



# MAR THOMA COLLEGE FOR WOMEN

Perumbavoor

## Department of Physics

### News Bulletin



Manager

**Rt. Rev. Dr. Euyakim Mar Coorilos Episcopa**



Principal-in-Charge

**Dr. Gigi George**



Head of the Department

**Dr. Anupama P**

#### **Teaching staff**

**Dr. Anupama P.**

**Dr. Paulose Thomas**

**Dr. Rajani Jacob**

**Dr. Melvi Chandy**

#### **Non-teaching Staff**

**Mrs. Ammini A. (Lab Assistant)**

#### **Facilities**

**General/Subsidiary Lab**

**Electronics Lab**

**Computer Lab**

**Research Equipments**

#### ***Department at a glance***

The Department of Physics, established in 2002, has over the years, shaped generations of students into competent and creative individuals who excel in their chosen fields of specialization. We offer BSc Physics (Model II-Applied Electronics) course with Mathematics as the complementary subject and Applied Electronics as the vocational component. Our department conducts seminars and training programmes (Go Green – a 4-day Environment Management Training Programme, EMT 2019 with support from KSCSTE in 2020, zonal central training programme on Nanotechnology in association with E-cell, IIT Kharagpur) and other state level programmes, certificate courses (Solar Energy Technology in 2018-19, Robotics in 2019-20, courses in LaTeX, Matlab and Origin in 2018-19), workshops (Student Solar Ambassador Programme in association with IIT Mumbai in 2019-20, LED lamp making and Star making) in association with UGC, KSCSTE, ECS and other institutions of repute. The faculty members of the Department are members of various academic bodies including the Academy of Physics Teachers and the Kerala Energy Conservation Society. We also conduct seminars, workshops and training programmes on energy conservation and environment protection in association with various organizations.

# DEPARTMENT ACTIVITIES - 2019-2020

## ENVIRONMENT MANAGEMENT TRAINING GO GREEN-EMT 2019

Department of Physics had organized an **Environment Management Training Programme “ EMT- Go Green 2019”** from 11 to 14 January 2020 in association with KSCSTE. Prof. (Dr.) Sabu Thomas Honorable Vice Chancellor of Mahatma Gandhi University Kottayam inaugurated the function. The four day programme consists of various talks from reputed resource persons like Mr. A. Satheesh, Scientific Officer, Koodankulam Nuclear power Plant, Tamil Nadu, Dr. K. Soman, President, Energy Conservation Society(ECS), Mr. Baby Kuriakose, Secretary ECS Kerala, Mr. Santhosh A., Managing Director, Athul Energy Consultants Pvt.Ltd, Mr. Alexander, Retd. Farm Manager.



Inauguration of EMT-Go Green 2019 by Prof. (Dr.) Sabu Thomas, Honorable Vice Chancellor, Mahatma Gandhi University Kottayam.



Talk by Mr. A. V Satheesh, Scientific Officer, Kudankulam Nuclear Power Plant, Tamil Nadu. The topic was “Nuclear Energy-Clean and green energy.”



Dr. K. Soman, President of Energy Conservation Society Kerala handled a session on “Latest Trends in Solar Energy” and also explained about Solar Powered Roads, Wearable Solar, Solar Batteries, Solar Tracking Mounts, and Solar Thermal Fuel (STF).



Session taken by Mr. Baby Kuriakose, Director of Energy and Engineering Enterprise on the topic “Waste Heat Recovery and Global Warming”.



Mr. Santhosh A. Managing Director, Athul Energy Consultants Pvt.Ltd handled a session on “Waste Classification-How to Implement it? Our waste is our responsibility.”



A session on “Green Synthesis of Nano Materials” followed by Hands On Training was taken by Internal Faculties Dr. Melvi Chandy and Dr. Paulose Thomas respectively.



Mr. Alexander K.P Rtd. Farm Manager, Always Settlement handled the Hands-on training session on “Household Waste Management”. Taking inspiration from his talk we introduced pipe composting in our college premises.



Internal Faculty Dr. Rajani Jacob took the last session on “Thin Film Solar Cells.” A Hands-on session on LED Bulb Making was also led by her.



As a part of EMT-Go Green 2019 a visit has been made to “Irinjole Kavu” a heritage centre in Perumbavoor.

The Four Day Environment Management Training was indeed very fruitful to everyone who participated in it. This program helped to create awareness and social responsibility in every individual.

# National Science Day Celebrations 2020

Department celebrated National Science Day on 17 and 18 February, 2020 in association with Kerala State Council for Science, Technology and Environment (KSCSTE), APT and DST, Government of India. We arranged Science Lecture, Science Exhibition and Documentary Presentation

## Science Exhibition/Demonstration



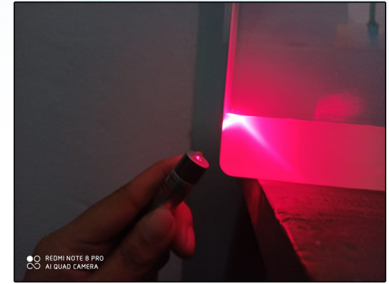
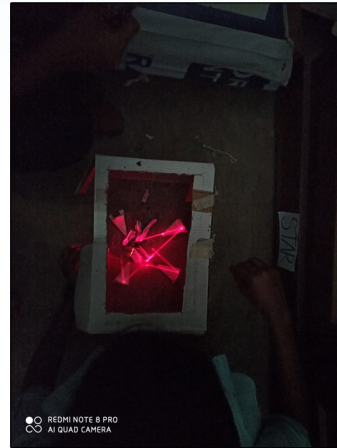
Inauguration of NSD-2020 by Prof. (Dr.) K. Babu Joseph, Former Vice Chancellor, Cochin University of Science and Technology (CUSAT), Kochin.



Talk by Prof. (Dr.) Babu Joseph, on "Scientific Temper"



Dr. Anju Paulose, St. Theresa's College, Ernakulam delivered a lecture on "Recent Research Trends in Material Science".



Some glimpses from science exhibition. A science demonstration being an interface of science and society contribute towards creating awareness about science as well as creating enthusiasm in students. Students from all branches are welcomed for this demonstration session. Overall the exhibition was appreciated by the entire college community.

## ASSOCIATION ACTIVITIES



Physics Association was inaugurated by Dr. Ison V Vanchipurackal, HoD, Department of Physics, St Thomas College, Palai on 27 August 2019. He delivered a talk on “Material Science and Engineering: Opportunities and Challenges”.

### Life Skill and Soft Skill Training



Life Skill Training was given to the students by Dr. M R Santha Devi, Retd. DRDO Scientist.



Soft Skill Training was given to the students by Ms. Manisha Bilani from Make Intern Group.

## VOCATIONAL EDUCATIONAL TRAINING PROGRAMME STUDENT SOLAR AMBASSADOR PROGRAM



“Student Solar Ambassador Workshop” has been organized by the department in association with IIT, Mumbai and Energy Conservation Society as part of Gandhi global yatra. Training on Solar lamp assembling has been given to all the students of our de

partment. As an extension activity teachers and few students of our department had given training to students of Asramam Higher Secondary School, Perumbavoor, Kallil Government Higher Secondary School, Perumbavoor and Government Boys Higher Secondary School, Perumbavoor on solar lamp assembling.

### LED BULB MAKING



The students were given training to make LED bulbs under Vocational Education Training Programme by the teachers of the Physics department.



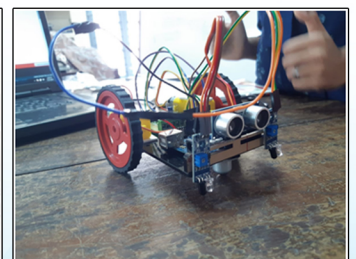
The Dept. of Physics handed over 100 LED bulbs to Trissur District Collector to distribute among the flood affected areas of Wayanad, in an Inter Agency Group Meeting at Trissur Collectorate. The bulbs were made by the students of the department.

### LED STAR MAKING



In continuation from previous years, in 2019 also, students of Physics department made LED stars and the stars were put for sale. The profit amount was given to an Old Age Home, Deivadan, Malayattoor on 18 December 2019. The entire staff and students celebrated Christmas with them as last years on that day.

### CERTIFICATE COURSE IN ROBOTICS





## Flood Relief Initiatives

### Department of Physics had organized widespread flood relief activities

1. The Dept. of Physics handed over 100 LED bulbs to Trissur District Collector to distribute among the flood affected areas of Wayanad, in an Inter Agency Group Meeting at Trissur Collectorate. The bulbs were made by the students of the department.

2. Our final year students had actively participated in cleaning program of flood affected houses, organized by the college.

3. Teachers and students had generously contributed to the university flood relief fund.

4. The department had distributed bags, pens and books to flood affected students in the Ashramam School.

5. Teachers and students had also contributed groceries to NSS flood relief campaign.

Department of Physics conducted a 30 hour certificate course on "Robotics" in association with Teqard Labs Pvt Ltd. Kochi during July-August 2019. 42 students successfully completed the course.

## VISITS



Teachers and students of the department had visited **Vikram Sarabhai Space Centre (VSSC)** Thiruvananthapuram on 9 October 2019 during the World Space Week Celebrations.



## Physics Students in Arts Festival



Teachers of the department and final year students had done an industrial visit to **Koodankulam Nuclear Power Plant** on 5 February 2020.

# Outstanding Achievements of Students

The department has brought laurels to the college by securing ranks consistently every year in the examinations conducted by MG University. In the academic year 2018-19, five of our students were among those who bagged the top 10 ranks.

across Kerala. Two teams consisting of five students from the Department of Physics participated in the Maestro Challenge of YIP 2019.



The team lead by Jinu John (Team members: Jinu John, Varsha M Vijay, Arsha S Kumar, Arya Sivan, Niya Merrin Mathew of III B.Sc Physics) has won the final state level competition, for their innovative idea-“AI based Signal Interpreter”. Jinu John attended the National Knowledge session held at Thiruvananthapuram on first Kerala Innovation Day (23 January 2020) inaugurated by the Hon'ble Chief Minister.

The team lead by Anjima K.P (Team members: Anjima K.P, Anitha Thomas, Sara Abey, Ann Maria Jose and Anagha Joy of II B.Sc Physics) was selected up to the final state level competition after the initial level screening and the district level competition held at Kalamassery.

A skill connect competition has been endorsed by the Network Systems, a pioneer in the field of IT training in our college. Dona Mariam Roy from 3rd BSc Physics and Anitha Thomas from 2nd BSc Physics were selected & participated in second round skill connect competition held at Ernakulam.



Jeny Rose Job, Aneesa George, Arya Sivan, Arsha S Kumar & Varsha M Vijay from third BSc Physics got selected and participated in Wetlamp Championship 2K19, conducted in collaboration with IIT Hyderabad.



Aksa Jose, 3rd BSc Physics got “A” Grade in clay modeling in M G University Youth Festival “Article 14”

## FAREWELL 2020



## MARTHOMA COLLEGE FOR WOMEN, PERUMBAVOOR (2016 - 2019 BATCH) 2019 - MAHATMA GANDHI UNIVERSITY RANK HOLDERS



**ANJANA K.S**  
Dept. of BSc Physics (Model II)  
RANK - 3



**AISWARYA MURALEEDHARAN**  
Dept. of BSc Physics (Model II)  
RANK - 6



**ANITHA KAREEM**  
Dept. of BSc Physics (Model II)  
RANK - 7



**ANUPAMA RAVIKUMAR**  
Dept. of BSc Physics (Model II)  
RANK - 9



**ANJU TM**  
Dept. of BSc Physics (Model II)  
RANK - 10

Our students participated/presented papers at national level programmes (In 2019-20, one of our students completed a summer research project at IISER Mohali, sponsored by INSA, 5 students were selected for a visit to IIT Hyderabad in 2019-20 and they presented a paper on Nanoscience). A proposal submitted by our students has been chosen as one of the best innovations at the Young Innovators Programme 2019, organized by the Kerala Development and Innovation Strategic Council (K-DISC). The Department remains committed to promoting scientific temper among the youth, catering to the educational needs of girls from various backgrounds, contributing to social and scientific progress.

Ms. Arsha S Kumar of third BSc Physics was selected as a **Summer Research Fellow** and worked on a project during May-June 2019 under the supervision of Dr. Arijit Kumar Indian Institute of Science, Education and Research, (ISER) Mohali. It is jointly sponsored by IASc Bangalore, INSA Delhi and NASI Prayagraj.

Varsha M Vijay had qualified joint admission test for M.Sc. - JAM 2020 with all India Rank 2441 (Reg. no. PH720F117). She had received Best Parliamentarian Award in **Model Parliament Competition** conducted by Institute of Parliamentary Affairs, Government of Kerala. She also received **Malayalasree Puraskaram - Vayana Poornima Vayana Vaaram** - Department of Cultural Affairs, Govt. Of Kerala.

## The YOUNG INNOVATORS PROGRAMME (YIP)

The YOUNG INNOVATORS PROGRAMME (YIP) is an initiative of Kerala Development & Innovation Strategy Council (K-DISC) to promote innovation and problem solving ability amongst students