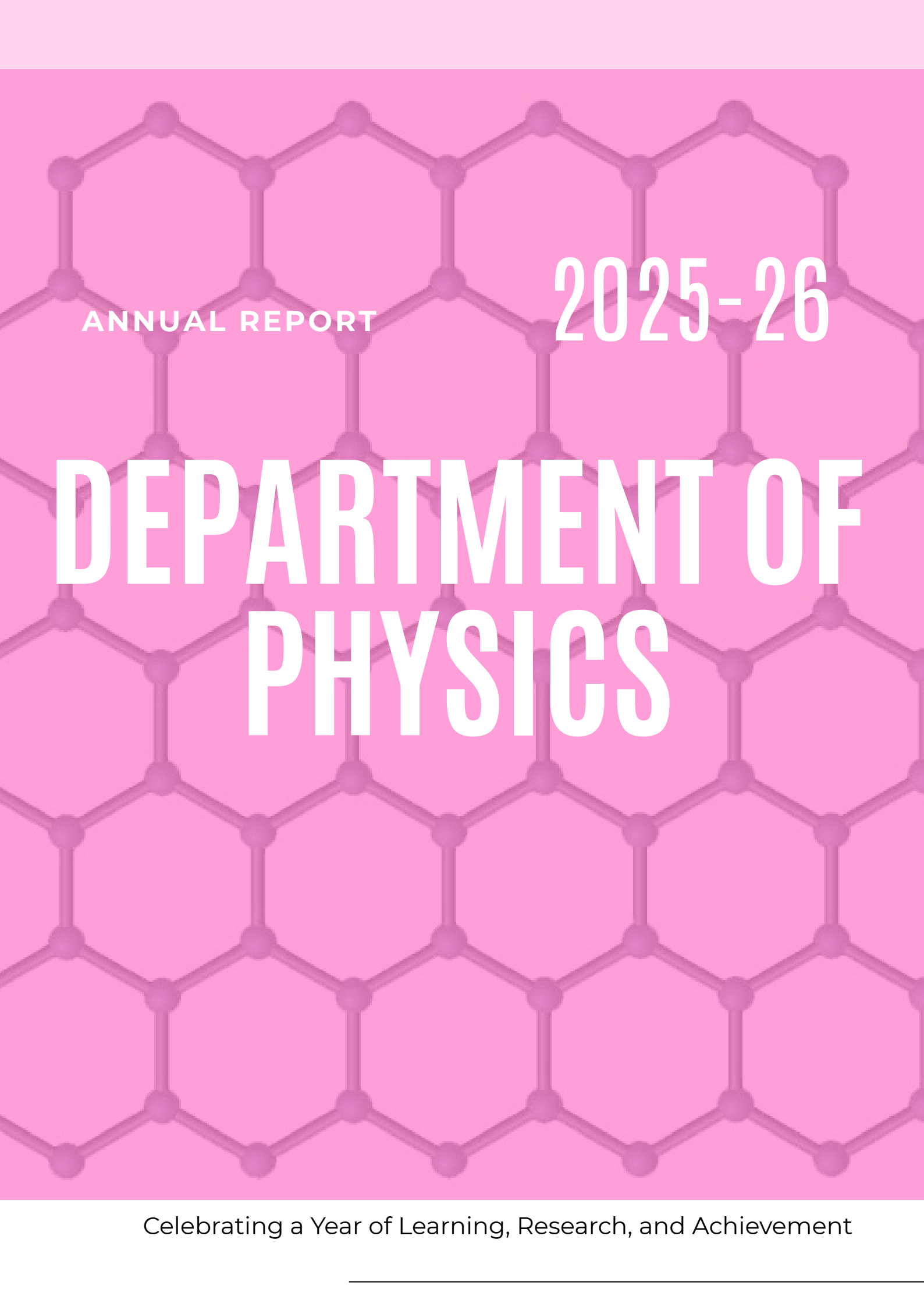




ANNUAL REPORT

2025-26

DEPARTMENT OF PHYSICS

Celebrating a Year of Learning, Research, and Achievement

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Three Day Workshop

Quantum Statistical Mechanics

Who can register ?

- Postgraduate students
- Teachers....

Topics to be covered

- A system composed of indistinguishable particles.
- Quantum Theory of Simple Gases
- Ideal gas in quantum-micro canonical, canonical and grand canonical ensembles
- Statistics of the occupation numbers
- Thermodynamic behaviour of ideal Bose gas
- Thermodynamics of black body radiation. The field of sound waves
- Thermodynamics of ideal Fermi gas.
- Magnetic behaviour of ideal fermi gas

DATE:
11-06-2025 TO 13-06-2025

TIME:
9.00 AM-4.00 PM

VENUE:
ST. PAULS COLLEGE

St. Paul's College, Kalamassery
Affiliated to Mahatma Gandhi University

NO REGISTRATION FEE

SCAN TO REGISTER

CONTACT US

Dr. Rajeshmon V G
Assistant Professor
Department of Physics
St. Paul's College, Kalamassery
Mob:9447719801
email: rajeshmon@stpauls.ac.in

3 Day Workshop
on
Quantum Statistical Mechanics

DEPARTMENT OF PHYSICS,
ST. PAUL'S COLLEGE,
KALAMASSERY

A three-day workshop on Quantum Statistical Mechanics was organized by the Department of Physics, St. Paul's College, Kalamassery, for M.Sc. Physics students of Mahatma Gandhi University. The workshop aimed to provide a strong conceptual foundation in quantum statistics and its applications in modern physics.

Session Highlights

Dr. Rajeshmon V. G delivered detailed sessions combining theoretical explanations with conceptual clarity. The workshop emphasized understanding the physical significance of statistical distributions and their real-world applications. Complex topics such as Bose–Einstein condensation and quantum behavior of particles were explained in an accessible manner suitable for postgraduate students.



The three-day workshop was highly beneficial for the participants. It enhanced their conceptual understanding and strengthened their foundation in quantum statistical mechanics. Such programmes are valuable for bridging the gap between theory and application, and more such initiatives are encouraged in the future.



One Day Workshop for Higher Secondary Teachers

“Exploring Thermodynamics and Mechanics”

St. Paul's College, Kalamassery
Archdiocese of Verapoly
Affiliated to Mahatma Gandhi University, Kottayam
Reaccredited with NAAC 'A' Grade
ISO 9001:2015 Certified by TUV Rheinland

**ACADEMIC EXTENSION ACTIVITY OF THE
DEPARTMENT OF PHYSICS**

**ONE DAY WORKSHOP FOR HIGHER
SECONDARY TEACHERS
ON
"Exploring Thermodynamics
and Mechanics"**

**SPONSORED BY
INDIAN ASSOCIATION OF PHYSICS
TEACHERS (IAPT)**

PROF. TITUS K MATHEW
DEPT OF PHYSICS
CUSAT

DR. RAJESHMON V G
DEPT OF PHYSICS
ST. PAUL'S COLLEGE KALAMASSERY

DATE : 14.06.2025 **TIME: 9:30AM**
VENUE: ST. PAUL'S COLLEGE KALAMASSERY

ORGANIZERS
DEPT OF PHYSICS, ST. PAUL'S COLLEGE KALAMASSERY AND
HIGHER SECONDARY PHYSICS TEACHER ASSOCIATION ERANAKULAM DISTRICT

The Department of Physics, St. Paul's College, Kalamassery, hosted a one-day workshop titled "Exploring Thermodynamics and Mechanics" on 14 June from 9:30 AM to 4:30 PM. The programme was organized by the Indian Association of Physics Teachers (IAPT) for Higher Secondary Physics Teachers of Ernakulam District. The workshop aimed to strengthen conceptual understanding and enhance effective teaching methodologies in key areas of Physics.

The workshop featured two eminent resource persons: Prof. Dr. Titus K. Mathew and Dr. Rajeshmon V. G., who shared their expertise and insights with the participants.

Thermodynamics Session

The first session on Thermodynamics was handled by Prof. Dr. Titus K. Mathew. He presented the subject from a fundamental perspective, with particular emphasis on topics included in the Higher Secondary (Plus Two) Physics syllabus.

Mechanics Session

The second session on Mechanics was conducted by Dr. Rajeshmon V. G. His presentation incorporated a variety of demonstrations to explain fundamental principles of mechanics.



Both sessions were highly informative, interactive, and well received by the participants. The teachers appreciated the practical and student-centered approaches adopted by the resource persons. The workshop provided valuable insights into effective teaching methodologies and reinforced conceptual understanding of core Physics topics.

Participants expressed their appreciation for the initiative and recommended organizing more such programmes in the future to support continuous professional development and enhance the quality of Physics education



Extension Activity

Back to School



The Department of Physics, St. Paul's College, Kalamassery, organized a College-Level Outreach Programme at Government L.P. School, Pallilamkara on 18 June 2025 from 2:00 PM to 3:30 PM. The programme was conducted as part of the department's social outreach initiatives with the objective of supporting school students through educational and interactive activities.

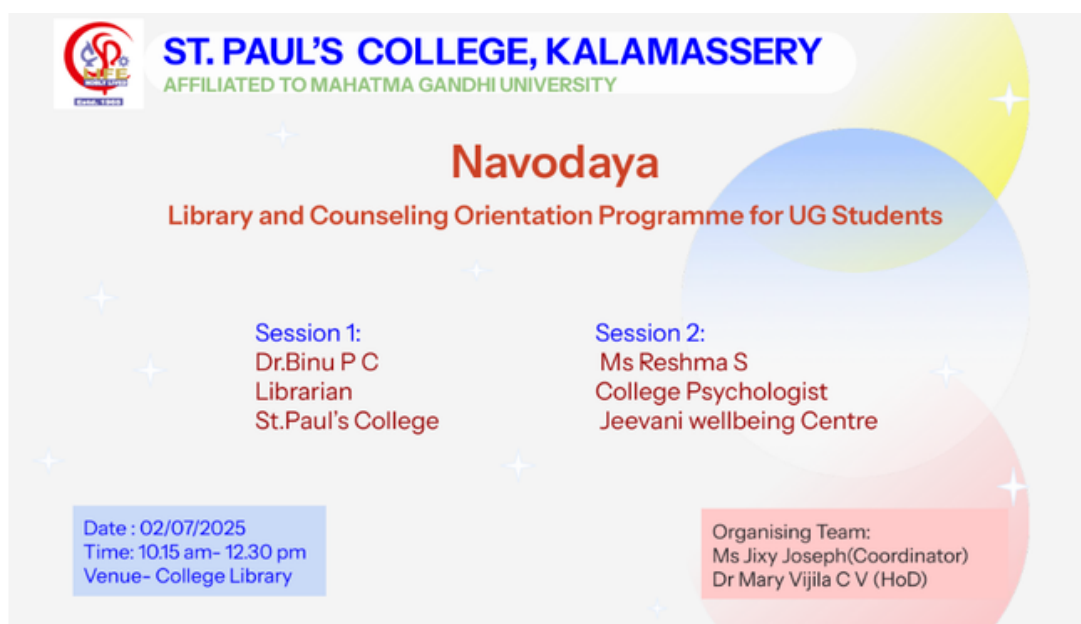
The outreach team, comprising 3 faculty members and 20 students from the Department of Physics, visited the school and engaged actively with the students. The programme aimed to create a supportive learning environment while fostering meaningful interactions between college students and school children.

A variety of activities were conducted during the visit, including interactive sessions with the students, distribution of learning materials, educational games, and group activities. These activities were designed to enhance learning, encourage participation, and make the educational experience enjoyable for the children.



Library and Counseling Orientation Programme for UG students

Navodaya



The Department of Physics, St. Paul's College, Kalamassery, organized a Library and Counselling Orientation Programme for newly admitted undergraduate students on 2 July 2025 at 10:15 a.m. The programme was conducted in the College Library and Classroom with the objective of familiarizing students with the academic and support services available on campus, thereby enabling a smooth transition into college life.

The orientation programme consisted of two sessions led by Dr. Binu P. C., Librarian, and Ms. Reshma S., Jeevani Coordinator. A total of 13 students and 2 faculty members participated in the programme.

Session 1: Library Orientation

The first session focused on introducing students to the resources and facilities available in the college library. Dr. Binu P. C. provided a comprehensive overview of the library's services and emphasized the importance of utilizing library resources for academic excellence.

Session 2: Jeevani Orientation

The second session was conducted by Ms. Reshma S., Jeevani Coordinator, who introduced students to the Jeevani Centre for Student Wellbeing, a state-level initiative aimed at promoting mental health and emotional well-being among college students.



Dheeksharambh

Orientation Programme for First Year Undergraduate and Postgraduate Students in Science

The poster features the St. Paul's College logo at the top left. The title 'Dheeksharambh' is prominently displayed in a large, stylized font, with '2025' below it. A portrait of Dr. Abesh Reghuvan is shown on the left. To the right of the portrait is a table with event details. Below the portrait, the speaker's name and affiliation are listed. At the bottom, the organizing departments and the initiative are mentioned.

	29/07/2025
	Baccinelli Hall
	9.00 am to 12.30 pm

DR. ABESH REGHUVARAN
ASSISTANT PROFESSOR
CENTRE FOR SCIENCE AND SOCIETY (C- SIS)
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Jointly organized by
The Departments of Chemistry, Computer Science, Mathematics and Physics
An initiative of the Office of the Dean, Training and Development

St. Paul's College, Kalamassery organized Dheeksharambh 2025, an Orientation Programme for the First Year Undergraduate and Postgraduate Students in Science on 29 July 2025 at Baccinelli Hall. The programme was jointly organized by the Departments of Chemistry, Computer Science, Mathematics and Physics as an initiative of the Office of the Dean, Training and Development. The programme aimed to familiarize newly admitted students with the academic environment, institutional facilities, student support systems, and opportunities available on campus.

The highlight of the programme was an orientation talk delivered by Dr. Abeesh Reghuvaran, Assistant Professor, Centre for Science and Society (C-SIS), Cochin University of Science and Technology (CUSAT). The session was held from 9.30 a.m. to 11.00 a.m. Dr. Abeesh Reghuvaran interacted with the students and shared valuable insights on higher education, academic excellence, personal development, and the importance of making the most of campus life. His inspiring talk motivated students to approach their academic journey with confidence, curiosity, and a spirit of lifelong learning. A tea break was provided from 11.00 a.m. to 11.30 a.m.



National Space Day 2025

Poster Designing Competition

The Department of Physics, St. Paul's College, Kalamassery, organized a College-Level Poster Designing Competition in connection with the celebration of National Space Day 2025 on 25 August 2025. The competition was conducted to promote scientific awareness, creativity, and interest in space science among students.



ST. PAUL'S COLLEGE, KALAMASSERY
Archdiocese of Verapoly
Affiliated to Mahatma Gandhi University, Kottayam
Reaccredited with NAAC 'A' Grade

**Research and Post Graduate
Department of Physics
NATIONAL SPACE DAY**

Last date of submission - 18 August

Poster Making Competition

The Government of India has declared 23rd August as "National Space day" to commemorate the success of Chandrayaan-3, which accomplished soft landing of Vikram Lander and deployment of Pragyaan Rover on Lunar surface near its south pole on August 23, 2023.

Theme:

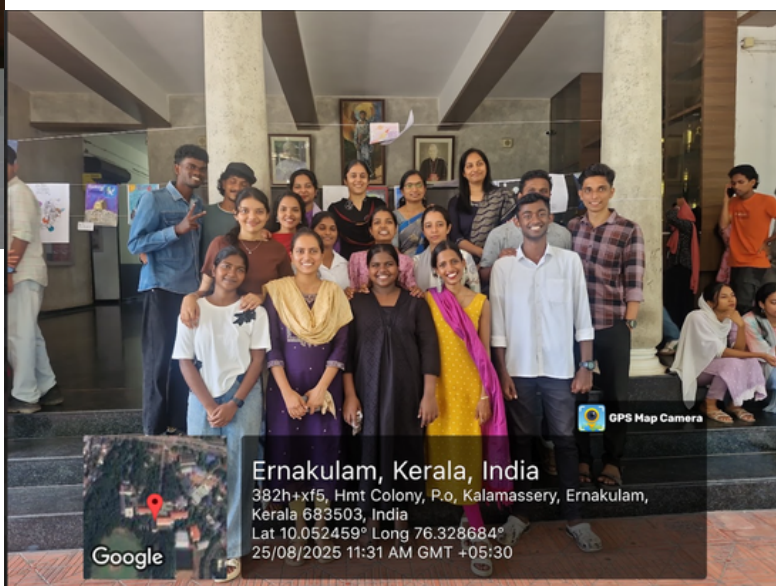
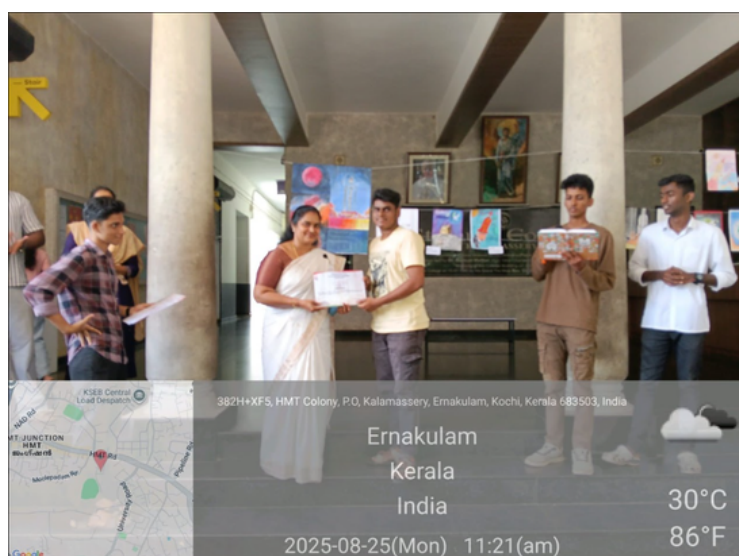
- Space missions of India
- Astronomical Events

Teacher Coordinator: Dr. Mary Vijila C V (9074887036)
Student Coordinators: III B.Sc. Physics

The certificate distribution ceremony was held at 11:10 a.m. in the College Portico. The programme was graced by Prof. Manju K. Menon, Vice Principal, who felicitated the gathering and emphasized the significance of celebrating National Space Day. In her address, she highlighted India's remarkable achievements in space exploration and encouraged students to cultivate scientific curiosity and innovative thinking.

Prof. Manju K. Menon distributed certificates to the prize winners as well as to all the participants, appreciating their creativity and enthusiasm. The posters displayed reflected students' understanding of space science, astronomy, satellite technology, and India's contributions to space research.

The programme witnessed the active participation of 50 students and 10 teachers, making the event a vibrant celebration of scientific learning and creativity. The competition provided students with an opportunity to express their ideas through art while enhancing their knowledge of space science and technology.



Field Visit

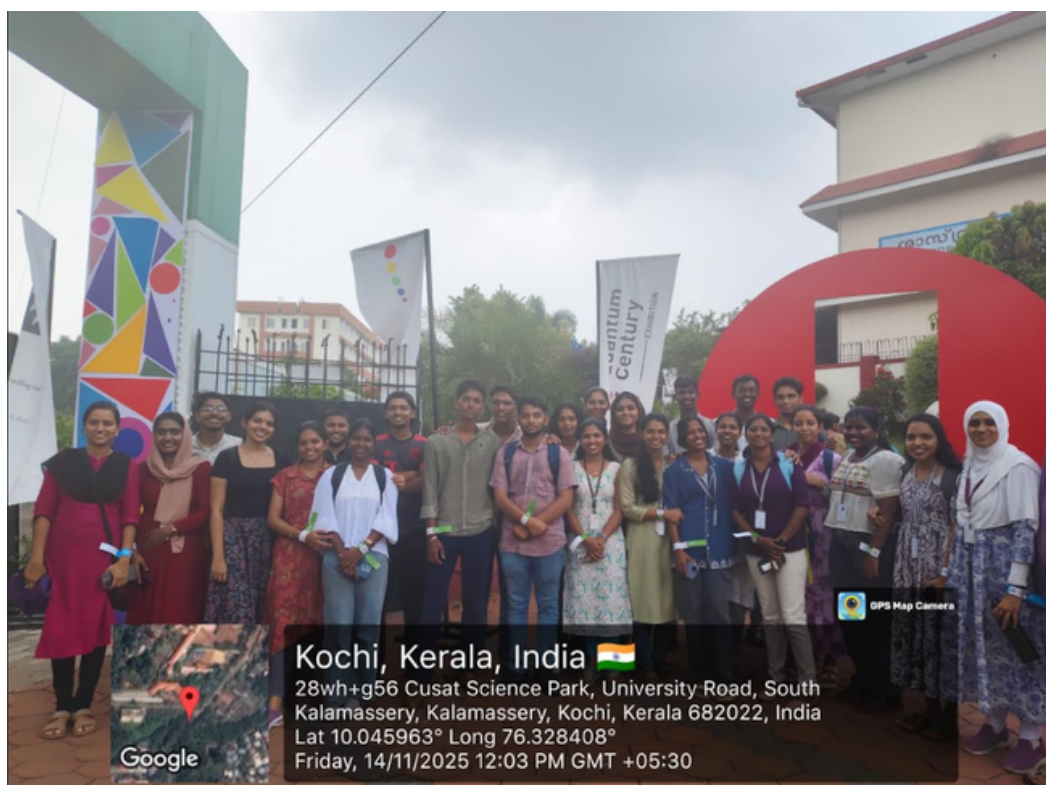
Quantum Century Exhibition at Cochin University of Science and Technology (CUSAT)



The Department of Physics, St. Paul's College, Kalamassery, organized an educational field visit to the "Quantum Century" Exhibition at the Centre for Science in Society (C-SiS), Cochin University of Science and Technology (CUSAT) on 14 November 2025 at 12:00 p.m. The visit was undertaken as part of the celebrations marking the International Year of Quantum Science and Technology, with the exhibition being organized from 7 November 2025 onwards.

The field visit was coordinated by Dr. Mary Vijila C. V. and Dr. Safna Saif, and included 50 student participants from the Third Year Undergraduate and First Year Postgraduate Physics programmes. The visit provided students with an opportunity to experience modern developments in quantum science through interactive demonstrations and exhibits.

The exhibition featured several innovative displays, including Virtual Reality experiences, demonstrations on Quantum Tunneling, exhibits explaining the principles of Quantum Computing, and a variety of Light Experiments that illustrated fundamental and advanced concepts of quantum physics. These exhibits helped students visualize complex theories and understand their practical applications in emerging technologies.



The field visit was coordinated by Dr. Mary Vijila C. V. and Dr. Safna Saif, and included 50 student participants from the Third Year Undergraduate and First Year Postgraduate Physics programmes. The visit provided students with an opportunity to experience modern developments in quantum science through interactive demonstrations and exhibits.

Students actively interacted with the exhibits and gained valuable insights into the rapidly evolving field of quantum science. The visit bridged the gap between classroom learning and real-world scientific advancements, fostering curiosity, critical thinking, and enthusiasm for research in modern physics.

The programme was highly informative and inspiring, exposing students to cutting-edge developments in quantum technology and encouraging them to pursue higher studies and research in this frontier area of science.

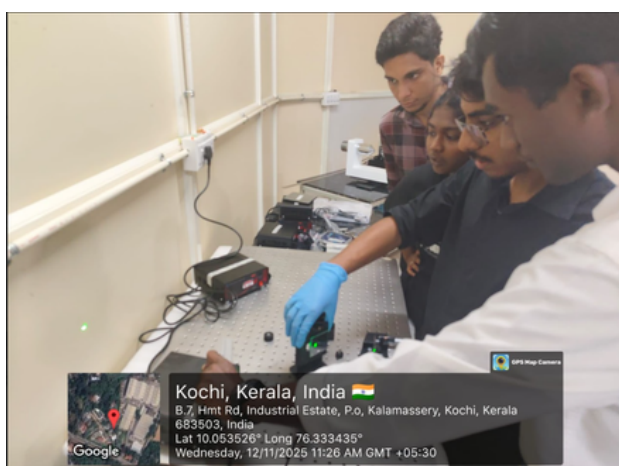


Holmarc Internship

Physics Instruments

The Department of Physics, St. Paul's College, Kalamassery, coordinated a one-week internship programme for third-year B.Sc. Physics students at Holmarc Opto-Mechatronics Ltd. from 5 November 2025 to 13 November 2025. The internship was organized with the objective of providing students with practical exposure to advanced scientific instrumentation and laboratory practices in the field of optics and nanotechnology.

A batch of four third-year B.Sc. Physics students participated in the programme. During the internship, the students received hands-on training in the calibration of optical instruments used in Physics and Nanotechnology laboratories. The programme enabled participants to understand the importance of precision measurement, instrument maintenance, and quality assurance procedures in scientific research and industrial applications.



Women in Science Lecture 2026

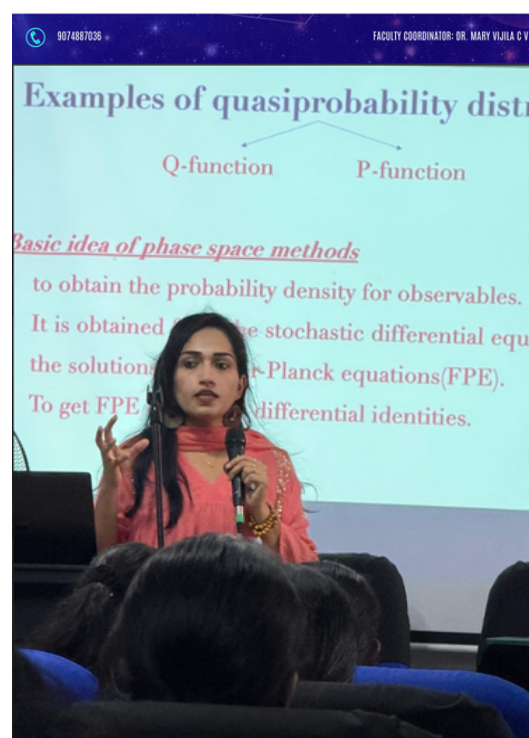
Introduction to Majorana Phase Space Methods

The Department of Physics, St. Paul's College, Kalamassery, in association with the Women Empowerment Cell, organized a Women in Science Lecture 2026 on the topic "Introduction to Majorana Phase Space Methods" on 12 February 2026 at 2.00 PM in Baccinelli Hall.

The programme commenced with a prayer song presented by the second-year B.Sc. Physics students. Dr. Mary Vijila C. V., Head of the Department of Physics, welcomed the gathering and highlighted the importance of exposing students to emerging areas of modern physics and encouraging women to pursue scientific research.



**WOMEN IN SCIENCE LECTURES
2026**

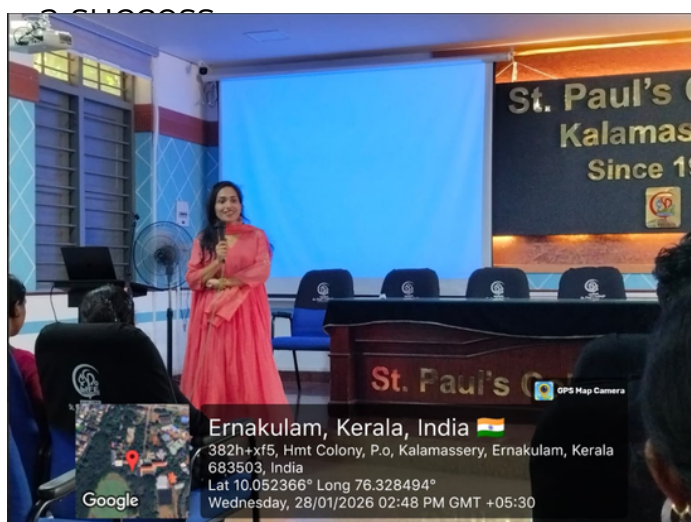


Dr. Rajeshmon V. G. delivered the felicitation address, appreciating the initiative taken by the department to organize an academic programme that promotes scientific awareness and research aspirations among students.

The keynote lecture was delivered by Dr. Ria Rushin Joseph, Faculty, School of Information Technology, Deakin University, Australia. Her presentation introduced participants to the fascinating field of Majorana Phase Space Methods and their significance in contemporary quantum physics research. She explained the theoretical foundations of the topic in an accessible manner and discussed its potential applications in quantum science and technology.

The resource person also shared valuable information about higher education and research opportunities available in Australia, providing guidance on academic pathways, scholarships, and international research collaborations. The interactive session enabled students to clarify their doubts and gain insights into pursuing careers in advanced scientific research.

The programme witnessed enthusiastic participation from 50 students and 5 faculty members. The event concluded with a vote of thanks proposed by Dr. Priyesh K. V., expressing gratitude to the resource person, the organizing committee, and all participants for making the programme



Research seminar

Nanomaterials Driving Next Generation Energy Technologies-From Design To Applications



The Department of Physics, St. Paul's College, Kalamasserry, organized a seminar on "Nanomaterials Driving Next Generation Energy Technologies – From Design to Applications" on 26 February 2026 at Baccinelli Hall. The programme was conducted at the department level with the objective of introducing students to the emerging role of nanomaterials in advanced energy technologies and their applications in sustainable development.

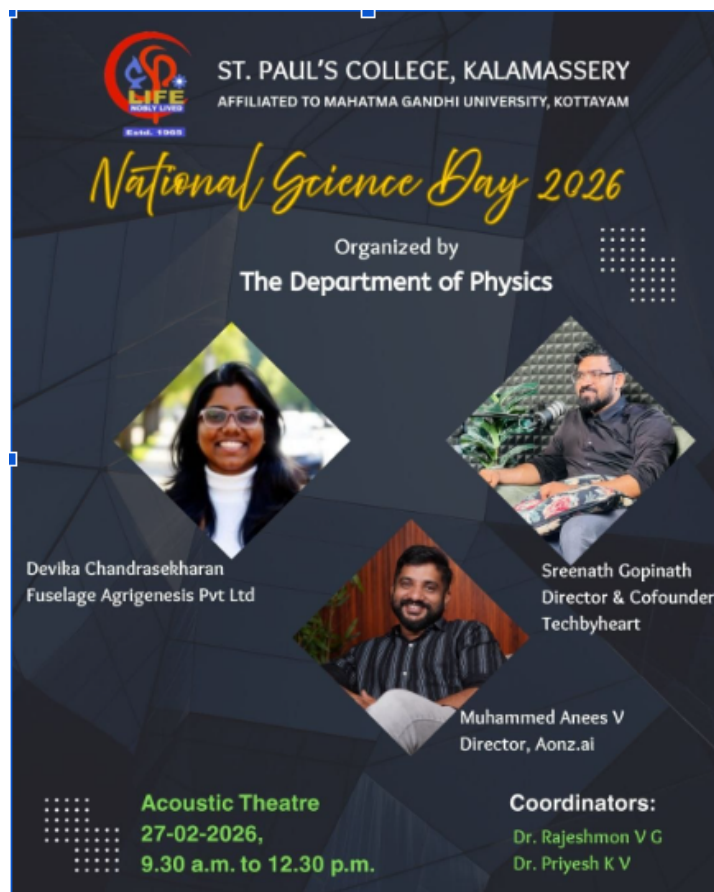
The session commenced with a welcome address by Dr. Poornima N., who welcomed the resource person, faculty members, and students. The seminar was led by Dr. Narayanamoorthy Bhuvanendran, Assistant Professor, Department of Environmental Science and Engineering, SRM-AP.

During the lecture, Dr. Narayanamoorthy provided a comprehensive overview of nanomaterials, explaining their unique structural, physical, and chemical properties. He discussed the design and synthesis of nanomaterials and highlighted their significance in addressing current energy challenges. The speaker elaborated on various applications of nanomaterials in next-generation energy technologies, including energy storage systems, solar cells, batteries, fuel cells, and environmental sustainability.



National Science Day 2026

Young Entrepreneur's Workshop

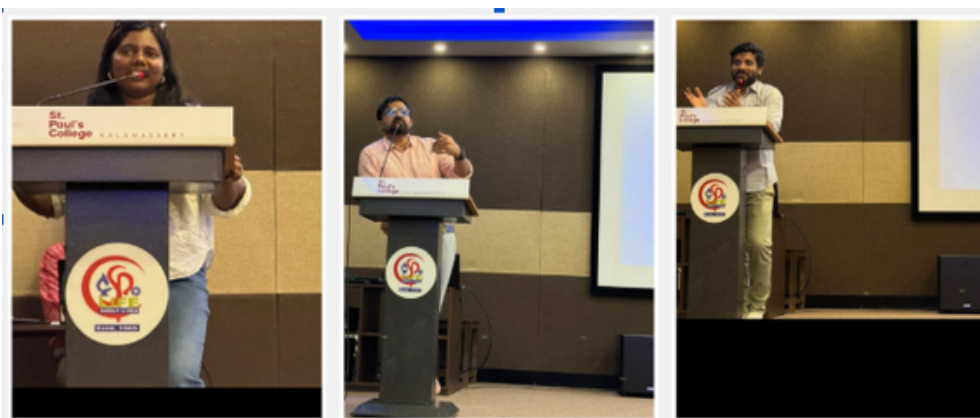


As part of the National Science Day Celebrations 2026, the Department of Physics, St. Paul's College, Kalamassery, organized a Workshop for Young Entrepreneurs on 27 February 2026 from 9:30 AM to 12:30 PM at the Acoustic Theatre, St. Paul's College, Kalamassery. The programme was conducted as a College-Level Outreach Programme with the objective of inspiring students to explore entrepreneurship and innovation in emerging technology sectors.

The workshop featured distinguished entrepreneurs and innovators as resource persons:

1. Ms. Devika Chandrasekhar, CEO of Fuselage Agrigenes and recipient of the Prime Minister's Entrepreneurship Award for developing agricultural drone technology.
2. Mr. Sreenath Gopinath, Co-founder of Techby, a venture specializing in cyber security and ethical hacking.
3. Dr. Anees Muhammed, Director of Aonz.ai and entrepreneur in the field of Artificial Intelligence.

The programme provided students with an opportunity to interact directly with successful entrepreneurs who have transformed innovative ideas into impactful ventures. The speakers shared their entrepreneurial journeys, challenges faced, lessons learned, and strategies for building successful technology-based enterprises.



Student Achievements

2025-26

CCPA 9.21 A+



Aromal Girish
9th Rank

BSc. Physics Model 1 2023-26
M G University



Ann Maria E J
JAM 2026
ALL INDIA RANK
2357

Joined Central
University Delhi



Arjun O B
10th Rank
CAT 2026 in MSc. Meteorology

CUET(PG) 9th Rank



Lakshmi Venugopal
JAM 2026
ALL INDIA RANK
3436

Selected for internship at
IIST Thiruvananthapuram



Rafna Mol P R
National Scholarship
(3 Lakhs)



Anatt Peter
National Scholarship
(3 Lakhs)



Swathy S Nair
ASPIRE Scholarship
2025-26



Dinil Krishna
KSHCE Scholarship



Delna Mary Biju

Selected for internship at IIST
Thiruvananthapuram



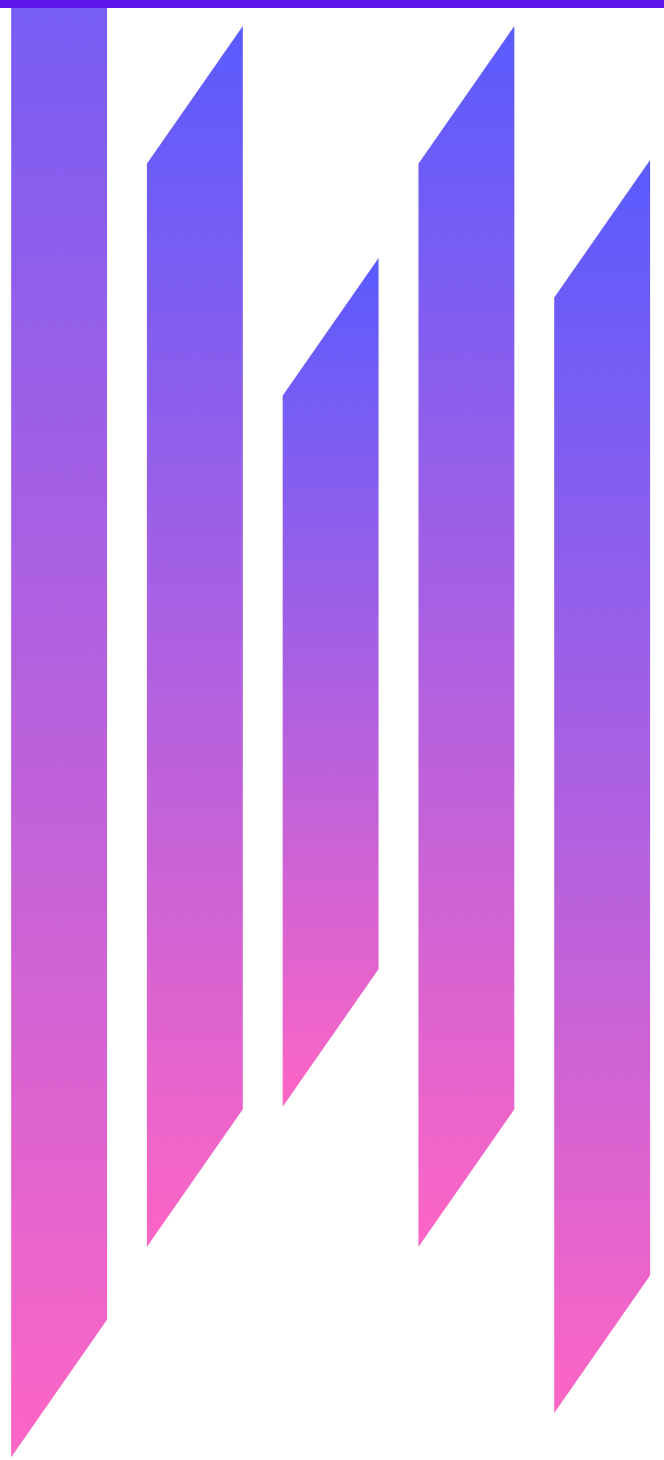
Sahala K P
Gold Medal in Taekwondo
State Level



Adwaith Dinu
Bronze Medal in Taekwondo
State Level



Suhaina N
ASPIRE Scholarship
2025-26



Department of Physics annual Report 2025-26