

DEPARTMENT OF PHYSICS

March 2026 - August 2026
Vol 6, Issue No. 2

CELEBRATING 25 YEARS
CMRIT
CMR INSTITUTE OF TECHNOLOGY, BENGALURU.
ACCREDITED WITH A++ GRADE BY NAAC

25 A LEGACY OF Excellence

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CMRIT VISION

To be a nationally acclaimed and globally recognised institute of engineering, technology and management, producing competent professionals with appropriate attributes to serve the cause of the nation and of society at large.

CMRIT MISSION

CMRIT seeks to realise its Vision with a Mission to:

- Create the necessary infrastructure appropriate to the needs of the programmes and activities of the institution.
- Attract and retain well-qualified faculty and supporting staff.
- Create and facilitate an ambience for interdisciplinary engagement, leading to a healthy competition among students and staff, in pursuit of excellence through lifelong learning.
- Develop and operate mutually-beneficial programmes, partnering with industries, institutes and individuals of national and international repute.
- Create mechanisms to understand societal needs and provide solutions for the betterment of society.

DEPARTMENT VISION

To be a globally recognized Physics department that consistently produces exceptional results while nurturing ethical, creative and dedicated technology leaders who will add value to an organization.

DEPARTMENT MISSION

CMRIT department of physics aims to achieve its vision by reaffirming its commitment to the following:

- Strive to create value in its offerings by including depth and intensity in its technical education standards.
- Generate a genuine interest and passion for the subject.
- Provide excellent infrastructural facilities to aid delivery of course work and create an environment conducive to learning and harmony.
- Instil the importance of ethical and socially responsible behavior in students.
- Create avenues for its employees for personal, intellectual and and professional growth.
- Partner with industry and government to provide educational. Technical and cultural support to the workplace.

PRINCIPAL MESSAGE



The Department of Physics stands as one of the fundamental pillars of CMR Institute of Technology, providing unwavering academic and intellectual support throughout the CMRIT journey. The department has consistently demonstrated its strength in teaching and research by producing high-quality, well-recognized research publications, reflecting its commitment to academic excellence.

For young and aspiring minds, the Department of Physics serves as the first stepping stone into the world of technology, instilling confidence, analytical thinking, and a strong scientific foundation during the early stages of their academic careers. The department's dedication to nurturing curiosity and competence plays a vital role in shaping well-trained and industry-ready graduates.

The department newsletter is a commendable initiative that effectively captures the highlights of academic activities, student achievements, research contributions, and departmental engagements. It truly reflects the vibrant academic environment and the collective efforts of both faculty and students. I sincerely appreciate the team behind this initiative and wish the Department of Physics many more achievements and continued success in the years ahead.

Welcome to CMRIT ,
Dr. Sanjay Jain.

VICE PRINCIPAL MESSAGE



It is a matter of great pride to acknowledge the dedicated efforts and notable achievements of the faculty and students of the Department of Physics at CMR Institute of Technology. The department has successfully cultivated a dynamic academic environment that promotes learning, innovation, and research excellence. Through active engagement in research, innovation, and startup initiatives, the department has made meaningful contributions that strengthen its academic and professional standing.

As one of the core pillars of CMRIT, the Department of Physics plays a vital role in shaping young minds at the outset of their technological journey. By emphasizing scientific reasoning and problem-solving skills, the department equips students with confidence and a strong foundation to face future challenges.

I am delighted to present this edition of the Department of Physics newsletter, which highlights the department's academic activities, research accomplishments, student successes, and co-curricular initiatives. This newsletter is a true reflection of the collaborative spirit and vibrant academic culture of the department. I commend the team for this initiative and wish them continued growth and success in the years ahead.

Dr. B Narasimha Murthy,
Vice Principal

HEAD OF THE DEPARTMENT MESSAGE



Greetings!

We are pleased to present this edition of the Department of Physics Newsletter (March–August 2026), showcasing the vibrant academic, research, innovation, outreach, and co-curricular activities carried out during the past six months. This edition reflects our department's continued commitment to academic excellence, innovation, and holistic student development.

A major highlight of this period was the successful organization of the Two-Day International Conference on **Carbon and Sustainable Materials**, inaugurated by **Dr. Kishore C. Poria, Hon'ble Vice-Chancellor, Hemchandracharya North Gujarat University**. Distinguished keynote speakers **Dr. Aruna** and **Dr. Pralay K. Sandra** shared valuable insights on sustainable materials, while the conference provided a vibrant platform for researchers and academicians to present their work and exchange innovative ideas. Also, the department successfully organized expert talks by eminent professionals from industry and academia, Science Club activities, social outreach programs, a national-level hands-on workshop, and educational visit to the HAL Museum.

I am proud of our students for their outstanding achievements in national-level hackathons and innovation competitions, including securing **4th Place** at **ASCENT – The Annual Builder Tech Fest,** winning a prize at **Anveshana 3.0 – National-Level Prototype Competition**, and actively participating in **Vyuhatech 2.0**, **Ideatattva – Ideathon,** and **ADVAYA 2.0**. These accomplishments reflect their creativity, technical excellence, teamwork, and innovative spirit.

I sincerely appreciate the dedicated efforts of our faculty members, staff, students, invited experts, and collaborators whose unwavering support has made these accomplishments possible. I hope this newsletter inspires our readers and serves as a testament to the Department of Physics' continuous pursuit of excellence in education, research, innovation, and societal impact.

Dr. Raveesha K. H
Professor, Head of the Department, Physics
CMR Institute of Technology, Bengaluru

Editorial Team



Dr. A. Suvitha
Associate Professor,
Department of Physics
CMR Institute of Technology, Bengaluru



Dr. Vighneshwar Seetaram Bhat
Assistant Professor,
Department of Physics
CMR Institute of Technology, Bengaluru

Face of the Department



Dr. Raveesha K. H
HOD & Professor



Dr. Shyamsunder Hegde
Professor



Dr. M. Antony Lilly Grace
Associate Professor



Dr Rajesh Gopal
Associate Professor



Dr. A. Suvitha
Associate Professor,



Dr. Ramdas Balan
Associate Professor,



Prof. Sudarshana R
Assistant Professor



Dr. Vighneshwar Seetaram Bhat
Assistant Professor



Ms. Karthikaa Satesh
Office Executive



Srikanth S R
Lab Instructor

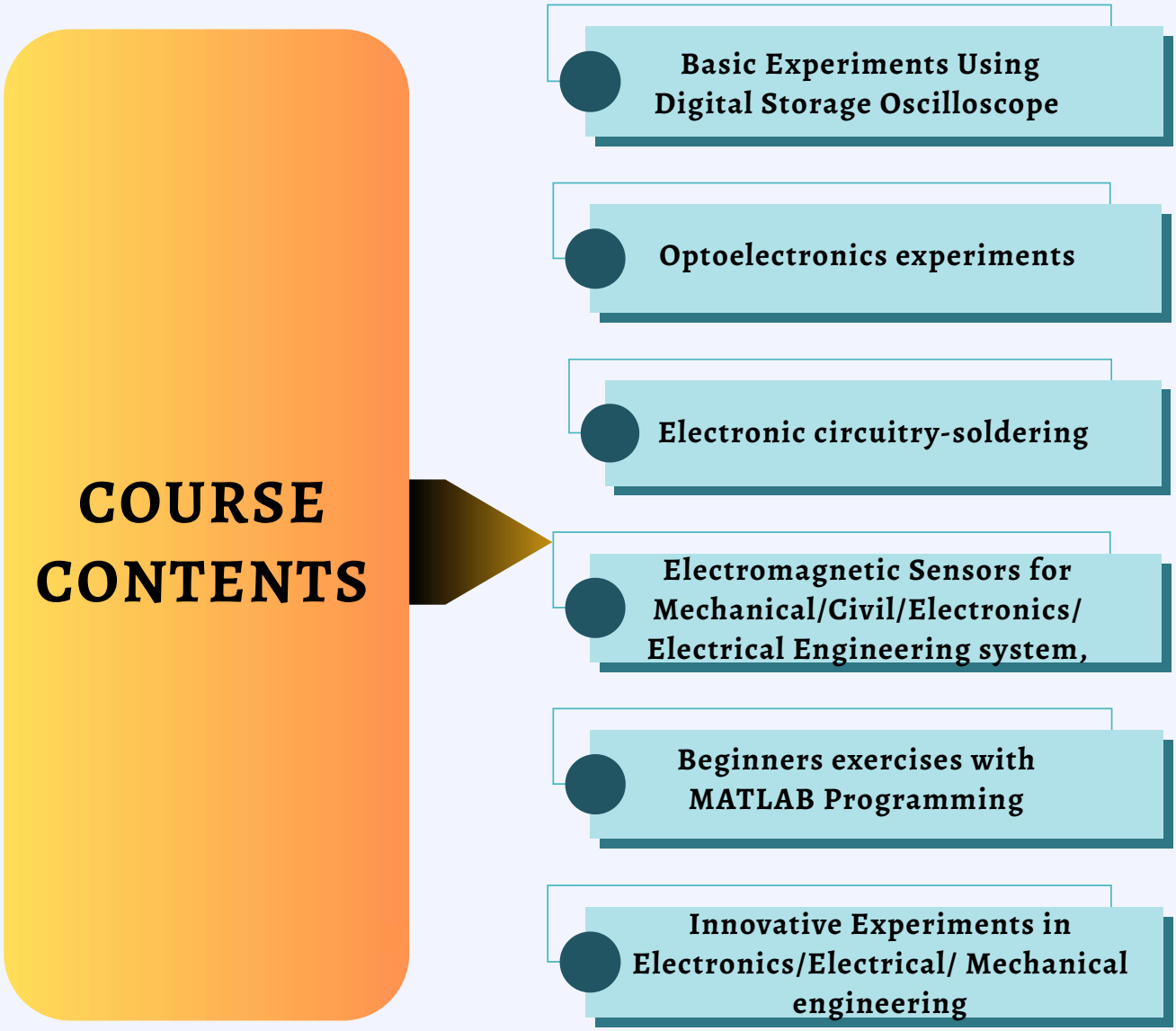


Madhu K C
Lab Instructor

Internship opportunities from Physics Department

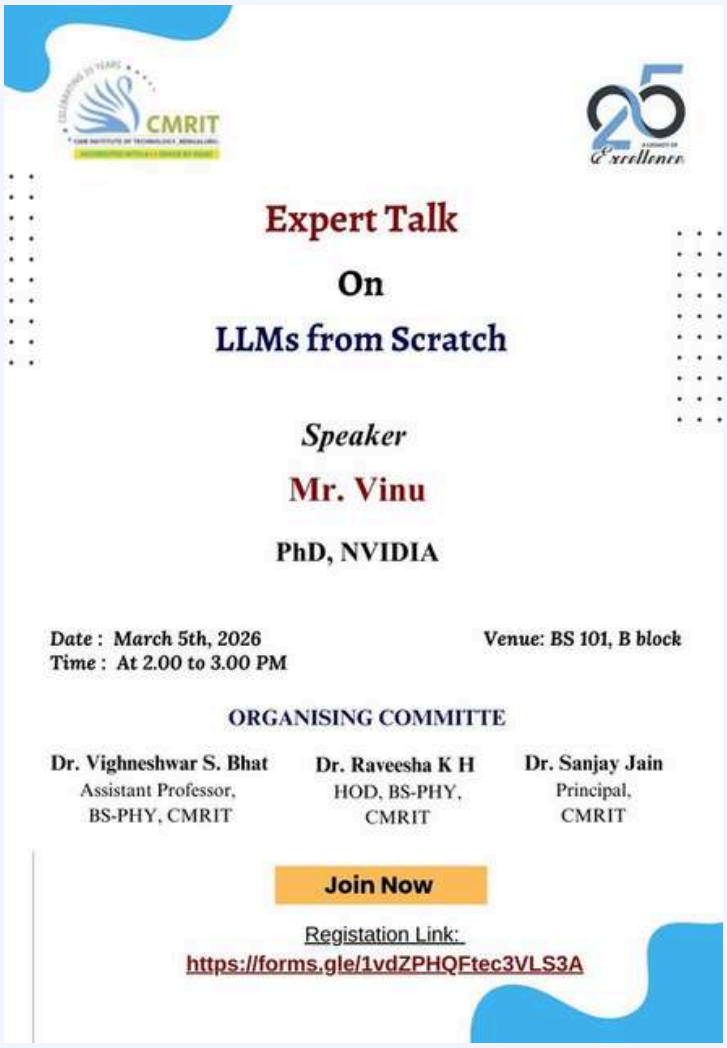
The Department of Physics is offering internship opportunities for first-year students in the areas of electromagnetics, electronics, optics, and fluid mechanics. This program is designed to provide students with strong foundational knowledge along with the practical skills required to carry out research and foster innovation in engineering.

The training emphasizes hands-on exposure to basic research experiments, measurement techniques, and programming tools essential for scientific investigations. By integrating theory with practical application, the internship aims to nurture creativity, problem-solving abilities, and a research-oriented mindset, enabling students to transform fundamental physics principles into real-world engineering solutions.



LLMs from Scratch (Online Mode)

Venue: BS 303, 'B' block
CMR Institute of Technology, Bengaluru
Date: 05th March 2026
Time: 02 PM to 03 PM





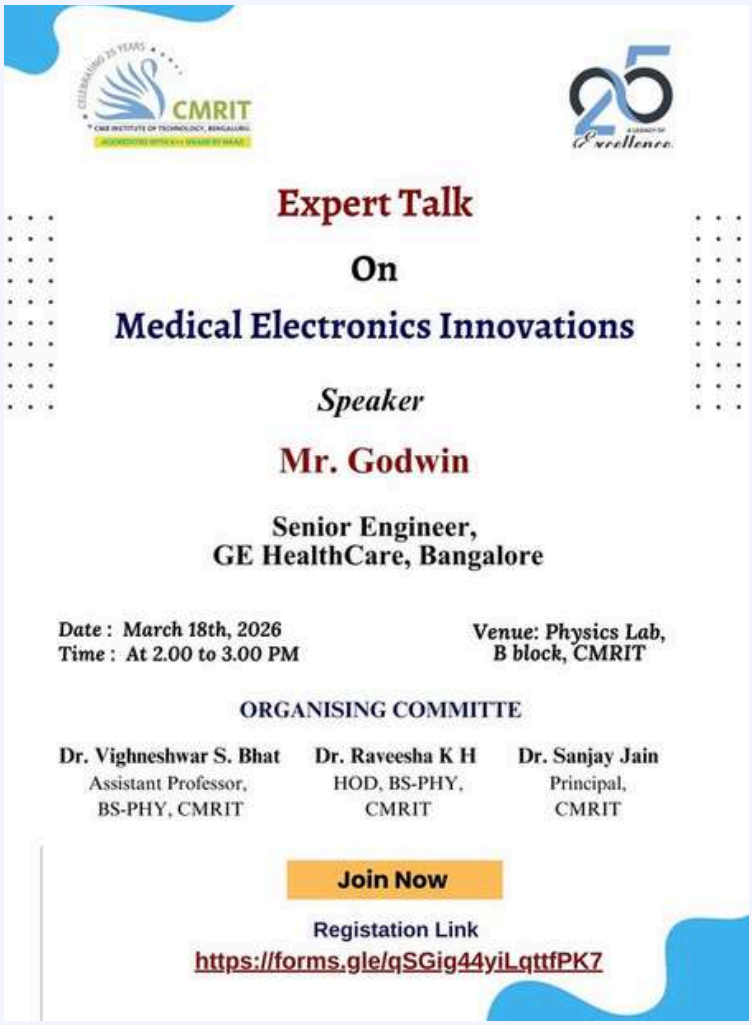


The Department of Physics hosted an inspiring Alumni Expert Talk on Artificial Intelligence (AI) by **Mr. Vinu Joseph**, *offering students valuable insights into the rapidly evolving world of AI and high-performance computing. The session explored the* ***fundamentals of Artificial Intelligence, Large Language Models (LLMs), and GPU-accelerated computing***, *highlighting their transformative impact on science, engineering, and industry.*

Drawing from his research experience, the speaker emphasized the importance of **C/C++ *programming***, **GPU–CPU** *interaction, and computational thinking for future AI professionals. The engaging session motivated students to pursue advanced learning, research, and innovation in AI technologies.*

Medical Electronic Innovations

Venue: BS 403, 'B' block
CMR Institute of Technology, Bengaluru
Date: 18th March 2026
Time: 2.00 PM to 3.00 PM







*The Department of Physics organized an engaging Expert Talk on "**Medical Electronic Innovations**", delivered by **Mr. Godwin**. The session provided students with valuable insights into the rapidly advancing field of medical electronics and its transformative impact on modern healthcare. The speaker highlighted the development of **advanced diagnostic and therapeutic technologies**, emphasizing how Artificial Intelligence (AI) is enhancing the accuracy, speed, and efficiency of medical devices and clinical decision-making.*

*Through real-world industrial case studies and practical examples, students gained an understanding of how cutting-edge electronic systems are improving patient care and enabling smarter healthcare solutions. The talk broadened students' knowledge of emerging **healthcare technologies**, strengthened their awareness of industry-driven innovations, and inspired them to explore careers in medical electronics, biomedical engineering, AI, and healthcare technology.*

Business Model Canvas & Business Model Fit

Venue: AV Hall, 'D' block, Ground Floor
CMR Institute of Technology, Bengaluru
Date: 27th May 2026
Time: 2.00 PM to 3.00 PM







As part of the Institute Innovation Council (IIC) 8.0 activities, an insightful session on "**Business Model Canvas & Business Model Fit**" was conducted by **Mr.Bharth S**. The session introduced students to the Business Model Canvas (BMC) as a strategic framework for transforming innovative ideas into sustainable and market-ready business ventures. Participants gained a comprehensive understanding of the nine building blocks of the BMC, including value proposition, customer segments, channels, customer relationships, key resources, key activities, key partners, cost structure, and revenue streams.

The resource person explained how entrepreneurs use the Business Model Canvas to visualize, analyze, validate, and continuously refine business ideas to achieve product–market fit and long-term business success. Through practical examples and interactive discussions, students learned the importance of identifying customer needs, evaluating market opportunities, designing scalable business models, and adapting strategies based on real-world feedback. The session also highlighted the significance of innovation, value creation, and effective business planning in building successful startups.

The interactive session enhanced students' entrepreneurial mindset, strengthened their understanding of startup ecosystems and business strategy, and motivated them to convert innovative ideas into viable, sustainable, and impactful entrepreneurial ventures.

Indian Startup under the National Quantum Mission-1

Venue: BS 303, 'B' block
CMR Institute of Technology, Bengaluru
Date: 05th March 2026
Time: 2.00 PM to 3.00 PM



The Science Club organized an engaging session on the National Quantum Mission (NQM), introducing students to India's rapidly evolving quantum technology ecosystem. The session showcased opportunities in quantum computing, communication, cybersecurity, sensing, and advanced materials, while highlighting the vital role of startups in driving innovation. Students also explored government funding, industry collaborations, and exciting career pathways, inspiring them to pursue entrepreneurship and innovation in the emerging quantum era.

Prototyping Using Arduino

Venue: Physics Lab, 'B' block
CMR Institute of Technology, Bengaluru
Date: 12th March 2026
Time: 2 PM to 4 PM

The Science Club Department of Physics organized an engaging "Prototyping Using Arduino" workshop to introduce students to the fundamentals of embedded systems and rapid prototyping. Participants gained hands-on experience in Arduino programming, circuit design, sensor and actuator interfacing, and real-time hardware implementation through live demonstrations and interactive activities.



The session provided practical insights into transforming innovative ideas into functional prototypes while strengthening problem-solving and technical skills. It also encouraged students to explore Arduino-based projects for research, innovation, and real-world engineering applications.





Distinguished Lecture: Mars Rover and Maths

Venue: Physics Lab, 'B' Block
CMR Institute of Technology, Bengaluru
Date: 26th March 2026
Time: 2.00 PM to 3.00 PM

An engaging Expert Talk on "Mars Rover and Mathematics" introduced students to the exciting intersection of space exploration, engineering, and mathematics. The session highlighted how mathematical principles drive every stage of a Mars rover mission—from mission planning and navigation to overcoming the challenges of the Martian environment and analyzing scientific data.

Through real-world examples, students discovered how mathematics transforms rover observations into meaningful discoveries, fostering curiosity, critical thinking, and a deeper appreciation for the role of STEM in advancing future space exploration.

ARTEMIS - NASA Project for MOON

Venue: Physics Lab, 'B' block,
CMR Institute of Technology, Bengaluru
Date: 30th April 2026
Time: 2.00 PM to 4.00 PM

Students embarked on an exciting journey into the future of lunar exploration through an Expert Talk on the Artemis–NASA Project for Moon Exploration. The session provided valuable insights into NASA's next-generation Moon missions, highlighting spacecraft design, mission planning, astronaut operations, and the technological innovations driving lunar exploration.



Participants explored how mathematics, physics, and engineering play a vital role in mission analysis, navigation, and scientific discovery. By connecting classroom concepts with real-world space missions, the talk inspired students to pursue innovation, research, and careers in the rapidly advancing field of space technology.

CET Training Program for PU Students

School : Govt P U College Chikkodi, Karnataka
Date: 04th April 2026
Time: 10.00 PM to 12.00 PM

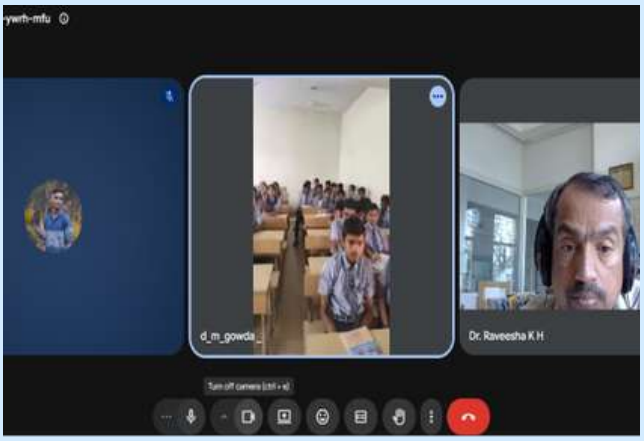


The Department of Physics, CMR Institute of Technology, conducted a CET Training Program for students of Government PU College, Chikkodi, to strengthen their preparation for the Common Entrance Test (CET). The sessions covered key concepts in Physics, Chemistry, and Mathematics, along with problem-solving techniques, time-management strategies, and practice questions. The interactive program enhanced students' confidence, conceptual understanding, and readiness for competitive examinations.

Waste to Wealth Technologies Event for High School Students

School : SDM School, Bengaluru
Date: 16th May 2026
Time: 10.00 PM to 12.00 PM

The Department of Physics, CMR Institute of Technology, organized a Waste to Wealth Technologies awareness program for high school students to promote sustainability and environmental responsibility. Through interactive sessions and demonstrations, students explored innovative methods of converting waste into useful products using recycling and value-addition techniques. The program encouraged creative thinking, eco-friendly practices, and inspired participants to view waste as a valuable resource for a sustainable future.



INTERNATIONAL CONFERENCE ON CARBON AND SUSTAINABLE MATERIALS

Venue: AV Hall, 'D' block, Ground Floor
CMR Institute of Technology, Bengaluru
Date: 19th - 20th June 2026









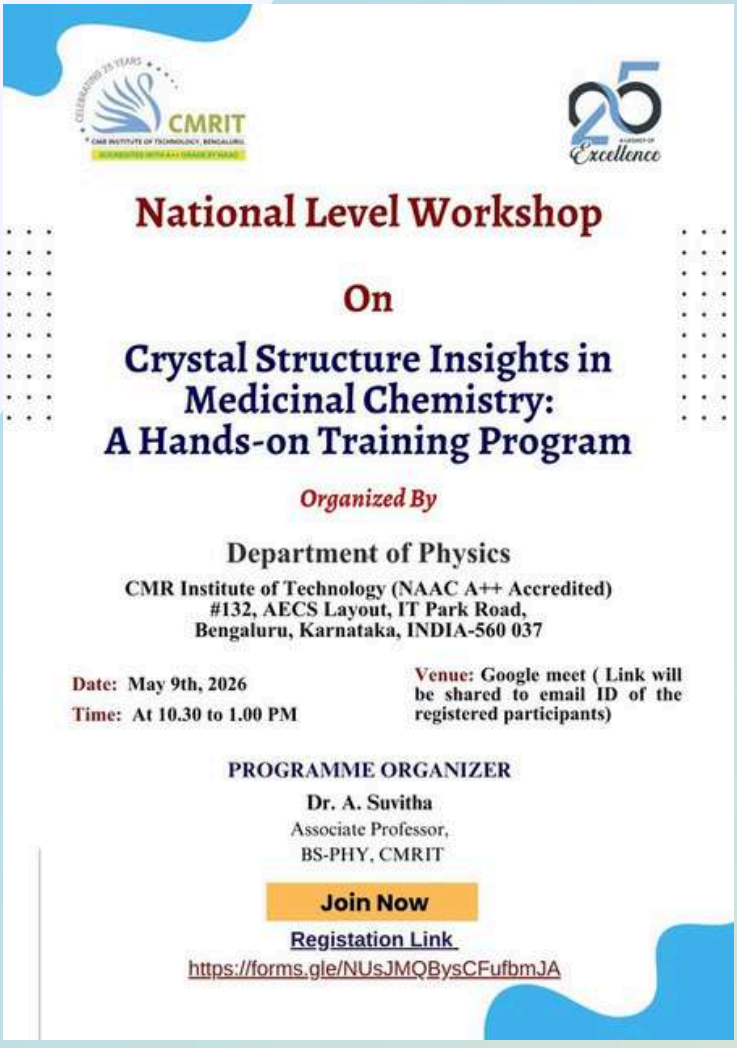
The Department successfully organized the International Conference on Carbon and Sustainable Materials (ICCS 2026), bringing together renowned researchers, academicians, and industry experts to discuss recent advancements in sustainable materials and emerging technologies. The conference was inaugurated by **Dr Kishore C Poria**, **Hon'ble Vice chancellor Hemachandracharya North Gujarat north university,** Vice Principal **Dr. B Narasimha Murthy**, Dean's Dr. Chithra, Dr. Shyam , Dr. pappa .

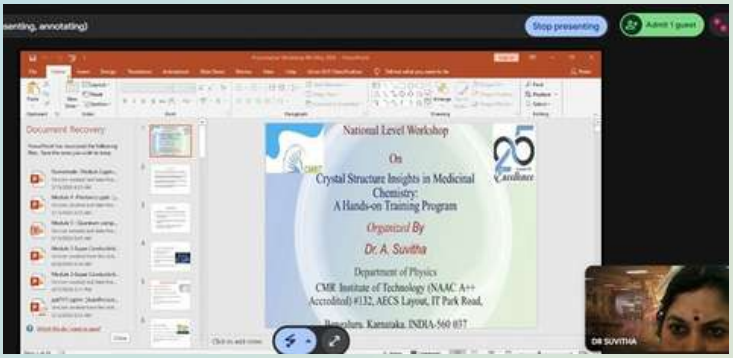
The conference featured inspiring keynote addresses by **Dr. Aruna** and **Dr. Pralay K. Sandra**. **Dr. Aruna** highlighted cutting-edge research on polymer-based protective coatings, self-healing superhydrophobic materials, thermal barrier coatings, sustainable ceramic materials, green hydrogen technologies, and solid oxide fuel cells, emphasizing their applications in aerospace, energy, and advanced engineering. She encouraged young researchers to develop innovative experiments and explore sustainable materials for future technologies. **Dr. Pralay K. Sandra** presented recent advances in nanomaterials for LED applications, demonstrating how defect engineering and halide vacancies can be utilized to achieve tunable light emission in next-generation optoelectronic devices.

The conference provided an excellent platform for scientific exchange, with more than **36 researchers** presenting their work across diverse areas of carbon and sustainable materials.

Crystal Structure Insights in Medicinal Chemistry: A Hands-on Training Program

Venue: *Online Mode*
Date: 9^{th} *May 2026*
Time: 10.30 AM to 1.00 PM





The Department organized an insightful workshop on **"Crystal Structure Analysis for Medicinal Chemistry and Drug Design"**, conducted by **A. Suvitha**. The session provided participants with a comprehensive introduction to **crystallography, molecular interactions, crystal engineering, structural visualization, and computational techniques** used in modern medicinal chemistry and drug discovery.

Through expert lectures, interactive discussions, and practical demonstrations of structural analysis tools, students, research scholars, and faculty members gained valuable insights into how crystal structures are analyzed to understand molecular behavior and support the design of effective pharmaceutical compounds. The workshop enhanced participants' knowledge of interdisciplinary research, strengthened their analytical skills, and highlighted the growing importance of crystallographic techniques in materials science, chemistry, and biomedical research.

Field Visit

Venue : HAL Museum Bengaluru
Date: 23rd April 2026







To promote experiential learning, a team of ***20 first-year Physics Cycle*** (J Section) *students visited the* ***HAL Aerospace Museum, Bengaluru****, on 23 April 2026 under the guidance of* ***Dr. S. S. Hegde****. The educational visit offered an exciting glimpse into India's aviation history and aerospace advancements through aircraft models, aero engines, and interactive exhibits. Students explored the physics behind flight, aerodynamics, propulsion, and engineering design while witnessing real-world technological innovations. The visit bridged theoretical concepts with practical applications, inspiring curiosity, scientific thinking, and a deeper appreciation for aerospace engineering and technological excellence.*

Faculty Patent

Faculty Name	Application	Title of Patent	Status
Dr. Shyamsundar Hegde	202541131914	Method for Producing a High-Speed Visible-Light Photodetector Using Tin Sulfide (SnS) Thin Films	Filed
Prof. Sudarshana	202641069554	Methods Of Synthesis Of Amorphous Magnesium Borate Composite	Published
Prof. Raveesha K H	2506260015129	Alterantive technique to conduct Photodiode Characteistics	Filed

Faculty Attended FDP

Faculty Name	Name of Course	Agency	Number of Days	Certificate
Prof. Raveesha K H	Suistainable Powerr and Renewbale Energy Credits	NITTTR, Chandigarh	1 week	Completed
Dr. Rajesh Gopal	Renewbale Energy Credits	NITTTR, Chandigarh	1 week	Completed
Dr.Ramdas Balan	Suistainable Powerr and Renewbale Energy Credits	NITTTR, Chandigarh	1 week	Completed

Faculty MOOC

Sl. No	Faculty Name	Name of the Course	Agency (NPTEL, Coursera etc)	Status
01	Prof. Raveesha K H	Non Conventional Energy Resources	NPTEL	Completed
02	Dr. Shyamsundar Hegde	Thin Film Technology	NPTEL	Completed
03	Dr. Suvitha A	Environmental Nanotechnology and Applications	NPTEL	Completed
04	Dr. M.A. Liily Grace	Environmental Nanotechnology and Applications	NPTEL	Completed
05	Prof. Sudarshana	Basic Environmental Engineering and Pollution Abatement	NPTEL	Completed
06	Dr. Vighneshwar Seetaram Bhat	Waste Water Treatment and Recycling	NPTEL	Completed

Faculty Tech-Talk

Sl. No	Date	Faculty Name	Title	Venue	Status
01	18.03.2026	Dr. M. Antony Lilly Grace	Energy &Sustainability: Sustainable DevelopmentThrough Advanced Renewable Energy Technologies	BS-Physics Lab	Completed
02	25.03.2026	Dr. Rajesh Gopal	Quantum Entanglement and its role in Quantum Communication	BS-Physics Lab	Completed
03	08.04.2026	Dr. Suvitha. A	Computational Physicsof Nano materials for Drug Discovery	BS-Physics Lab	Completed
04	16.04.2026	Prof. R Sudarshana	Principle and applications of Piezoelectric and Hall sensors	BS-Physics Lab	Completed

Faculty Tech-Talk



Dr. M. Antony Lilly Grace
Topic: *Energy &Sustainability: Sustainable DevelopmentThrough Advanced Renewable Energy Technologies*



Dr. Rajesh Gopal
Topic: *Quantum Entanglement and its role in Quantum Communication*



Dr. Suvitha. A
Topic: *Computational Physicsof Nano materials for Drug Discovery*



Prof. R Sudarshana
Topic: *Principle and applications of Piezoelectric and Hall sensors*

Faculty Publications

Faculty Name	Jounal	Title	Date
Dr. Suvitha A	Journal of Inorganic and Organometallic Polymers and Materials (Q2)	Blue-Shifted Localized Surface Plasmon Resonance in Hydroxyapatite Doped with Gold Nanoparticles for Antioxidant Application	March 2026
Dr. Suvitha A	Journal of Alloys and Compounds (Q1)	Computational and Experimental Investigation of Mn-Doped SrFeO3−δ for Next-Generation Solid Oxide Fuel Cell Electrodes	March 2026
Dr. Suvitha A	Journal of Chemistry (Q2)	A Novel Macrocyclic Binuclear Copper(II) Complex: Structural Clarification, Biomolecular clarifications and Nucleic Acid Cleavage Activity	March 2026
Dr S S Hegde	Sensors and Actuators: A. Physical (Q1)	Tailoring Oxygen Vacancies and Morphology in La-Doped CeO2 Thin Films for Highly Responsive Gaseous NH3 Sensing at Room Temperature	April 2026
Sudarshana R	Physica B: Condensed Matter (Q2)	Structural Phase Evolution with Multiferroic Properties of Sr2Bi4−xFexTi5O18 Ceramics	May 2026
Dr. S S Hegde	Journal of Physics and Chemistry of Solids (Q1)	Antimony Induced Structural and Optical Modifications in Bismuth Sulfide Thin Films For UV Photodetection	July 2026
Dr. S S Hegde	Vaccum (Q1)	Tailoring the Structural, Morphological, and Optical Properties of Lead Sulfide Thin Films Through Antimony Doping for Enhanced UV Photodetector Performance	August 2026
Dr. Suvitha A	Journal of Molecular structure (Q1)	Spectroscopic, Docking, and Pharmacokinetic Investigation of Piconol for Optoelectronic and Biological Applications	August 2026

Research Centre Details

Research Supervisor List

Faculty Name	Area of Specialization	PhD Scholar/s
Dr. Raveesha K H	Radio Astronomy	-
Dr. Shyamsundar Hegde	Materials Science	Ms.Priyanka V Priyesh Mr. Vijaya Talapatadur
Dr. Suvitha A	Molecular Spectroscopy, Computer Aided Drug Design, Quantum Computing, DFT Study	Ms.Thanmayalaxmi D (PhD Completed) Mr.Yarava Ramana Reddy Mr. Sanath Kumar
Dr. Ramdas Balan	Materials Science – Nanoscience	Ms. Sandhya V Ms. Milina Ms. Sindhya Raghunath Ms. Sudarshana R
Dr. M Antony Lilly Grace	Materials Science- Piezo and Ferroelectric materials	-
Dr.Rajesh Gopal	Astrophysics	-

Students Achievements 2025-26













Students Achievements 2025-26


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Certificate of Participation

This is to certify that
Sahithya J R

from CMR Institute of Technology (CMRIT), Bangalore as Team Optinova has participated in IdeaTattva - IDEATHON of NIKSHATRA - E-Summit 2025 organised by Bangalore Institute of Technology (BIT), Bangalore.


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Certificate of Participation

This is to certify that
Sarvashree B Kunder

from CMR Institute of Technology (CMRIT), Bangalore as Team Optinova has participated in Pitching Round of IdeaTattva - IDEATHON organised by Bangalore Institute of Technology (BIT), Bangalore.


BGS College of Engineering and Technology

CERTIFICATE
OF PARTICIPATION

This is to certify that RABIA SAYA
from CMR INSTITUTE OF TECHNOLOGY has successfully participated in "ADVAYA 2.0", a 24-Hour National Level Hackathon organized by BGS College of Engineering and Technology, Bengaluru, held on 1st & 2nd April 2026.

manya 10SECONDS A to Z Interiors CIS Intersect India Pvt. Ltd. Hani BIZOTIC

Principal, BGSCET. Director, BGSCET.


BGS College of Engineering and Technology

CERTIFICATE
OF PARTICIPATION

This is to certify that LAXMI POTADAR
from CMR INSTITUTE OF TECHNOLOGY has successfully participated in "ADVAYA 2.0", a 24-Hour National Level Hackathon organized by BGS College of Engineering and Technology, Bengaluru, held on 1st & 2nd April 2026.

manya 10SECONDS A to Z Interiors CIS Intersect India Pvt. Ltd. Hani BIZOTIC

Principal, BGSCET. Director, BGSCET.

PHOTO Gallery

Moments of Achievement, Memories for a Lifetime

Recognizing Excellence



TechFest 2026



Academic Achievement



Teamwork & Triumph



CELEBRATING 25 YEARS

CMRIT

CMR INSTITUTE OF TECHNOLOGY, BENGALURU.

ACCREDITED WITH A++ GRADE BY NAAC

25 A LEGACY OF Excellence

DEPARTMENT OF PHYSICS

CMR Institute of Technology
#132, AECS Layout
IT Park Road,
Bengaluru 560037, India
Tel.: +91 80 28524466/77
Email: info@cmrit.ac.in