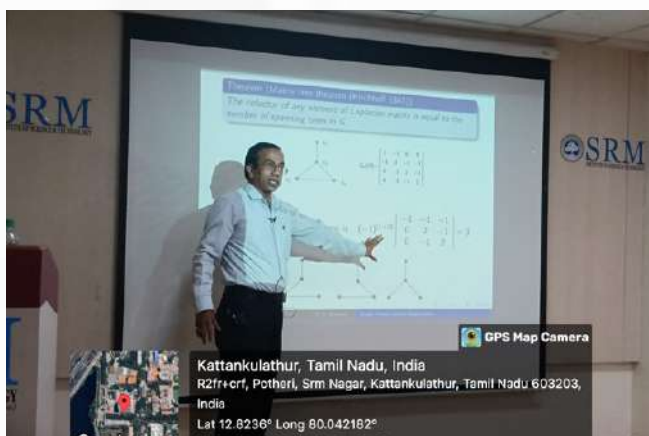


Dr. Ritesh Kumar Dubey, Professor and Head, was elected as the **Vice President** of the prestigious 'Indian Society for Mathematical Modeling and Computer Simulation' ISMMCS.



Dr. Guru Prem Prasad, Professor, IIT Guwahati, visited the Department and delivered an Invited talk on "Fractals and Chaos in Holomorphic Dynamics" on 24-01-2025. Dr. V. Subburayan, Associate Professor, Dept. of Mathematics, honoured the guest Dr. Guru Prem Prasad, during the Invited Talk.

For the benefit of the research scholars, a **Research Colloquium** was organised on 21-02-2025. The talk titled "Fractals: Complexity Analysis for Real-Life Challenges" by **Dr. Rashmi Bhardwaj**, Professor of Mathematics & Head of Nonlinear Dynamics Research Lab, University School of Basic & Applied Sciences (USBAS), Guru Gobind Singh Indraprastha University (GGSIU), New Delhi, explored the mathematical foundations of fractals and their applications in solving real-world problems.



Dr. H. S. Ramane, Professor & Chairman, Department of Mathematics, Karnatak University, visited the Department and delivered an **Invited Talk** on "Graph Theory and Its Applications" on 20-01-2025. Dr. N. Parvathi, Professor, Dept. of Mathematics, presided over the event



Engineering Mathematics Festival 2025, saw a lot of excitement, with around 125 competitors from various academic institutions. Mrs Anusha Ranganathan, SRMIST alumnus, presently working as an engineering project and release manager at Opurtun-Development Center, a financial services company in Chennai was the Chief Guest during the Inauguration.

Dr. Paromita Chakraborty, Professor and Head of the Centre for Research in Environment, Sustainability Advocacy, and Climate Change honoured the guest Mrs Anusha Ranganathan, Engineering project and release manager, Opurtun-Development Center during the inauguration.

EVENT	POSITION	WINNERS	COLLEGE NAME
Math-A-Thon	1st	Pranav V	Sri Sai Ram Engineering College
	2nd	Aadhiraman R	St.Joseph's College of Engineering
	3rd	Sanjeev D	Sri Sai Ram Engineering College
Math Jeopardy	1st	Sashaank K	Amrita Vishwa Vidhyapeetham
	2nd	S Lynnet Lavanya	Madras Christian College
	3rd	Charusri A M	Madras Christian College
Maths War	1st	Rinto Reji	Madras Christian College
		Bincy John K Navya Krishna	
	2nd	Lavanya M	Easwari Engineering College
		Lakshmi M	
		Keerthana S	
	3rd	Jessica B Jayasri K	Easwari Engineering College
		Krithika B	



In association with the Directorate of Alumni Affairs (DAA), the Department of Mathematics organized an Alumni Talk on "Mathematics in the AI and Data Science Era" on 28th Feb 2025 Friday at 11:00 AM. **Mr. K. Prakash**, (B. Sc. Mathematics 2022 Batch), presently working as an Associate Analyst, Domain: AI & Data in the Deloitte Consulting USI was the speaker.



WOMEN'S DAY ACHIEVERS: Our Maths Research scholars won first prize in Ramp Walk; first prize in Group Singing; first prize in Logo designing; third prize in Best Entertainment; first prize in Cooking without Fire and third prize in Wealth without waste.



Dr. J. Uma won first prize in "Breaking the patterns- Non Sequitur" competition held on 28-02 2025 as part of IWD 2025



Dr. E. Sujatha won second prize in "Bridal Doll Makeup" competition held on 28-02 2025 as part of IWD 2025



Dr. E. Sujatha and **Dr. S. Sangeetha** won 2nd place in Floral arrangement, 3rd place in Clay art and also participated in the Glass painting competition held as part of celebrating 50 years of International Women's Day celebration 2025.



Dr. R. Senthamarai, served as a judge for the Tamil Poem Competition during the Pongal Celebrations of SRMIST. She also was awarded Memorial Prize for Poem reading on International Poem Day Celebrations on 07.01.2025.



Dr. Bikash Koli Dey, Research Assistant Professor, Received research project fund "Vendhar Survey Research Fund".



Dr. N. Balaji is the proud recipient of "Award for Excellence in Education" on 2-03-2025 at Tamil virtual Academy, Anna Centenary Library, Kotturupuram by Makkal Kural Magazine.



Dr. B. Karthick and **Dr. M. Shafiya** delivered Invited talks in the workshop on Fundamentals of Statistics and its Applications using R-Programming organised by the department of Mathematics under the aegis of DBT star college scheme at G.T.N Arts College, Dindigul on 27-01-2025



Many Faculty Members of the Department participated in the International Conference on Statistics and Data Analytics (ICSDA 2025) organized by the Department of Statistics, Loyola College, Chennai on 6th and 7th March 2025.



Dr. M. Shafiya, served as the Quiz Master for the Quiz Competition under the Virudhunagar District Cluster of Colleges Joint Faculty Programme in Mathematics at Sri Kaliswari College, Sivakasi, on 15.02.2025



Dr. M. Sathishkumar, served as a Chairperson for the contributed talk session at the International Conference on Nonlinear Dynamics: Modelling and Computation, Bharathiar University, Coimbatore, from 17th to 19th February 2025.



Many faculty members of the Department participated in the Faculty Workshop on "Generative AI Models" organized by the Department of Artificial Intelligence and Data Science from 20.02.2025 to 22.02.2025.



Dr. R. Varadharajan, served as a Session Chair in the Third International Conference on Computational Intelligence and Mathematical Applications CIMA – 2025 during February 6-7, 2025.



Dr Swaraj Paul visited and delivered an Invited Talk in the Annual Inverse Meet at IIT Gandhinagar in February 2025.



Dr. L. Shobana delivered a lecture on “Recent Advances in mathematics and their impact across various disciplines” in St. Peter’s Institute of Higher Education and Research held on 18th Feb 2025.



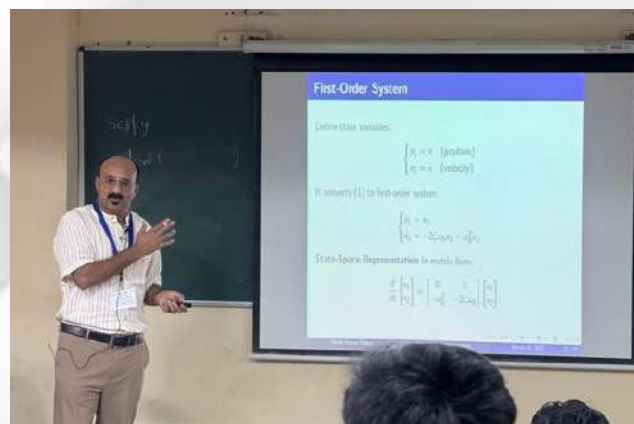
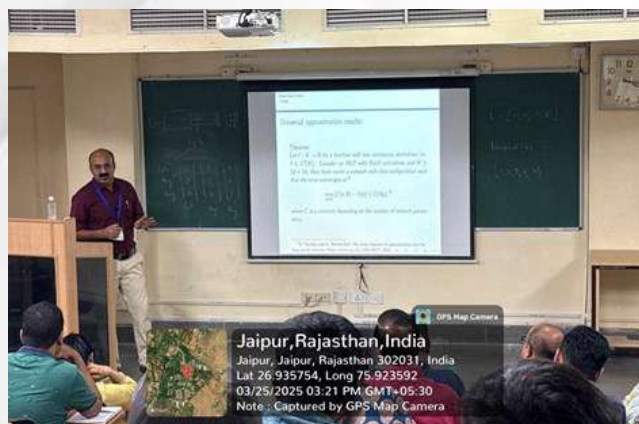
Dr. L. Shobana delivered a lecture on “Effective Tools for Enhancing Teaching and Learning Process” in Dr. M. G. R Educational and Research Institute, Faculty Development Programme held on 25th Feb 2025.



Dr. E. Suresh delivered a guest lecture on “Usage of Mathematics software by Mobile appl and online tool” in AMET University, Chennai on 14th March 2025.



Dr. G. Arul Joseph served as a Resource Person in the One Day National Level Seminar on Pure and Applied Mathematics in Modern Technology using AI, organised by St. Ann’s College of Arts and Science, Tindivanam on 13th March 2025.



Dr. Ritesh Kumar Dubey, Research Professor & Head, delivered a series of lectures in the National Workshop cum FDP program on Deep Learning in Scientific Computing, organized at The LNM Institute of Information Technology, Rajasthan during 24-28 March 2025.



Dr. S. Athithan, was the resource person for the Online Seminar on the topic MATH behind GPS Technology organized by the Dept. of Mathematics of Dr.M.G.R Educational and Research Institute, Chennai, on 18th March 2025.

Dr. R. Krishna Kumari Invited as the Resource Person for the event "FR RACINE'S RACE 2025" organized by Department of Mathematics, Loyola College, Chennai-34 held on 24 January 2025.



Dr. R. Krishna Kumari invited as the Resource Person for an one day Guest Lecture in Panimalar Engineering College, Chennai on 12 February 2025.

Dr. R. Krishna Kumari Invited as the Guest of Honour for "Joseph's Connect: Alumni Meet" organised by St. Joseph's College of Arts and Science, Chennai held on 26 January 2025.



Dr. R. Krishna Kumari Invited as the Resource Person for the One Week Online National Level Faculty Development Programme organized by Jharkhand Rai University, Ranchi and Balughat B.Ed College held from 21-27 January 2025



Our faculties actively participated in the Lake clean-up drive campaign, organised by SRMIST on 25-03-2025.

தினகரன் 2/4

கள்ளக்குறிச்சி அரசு கல்லூரியில் கணிதத்துறை பயிற்சி பட்டறை

கள்ளக்குறிச்சி, மார்ச் 22: கள்ளக்குறிச்சி அரசு கலை மற்றும் அறிவியல் கல்லூரியில் கணிதத்துறை சார் பில் கணிதமென்பொருள் மற்றும் போட்டி தேர்வுகளில் வெற்றி பெறுவதற்கான பயிற்சி பட்டறை நடந்தது. கல்லூரி முதல்வர் முனியன் தலைமை தாங்கினார். கணிதத்துறை பேராசிரியர் சித்ரா வரவேற்றார். வேதியியல் துறைத்தலைவர் தர்மராஜ் வாழ்த்துரை வழங்கினார். சென்னை எஸ்.ஆர்.எம் பல் கலைக் கழக பேராசிரியர்கள் பெருமாள், அருள்பிரகாசம் ஆகியோர் மாணவர்களுக்கு இரண்டு நாட்கள் பயிற்சி அளித்தனர். கணிதத்துறை மாணவ மாணவியர்கள் மற்றும் பேராசிரியர்கள் பங்கேற்றனர். இந்நிகழ்ச்சிக்கான ஏற்பாடுகளை கணிதத்துறை பேராசிரியர்கள் கருணைவேலன், கார்த்திகேயன், விஜய ராஜ், ருக்மாங்கதன், புஷ்ப ராஜ், ஏழுமலை ஆகியோர் செய்திருந்தனர். முதுகலை மாணவர்கள் குறளமுது, ராஜ்முஹமது, ராதிகா, பரணி ஆகியோர் நிகழ்ச்சியினை தொகுத்து வழங்கினர். கணிதத்துறை தலைவர் உமா நன்றி கூறினார்.

Dr. R. Arulprakasam and **Dr. R. Perumal** were resource persons at a two-day national-level workshop organised by the Government Arts and Science College, Kallakurichi during March 19-20, 2025

Dr. E. P. Siva, delivered an invited talk in the 6th National Conference on "Recent Advancement in Physical Sciences" jointly organized by DIT University, Dehradun and National Institute of Technology, Uttarakhand in association with MRSI, Delhi Chapter and ISDT DRDO during February 14-15, 2025.

Dr. V. Muthukumaran, contributed as a Resource Person in the Webinar on "Cryptography – Application of Algebra", organized by Sacred Heart College, Tirupathur, on 21-02-2025.

Newly joined faculty:



Dr. A. Parivallal is a Research Assistant Professor in the Department of Mathematics at SRM Institute of Science and Technology, Kattankulathur, India, since March 03, 2025. He received the B.Sc., M.Sc., and M.Phil. degrees in Mathematics from Bharathiar University, Coimbatore, India, in 2012, 2014, and 2016, respectively. He completed his Ph.D. in mathematics from Anna University, Chennai, India, in 2021. He was a Postdoctoral Researcher at Sungkyunkwan University, Suwon, South Korea, from August 2021 to June 2024. From July 2024 to August 2024, he was a Research Associate at Chungbuk National University, Cheongju, South Korea. From September 2024 to February 2025, he was a Postdoctoral Researcher at Chungbuk National University, Cheongju, South Korea. He has authored/co-authored over 20 research papers in various SCIE journals. His research interests focus on robust control, multi-agent systems, and stabilization of PDEs. He serves as a reviewer for various SCIE journals. He received the excellent reviewer award from The Journal of Electrical Engineering & Technology in 2023 and 2024. He also serves as a guest editor for the special issues “New Developments in Tracking and Stabilization of Fractional-Order Systems” in the journal “Fractal and Fractional”, “Recent Developments in Control and Optimization for Multi-Agent Systems” in the journal “Electronics”.



Dr. B. Kaviarasan is a Research Assistant Professor at the Department of Mathematics, SRM Institute of Science and Technology, Kattankulathur, India. He received the B.Sc. degree in mathematics from Madurai Kamaraj University, Madurai, India, in 2010, the M.Sc. and M.Phil. degrees in mathematics from Bharathiar University, Coimbatore, India, in 2012 and 2013, respectively, and the Ph.D. degree in mathematics from Anna University, Chennai, India, in 2018. He qualified for the Joint CSIR-UGC NET in December 2013. From October 2018 to May 2024, he was a Postdoctoral Researcher (as part of the Brain Korea 21 program) with the School of Electrical Engineering, Chungbuk National University, Cheongju, South Korea. In 2021 and 2024, Elsevier and Stanford University, USA, recognized him one of the Top 2% of Scientists in the World. He received the Hall of Fame Award for Outstanding Researcher from Chungbuk National University, South Korea, in 2021 and 2023. His current research interests include multi-agent systems, Markovian jump systems, and time-delay systems. To his credit, he has published over 65 research papers in the aforementioned areas in reputed SCIE journals. He received the Outstanding Reviewer Award from various Elsevier journals, including Journal of the Franklin Institute, Nonlinear Analysis: Hybrid Systems, and Neurocomputing. He is a Life Member of the Indian Mathematical Society (IMS) and the Indian Society of Industrial and Applied Mathematics (ISIAM).



Dr. Adhira Balan, M.Sc., Ph.D. is currently serving as an Assistant Professor in the Department of Mathematics at SRM Institute of Science and Technology, Chennai, India, since March 2025. She earned her Ph.D. in Mathematics in July 2024 from The Gandhigram Rural Institute – Deemed to be University, Tamil Nadu. Dr. Adhira Balan began her research career as a Junior Research Fellow (July 2019 – August 2021) and later as a Senior Research Fellow (August 2021 – July 2022) in the Department of Mathematics at The Gandhigram Rural Institute, under a project sponsored by the National Board for Higher Mathematics (NBHM). She has also gained international exposure as a Visiting Researcher at Deakin University, Australia, from August to October 2024. Furthermore, she served as a Consultancy Postdoctoral Fellow at the Cochin University of Science and Technology, in collaboration with KIREAP Technologies India Pvt. Ltd., from December 2024 to March 2025. Her research interests include Dynamical Systems, Control Theory, Neural Networks, and Fuzzy Systems.



Dr. Manotosh Kumbhakar has been working as a Research Assistant Professor in the Department of Mathematics at SRM Institute of Science and Technology since March 2025. He completed his PhD from the Department of Mathematics at IIT Kharagpur, India, in 2019, followed by several years of postdoctoral research at Texas A&M University, USA (2 years), National Taiwan University, Taiwan (2.5 years), and the University of Alberta, Canada (8 months). Dr. Manotosh's primary area of research is the stochastic modeling of particle-laden turbulent flows in open channels, such as rivers. His work mostly uses applied mathematical and statistical tools to tackle open-channel turbulent flow problems involving sediment particles. Additionally, some of his work has focused on developing mathematical theory and numerical analysis for such problems. Apart from this, Dr. Manotosh has also worked in the area of approximate solutions to nonlinear differential equations using perturbation and non-perturbation approaches. Recently, he has started working on machine learning, specifically statistical machine learning (e.g., hidden Markov models) and Physics-Informed Neural Networks (PINNs), to tackle practical problems in science and engineering. Based on his research expertise, Dr. Manotosh has published a book with CRC Press, Boca Raton, Florida, USA, several journal papers in reputable international journals, and has presented some of his works at international conferences. He was awarded a National Science and Technology Council (NSTC), Taiwan, postdoctoral fellowship to support his research at NTU, Taiwan. Dr. Manotosh qualified JAM 2012, GATE 2014, and West Bengal SET 2014 exams in Mathematical Sciences. Also, he received the 2025 ASCE (American Society of Civil Engineers) Journal of Hydrologic Engineering Best Technical Paper Award.



Dr. Saurabh Kumar is currently serving as a Research Assistant Professor in the Department of Mathematics at SRM Institute of Science and Technology, Chennai, since March 13, 2025. He completed his Doctor of Philosophy (Ph.D.) in Mathematics from The LNM Institute of Information Technology, Jaipur. Additionally, he has completed an M.Phil. in Mathematics from Chaudhary Charan Singh University, Meerut. He has successfully cleared national-level examinations, including JAM, UGC NET-JRF, and GATE in Mathematics. His research experience spans over six years, during which he has published nine research papers in reputed journals such as Neural Computing and Applications, Journal of Applied Mathematics and Computing, Mathematical Methods in the Applied Sciences, and Applied Numerical Mathematics, among others. Additionally, he has contributed a book chapter published by Springer. During his Ph.D., he was awarded the CSIR Junior Research Fellowship (JRF) and Senior Research Fellowship (SRF). In terms of teaching experience, he has approximately one year of experience as a faculty member at Gautam Buddha University, Greater Noida. During this period, he taught courses including Linear Algebra, Complex Analysis, Ordinary and Partial Differential Equations, and Numerical Analysis. His research interests include, but are not limited to, the following areas: Fractional Differential Equations, Numerical Analysis, Computational Ordinary and Partial Differential Equations, B-spline Collocation Methods, Operational Matrix Methods, and Semi-analytical Methods.



Dr. Nilay Kumar Mondal joined the Department of Mathematics at SRM Institute of Science and Technology as an Assistant Professor (Research) in March 2025. He earned his Ph.D. from the Department of Mathematics and Computing, IIT (ISM) Dhanbad in November 2022. Following his doctoral studies, he pursued postdoctoral research at the Institute of Mathematical Sciences, Ewha Womans University, Seoul, South Korea until February 2025. His research expertise lies in Algebraic Coding Theory, a branch of Mathematics and Information Theory that studies the design and analysis of error-correcting codes using algebraic techniques. Applications of Algebraic Coding Theory span digital communication, data storage, and cryptography, enabling reliable

transmission of data over noisy channels. His primary focus is on finding distance-optimal codes and constructing codes with significant applications, such as few-weight codes with applications in graph theory, self-orthogonal codes with applications in quantum error-correcting codes, minimal codes having applications in secret sharing schemes, linear complementary dual (LCD) codes having applications in cryptography, and locally repairable codes (LRC) having applications in distributed storage systems, among others.

Academics - Physics and Nanotechnology

Conference on Cosmology, Astrophysics, and Particle Physics (CCAPP-2025)



The Conference on Cosmology, Astrophysics, and Particle Physics (CCAPP-2025) was held from January 30th to February 2nd, 2025, at SRM Institute of Science and Technology (SRMIST). The inaugural ceremony was graced by Prof. S. Ponnusamy (Registrar, SRMIST), and Prof. Gautam Bhattacharyya (Director, SINP, India) who served as the Chief Guest.



Group photo from Conference on Cosmology, Astrophysics, and Particle Physics (CCAPP-2025)

ICONN 2025

The International Conference on Nanoscience and Nanotechnology (ICONN) is a biennial event organized by the Department of Physics and Nanotechnology at SRM Institute of Science and Technology (SRMIST), India. The 8th edition of ICONN 2025 was held on March 24–25, 2025, at SRMIST, Kattankulathur, Chennai. This edition built upon the legacy of previous conferences while introducing contemporary themes and expanding on popular sessions. ICONN 2025 was co-sponsored by leading organizations including DRDO, WILEY, Springer Nature USA, and Malvern Panalytical Spectrics Pvt. Ltd., Netherlands. The conference also saw academic collaborations with international universities such as the University of Paris Cité (France), Flinders University and the University of Tasmania (Australia), and Mordovia State University (Russia), among others.



Glimpses of ICONN 2025 organised by Department of Physics and Nanotechnology at SRMIST, Kattankulathur, India.

Featuring over 30 scientific sessions including keynote talks, technical presentations, and panel discussions, ICONN 2025 covered a wide array of topics such as low-dimensional materials, nanofabrication, nanoelectronics, energy harvesting, nanomedicine, and nanocomposites. ICONN 2025 successfully fostered interdisciplinary collaboration, innovation, and knowledge exchange, offering a vibrant platform for early-career researchers and students to showcase their work and engage with pioneers in the field. It continues to strengthen SRMIST's standing as a hub for cutting-edge research in nanoscience and nanotechnology.



Faculty and students of the Department of Physics and Nanotechnology, SRM IST, during the visit to ARCI, Hyderabad on 21st February 2025.

As part of an academic-industry interface initiative, 22 members from the Department of Physics, SRM Institute of Science and Technology, Kattankulathur, undertook an insightful visit to the Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad, on 21st February 2025. The team comprised 3 faculty members (Dr. C.Siva, Dr.Angeline Little Flower, Dr.Elangovan Elamurugu) and 19 students, explored various cutting-edge research centers, including those focused on ceramic materials, engineering coatings, and solar energy technologies.

Value added courses:

- A value-added course entitled “CSIR-NET/GATE Preparatory Course” offered to final-year MSc (Physics) students aimed at preparing them for PhD admission in premier Indian institutes such as IIT/NIT/IISER has been going on in the current semester. 27 classes have been completed, including the assessment components CLA-1 and CLA-2. (Course co coordinators: Dr. P. Sivakumar & Dr. Jaivardhan Sinha).
- Value added course UPY20V01J: Solar cells: Basics and Engineering was offered to the UG and PG students of E&T and S&H. The 30 hours course was structured into theory classes, lab demos and assessments (Course co coordinators: Prof. P. Malar, Prof. S. Venkataprasad Bhat, Dr. Elangovan Elamurugu, Dr. Trilochan Sahoo).

Awards/ recognitions / honours received by Faculty & Students:**Faculty members:**

Name	Award/recognition /honor	Awarding agency/event
Dr. Kamala Bharathi K	Invited talk	3rd International Conference on Recent Trends in Materials Science & Devices 2025 (ICRTMD-2025)
Dr. G. Devanand Venkatasubbu	Invited talk	University of Hyderabad

PhD Students:

S.No.	Scholar Name	Achievements / Placements/ Higher Education Details	Place / Venue / Date
1	Akshaya P	Best paper presentation Award in international conference.	International Workshop & Conference on Evolution of Electronic Structure Theory and Experimental Realization (EESTER-2025), SRMIST&IIT Madras, 3-11 January 2025.
2	VIJAYAKUMAR B	Dr.APJ Abdula Kalam research award 2025	School of Advanced Materials Science & Engineering, Sungkyunkwan University (SKKU), Republic of Korea
3	A.Sakthi Balaji	Best Poster Presentation Award	International Workshop & Conference on Evolution of Electronic Structure Theory and Experimental Realization (EESTER-2025), SRMIST&IIT Madras, 3-11 January 2025.

4	John George	Joined as BK-21 postdoctoral fellow	School of Advanced Materials Science & Engineering, Sungkyunkwan University (SKKU) , Republic of Korea
5	Gayathri P	Won Badminton Singles First place (Gold) Medal	International Womens' Day (IWD-2025) held on 27-03-2025 at T. P. Ganesan Auditorium, SRMIST, KTR.
6	Gayathri P	Contributed talk on March 12-13, 2025, SPARC sponsored, WORKSHOP ON FUNDAMENTALS OF SPINTRONIC MATERIALS FROM THEORY AND EXPERIMENT (FSMTE)	Department of Physics and Nanotechnology SRMIST, KTR.
7	Shalini S	International paper presentation	Progress in flexible supercapacitors for wearable electronics using graphene-based organic frameworks has presentation at the International Conference on Clean Energy and Health Applications (AMCEHA 2025), which will be held at University of Jaffna, Sri Lanka during March 27 and 28, 2025.
8	Blessy Rebecca P N	International paper presentation	Enhancement of Non-enzymatic Glucose Sensing and Supercapacitive Performance of MOF-5/rGO Nanocomposite, International Conference on Clean Energy and Health Applications (AMCEHA 2025), University of Jaffna, Sri Lanka, 27-28 March 2025
9	JENITHA M	Attended Third International Conference on Advanced Materials for Clean Energy and Health Applications (AMCEHA 2025), jointly organised by the University of Jaffna and the Western Norway University of Applied Sciences (HVL) under the NORPART HRNCET project	27th and 28th March 2025 at the main premises of the University of Jaffna.
10	Thatheyus Peter X	WILEY Best Poster Award	8th International Conference on Nanoscience and Nanotechnology (ICONN- 2025), March 24-26, 2025, for the paper titled "Textured TiO ₂ / Sb ₂ Se ₃ photocathode for efficient photoelectrochemical water splitting towards green H ₂ production"
11	Udhayakeerthana C	2nd price for graphical abstract in Talent Expo March 2025	Talent Expo 2025 ,Hitech Block ,Room no.H402,SRMIST, KTR., March 21,2025 conducted by Department of physics and Nanotechnology.

M.Sc./B.Sc./M.Tech./B.Tech. students:

S.No.	Name	Course	Achievement
1	CHANDEEP E. C.	B. S. Physics	1. Cleared JAM 2025 2. Selected for Science Academies Summer Research Fellowship Program 2025 (Ref.: https://webjapps.ias.ac.in/fellowship2025/lists/selectedList.jsp)
2	GURPAVIT KAUR BHATIA	B. S. Physics	1. Cleared JAM 2025 2. Cleared GATE 2025 3. Selected for Science Academies Summer Research Fellowship Program 2025 (Ref.: https://webjapps.ias.ac.in/fellowship2025/lists/selectedList.jsp)
3	THARUN J.	B. S. Physics	Cleared GATE 2025
4	AVISHANKAR SARDAR	B. Sc. Physics	Cleared GATE 2025
5	PRAKASH S	M. Sc. Physics	Cleared GATE 2025
6	ADITYA VINAYAK	M. Sc. Physics	Selected for Science Academies Summer Research Fellowship Program 2025 (Ref.: https://webjapps.ias.ac.in/fellowship2025/lists/selectedList.jsp)

Newly joined faculty:



Dr. Sujoy Kumar Ghosh joined the Department of Physics and Nanotechnology at SRM Institute of Science and Technology as an Assistant Professor (Research) in February 2025. He is an experimental physicist in the field of energy harvesting specifically, piezoelectric, pyroelectric, and triboelectric energy harvesting, with extensive expertise in nanofabrication, nano-sensors, biodegradable and flexible nanogenerators for self-powered electronics, wearable and implantable healthcare applications. Dr. Ghosh was a Fulbright-Nehru Postdoctoral Fellow at the University of California, Berkeley, USA (2024-2025), a DST INSPIRE Faculty at S.N. Bose National Centre for Basic Sciences, India (2023-2024), and a Marie Curie Fellow at Laboratorio NEST, Istituto Nanoscienze-CNR, Pisa, Italy (2021-2023). He also served as a Postdoctoral Research Associate at UNIST, South Korea, (2019-2021) and completed his PhD from Jadavpur University, India (2013-2019). diodes, and field-effect transistors. Recently, he has been exploring the possibility of molecular doping of halide perovskites, a class of (surprisingly) fantastic optoelectronic materials, both in three- and two-dimensional forms, aiming to improve their functionality in device applications.

Dr. Moovendaran Kalimuthu has joined as an Assistant Professor in the Department of Physics and Nanotechnology at SRM Institute of Science and Technology in February 2025. Dr. Moovendaran earned his Ph.D. from the School of Physics at Madurai Kamaraj University, Madurai. He designed and constructed a new experimental setup, named the MKN (Moovendaran Kalyanasundar Natarajan) setup, for growing large single crystals. During seven years of postdoctoral research, he gained valuable experience at the University of Oxford, UK the National Taiwan University, Academia Sinica Taiwan and Okinawa Institute of Science and Technology in the Japan. He worked on frustrated magnetic materials and topological insulators, which involve material synthesis, crystal growth, and characterization .





Dr. Manas Ranjan Panda joined the Department of Physics and Nanotechnology at SRM Institute of Science and Technology as an Assistant Professor in January 2025. He earned his PhD from the IITB-Monash Research Academy (IIT Bombay & Monash University) in 2021, followed by four years of postdoctoral research at Monash University, focusing on 2D materials for sustainable, high-performance energy storage. His PhD research earned prestigious accolades, including the Best Thesis Award (IITB-Monash Research Academy), the National Award for Research Excellence (INIAS, India), and the Anil K. & Bharati Bhatnagar Best Thesis Award (BARC, India). Dr. Panda has published 21 high-impact papers in leading journals (Nano Energy, Small, Advanced Energy Materials, Energy Storage Materials), holds five patents, and has delivered invited talks at global conferences, including ACS Fall 2024. With expertise in Synchrotron-based X-ray techniques and novel material synthesis, his research contributes to next-generation battery technologies.

Dr. Mohit Saraf is currently a Research Assistant Professor at SRM Institute of Science & Technology, Kattankulathur, since March 5, 2025. Prior to this role, he served as a Senior Research Scientist at Kiel University, Germany. He earned his Ph.D. in Metallurgical Engineering & Materials Science from the Indian Institute of Technology Indore in 2019 and holds an integrated Bachelor's-Master's degree in Nanotechnology from the University of Rajasthan, Jaipur. Dr. Saraf was previously a Fulbright-Nehru Postdoctoral Fellow at Drexel University, United States, and a Green Talents Fellow at the Helmholtz Institute Ulm, Germany. His notable achievements include an extensive publication record, active participation in peer review and editorial processes, and multiple national and international recognitions. His research focuses on materials for energy storage applications.



Dr. Anil Kumar Pal joined the Department of Physics and Nanotechnology at SRM Institute of Science and Technology, Kattankulathur, as an Assistant Professor in January 2024. He brings extensive research experience from several esteemed international institutions, including National Taiwan University (Taiwan), the University of Birmingham (UK), and Ludwig Maximilian University of Munich (LMU Munich, Germany). He was awarded the prestigious Alexander von Humboldt Fellowship by the AvH Foundation, Germany, to develop plasmonic-cavity based surface enhanced Raman scattering (SERS) biosensor and worked in the research group of Prof. Stefan Maier at LMU Munich, Germany. Before joining SRM-IST, Dr. Pal was a Senior Scientist at BioMed X Institute, Germany. He received his Ph.D. in Applied Physics from Pondicherry University in 2018, where he worked under the supervision of Prof. D. Bharathi Mohan on metal/semiconductor/metal hybrid nanostructures, focusing on plasmon-enhanced emission and the development of SERS-based biosensors. Dr. Pal is an experienced physicist with a strong drive for interdisciplinary research, particularly in the fields of Optical Biosensors and Biomedical Devices. He specializes in advanced optical sensing techniques, including Raman spectroscopy, diffractive optics, and fiber-optic surface plasmon resonance (FO-SPR), for chemical and biomedical applications. Over the course of his research career, Dr. Pal has successfully developed various optical biosensors and demonstrated the sensitive detection of key biomolecules, including Hemoglobin, DNA, IgG, CRP, HSA, Na^+ , K^+ , and others. His current research focuses on designing and characterizing bio-integrated sensing platforms using optical devices and photonic nanostructures, especially those based on noble metals and hydrogels.

Research—Chemistry

Number of Journal publications : **108**

Average Impact Factor : **5.46**

Highest Impact Factor Journal published : **20.3**

Highest impact factor papers:

Narendra Pal Singh Chauhan, **Panneerselvam Perumal**, Narendra Singh Chundawat and Sapana Jadoun, Achiral and chiral metal-organic frameworks (MOFs) as an efficient catalyst for organic synthesis, **Coordination Chemistry Reviews**, 2025, 533, 216536 (**Impact Factor = 20.3**)

Annamalai, S. Sangaraju, **E. Sundaravadivel**, Insights into carbon dots and conventional semiconductors hybrids: A trendsetter in photocatalytic hydrogen generation, **Coordination Chemistry Reviews**, 2025, 535, 216646 (**Impact Factor = 20.3**)

P. Mani, S. Shenoy, P. J.J. Sagayaraj, N. Agamendran, S.Son, **B. Neppolian**, H. Kim, **K. Sekar**, Scaling up of photocatalytic systems for large-scale hydrogen generation, **Applied Physics Reviews.**, 2025, 12, 011303. (**Impact Factor = 11.9**)

Nature indexed publications : (2)

Jenny Johnson, Sajan Raj Sasirajan Littleflower, Kumaran Vediappan and **Helen Annal Therese**, Alleviating Mn Ion Dissolution in LiMn2O4 by Activation of TiO2 Lewis Acid Sites in Electrospun PVA/TiO2 Quasi-Solid Polymer Electrolyte, **ACS Nano Letters**, 2025, 25, 5983. (**Impact Factor = 9.6**)

M. Vinoth Inbaraj and **G. Maduraiveeran**, Single-site carbon layer-based flexible interdigitated micro-super capacitor: custom miniaturization and surface functional engineering, **Chem. Commun.**, 2025, 61, 5459-5462. (**Impact Factor = 4.3**)



No of Patent published: 6

1. Patent Title: A process for the preparation of nanocomposite Patent Authors: Annamalai Arun, Jeevarathinam Anandhavalli, Ravichandran Ramya, **Elumalai Sundaravadivel** Published date: 27.01.2025
2. Patent Title: Polymer Nanocomposites and a Process for Their Preparation Patent Authors: **Kalaivizhi R** Published date: 14.02.25
3. Fluorescence-Based sensor composite for the detection of antibiotics and a process for its preparation Patent Authors: **B. Neppolian** and Crescentia Yazhini Published date: 14.02.2025
4. Patent Title: A novel high voltage spinel type cathode material for lithium-ion battery Patent Authors: **N. Abirami** Published date: 05.03.2025
5. Patent Title: An electro-spun quasi-solid polymer electrolyte and a process for its preparation Patent Authors: Jenny Johnson and **Helen Annal Therese** Published date: 07.03.2025
6. Nano-fluid based heat exchange for high efficiency thermal management Patent Authors: **T. Maiyalagan** Published date: 21.3.2025



Research Projects : 4Total grant outlay of the below mentioned projects : **241.88** lakhs INR

Sl. No.	Name of the PI	Title of the project	Agency/ Sanction File No.	Grant Amount (in lakhs)	Period of support
1.	Dr. Arun Prakash P (PI) and Dr. Rahul Dev Mukhopadhyay (Co-PI)	A Supramolecular Approach to Improve the Stability and Efficiency of Alkaline Electrolyzer Membranes	NGHM Advisory group (ref. MNRE/A/2024/2780)	50.00	2024-2027
2.	Dr. Anjan Das	Design and Development of New Chiral Covalent Organic Frameworks as Standalone Photocatalyst for Stereocontrolling the Visible-Light-Driven Asymmetric Organic Transformations	ANRF, DST	68.58	2024-2027
3.	Dr. Noufal Kandoth	Expanding The Chemical Space of Single Atom Photobiocatalysis	ANRF, DST	55.00	2024-2027
4.	Dr. Clament Sagays Selvam N	Development of Durable Anode Materials for AEM Water Electrolyzer	ANRF, DST	68.30	2024-2027

Number of Ph.Ds completed: 11

S. No.	Name of the candidate	Reg. No.	Area of Research	Date of the Award	Supervisor
1.	 Dr. Neeraja Bose B	RA2133003011064	Nanomaterials	03.01.2025	Dr. R. Kalaivizhi
2.	 Dr. Naveen Kumar M	RC2133003011005	Fluorescence Spectroscopy	10.01.2025	Dr.Susnata Pramanik

3.	 Dr. Mahaan R	RA2133003011064	Organic Chemistry	10.01.2025	Dr. A. John Bosco
4.	 Dr. A. Mounica	RC2033003011014	Bioorganometallic- Chemistry	28.02.2025	Dr. M. Ganesh Pandian
5.	 Dr. Muthukumar G	RC2133003011018	Electrochemical sensor	7.03.2025	Dr. J. Arockia Selvi
6.	 Dr. Komal M	RC2133003011037	Nanomaterials	10.03.2025	Dr. N. Abirami
7.	 Dr. Sangavi. R	RC20330030110	Nanomaterial and Elec- trochemical sensor	10.03.2025	Dr. T. Pushpa Malini
8.	 Dr. Banu K	RC2133003011039	Crystal Engineering	11.03.2025	Dr. Goutam Kumar Kole
9.	 Dr. S. Pavithra	RC2133003011036	Nanomaterials	21.03.2025	Dr. N. Abirami

S. No.	Name of the candidate	Reg. No.	Area of Research	Date of the Award	Supervisor
10.	 Dr. C. Sumithaa	RC2033003011015	Bioorganometallic-Chemistry	24.03.2025	Dr. M. Ganesh Pandian
11.	 Dr. Ajithkumar Arumugam	RA2033003011005	ORGANIC SYNTHESIS	28.03.2025	Dr. Gopal Chandru Senadi

Events details

S. No.	Name of the Speaker	Speaker's Affiliation	Title	Name of the Event	Date
1	Prof. Venkataraman Thangadurai	University of St Andrews, UK	Solid-State Ionic Devices for Energy Conversion and Storage	Special Lecture	30.01.25
2	Prof. Masaya Matsuka	Department of Applied Chemistry, Osaka Metropolitan University, Osaka, Japan	Basics of Catalysis and Photo catalysis - with a Focus on Spectroscopic Methods for Catalyst Characterization	Special Lecture	2-3.01.25
3	Prof. Oliver, Dr. Sumit Roy, Associate Professor	CECG, Coventry University, UK	Faculty Interaction Meeting with the Visiting Faculty from the Coventry University	Invited Talk	11.02.25
4	Prof. Ong-Song Chen	Department Chair Mechanical Engineering, National Chung Cheng University Chiayi, Taiwan.	Study of Anode Gas Management Strategy of a Proton Exchange Membrane Fuel Cell	Invited Talk	10.2.25
5	Dr. Christian Serre	CNRS research director Ecole Normale Supérieure (ENS) Higher School of Industrial Physics and Chemistry (ESPCI), France	Robust Metal Organic Frameworks From design, scale-up to application	Invited Talk	07.02.25
6	Dr. Hema Kuntrapakam Postdoctoral Researcher	Advanced Science Research Center, City University of New York, USA	Stimuli-induced transformations in confined systems	Invited Talk	04.02.25

7	Dr. Abhijit Saha	Dept. of Chemistry, SRMIST, Kattankulathur	Peptides for enhancing therapeutic outcomes and making innovative antibacterial surface	Chemistry Association Seminar	25.03.25
8	Dr. Malay Patra	Dept. of Chemical Sciences, TIFR, Mumbai.	Strategic PK/PD Modulation of Novel Multi-Targeted Chemotherapeutics via Kinetic Liability.	Chemistry Association Seminar	24.03.2025
9	Dr. Sivathanu Pillai	National University of Singapore, Kent Ridge - Singapore	Current research activities and future research directions	Special Talk	19.03.2025
10	Prof. Balaji R. Jagirdar	Department of Inorganic and Physical Chemistry, IISc, Bangalore	Solvated Metal Atom Dispersion and Digestive Ripening – Duo par excellence for Diverse Nanostructured Materials	Chemistry Association Seminar	17.03.2024
11	Department of Chemistry conducted one-day hands-on training program was conducted in basic analytical techniques. This ANRF-sponsored SSR Activity (Core Research Grant – CRG/2022/006963)				17.03.2025

Research—Mathematics

Number of Journal publications : 59

Average Impact Factor : 3.41

Highest Impact Factor Journal published : 11.0

Highest impact factor paper :

Alotosh Datta, **Bikash Koli Dey**, Shaktipada Bhuniya, Isha Sangal, Buddhadev Mandal, Mitali Sarkar, Rekha Guchhait, Biswajit Sarkar, Baishakhi Ganguly, Adaptation of e-commerce retailing to enhance customer satisfaction within a dynamical system under transfer of risk, Journal of Retailing and Consumer Services, 84, 2025, 104129, ISSN 0969-6989. (Impact Factor = 11.0)

Top 5 publications:

Alotosh Datta, **Bikash Koli Dey**, Shaktipada Bhuniya, Isha Sangal, Buddhadev Mandal, Mitali Sarkar, Rekha Guchhait, Biswajit Sarkar, Baishakhi Ganguly, Adaptation of e-commerce retailing to enhance customer satisfaction within a dynamical system under transfer of risk, Journal of Retailing and Consumer Services, 84, 2025, 104129, ISSN 0969-6989. (Impact Factor = 11.0)

N. Manoj, **R. Sriraman**, Global Mittag-Leffler stability and synchronization of fractional-order Clifford-valued delayed neural networks with reaction-diffusion terms and its application to image encryption, Information Sciences, 698, 2025, 121773, ISSN 0020-0255. (Impact Factor = 8.1)

Mourad Kchaou, M. Mubeen Tajudeen, Tarek F. Ibrahim, Faizah D. Alanazi, Bushra R. Al-Sinan, **R. Perumal**, M. Syed Ali, Event-Triggered control strategy for discrete-time fuzzy systems with infinite delay under DoS attacks: Application to DC motor-gear train system, Expert Systems with Applications, 277, 2025, 127138, ISSN 0957-4174. (Impact Factor = 7.5)

M. Shafiya, N. Padmaja, Finite-time stabilization of fractional-order neural networks with time-varying delays: A generalized inequality approach and controller design, Applied Soft Computing, 175, 2025, 113074, ISSN 1568-4946. (Impact Factor = 7.2)

Salah Boulaaras, **Sabarinathan Sriramulu**, Selvam Arunachalam, Ali Allahem, Asma Alharbi, Taha Radwan, Chaos and stability analysis of the nonlinear fractional-order autonomous system, Alexandria Engineering Journal, Volume 118, 2025, Pages 278-291, ISSN 1110-0168. (Impact Factor = 6.2)

Book chapter: 4

Hambeer Singh, **Karthik Chinnasamy**, R. Pichai Lakshmi, K. Akilandeswari, A. C. Chandrashekara, S. Ranganayaki, and Vikas Vyas, Mathematical Approaches to Real-Time System Identification, IGI Global Publisher, SBN13: 9798369373675 | ISBN13 Softcover: 9798369373682 | EISBN13: 9798369373699

R. J. T. Christ and **Lavanya. G**, Queueing Theory Approach for an IoST-Based Space Debris Tracking Network System and its Performance Evaluation, IEEE Conference Proceedings: 2024 International Conference on IoT Based Control Networks and Intelligent Systems (ICICNIS), Bengaluru, India, 2024, pp. 342-347.





Kumari R., K. & Femila P., A. (2025). Analyzing Linguistic Differences in Academic English: A Graph-Based Machine Learning Approach. In J. Basha, T. Alade, M. Al Khazimi, R. Vasudevan, & J. Khan (Eds.), Optimizing Research Techniques and Learning Strategies With Digital Technologies (pp. 299-318).

Kumari R., K. (2025). The Lasting Legacy of Educators: Stories and Strategies from Former Teachers. In E. West (Ed.), Former Educators' Roles in Supporting Student Growth and Learning (pp. 147-174).


Research Projects:

Total number of new grants: 4

Total lay out of the new grants: **47.25 lakhs INR**

1.	 Dr. Abhishek Banerjee	Stability of simply connected and toroidal viscoplastic drops under linear/non-linear flows	DST-ANRF	40.80	2025-2028
2.	 Dr. Bikash Koli Dey	Human-Machine Collaboration: Achieving Sustainable Manufacturing Goals in Industry 5.0	Vendhar Survey Research Fund	0.40	2025-2026
3.	 Dr. G. Ramesh	Uncertainty Modeling of Groundwater using Fuzzy Set and Intuitionistic Fuzzy Set	Seed Grant—SRMIST	2.45	2025-2027
4.	 Dr. G. Ramesh	Quantum metrology and simulation of periodically driven open many-body systems	Seed Grant—SRMIST	3.6	2025-2027




Number of Ph.Ds completed: 25

S. No.	Name of the candidate	Reg. No.	Area of Research	Date of the Award	Supervisor
1.	 Dr. G. Santhosh Kumar	RA2133001011014	Dr. C. Gunasundari And Dr. M. Radhakrishnan	Modeling and Analysis of Prey-Predator Systems in Population Biology	3.01.2025

2	 Dr. N. B. Sharmila	RA2133001011002	Dr. C. Gunasundari	Qualitative Analysis of Prey - Predator Models for A Class of Differential Equations	3.01.2025
3	 Dr. Nithya P	RA2133001011012	Dr. E. Suresh	Extremal Graphs on Atom-Bond Sum-Connectivity Index and Sombor Indices With Fixed Parameters	6.01.2025
4	 Dr. Jinse Jacob	PA2033036013001	Dr. R. Varadharajan	Enhancing Linear Regression with Raise Techniques to Effectively Tackle the Multicollinearity Problem	6.01.2025
5	 Dr. R. Arasu	RA1833001011011	Dr. N. Parvathi	A Study on Various Domination Parameters of Some Families of Graphs	20.01.2025
6	 Dr. Faizan Ahmed M.	RA2133001011009	Dr. E. Sujatha	A Study on Fluid Film Lubrication of Different Plates with Surface Roughness and MHD Effects	21.01.2025
7	 Dr. A. Ramachandran		Dr. S. Sangeetha	A Study on the Stability of Mixed Type Functional Equations over Non-Archimedean Normed Space	22.01.2025
8	 Dr. Mohamed Nusaf A		Dr. R. Kumaravel	Effectiveness of Fuzzy Decision Making Methodologies in Assessing Air Quality Associated with Festival Celebrations in Tamil Nadu	22.01.2025

9	 Dr. Maitreyi V	RC2133001011016	Dr. E. Suresh	Extremal Problems on Certain Degree-Based Topological Indices	23.01.2025
10	 Dr. Kifayat Ullah Lone	RA2033001011012	Dr. Saurabh Kumar Katiyar	Exploring Iterated Function Systems of Generalized Contractions in the Realm of Generalized Metric Spaces	24.01.2025
11	 Dr. Bheemarasetti Venkata Prithvi	RA1933001011020	Dr. Saurabh Kumar Katiyar	A Study on Nonconventional Iterated Function Systems for the Hutchinson-Barnsley Fractal	24.01.2025
12	 Dr. M. Kannan	PA1633001012001	Dr. P. Godhandaraman	Algorithmic Strategies for Minimizing Makespan and Analysis of Retrial Queueing System with Various Techniques	27.01.2025
13	 Dr. N. Saranya	RC2133001011039	Dr. K. Suja	A Study on Λ -Statistical Convergence in Non-Archimedean Fields	27.01.2025
14	 Dr. K. Deva	RA1933001011011	Dr. S. Mohanaselvi	A Study On Picture Fuzzy Geometric Aggregation Operators And Their Application To Multi-Attribute Decision-Making Problems	28.01.2025
15	 Dr. Sumita Jana	RA2133001011020	Dr. Sahadeb Kuila	Riemann Problem and Nonlinear Wave Interactions for Certain Hyperbolic System of Conservation Laws	30.01.2025

16	 Dr. P. Francis	RA2133001011011	Dr. P. Sambath	Heat and Mass Transfer Investigation of Magneto-hydrodynamic Bioconvective Fluid Flow Over a Vertical Cone/Plate	31.01.2025
17	 Dr. M. Priya	RA2133001011005	Dr. R. Kumaravel	A Comprehensive Framework for Enhancing Water Quality Evaluation in Tamil Nadu Rivers by Integrating Fuzzy MADM Methods and Fuzzy Inference System	21.02.2025
18	 Dr. R. Chitra	RA2133001011039	Dr. K. Prabakaran	Significance of Frank Aggregation Operators for Multi Attribute Decision Making in the Q-Rung Picture Fuzzy Context	21.02.2025
19	 Dr. Sivakumar I	RC2133001011010	Dr. T. Nirmala	A Study on Tridiagonal Interval Matrices and Applications	24.02.2025
20	 Dr. H. Mohammed Yasin	RA2133001011040	Dr. M. Suresh	A Study on Neighborhood Abs Index and Applications of Some Degree based Topological Indices	21.03.2025
21	 Dr. A. Johny	RA2133001011008	Dr. E. Sujatha	Theoretical Analysis of Circular Stepped Plate and Step Slider Bearing Lubricated with Non-Newtonian Fluids	21.03.2025
22	 Dr. M. Revathi Devi	RA2133001011025	Dr. Narsu Siva-kumar	Analytical and Numerical Techniques for Entropy Analysis of Magnetized Fluid Flow and Heat Transfer Systems	21.03.2025

23.	 Dr.S.Sangeetha	RC2133001011006	Dr. S. K. Thamil- vanan	A Study on Oscillation Theo- ry of Higher Order Function- al Differential and Difference Equations	24.03.2025
24.	 Dr. P. Vaidehi	RA2133001011043	Dr. J. Sasikumar	Magnetohydrodynamic Non- Newtonian Oscillatory Flows In Asymmetric Wavy Chan- nel	28.03.2025
25.	 Dr. S. Anusha	RA1933001011004	Dr. S. Athithan	Mathematical Modelling of Diabetes and Its Role as Comorbidity for Covid-19	28.03.2025

Dr. Sathishkumar M, Research Assistant Professor, was appointed as an Editorial Board Member of the journal Scientific Reports (Nature Indexed) (Impact Factor: 3.8), from Feb. 2025 to present. He was also appointed as a Youth Editorial Board Member of the journal Modern Intelligent Times, from Feb. 2025 to present.

Dr. Bikash Koli Dey, Research Assistant Professor, is an Editorial member of a Nature-indexed SSCI journal: Humanities and Social Sciences Communications. He is also an Associate editor of scopus-indexed journal: Edelweiss Applied Science and Technology and further is an Editorial member of Journal of Applied Math.

Dr. S. Vidyanandini, received the “Best Researcher Award” from International Research Awards on Network Science and Graph Analytics in the Domain ‘Introduction to Network Science and Graph Theory’ on 6-01-2025.



Dr. Sathishkumar M, Research Assistant Professor, was appointed as a highly valued Editorial Board Member of the journal Franklin Open (Scopus Indexed), from Feb. 2025 to present.

Dr. S. Vidyanandini, served as a reviewer for the journal “Journal of New Theory”

Dr. E. Suresh, served as a reviewer for the journal “Journal of Applied Mathematics and Computing”

Mrs. Hannah Blasiyus, Research Scholar, received the "**Dr. APJ Abdul Kalam Research Award 2025**" from SRM Institute of Science and Technology, Kattankulathur, on 28.02.2025.

Mr. Gaverchand K, Research Scholar, received the "**Dr. APJ Abdul Kalam Research Award 2025**" from SRM Institute of Science and Technology, Kattankulathur, on 28.02.2025.

Ms. Sarmitha, Research Scholar, presented her research in the 11th International Conference on Mathematics and Computing, organised by IIT Bhilai during January 9-11, 2025.

Ms. Logeswari S, Research Scholar, presented her research in the International Conference on Advances in Applied Sciences, Technology & Mathematics (ICAASTM - 2025) organised by Shri Krishnaswamy College for Women, Chennai during February 21-22, 2025.

Ms. Kushpu M, Research Scholar, presented her research at the 12th National Conference on Mathematical Techniques and Applications (NCMTA-2025), organised by the Department of Mathematics, SRM IST/KTR.

Ms. Kushpu M, Research Scholar, presented her research at the International Conference on Innovations & Recent Trends in Applied Mathematics (ICIRTAM-2025), organized by the Department of Mathematics, SRM IST/VPM.

Ms. Kushpu M, Research Scholar, presented her research at the 8th International Conference on Nanoscience and Nanotechnology (ICONN-2025), held during 24th – 26th March 2025, organized by the Department of Physics and Nanotechnology, SRM IST/KTR.

Mrs. Hannah Blasiyus, Research Scholar, presented her research at the National Conference on Mathematical Techniques and Applications—NCMTA 2025, organised by the Department of Mathematics, SRM IST/KTR.

Mrs. Hannah Blasiyus, Research Scholar, presented her research at the International Conferences on Applied Mathematics and Computing- ICAMAC 2025, held during 21st and 22nd February 2025, organized by the Department of Mathematics, Kongu Engineering College, Perundurai, Tamil Nadu, India.

Mrs. Hannah Blasiyus, Research Scholar, presented her research at the International Conferences on Innovations & Recent Trends in Applied Mathematics- ICIRTAM 2025, organized by the Department of Mathematics, SRM IST/VPM.

Mrs. Hannah Blasiyus, Research Scholar, presented her research at the International Conferences on Nanoscience and Nanotechnology-ICONN 2025, held during 24th – 26th March 2025, organized by the Department of Physics and Nanotechnology, SRM IST/KTR.

PATENTS:

1. **Dr.Karthik Chinnasamy**, System for the Real-Time Simulation and Modeling of Financial Markets Using Stochastic Processes, Application No. 1230310. Date: 31/01/2025

2. **Dr. R. Perumal**, Cryptography & security novel prime factorization algorithm for secure encryption, Application No. 202541009218. Date: 14/02/2025

3. **Dr. N. Balaji**, Flood forecasting using machine learning, Application No. 202541009832. Date: 21/02/2025

Research—Physics and Nanotechnology

Number of Journal publications : **84**

Average Impact Factor : **5.13**

Highest Impact Factor Journal published : **28.7**

Highest impact factor paper:

Tejas Dhanalaxmi Raju, Vignesh Murugadoss, Kiran A Nirmal, Tukaram D Dongale, **Arul Varman Kesavan**, Tae Geun Kim, Advancements in Perovskites for Solar Cell Commercialization: A Review.

Advanced Powder Materials, <https://doi.org/10.1016/j.apmate.2025.100275>

(Impact Factor = **28.7**)

Nature Indexed journal publications (4):

Shalini Shanmuganathi; Tharani Selvam; Durgalakshmi Dhinasekaran; Ashwin Kishore Munusamy Rajendran; Balakumar Subramanian; **Ajay Rakkesh Rajendran**, Synergistic Ti3C2 MXene/MoS2 heterostructure: Unlocking ultra-fast, durable, and high-efficiency energy storage for next-generation supercapacitors

Applied Physics Letters, <https://doi.org/10.1063/5.0252049> (Impact Factor = **3.5**)

M. Karunakaran, **Rudra Banerjee**, Doping-induced enhancement of Curie temperature in Zn2Ru1-xAxMn (A = Ti, Mn, Co, Zr, and Rh) Heusler alloys: An ab initio investigation. Applied Physics Letters, <https://doi.org/10.1063/5.0238199> (Impact Factor = **3.5**)


Krishna, P., Vijay, V., Kanagaraj, C., **Archana, J.**, Ponnusamy, S., & Navaneethan, M. Probing the band structure and phonon dynamics in Fe-mediated Cu2SnS3 for thermoelectric applications, Applied Physics Letters, (Impact Factor = **3.5**)




S, T. M., Hazra, A., Sharma, N., & **Dhir, R.** Weak decays of involving vector mesons in self-consistent covariant light-front approach. The European Physical Journal C (IF 4.2), <https://doi.org/10.1140/epjc/s10052-025-13783-0> (Impact Factor = **3.5**)

Research Projects:



Total number of new grants: **4**






Total lay out of the new grants: **195.85 lakhs INR**

Sl. No.	Name of the PI	Title of the project	Agency/ Sanction File No.	Grant Amount (in lakhs)	Period of support
1.	 Dr. Sougata Mallick	Skyrmion Transport in Magnetic Tunnel Junctions for Next-Gen Spintronics (SKY-TRX)	DST-ANRF	53.5	2025-2027

2.	 Dr. Banasree Sadhukhan	Emerging magneto-transport and thermoelectric responses in altermagnets for novel application of energy harvesting	DST-ANRF	34.82	2025-2027
3.	 Dr. G. Bharath	Engineering a Next- Generation Photoelectrochemical Flow Reactor for Efficient CO ₂ Reduction and Bio-Oil Valorization to Support India's Carbon-Neutral Energy Future	DST-ANRF	49.4	2025-2027
4	 Dr. Shailendra Kumar Saxena	Development of Quantum Tunneling Driven Temperature Independent Photodetector	DST-ANRF	58.13	2025-2027

Number of Ph.Ds completed: 7

S. No.	Name of the candidate	Reg. No.	Area of Research	Date of the Award	Supervisor
1.	 Dr. Elakia M	RA1733002011006	Nano sensors	12.02.2025	Dr.V.J.Surya
2.	 Dr. John George	RC2133002011028	Nano-hybrid structures for water splitting	20.02.2025	Dr. P. Justin Jesuraj

3.	 Dr. Sachin Kakkanattu Philip	RA1933002011041	Atmospheric Science	24.02.2025	Dr. Sanjay Kumar Mehta
4.	 Dr. Karvannan E	RC2133002011003	Thermoelectric Applications	25.02.2025	Dr. A. Karthigeyan
5.	 Dr. Tharani S	RA2133002011038	Zinc ion batteries	04.03.2025	Dr. R. Ajay Rakkesh
6.	 Dr. Karolinekersin	RC2113014011005	Development of herbal drug/nanoparticles	12.03.2025	Dr. S. Anbumozhi Angayarkanni
7.	 Dr. Jeena George	RA1933002011003	Thin films for advanced optoelectronic applications	20.03.2025	Dr. Kiran Mangalampalli

Faculty Corner

Molecular Junction: Next Generation Technology for Temperature Independent Performances

The realization of quantum phenomena for real-world applications paves the way for next-generation technologies. Molecular electronics (ME) has seen substantial progress since its experimental inception, with research exploring the use of molecules as circuit components. The potential of molecular electronics to drive advancements in micro/nanoelectronic miniaturization is significant, particularly as quantum tunneling plays a key role in temperature independent charge transport mechanisms. Semiconductor technology has played a vital role in modern society from smart phone space exploration. However, the performance of these semiconductor devices is highly sensitive to temperature fluctuations, which poses a significant limitation for applications in space and defense technologies. Molecular electronics is distinct category of electronics which is mainly based on quantum mechanical tunneling possess temperature independent charge transport.

Molecules with distinct highest occupied molecular orbitals (HOMO) and lowest unoccupied molecular orbitals (LUMO) serve as the active components in these devices, offering numerous possibilities for designing wavelength-selective photodetectors (PDs).

Additionally, the charge transport mechanism in molecular junctions (MJs) is governed by quantum tunneling, which is both extremely fast and temperature-independent. This characteristic is crucial for the fabrication of temperature-stable, ultrafast devices MJ-based photodetectors offer temperature independence, wavelength selectivity, and ultrafast response—capabilities that are rare with conventional electronic systems. Among the intriguing propositions in this field, the concept of “Temperature Independent Photodetectors ” has emerged as a subject of interest and significance.

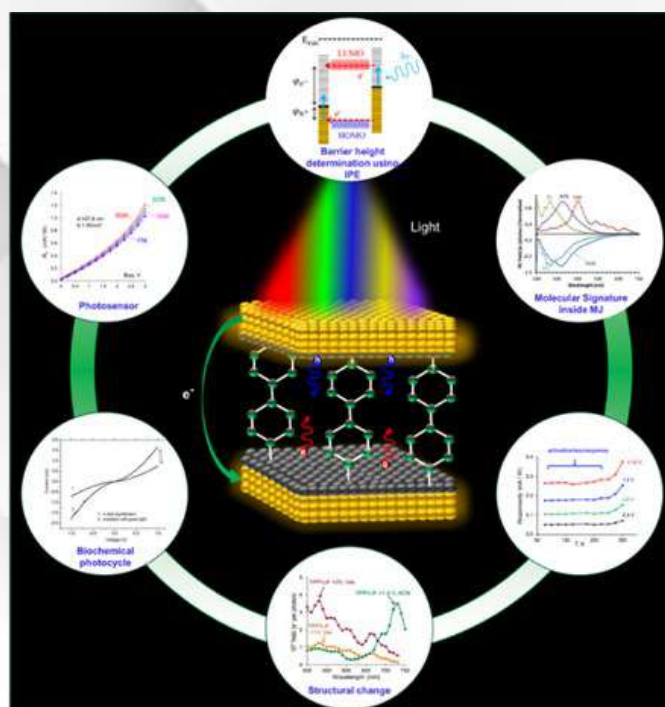


Figure1 : Molecular junction depicting its multifunctionality

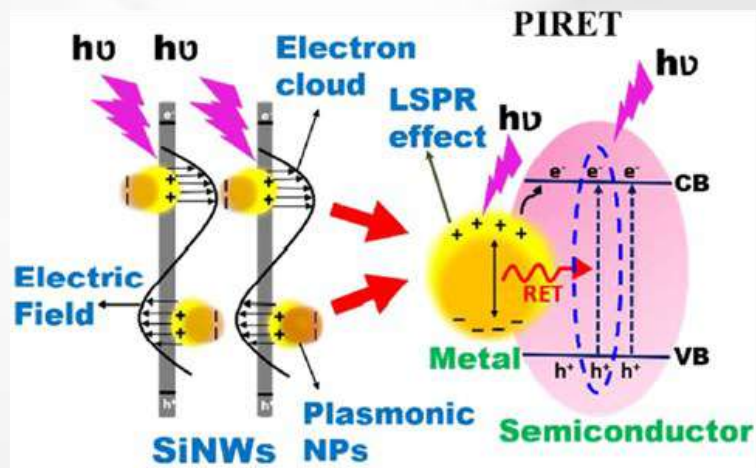


Figure 2: Schematic mechanism of exciton-plasmon coupling.

Exciton–Plasmon Coupling in Silicon Nanowires

Exciton–plasmon coupling in silicon nanowires is a rapidly advancing research area that merges the strengths of semiconductor excitonics and plasmonic nanophotonics. This coupling is significant for several reasons including enhanced light–matter interaction, improved nanoscale sensing, tunable optical properties etc.



By

Dr. Shailendra K Saxena

Research Assistant Professor,

Department of Physics and Nanotechnology,

SRMIST, Kattankulathur.

Alumni Connect

S. No.	Alumni Speaker	Talk Details	SRMIST Alumni Batch Details
1	<p>Mr. Venkataramana Rishikesan, PhD Researcher at IMEC & KU-Leuven, Belgium</p> 	<p>Ionomer-free Electrolysis of DI water Enabled by Confined In-situ Electrolyte Generation in Pt Nanomesh Electrodes</p>	<p>B.Tech. Nanotechnology 2014-2018</p>
2	<p>Mr. Elvin Jose, master's student in Biomedical Engineering and Medical Physics at TUM, Germany</p> 	<p>From SRM to Germany: My Physics Journey, Opportunities and Path to Growth</p>	<p>M.Sc. Physics 2019-2021</p>
3	<p>Mr. Akshay Annavai Rajmohan, master's student Columbia University, USA</p> 	<p>Why taking Nanotechnology was one of the best decisions of my life</p>	<p>B.Tech. Nanotechnology 2018-2022</p>

Alumni Connect

DEPARTMENT OF CHEMISTRY
SRM College of Engineering and Technology
 SRM Institute of Science and Technology
 Kattankulathur

Invites you for

ALUMNI TALK-22
The Climate Nexus Through the Lens of AI: Challenges and Prospects

Dr. Athulya Surendran Palakkal
 (SRM IST PhD (2019-2023))
 Postdoctoral research fellow
 National University of Singapore

18-01-2025 10:00 AM

<https://meet.google.com/cie-vkew-grt>

SAAC Category 1 with 100 Stars
 NIRF 2nd Ranked University
 QS 2023 World Ranking 49th among 50 Indian Universities
 THE 2023 World Ranking 49th among 50 Indian Universities
 COA 4+ 5A Grade Award
 SPARKS RANKING Ranked 1st in India/International

DEPARTMENT OF CHEMISTRY
SRM College of Engineering and Technology
 SRM Institute of Science and Technology
 Kattankulathur

Invites you for

ALUMNI TALK-23
Mastering the PhD process: from cold emails to acceptance letter

Mr. P. SANGHVI SINGH
 (M.Sc.)
 Ph. D. Scholar
 Ben-Gurion University of the Negev, Israel

22-02-2025 11:00 AM

<https://meet.google.com/cie-vkew-grt>

SAAC Category 1 with 100 Stars
 NIRF 2nd Ranked University
 QS 2023 World Ranking 49th among 50 Indian Universities
 THE 2023 World Ranking 49th among 50 Indian Universities
 COA 4+ 5A Grade Award
 SPARKS RANKING Ranked 1st in India/International

Coordinators: Dr. Srinivasarao Kancharla and Dr. Susnata Pramanik



Prof. M. Arthanareeswari, Chairperson, SOBS delivered a special address on the occasion of Womens' Day celebration in the College of Nursing, SRMIST on 7.3.2025.



Prof. M. Arthanareeswari, Chairperson, SOBS received an appreciation certificate from Respected Madam Ms. Padma Priya Ravi Pachamuthu, Vice Chairman, SRM VEC for her dedicated service of completion of 32 years at SRMIST on 27.3.2025.



A group photo of Women Leaders who received appreciation certificates on the occasion of celebration of 50 years of International Womens' Day 2025 with our Honorable Founder Chancellor Sir on 27.03.2025

Notifications



Faculty Development Programme on Modern Spectroscopic Techniques for Material Characterization (MSTMC-2025)

26th - 31st May, 2025

Organized by
Department of Chemistry
SRM Institute of Science and Technology
Kattankulathur, 603 203
Tamil Nadu, India.

PATRONS

Dr. T. R. Paarivendhar,
Founder Chancellor, SRMIST
Dr. Ravi Pachamuthu,
Pro-Chancellor (Admin), SRMIST
Dr. P. Sathyanarayanan,
Pro-Chancellor (Academic), SRMIST

ADVISORY COMMITTEE

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Dean, Research, SRMIST
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Chairperson, SBS, SRMIST
Dr. V. Subramanian,
Visiting Professor, SBS, SRMIST
Dr. M. Prakash,
Res. Professor, HOD, Chemistry, SRMIST

CONVENORS

Dr. K. K. R. Datta, Res. Prof.
Dr. K. Ananthanarayanan, Res. Assoc. Prof.

COORDINATORS

Dr. S. P. Rath, Res. Asst. Prof.
Dr. D. Karthik, Res. Asst. Prof.
Dr. S. Sreejith, Res. Asst. Prof.
Dr. R. Venkatraman, Res. Asst. Prof.
Dr. B. Vedhanarayanan, Res. Asst. Prof.
Dr. R. D. Mukhopadhyay, Res. Asst. Prof.

MSTMC - 2025

26th - 31st May 2025

Registration Form

Name : _____
Designation : _____
Organization : _____
Mailing Address : _____

Phone No : _____
Fax No : _____
E - Mail : _____

Accommodation:

Required []
Not required []

Registration Fees: Rs. _____
Demand Draft No.: _____
Online Transaction No.: _____

Reference No: _____

Dated: _____

Bank: _____

Signature of the participant

About the Institution

SRM Institute of Science and Technology is one of the top ranking universities in India with over 52000 students and 3200 faculty members, offering a wide range of undergraduate, postgraduate, and doctoral programmes in Engineering, Management, Medicine, Health sciences and Science and Humanities. It has established itself as a premier centre for teaching, research and industrial consultancy in the country. It has world class infrastructure including smart classrooms, hitech labs, advanced instruments and equipments, research laboratories, modern library and Wi-Fi facility. Ministry of HRD, Govt of India placed SRMIST in "A++" category.

About the Department

Department of Chemistry, SRMIST has been engaged in opening up the fascinating world of chemistry to students since 1985. The department is supported by DST FIST, Govt of India and holds QS World University Ranking 351-400 by subject and 10th position (joint) among Indian Universities. The department is offering B. Sc., M.Sc., and Ph.D. in Chemistry. It has 70 faculty members whose areas of expertise and research include organic, inorganic, physical, analytical, environmental, electrochemistry, computational materials science and nanotechnology. The faculty members of the department have contributed to academics by publishing books, research articles in high impact peer reviewed journals, presenting papers in conferences delivering guest lectures and invited talks. The department has tie ups with recognized academic institutions, industries and R&D laboratories for student projects, training and research activities.

Programme Theme

This Faculty Development Programme aims to boost the knowledge and practical skills of researchers, and industry professionals in the field of emerging materials, nanomaterials and spectroscopy. The focus will be on modern spectroscopic techniques, their applications, and how these characterization tools can be leveraged to characterize materials in various domains. Considering this, the department of chemistry, SRMIST, would like to organize a FDP and assemble an interdisciplinary list of renowned experts in materials characterization to transfer their expertise. This FDP provides a conceptual overview of major analytical techniques for materials characterization with demonstration on selected techniques. The FDP aims to provide the participants with a necessary understanding of the principles of material characterization and enables them to develop a characterization strategy to interpret their own research findings.

Call for Participation

Participants should provide their address, email id, telephone, mobile and fax numbers. Registration form should reach the convenor on or before the last date of registration. Registration fees shall be paid by online transaction or by DD drawn in favour of "Chemistry Department Association" payable at Chennai. The online transaction details, DD must be sent to the convenor along with the registration form.

For online transfer use the following details:

Name of the Account:
Chemistry Department Association
A/C. no: 500101011069471
Name of Bank: CITY UNION BANK
Branch : Tambaram: IFSC CIUB0000117.

Online registration form (Link below)

<https://forms.gle/BSDM9oxe7PYbavck9>

SCAN HERE



IMPORTANT DATES

FDP: 26th - 31st May 2025
Last date for registration: 21st May 2025

ADDRESS FOR COMMUNICATION

All communications may be sent to
Dr. K. Ananthanarayanan, Res. Assoc. Prof.
Email: ananthak@srmist.edu.in
Dr. K. K. R. Datta, Res. Prof.
Email: kumarard@srmist.edu.in

REGISTRATION FEES

Academic participants: 1000 (INR)
Industry participants: 3000 (INR)

Speakers

Prof. Sarit S. Agasti, JNCASR, Bangalore.
Prof. R. S. Jayasree, SCTIMST, Trivandrum.
Prof. Nitin Lobo, CSIR-CLRI, Chennai.
Prof. Kartik Chandra Mondal, IIT Madras.
Prof. Sivarama Krishnan, IIT Madras.
Prof. Narasimhaswamy Tanneru,
CSIR-CLRI, Chennai.
Dr. Raman Vedarajan, ARCI, Chennai.
Prof. N. Kamaraju, IISER, Kolkata.
and more

