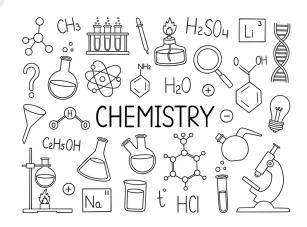


# Annual Report 2023-24



## **Department of Chemistry 2023-24**

The Department of Chemistry organized various programmes in the academic year 2023-24.



## National seminars - 3

 National seminar on materials for a sustainable future -2023
National seminar on Advances in chemical and applied science ACAS-2024

3. National seminar on Instrumental Techniques in Water Chemistry

**International seminars/webinars-3** 

**1.International seminar on Chemical Science for Sustainable Future** 

- 2. International webinar on "Next Generation COVID-19 Therapy by Inorganic Nano-Hybridization Technology
  - **3.International webinar -Scientific Approach to life.**

Workshop-1

Water analysis workshop in collaboration with The Cochin College, Kochi.

Add on Courses-3

Certificate course in waste to wealth Certificate course in scientific waste management Value Added on course on environment sustainability and waste management

**Extension activities -11** 

Nari shakthi fitness run, road safety awareness week, voters awareness programme, science exhibition and student teacher programme at HMT School,mangroove afforestation at Valappu beach, Vypin, Stay away from microplastics- beach cleaning, old age home visits at Providence home and St. Theresas Mercy Home, Ernakulam.

MoU signed -2, Active MoUs-3

Northamps global Pvt. Ltd	The Cochin College- Kochi

Letter of Appreciations for extension activities -5

HMT school, Kalamassery for student teacher Programme Vypin Panchayath for Mangroove afforestation Nehru Yuve Kendra- Road safety awareness programmes-2 no Nehru Yuva Kendra- Nari shakthi Fitness run

Important days celebration-4 in association with various clubs

Environment day Ozone day Energy conservation day Moles day Womens day

Gender Sensitisation Programme-1

**Student enrichment Programmes** Industrial visit to CIPET, Eloor, Milma Thripunithura, Malcom chocolate Factory,Seminar Participation and competitions. Chemistry Association - CHEMSIGHT 2024 World of Psyche- Mental health awareness Programme for the students

## **Reports of various activities**

## 1.World Environment Day 2023 Celebrations and Chemistry Association Inauguration. CHEMSIGHT 2023

The Department of Chemistry started the 2023-24 academic year with the inauguration of chemistry association CHEMSIGHT 2023-24.On the same day World Environment day was also celebrated by the department of Chemistry in association with ENCON club. A Seminar on Sustainable Environment by Mr.M.I Varghese (Retd. IFS Officer) was organized on behalf of this on 07-06-2023.Seminar was very informative and students interacted with our chief guest and clarified their doubts. During this event awards were distributed to the university rank holders of B. Sc Chemistry 2020-23.



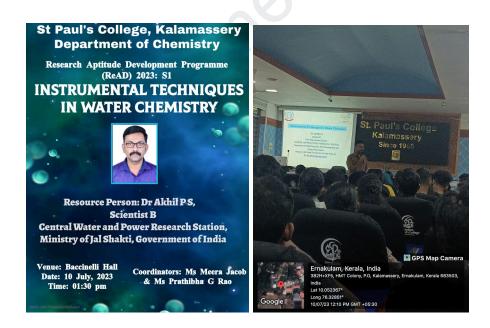
Prior to above programme, the department organized a public awareness programme on the theme #Beat Plastic Pollution on June 5th 2023 at HMT Junction. As a part of this activity students distributed pamphlet's which mention the hazards of the plastic pollution to the surroundings of HMT junction and gave awareness to the public to reduce the use of plastic. Students also made a rally from College to HMT junction with placards and posters on Plastic Pollution.

രസതന്ത്ര വിഭാഗം. പാൾസ് കോളേജ്, കളമശ്ശേരി 2007 0200-2022 ASTR PAUMETAN



## 2.National seminar on "Instrumental Techniques in Water Chemistry

Department of Chemistry organised a national seminar on "Instrumental Techniques in Water Chemistry" as part of ReAD 2023 Series 1. The resource person for the session was Dr. Akhil P S Scientist 'B', Central Water and Power Research Station, Ministry of Jal Shakti, Pune -24. UG and PG students attended the programme.



#### **3.Bridge course for PG students**

The bridge course for M.Sc. Chemistry students, organized by the Department of Chemistry at St. Paul's College, Kalamassery from 19/07/2023 to 26/07/2023, was a comprehensive preparatory program designed to ensure a smooth transition for incoming students from their undergraduate studies to the demanding curriculum of the master's level. The course spanned over one week, covering a wide range of topics essential for academic success and research in the field of chemistry.

## 4.Science exhibition at St. Pauls International School, Kalamassery in association with IEDC

In coordination with the IEDC, St. Paul's College Kalamassery on 29/9/2023 participated an exhibition covering various science subjects held at St. Pauls International School, Kalamassery. The primary aim of this exhibition was to boost the confidence of students and provide a platform for them to showcase their skills and talents. Additionally, postgraduate students from various departments of St. Paul's College actively participated in the event.Representing the Chemistry Department, first-year MSc students, Anand, Abhimanue, Sreelakshmi, and Uchita, contributed significantly. They presented five awesome experiments: simulating a firefly-like glow, experimenting with unique salts, creating a dancing flame, and demonstrating color shifts reminiscent of a chameleon.



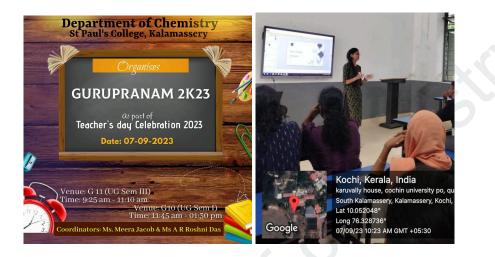
## 5.Ozone Day Celebrations 2023

As a part of World Ozone Day Celebrations 2023, on 20/9/2023 Department of Chemistry in association with ENCON club conducted poster competition. Students from Various Departments enthusiastically participated and after the competition exhibition of the posters was also conducted. Rose Neha Jolly of 1<sup>st</sup> year Economics won the competition.



6.GURUPRANAM 2K23

Department of Chemistry organised GURUPRANAM 2K23 PG as part of Teacher's Day Celebration 2023, where selected students from PG Sem 1 (07 students) became teachers and handled UG sem 1 and sem 3 classes on various topics.

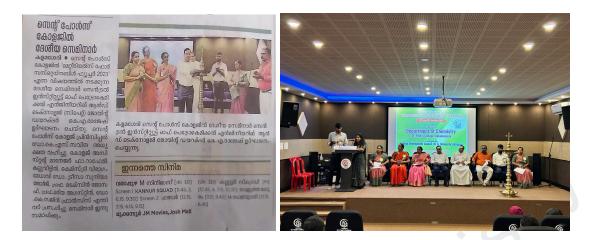


## 7. National Seminar on "Materials for a Sustainable Future 2023".

The National Seminar on "Materials for a Sustainable Future 2023" was successfully organized by the Department of Chemistry in collaboration with the College Development Council on October 12th and 13th, 2023. The event aimed to bring together experts, researchers, academicians, and industry professionals to delve into the latest advancements, research, and innovations in the realm of material science and sustainability. The seminar was inaugurated with great enthusiasm, and the keynote address was delivered by Mr. K A. Rajesh, the joint director, and head of CIPET, Ernakulam. Eminent personalities from various research institutes, ISRO, and Amrita University graced the event with their presence and expertise. The sessions were meticulously designed to cover a wide range of topics, including the latest research findings, technological advancements, and sustainable practices in materials science. The diverse backgrounds of the speakers contributed to a comprehensive exploration of the subject matter. As part

of the seminar, both offline and online oral and e-poster presentations were conducted. This hybrid approach allowed for a flexible and inclusive participation model. The National Seminar on "Materials for a Sustainable Future 2023" was a resounding success and witnessed active participation of almost 190 participants and 55 paper/eposter presentations. The success of this seminar not only reflects the commitment of the organizing bodies but also the collective dedication of participants, speakers, and sponsors toward advancing the frontiers of knowledge for a more sustainable future





## 8.GANDHI JAYANTI CELEBRATION 2023,SWACHH BHARAT ABHIYAN

As part of Gandhi Jayanti celebration 2023- Swachh Bharat Abhiyan, first year UG and PG students took the initiative to clean their respective laboratories. The cleaning team took into account any special requirements, such as the use of eco-friendly cleaning products or specific cleaning protocols for sensitive equipment. The cleaning efforts were carried out systematically and efficiently, contributing to the overall well-being and safety of both students and staff. Regular inspections were conducted to monitor the quality of cleaning. Feedback from teachers and staff was collected to address any specific concerns or areas that required additional attention. Continuous monitoring and feedback mechanisms will be maintained to ensure the sustained cleanliness of the learning environment.

## **9.International Webinar on "Next Generation COVID-19 Therapy by Inorganic Nano-Hybridization Technology"**15<sup>th</sup> November 2023

International Webinar on "Next Generation COVID-19 Therapy by Inorganic Nano-Hybridization Technology"was successfully organized by the Department of Chemistry on November 15<sup>th</sup>, 2023. The aim of the International Webinar was to provide a platform for researchers, scientists, academicians, and students from around the world to explore and discuss innovative approaches in combating COVID-19 through the application of inorganic nano-hybridization technology. The resource person for the talk was Dr. N Sanoj Rejinold, Invited Professor at Dankook University, South Korea.

## **10.Industrial Visit – Central Institute Of Petrochemical Engineering And Technology (CIPET: IPT-KOCHI) on** 20-11-2023

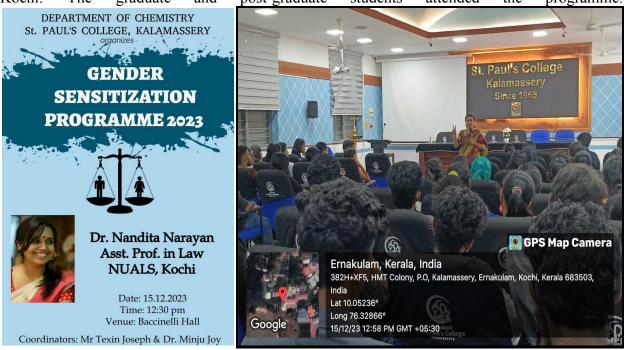
First year UG students accompanied by Dr. Tresa Sunitha George, HOD and Ms.Maria Augustine, Faculty visited CIPET ELOOR, reputed research and academic institution in Kerala. The students could understand the working of various instruments used in the various research laboratories. They have been given demonstration of the working of various instruments such as Extrusion moulding, injection moulding and compression moulding.

## 11. Industrial Visit – Processing Unit of Milma, Tripunithura on 13-12-2023

Second year UG students with the two faculty members visited Milma, Tripunithura, the biggest one in the State in terms of storage and processing capacity. The students could understand the working of various units in the plant like pasteurisation unit, standardisation unit, packing unit etc.

#### 12.Gender Sensitization Programme 2023

Department of Chemistry organised a seminar on "Gender sensitisation programme" as part of gender sensitization. The resource person for the session was Dr. Nandita Narayan, Assistant Professor in Law, NUALS (National University of Advanced Legal Studies), Kochi. The graduate and post-graduate students attended the programme.



13.National Energy Conservation Day 2023,Oath Taking on 14-12-2023



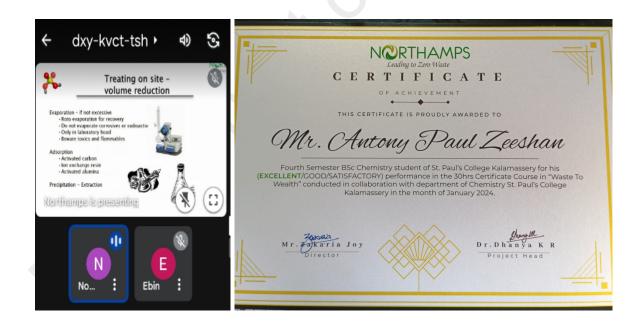
**14.Innovative Trends in Product Development and Entrepreneurship-Focussing on Sustainable Hygiene Practices on** 19-12-2023



Department of Chemistry organised a seminar on "Green your thoughts and act organic" as part of IEDC and IIC of St. Pauls College Kalamassery. The resource person for the session was Aneeta Correya, Managing Director, Piccazoh, Kochi. The graduate and post-graduate students were attended the programme. It was an awareness programme dealing with innovative trends in product development and entrepreneurship and sustainable hygiene. There was an exhibition also conducted which includes biodegradable and eco-friendly sanitary napkins, mud-cups, cloth-bags etc.

### 15.Certificate course in Waste to wealth 2023-24.16/12/2023-16/01/2024

The certificate course on waste to wealth, organised by Northamps Global Ecolsolutions PVT LTD in collaboration with the department of Chemistry, St.Paul's College started on 16/12/2023 and completed on 16/01/2024. The content and curriculum of the course were comprehensive and informative. It covered various aspects of waste management, including scientific principles, best practices, and relevant legislation. The course material was well-structured, making it easy to follow and understand to the students. The inclusion of case studies and real-world examples greatly enhanced the learning experience. The resource persons, Dr. Dhanya K R, Dr. Ajitha A R, Ms. Suvarna Varghese and Ms. Navya Shaju demonstrated an in-depth understanding of the subject matter. Their expertise and ability to convey complex concepts clearly and engagingly truly helped the students. The students were very interactive and studious; their active participation gave us positive energy for the successful completion of the certificate course. Daily assessment and attendance were also maintained for the students. Based on the assessment Augustus Joseph Shaijan, a student of first-year BSc Chemistry recognized as the Top Scorer and Rose John was selected as the best performer based on the overall performance. Certificates will be granted to all the students who completed the course.



**16. Certificate course in Scientific waste management 2023-24** 20/11/23-18/12/23 The certificate course on scientific waste management, organised by Northamps Global Ecolsolutions PVT LTD in collaboration with the department of Chemistry, St.Paul's College started on 20/11/2023 and completed on 18/12/2023. The content and curriculum of the course were comprehensive and informative. It covered various aspects of waste management, including scientific principles, best practices, and relevant legislation. The course material was well-structured, making it easy to follow and understand to the students. The inclusion of case studies and real-world examples greatly enhanced the learning experience. The resource persons, Dr. Dhanya K R, Dr. Ajitha A R, Ms. Suvarna Varghese and Ms. Navya Shaju demonstrated an in-depth understanding of the subject matter. Their expertise and ability to convey complex concepts clearly and engagingly truly helped the students. The students were very interactive and studious; their active participation gave us positive energy for the successful completion of the certificate course. Daily assessment and attendance were also maintained for the students. Based on the assessment Augustus Joseph Shaijan, a student of first-year BSc Chemistry recognized as the Top Scorer and Rose John was selected as the best performer based on the overall performance. Certificates will be granted to all the students who completed the course.



#### **17.A GREEN INITIATIVE TO REJUVENATE MOTHER NATURE on** 05-02-2024

The students of II M.Sc. Chemistry (2022- 2024) and II B.Sc Chemistry (2022-2025) visited Mangalavanam Bird Sanctuary, Ernakulam on 05 February, 2024. They cleaned the surroundings

by picking up plastics and made the area plastic free. The staffs of the sanctuary were impressed in their whole- hearted work and appreciated them for the same.



## 18.Mangrove Afforestation An extension Activity 08-02-2024

The Department of Chemistry conducted an Extension activity of Mangrove Afforestation near vypin beach which was a very relevant social issue as a part of world wetland day. The programme was initiated by planting a mangrove by Edappally Block Panchayath President, Saritha Sanil. The students enthusiastically planted the mangroves near the wet land of vypin beach. Around 300 saplings were planted by the students.

**Students** plant 300 mangrove saplings

Kochi: Students of St Paul's College, Kalamassery, planted 300 mangrove saplings along the coastline near\_Valappu the coastline near Valappu beach at Vypeen on Thursday

students from chemistry department of the college un-dertook the initiative in association with Youth Red Cross unit, after they learnt of the impending environmental ca-tastrophe at Vypeen region by the year 2050. It is said that sea

the year 2050. It is said that sea may inundate many places, including Vypeen. "We came to know through various studies about the fragile nature of Vypeen is-lands and we wanted to play a small part for the protection of the region," Rajeev Patric, a student volunteer. "We have been teaching en-vironmental chemistry to them and nature protection is a part of the course. When stu-dents came up with the idea we decided to go ahead," said chemistry department head

chemistry department head Tresa Sunitha George. TNN



രി സെന്റ് പോൾസ് കോമേജിലെ കെമിസ്ട്രി ഡിപ്പാർട്ട് ഖന്തിൽ വളപ്പ് ബിച്ചിൽ കണ്ടര്തൈകൾ നട്ടതിന്റെ ഉദ് ഗന്റ് സരിത സന്ദീര് നിർവഹിരാണും. രാജിന് പാട്രിക്... കെ.സജീൻ ഫ്രാൻസിസ് എന്നിവർ സമീപം. ത്ത് റെവ്ദ കാണ് എന്നിവയ ര്ച്ചാമ്പാന ഇടപ്പള്ളി ര ബ്ലോക്ക് പഞ്ചാവംഗം. ചമാർ,ഹെൻസി ജോർ

#### വളഷ് ബിച്ചിൽ കണ്ടൽതൈകൾ നട്ട് സെന്റ് പോൾസ് വിദ്യാർഥികൾ

ന്നപ്പൂഴ∙ കളമശേരി പോൾസ് കോളജിലെ ജോർജ് എന്നിവരുടെ നേതൃത്വ ത്തിൽ 70 വിദ്യാർഥികൾപങ്കെടു പ്ട്രി ഡിപ്പാർട്ട്മെന്റ്,യൂത്ത് ന്പാരായിന്റെ എന്നിവയുടെ റിൽ വളപ്പ് ബീച്ചിൽ തെകൾ നട്ടു പിടിച്ചി ാസ്

പ്പള്ളി ബ്ലോക്ക് പഞ്ചായത്ത് പ്രധന്റ്നസരിത സനിൽ വാടനം ചെയ്തു. ക്മിസ്ട്രി അധ്യാപിക ഡോ. ൂ ജോയ് അധ്യക്ഷത വഹി

്ല പോഷ അധ്യക്ഷത വഹി എളങ്കുന്നപ്പുഴ പഞ്ചായത്ത് സ് പ്രസിഡന്റ് കെ.എം.സി § കുമാർ,യൂത്ത് റെഡ് ക്രോ പസിഡന്റ് രാജീവ് പാട്രി ഡ്യാപകരായ ഡോ റെ ഫ്രാൻസിസ്.ഹെൻസി



ത്തു. ബീച്ചിലെ പ്ലാസ്റ്റിക് മാലി നൃങ്ങളും നീക്കം ചെയ്തു

### **19.STAY AWAY FROM MICROPLASTIC- Beach cleaning**



## 20.EXTENSION PROGRAMME- SANTHWANAM 2023-24

The Old Age Home Visit Program, organized by Department of Chemistry students was held at Providence Home, Ernakulam on March 16, 2024 at 10:00 am. The programme aimed to provide companionship and emotional support to elderly residents. Our students along with faculty members, engaged in visiting local care facilities. Activities included interactive sessions, storytelling, games, and musical and dance performances. It served as a testament to enhance social interaction and companionship, mental and emotional well- being. It also gave volunteer opportunities for students and promoted intergenerational connections.

Conclusion:

The Old Age Home Visit Program by college students and teachers has successfully enriched the lives of elderly residents and provided valuable learning experiences for students. Continued efforts to expand and improve the program will further benefit both the elderly population and the college community



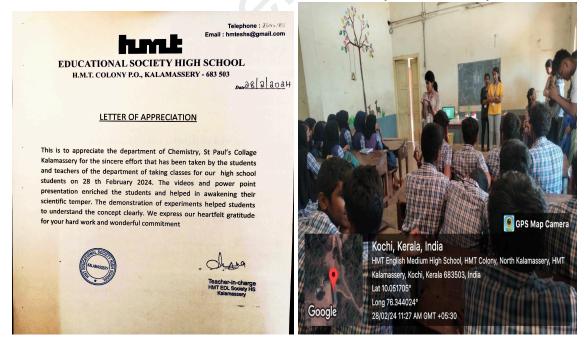
## 21.EXTENSION PROGRAMME- SANTHWANAM 2023-24 -@ St. Teresa's Mercy Home, Ernakulam

The Old Age Home Visit Program, organized by Department of Chemistry students was held at Providence Home, Ernakulam on 7 March 2024 at 10:00 am. The programme aimed to provide companionship and emotional support to elderly residents. Our students along with faculty members, engaged in visiting local care facilities. Activities included interactive sessions, storytelling, games, and musical and dance performances. It served as a testament to enhance social interaction and companionship, mental and emotional well- being. It also gave volunteer opportunities for students and promoted intergenerational connections.



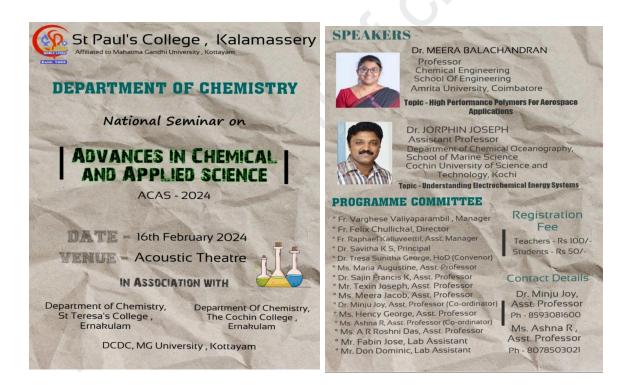
## STUDENT TEACHER PROGRAMME 22.An Academic Extension and Outreach Programme (Best Practice of the Department)

The outreach Programme entitled "Student Teacher Programme-An academic extension and Outreach Programme (Best Practice of the Department)" was organized by the Department of Chemistry. The faculty along with the first year MSc Chemistry students of the batch 2023-2025 visited and conducted classes at HMT School, Kalamassery on 28 February, 2024.



#### 23.National Seminar on "Advances in Chemical and Applied Science, ACAS-2024"

The National Seminar on "Advances in Chemical and Applied Science, ACAS-2024" was successfully organized by the Department of Chemistry in collaboration with the College Development Council on February 16th, 2024. The event aimed to bring together experts, researchers, academicians, and industry professionals to delve into the latest advancements, research, and innovations in the realm of applied science. The seminar was inaugurated with great enthusiasm, and the keynote address was delivered by Rev. Fr. Varghese Valiyaparambil, Manager, St. Paul's college, Kalamassery.Eminent personalities Dr. Meera Balachandran of Amrita University and Dr. Jorphin Joseph of CUSAT graced the event with their presence and expertise. The sessions were meticulously designed to cover a wide range of topics, including the latest research findings and technological advancements in applied science. The National Seminar on "Advances in Chemical and Applied Science, ACAS-2024" was a resounding success and witnessed active participation of almost 110 participants. The success of this seminar not only reflects the commitment of the organizing bodies but also the collective dedication of participants, speakers, and sponsors toward advancing the frontiers of knowledge for a more sustainable future.





#### 24.WATER ANALYSIS WORKSHOP-2024

On March 12, 2024, Department of chemistry, St. Pauls college, Kalamassery in collaboration with Department of chemistry, The Cochin college, Kochi organized a workshop on water quality parameters analysis. The workshop aimed to provide hands-on training to students in analysing various parameters of water quality, crucial for understanding environmental chemistry and its implications. This workshop was done in connection with the MoU signed between the departments on Jan 2024.



## **25.NARI SHAKTI FITNESS RUN-2024**

The NARI SHAKTI FITNESS RUNS, organized by the Department of Chemistry in association with Youth Red Cross and Women Empowerment Cell of St. Paul's College, Kalamassery, in collaboration with Nehru Yuva Kendra Sangathan, Ministry of Youth Affairs and Sports, Government of India, took place on 7th March 2024 at 9:00 AM. The primary aim of the run was to promote a sports culture, sportsmanship, fitness, and competitive spirit among women. It served as a sequel to the observance of International Women's Day, reiterating the pivotal role of healthy and fit women in the nation's development.



## 26. International Seminar on Chemical Science for Sustainable Future

The Department of Chemistry, St. Pauls College, Kalamassery in association with Centre for Research, ST. Teresa's College (Autonomous), Ernakulam, organized an International Seminar as a part of National Science Day titled "*Chemical Science for Sustainable Future*" in the auditorium of the arts block on the 23<sup>rd</sup> of February 2024, from 9:30 am to 3:30 pm.



27.ADD ON course on environment sustainability and waste management

