

# NEWSLETTER

## Message from the Head of the Department



Honesty, the substratum of trust, is the irrefutable truth that guides our conscience. As we tread through this academic year, consecrated to the virtue of honesty, we are called to reflect upon the fundamental role that truthfulness plays in both our personal and professional lives. Just as the absolute laws of physics govern the universe, so too must the principle of honesty govern our actions and decisions. In a world where honesty is often compromised, let us heed the wisdom of the adage, “Honesty is the best policy”. This timeless idiom serves as a reminder that honesty is not just a choice but a necessity. The Bible teaches us in Proverbs 10:9, “Whoever walks in integrity walks securely, but whoever takes crooked paths will be found out”. This verse is a stark reminder that the path of honesty, though sometimes challenging, ultimately leads to security, peace, and lasting success. It is on this path that we must walk together, ensuring that our actions reflect our words and that our intentions are pure and just.

In this “Year of Honesty”, let us uphold the highest standards of truthfulness in all your endeavours.

In closing, I extend my warmest wishes and blessings to each member of our department. May this year be one of not only academic achievement but also of profound personal growth and moral integrity. May the Almighty bless our efforts, and may honesty be the assurance of all that we do.

With utmost respect and blessings,

Dr. S. Euchrista Immaculate Sylvia.

## Editorial Team

The erudite editorial team, comprising Dr. S. Euchrista Immaculate Sylvia, Dr.Sr. A.S.J. Lucia Rose, Dr. Sr. Jessie Fernando, Mrs. A. Lucas Rexceline and Dr. M. Sheeba has collaboratively crafted this newsletter with meticulous attention to detail and a keen eye for innovation. Their synergy has resulted in a publication that is at once informative, engaging, and visually stunning.

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## Activities of the Association

The Physics Association has been instrumental in organizing a plethora of activities, that has benefited the students. These initiatives have not only augmented the academic experience but also nurtured a sense of community and camaraderie among the students.

### PHYSCOM 2019

On 07.08.2019, the interschool quiz competition PHYSCOM 2019 was organised by the Department of Physics, 12 schools were participated. 5 teams were selected for the final round. Alagar Public School, The Vikasa school and B.M.C. Metric Higher Secondary School won the 1st, 2nd and 3rd places respectively.



### A Guest Lecture On “Fundamentals & Advances of Energy Sources”



On 16th August 2019, a guest lecture on “Fundamentals & Advances of Energy Sources” was organised by the Marian Star Centre, Department Of Physics, in

association with Department of Biotechnology, Government of India, New Delhi, Dr.Sumithraj Premkumar, Assistant Professor of Physics, St.John’s College, Palayamkottai was the resource person. I and III year students of the department of Physics along with 6 faculty members were the beneficiaries.

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## Quiz Competition



On 14th September, a quiz competition was organized by the School of Physical Sciences as a part of Star College Programme of St. Mary's College (Autonomous). The quiz competition was organized for the undergraduate students

of Physical sciences (Physics and Chemistry). The students of Sadakathullah College bagged the first prize, the students of Pope's College won the second prize and the students of Scott Christian College won the third prize. The College Principal, Dr.Sr.A.S.J. Lucia Rose distributed the trophies and certificates to the winners.

## A Guest Lecture on The Topic “Growth of Device Quality Direction Controlled Signal Crystals”

On 23rd September 2019, a guest lecture on the topic “Growth of device quality direction controlled signal crystals” sponsored by the Department of Biotechnology, Government of India, New Delhi under Star College programme was organised by the Marian Star Centre, Department of Physics. Dr. P. Rajesh was the resource person, his lecture highlighted the various processes involved in crystal growth like slow evaporation method, slow cooling method and SR method.



## A One Day Lecture Cum Hands on Training On “Crystal Growth”

On 6th December 2019, a One Day Lecture cum Hands on training on “Crystal Growth” was organised by the Department

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of Physics. The initial session was adorned

## **A Guest Lecture on “Elementary Particles”**

On 9th December 2019, a guest lecture on “Elementary Particles” was organised by the Department of Physics, St. Mary’s College (Autonomous), Thoothukudi as a part of Star College Scheme sponsored by the DBT, New Delhi. Dr. P. Jebaraj Devadason, Head and Associate Professor of Physics, Pope’s College (Autonomous), Sawyerpuram was the resource person. Around 40 students participated actively and enthusiastically and were benefitted.

## **A One Day Seminar on “Electrochemical Technology”**



On 13th December 2019, a One Day Seminar on “Electrochemical Technology” was organised by the Department of Chemistry. Dr. G. Paruthimal Kalaignan, Senior Professor & Head, Department of

by Dr. P. Rajesh, Assistant Professor of Physics, SSN College of Engineering, Chennai. In the training session, students were taught how to prepare a solution for crystal growth, in appropriate ratio and in proper concentration by the research scholar’s of Dr. P. Rajesh.



Industrial Chemistry, School of Chemical Sciences, Alagappa University, Karaikudi was the resource person. In the first session, he delivered a lecture on “Batteries and Fuel Cells, In the first session, he delivered a lecture on “Batteries and Fuel Cells, In the afternoon, Dr. S. Senthil Kumar, Senior Scientist, CECRI, Karaikudi delivered a lecture on the topic “Fundamentals of the Electrochemistry at Electrode- Electrolyte Interface”.. He facilitated the

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understanding through innovative presentation methods.

## **A One Day Lecture Cum Workshop on “Bottom-Up Approaches”**

On 17th December 2019, a One Day Lecture cum Workshop on “Bottom-Up Approaches” was organised by the Department of Physics. The students of III B.Sc. Physics attended the programme. Dr.T.Prakash, Associate Professor, National centre for Nanoscience and Technology, University of Madras, Chennai delivered a lecture on various methods of synthesis of nanoparticles, its properties and some characterisation techniques. The students were divided into

five groups and demonstration was given in a cyclic manner. Four Ph.D. research scholars of Dr.Prakash assisted the students in their training.



## **A Guest Lecture on “Microprocessor 8085”**



On 19th December 2019, a Guest lecture on “Microprocessor 8085” was organised by the Department of Physics, St. Mary’s College (Autonomous), Thoothukudi as a

part of Star College Scheme sponsored by the DBT, New Delhi. Dr. C. James, Associate Professor of Physics, Scott Christian College, Nagarcoil was the resource person. His lecture gave a concise note on basic fundamentals of microprocessor. Around 40 students participated actively and enthusiastically and were benefitted.

## **A One Day Faculty Training Programme on “Solar Cell Trainer Instrument”**

On 7th January 2020, a One Day Faculty Training Programme on “Solar Cell Trainer Instrument” was organised by the Department of Physics with the participation of 15 faculty from Physics

and chemistry departments.



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Mr. G. Rajaganesan, Director - Technical operation, VAITO Energy India Pvt. Ltd. was the resource person. In the technical session, he clearly explained the relationship between the access to energy through renewable energy base systems with the sustainability and also the basic construction and fabrication of solar cell and the applications.

## **A One Day National Seminar on “Nanoworld”**

On 23rd January 2020, a One Day National Seminar on “Nanoworld” was organised by the School of Physical Sciences for the III B.Sc. Physics and Chemistry students. An eminent person Dr. Anushree Roy, Meteorology, Indian Institute of Technology, Kharagpur was the resource person. The session started with the introductory note on „colour“ in terms of Physics. The first session titled “Colourful Nanoworld” dealt with the origin of the word „Nano“ and its evolution. The noon session was chaired by Dr. V. Vasu, Head and Associate Professor of Computational Physics, Kamaraj University, Madurai.



He explained the preparation of carbon nano tubes, various properties of nano tubes, methods of hydrogen storage in CNT and density functional theory. The session was very useful to understand how carbon nano tubes are used for hydrogen storage.

## **A Guest Lecture on The Topic “Carrier Opportunities For Physics Students”**

On 28.01.2020, a guest lecture on the topic “Carrier Opportunities for Physics Students” conducted by star college scheme sponsored by DBT, New Delhi. Dr. Lakshmi Shankar Iyer and Dr. Kunthavai Nachiyar were the resource persons and they were also the alumnae of our college from physics department. They shared their life experiences. 39 students of III UG Physics were attended the program.



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## **A Two-Day International Conference on “Advanced Materials” (ICAM 2020)**

On 30th and 31st January 2020, a Two-Day International Conference on “Advanced Materials” (ICAM 2020) was organized by the School of Physical Sciences.

The key note address was delivered by Dr. M. Uma Devi, Head In-charge and Associate Professor of Physics, Mother Teresa University, Kodaikanal. She addressed the audience on the topic, **“Green Synthesis of Nanoparticles.”**

The first session was handled by Dr. C. Vedhi, Assistant Professor of Physics, V.O.C College, Thoothukudi on the topic, **“Nanomaterials Modified Electrodes for Sensors of Chemicals.”**

In the second session, Dr. K. Krishnamoorthy, Scientist, Polymers and Advanced Materials Laboratory, National Chemical Laboratory, Pune, India addressed the students on the topic, **“Glasses and Polymers.”**

Dr. Ramesh Babu, Assistant Professor of Physics, Bharathidasan University, Tiruchirappalli addressed the students in the third session on the topic, **“Transparent Conducting Oxide Thin Films by Spray Pyrolysis Technique.”**

On the second day of the conference, the first session was handled by Dr. P. Rajesh, Assistant Professor of Physics, SSN College of Engineering, Chennai on the

topic **“Growth of 1,3,5 Triphenylbenzene for Radiation Detection Technique.”**

The second session was handled by Dr. Suguna Perumal, Research Professor of Applied Chemistry, Kyungpook National University, Daegu, South Korea on the topic, **“Polymer/Graphene Composites Hydrogel Particles for Heavy Metal Ion Adsorption.”**



The third session were addressed by Dr. A. Chandra Bose, Head and Associate Professor of Physics, National Institute of Technology, Tiruchirappalli on **“Nanomaterials for Energy and Environmental Application”.**

The fourth and the final sessions of the day were handled by Dr. A. Samson Nesaraj, Professor of Applied Chemistry, Karunya Institute of Technology and Sciences, Coimbatore on the topic, **“Soft Chemical Synthesis of Nano crystalline Materials Application in Electrochemical Energy Conversion Systems.”**

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## CDP

The department of Physics adopted Antonyarpuram of Maravanmadam Panchayat as a part of community development programme and made frequent visits to the adopted village

On **August 10 2019**, the students of II B.Sc., Physics visited the adopted area – Antonyarpuram on the 10<sup>th</sup> of August 2019. The students were divided into small groups and a survey was taken that included around 125 families. Also students interacted with the people to get to know about their livelihood and the grievances.



## Grama Sabha Meeting

The two grama sabha meeting of Antonyarpuram on the 12.08.2019 and 19.08.2019 was organised by the department in the presence of the village people to get to know their needs in a better way like separate pipeline, good library, cleaning of the pond, rain water management, frequent bus facilities and tailoring courses.



## No to Plastic Awareness Rally

The Department organized a community development program in Antonyarpuram on 25.09.2019, to raise awareness about avoiding plastics and promoting an eco-friendly environment.





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The event featured a rally led by Fr. Albin Leon, cultural programs, and a talk on banning plastic, with cloth bags distributed as an initiative to reduce plastic use.

## **Jewellery making**

On October 5, 2019, the II UG students of the Physics Department visited Antonyarpuram for a community development program aimed at improving the village's economic status. The students trained villagers, especially homemakers and school students, in jewellery making and quilling crafts, providing them with

valuable skills for small-scale business opportunities.



## **Palm leaf Craft Inauguration**

On October 19, 2019, the Physics Department students visited their adopted village, Antonyarpuram, as part of a Community Development Programme. They organized a five-day hands-on training session on crafting with palm leaves to boost the villagers' economic condition, inaugurated by Fr. Albin Leon. The villagers were eager to learn, while college students also engaged the local school students with science experiments

and educational videos, making the event both educational and enjoyable.



## **Palm leaf Craft Valedictory session**

On October 24, 2019, the Physics Department students visited Antonyarpuram for the valedictory function of the five-day palm leaf craft training. The event began with a prayer song, and distinguished guests including Fr. Albin Leon, Sr. Lucia Rose, and Mr.

Prabhakaran graced the occasion. The guests were welcomed and honored by the college representatives, followed by in



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spiring speeches from Sr. Lucia Rose and Fr. Albin Leon. The villagers shared their positive feedback on the training.

## **Bridge Course**

The Bridge Course, held on 08.07.2019, provided the freshers with a rigorous and comprehensive review of fundamental concepts, thereby equipping them with a strong foundation in physics. The course aimed to bridge the gap between high school and college level Physics, ensuring a smooth transition for students.

## **Lab Activities**

The department has conducted 94 lab activities, offering students hands-on experience in experimental physics. These activities have not only sharpened their practical skills but also instilled in them a spirit of scientific inquiry and exploration.

## **Mentor-Mentee System**

The Mentor-Mentee System has been a resounding success, with 47, 47 and 43 students of I, II, and III years respectively benefiting from the guidance and support of experienced faculty members. This initiative has created a nurturing

## **BoS**

The Board of Studies meeting, held on 01.02.2020, was attended by 3 external experts namely Dr. J. Jebaraj Devadasan, Dr. A. Effie Cordelia and Dr. Ada Vinolinand the department has successfully implemented the Choice-Based Credit System (CBCS) and Outcome-Based Education (OBE) framework. This has ensured a student-centric approach, flexibility, and accountability in the academic programme.

environment that brings up academic growth, creativity, and innovation.

## **Value added courses:**

The department has offered a certificate course on Basic computer hardware and networking for II-year students and career-oriented course on Desktop publishing for III-year students, with 46 and 39 students enrolled respectively. These courses have provided students with specialised knowledge and skills, thereby enhancing their academic and professional prospects.

## **PTA**

The Parent-Teacher Association meeting, held on 08.02.2018, 27.09.2019 and 17.08.2019 for the students of I, II and III years respectively has provided a platform for parents to engage with the department, share experiences, and forge meaningful connections.

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## **Educational Tour/IV:**

### **Educational tour to District Science Centre, Tirunelveli**

39 students have participated in the educational tour on 06.09.2019, gaining to develop and enhance the practical knowledge of the students.



### **Visit to NTPL**



On 10th December 2019, the students of the Department of Physics went on an industrial visit to the NTPL, Thoothukudi. 46 students of II B. Sc. Physics and two faculty visited the plant to know about the Thermal Power Energy. The students were also shown, the miniature model of the plant before reaching the control building.

### **Visit to AVM Hospital**

47 students have participated in the industrial visit to AVM Hospital on 11.12.2019, gaining valuable insights into

### **Visit to Thoothukudi Railway**

39 students have participated in the industrial visit to Thoothukudi Railway station on 16.12.2019, gaining valuable insights into industry practices, networking opportunities and practical experiences.

The students learnt about the safety measures for all those entering the site, with protective helmets and shoes. Through such an industrial visit, the students were able to learn the complex mechanism of producing chemistry from coal.



industry practices, networking opportunities and practical experience.



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## Projects:

47 students from the III-year have completed 7 projects, demonstrating their research and problem-solving skills.

## Students' Achievements

Students have achieved numerous accolades, including 27 prizes in national and international competitions, showcasing their academic talent, creativity, and innovation.

## Sports

- Ms.R.SakthiMaheswari of I.B.Sc., Physics stood first prize in the inter university – Swimming Competition held on 01.08.2019.
- Ms. T.MuthuJeeva of I.B.Sc., Physics was secured second prize in the inter university – Kabadi Competition held on 01.09.2019
- Ms. T.MuthuJeeva of I.B.Sc., Physics stood first prize in the inter university – Table Tennis Competition held on 09.09.2019
- Ms. A. Malai Muthu Abitha, Ms. A.AngelineNikitha, Ms. J. Ani Miracline and Ms. J.Emelda Agnes Fernando of III.B.Sc., Physics bagged second prize in the inter college group singing competition held on 02.08.2019.

- Ms. C.Selvakani of I.B.Sc., Physics bagged third prize in the inter university – Hockey Competition held on 01.10.2019
- Ms.A.ShalomAbinaya of II.B.Sc., Physics stood second prize in the district level – Volley Ball Competition held on 01.10.2019.

## Extra Curricular activities

- Ms. K.Roxina of II. B.Sc., Physics stood second prize in the inter college speech competition held on 01.07. 2019.
- Ms.V.JeyaDharshini, Ms. S.DheenaLiyonika and Ms. R.AkshayaPrabha of II.B.Sc., Physics was secured first prize in the inter college folk dance held on 01. 07.2019.
- Ms. K. Roxina of II.B.Sc., Physics stood second prize in the state level speech competition held on 01.08 .2019.
- Ms. N. Muthu Mariammal of I. B.Sc., Physics was placed third prize in the state level – skit held on 09.09.2019.
- Ms. M. Muthu Valarmathi of I.B.Sc., Physics was secured third prize in the state level - skit held on 01.09.2019.

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- Ms. T.DhivyaDharshini of I.B.Sc., Physics stood third prize in the state level speech competition held on 01.10. 2019.
- Ms. S.Rohini of I.B.Sc., Physics stood second prize in the state level speech competition held on 01. 10. 2019.
- Ms. J.Emelda Agnes Fernando,Ms. S.GiftyKirubaRani,Ms. J.AniMiraciline,Ms. X.Agustina and Ms. A.AngelineNikitha of III.B.Sc., Physics bagged first prize in the inter college group song competition held on 03.10.2019.
- Ms.Subalakshmi of II.B.Sc., Physics stood second prize in the state level – proverb competition held on 01. 12. 2019.
- Ms.K.Roxinaof II. B.Sc., Physics was secured first prize in the state level – tamil elocution held on 02 .12. 2019.
- Ms. S.Rohini of I.B.Sc., Physics was secured first prize in the state
- Ms.J.AniMiraciline and Ms. D.Steffi of III. B.Sc., Physicswas secured first prize in the inter
- MsJ.AniMiraciline of III. B.Sc., Physicswas secured second prize in the inter college battle of bands competition held on 21.09.2019.
- level drawing competition held on 01.12.2019.
- Ms. M.Vijaya Lakshmi and Ms. S.Kamala Devi of I.B.Sc., Physics stood third prize in the state level skit competition held on 19.09.2019.
- Ms.J.AniMiraciline,Ms. P.Priya,Ms. J.Emelda Agnes Fernando and Ms. S.Aparna of III.B.Sc., Physics bagged first prize in the state level western voice competition held on 19.09.2019.
- Ms.K.Kousalya of III. B.Sc., Physics stood third prize in the state level photography competition held on 19.09.2019.
- Ms.P.Priya of III.B.Sc., Physics was secured third prize in the state level soap carving competition held on 19.09.2019.
- Ms.J.AniMiraciline of III. B.Sc., Physicswas secured third prize in the state level light music competition held on 19.09.2019.
- college group singing competition held on 21.09.2019.
- Ms.G.Mystica Gomez ofII. B.Sc., Physics was secured first prize in the state level vegetable carving competition held on 19.09.2019.

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## NCC

- Ms. Ramani.P of III B.Sc., Physics has attended the Annual training camp and stood Best Turn out at Sarah Tucker College, Tirunelveli from 21/05/2019 to 30/05/2019.
- Ms.Ramani.P,Ms.Aparna.S, Ms.InfantaLizy.L, Ms.Priya.R of III B.Sc., Physics are attended the Annual training Camp at Sarah Tucker College, Tirunelveli from 21/05/2019 to 30/05/2019.
- Ms. InfantaLizy. L of III B.Sc., Physics has attended the CATC-CUM- IUC THAL SAINIK CAMP at NTA, Idayapatti, Madurai from 05/06/2019 to 14/06/2016.
- Ms. Ramani.P of III B.Sc., Physics has attended the CATC-CUM- IUC THAL SAINIK CAMP at NTA, Idayapatti, Madurai from 01/10/2019 to 10/10/2019.

## Higher Education:

17 students have pursued higher education, reflecting the department's

- Ms. Ramani.P of III B.Sc., Physics stood first prize in Best commander event at NTA, Idayapatti, Madurai from 01/10/2019 to 10/10/2019.

## Paper Presentation of students

Ms. S. Trefilla Missier and Ms. G. Mystica Gomez of II B.Sc. Physics attended the International Multi-Disciplinary Conference on Arts, Science, Education, Management and Technology conducted by the University of Malaya, Kuala Lumpur, Malaysia under the Star College Scheme sponsored by the DBT, Government of India, New Delhi on 07.09.2019 and offered their Oral Presentations on the topics, "Technology Management" and "Disaster Management" respectively. They were not only awarded certificates but also appreciations from all other eminent presenters.

strong reputation, and commitment to student success.

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## **New Faculty**

The department has welcomed Ms. P.Dhanalakshmi as a new faculty member on 18.06.2019.

## **Resource Persons**

Dr. Sr. Jessie Fernando has served as the resource person for the Sport's day at St. Philomena's Girls Hr. Sec. School, Trichy and sharing her expertise and knowledge with a wider audience on 26. 08.2019.

## **Participation in RC/OC/Seminars/WS**

Faculty members have participated in numerous conferences, seminars, and workshops, engaging with peers, sharing research findings, and staying abreast of developments in physics.

**Dr. Sr. A.S.J. Lucia Rose** attended the followings

- National FDP on the topic "Managing Your Finances and Investments During Pandemic And Current Economic Meltdown" on 25.05.2020.
- International conference on the topic "Advanced materials" on 30.01.2020 and 31.01.2020.

**Dr. S. Euchrista Immaculate Sylvia** attended the followings

- Three days online workshop on the topic online course Design,

- Five days FDP on the topic "Teaching using ICT tools" from 20.05.2020 to 24.05.2020.
- International workshop on the topic "Smart materials sensor and energy devices (SMSSED- 2020)" from 25.05.2020 to 30.05.2020.

**Dr. Sr. Jessie Fernando** attended the followings

- Five days FDP on the topic "Innovation to academician" from 11.05.2020 to 16.05.2020.
- Five days online workshop on the topic "Nanomaterials for human safety and environment" from 15.05.2020 to 16.05.2020.
- Five days online workshop on the topic "effective online teaching methodologies" from 18.05.2020 to 22.05.2020.
- Five days FDP on the topic "teaching using ICT tools" from 20.05.2020 to 24.05.2020.

development and delivery from 26.05.2020 to 28.05.2020.

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**Mrs. A. Lucas Rexceline** attended the followings

- National Seminar on the topic Fostering “Transparency: Routing out Plagiarism A to Z” on 20.07.2018.

**Dr. M. Sheeba** attended the followings

- Seven days national level FDP on the topic “Scilab” from 29.04.2020 to 05.05.2020.
- FDP - Webinar on the topic “Mathematical Modelling for Science and Engineering” on 02.05.2020.
- FDP-Webinar on the topic “Chemistry Behind MRI Contrast Agents” on 04.05.2020.
- One week National Level Online FDP on the topic “Innovation to Academicians” from 11.05.2020 to 16.05.2020.
- Tw days Online Workshop on the topic “Mental Health and Psychosocial Consideration During Lockdown” on 13.05.2020 and 14.05.2020.
- State level Workshop on the topic “Effective Online Teaching Methodologies” from 18.05.2020 to 23.05.2020.
- Five Days FDP on the topic “Teaching Using ICT Tools” from 20.05.2020 to 24.05.2020.
- FDP on the topic “Physics on Materials” from 28.05.2020 to 30.05.2020