



# RASATHANTHRA

Department of Chemistry and Centre for Research  
DBT STAR College | DST FIST Supported

St. Teresa's College (Autonomous), Ernakulam-11, Kerala, India  
College with Potential for Excellence (UGC) NAAC A Grade Third Cycle

20  19

Vol. 5

June



## INAUGURATION OF RESEARCH CENTRE 15<sup>th</sup> December 2018



**Chief guest:** Prof. V. N. Rajashekharan Pillai,  
Former Vice Chairman, UGC.

**Participants :** 150 students and faculty members  
from St. Teresa's College and nearby colleges

## NEW INITIATIVES

## CHEMISTRY STARS ENDOWMENT STUDENT PROJECT AWARD



This competition will be conducted every year starting this academic year.

**Activity :** Student Project Presentation competition sponsored by STARS (St. Teresa's Association of Retired Teachers) of the department for M.Sc. students and research scholars.

**Participants :** 10 students from our college and nearby colleges participated in the competition.

**Outcome :** The presented papers will be published in "**Teresian Book of Research in Chemistry**" which will be released every year. The first volume of the same was released during the inaugural function of research centre by Prof. V. N. Rajashekharan Pillai.

**Prizes won :** Liya Johnson and Lia Rolland won the first prize and Anakha George and Sharon Maria P. J. (all from II MSc, Department of Chemistry, St. Teresa's College) won the second prize.





## GREEN INITIATIVES

### SISTER BERTILLE MEMORIAL FABRICATION CENTER

Date: 20<sup>th</sup> March 2019

**Event:** Inauguration by Sr. Vinitha, Director and Dr. Sajimol Augustine M., Principal

**Objective:** The facility will offer consultation services to schools and colleges in and around Ernakulam to recycle their broken glass wares



**RECYCLE** **Dr.Sr.Bertille Memorial Fabrication Facility**

- The centre can design, modify, construct and repair various scientific glass apparatus by glass blowing technique from broken glass wares and disposed tube lights.
- Mr. Muniswamy, who is retired from Gandhigram Rural University, Tamil Nadu is the person in charge of this facility.



Used Tube light → Glass blowing → Products made from used tube

### INTRODUCTION OF MICROSCALE ANALYSIS

**Best Practices**



**REDUCE** **Microscale Organic Analysis**

**From 5ml to a single drop!!!**

- Introduced for second year core and complimentary course students.
- Reduction of about 80% in use of Chemicals.
- Less use of water and LPG gas.




Conventional Method vs. Microscale Method

Reactions using a single drop!

From 5ml to a single drop!!!

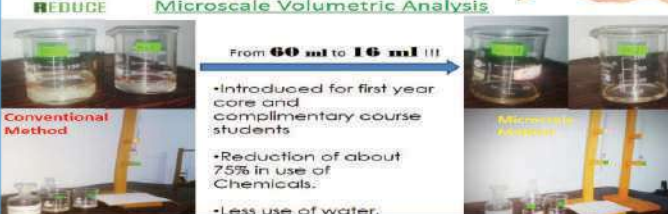
**Best Practices**



**REDUCE** **Microscale Volumetric Analysis**

**From 60 ml to 10 ml !!!**

- Introduced for first year core and complimentary course students
- Reduction of about 75% in use of Chemicals.
- Less use of water.



Conventional Method vs. Microscale Method

### TROP

### Teresian Rural Outreach Programme

**Participants:** Final year BSc students

**Objective:** To analyse the effect of flood on the quality of well water in Varapuzha Gramapanchayath.

**Water quality parameters analyzed:** pH, TDS, EC (Coliform), Alkalinity, Hardness, Salinity, Ammonia, Phosphate, Nitrite, Nitrate.

**Findings:**

- The water quality parameters have changed drastically after the flood.
- After chlorination, an improvement in water quality parameters are observed.
- However, when compared to the pre-flood samples, the observed values of water quality parameters of chlorinated post flood water samples are not satisfactorily close to acceptable values.

### Other Extension Activities



Certificate of appreciation by NSC for the selfless work done in the flood relief camp at St. Teresa's College: Jilby Dominic and Angel Sara Pious of IDC.

Our students participated in AIDS Awareness campaign, Adoption of shelter home in association with Cochin Corporation, Baseline Household Survey organized by Unnath Bharat Abhiyan, and NSS.

40 of our students also participated in the Survey for Rebuild Kerala at Cheranellore and Kunnukara Panchayath

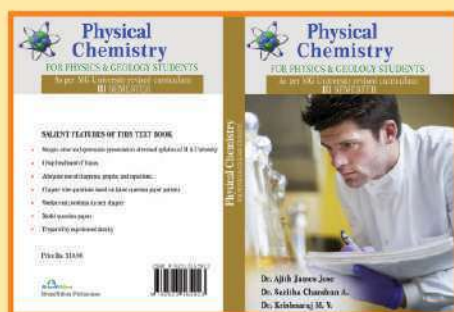
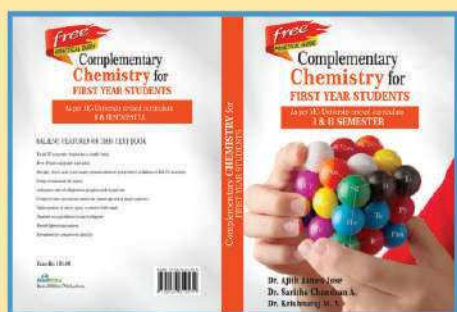
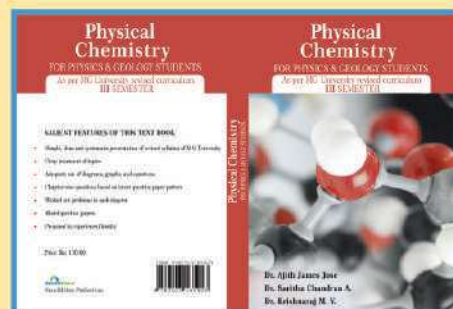
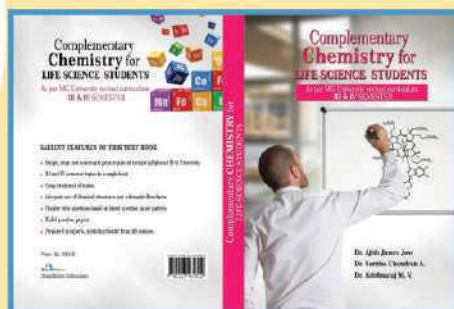
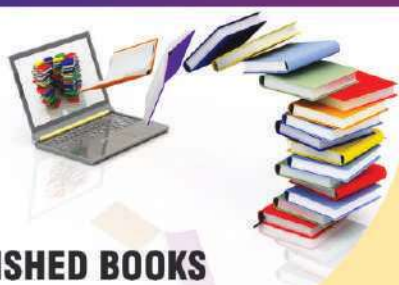


**Dr. Ushamani M.:** Dewang Mehta-National Education Award - "Best Professor in Chemistry" in 2018-2019.

**Dr. Jaya T. Varkey:** INSA Visiting Scientist Fellowship (2018-2019) by Indian National Science Academy.



## PUBLISHED BOOKS



## STUDENT ACHIEVEMENTS

9 students from III DC successfully completed NPTEL courses in this academic year



Represented Greece in the UNESCO Committee at NMIMS, Hyderabad University (2018-2019)

Ann Treasa Thomas



Internship for one year at IUCND, CUSAT

Lia Johnson



PRATIBHA SCHOLARSHIP

Aneeta Tytus

## INSPIRE FELLOWSHIP

Summer Research Internship for May-July 2018 by National Science Academies'



Binha Rose



Jinju John

Riya worked at IISER, Tvm and Joselin worked at CEMRI, Durgapur



Riya Martin



Joseline M.J.

## NET/SET/GATE/IELTS CLEARED STUDENTS



Fathima Fasna  
MSc (2014-16) batch  
UGC-CSIR-NET-JRF



Sicily Rilu Joseph  
MSc (2015-17) batch  
UGC-CSIR-NET



DhanuTreasa J  
MSc (2014-16) batch  
UGC-CSIR-JRF



Arya P. Bhasi  
MSc (2015-2017)  
batch GATE



Dhanya Clarissa Roy  
MSc (2016-2018)  
batch IELTS





# PRIZES



**Lia Rolland**

Best Project Award in the KSCSTE sponsored State Level seminar on "Modern trends in Science and Technology" organized by Bharath Mata College, Thrikkakara.

- Rangachalu Prize: Shaniya V. Anzari (III BSc)
- Mrs. Sumangala T. Pai Prize: Parvin Fathima (II BSc)
- Prof. Annakutty Prize: Sahala Nayeem A.A. (III BSc)
- Anju Luzy George Memorial Endowment Prize: Merlin Rajan, (III BSc)
- Francis Arthasery Memorial Prize: Varsha N. V., (II BSc) Jilby Dominic (I BSc), Farseena K. A (I MSc)
- Sr. Bertille Memorial Prize: Akshaya A. S II MSc



PAPER PRESENTATION

**45 students**

@ Chemistry STARS Endowment Student Project Award: Akshaya A S, Sneha Jose, Anakha George, Sharon Maria P J, Ashitha Mary N J, Mercian Gloria Viverra, Dona M M, Rosmy Roy, Lia Rolland, Liya Johnson, Neenu K V, Stenia Varghese, Megha C R. Nimisha Ramesh, Christina Louis, Mariya Jesleena Martin of II PG Chemistry

@ International Conference on "Sustainable Innovations in Green Chemistry and New Technological Developments 2018" held at the Postgraduate Department of Chemistry, Maharaja's College: Akshaya A. S. of II PG Chemistry

@ International Seminar on "Material Science and Organic Synthesis" held on 4<sup>th</sup> and 5<sup>th</sup> January 2019 at St. Albert's College: Ashitha Mary N. J., Mercian Gloria Viverra, Sandra Antony, Devika V. S., Joice Ann Joseph, Neenu K. V., Stenia Varghese, Anjana B. Ani, Anu P. Thomas, Shalom Varghese, Sharon Maria P. J., Anakha George, Anusha John K., Ann Treesa Thomas, Mariya Das, Sreelakshmi Ramesan, Ashifa Ashraf, Akhila Mary Stephen, Aiswarya O. S, Mariya Jesleena Martin, Christina Louis, Megha C. R, Nimisha Ramesh, Liz Maria Thomson, Alida Saiju, Celin Femina, Amrutha, Chaithanya Bose, Athulya P. R.

## EXCELLENCE IN CULTURAL AND SPORTS ACTIVITIES



Swarna S. Chonappally of II DC chemistry:

- Second position in "DANCE EVE" conducted during the National Level IT fest organized by Kristu Jyothi College of Management and Technology, Chethipuzha.
- Second position in "Trepichorus" conducted as part of the inter-state intercollegiate fest Chrysalis'19 at Bharat Mata College, Thrikkakara.
- First prize in group dance during intercollegiate fest TECTRIX 2.0, organized on 25-1-2019, by St. Joseph's Academy of Higher Education and Research, Moolamattom.
- Participated in Group Dance event for the National Level Inter Collegiate fest "NATYA" held on 19<sup>th</sup> January 2019 at SH College, Thevara.

Arya Nair, Devika K and Devika C: First prize in Thiruvathirakali in MG University Youth Festival.

Binha Rose: First prize in Group Song Eastern in MG University Youth Festival.

R. Amrutha, Chaithanya Bose, Athulya P. R, Anu P. Thomas of III DC Chemistry: First prize in the competition "Treasure Hunt-Labyrinth" organized by the Deva Matha College Kuravilangad.

Aleena Xavier, Aiswarya P. U., Aleena Elizabeth Thomas, Aswathy C. A, Hajeeshah Banu Hasan P. A., Jinju P. John and Krishnendu from II DC Chemistry: Second place and Rs. 2000 cash prize in the patriotic song competition organized by the Department of Hindi



**Christina Louis of II MSc.** Chemistry was placed second in the M.G. University Inter collegiate Cycling Championship 2018.



Ms. Devika V. S. of III DC was offered a position as level 1 consultant at McAfee Company, Kakkannad



## DEPARTMENT ACTIVITIES

### Inauguration of Chemistry Association Activities of the year and Student Enrichment Programme

Date: 5<sup>th</sup> June, 2018



#### Chief Guest:

Dr. K. K. Abdul Rasheed, Former Head, Sud-Chemie India Pvt. Ltd.

#### Activities:

Reading of previous year's report, Oath-taking of new association office bearers and



distribution of badges, honoring of Star performers of the Department- batch topper of UG (2015-18), Miss Shaniya V Ansary (A+ grade, CGPA-9.64) and the PG students who qualified UGC/CSIR NET/JRF, Mrs. Fathima Fasna P H and Miss Sicily Rilu Joseph, Dr. Annu Raju, the faculty of the department who acquired her PhD degree, talk on Career Prospects of Women in Industry

### Workshop on Microscale Analysis Date: 20<sup>th</sup> July 2018



**Resource person:** Dr. Ignatious Abraham, Assistant Professor, Department of Chemistry, Sacred Heart College, Thevara

**Sponsor:** DBT - STAR College Scheme

**Objective:** To introduce the concept of two burette titration to first year UG students and give them hands on training on the method.

### Ozone Day Celebration-2018

Date: 17<sup>th</sup> September 2018



**Theme:** Keep Cool and Carry On: The Montreal Protocol

**Resource person:** Dr. P. Shaiju, Technical Staff, Department of Chemical Oceanography, Cochin University of Science and Technology

**Collaborators:** Bhoomitra Sena Club of the college

**Participants:** 28 students from various

departments of the college participated in the competition. 76 students attended the talk.

**Activities:** Poster presentation competition. Talk on "Keep cool and Carry On"

### Higher Education and Research at IISER-An Outreach Programme of IISER

Date: 29<sup>th</sup> October 2018



**Resource persons:** Dr. Subrata Kundu and Dr. Vinesh Vijayan, Assistant Professors, IISER-Tvm

**Participants:** 82 students from the Department and nearby colleges

**Activity:** Talk on the research being carried out by various research groups in the School of Chemistry, IISER. Orientation on the admission procedures of IISERs.



## Faculty Enrichment Programme

## Teresian Ecofriendly Recycling and Reusing Activities (TERRA)

Date: 7<sup>th</sup> November 2018



**Collaborators:** Bhoomitra Sena Club

**Resource person:** Dr. G. Madhu, Professor, School of Engineering – Safety & Fire Engineering Division and Chemical Engineering Division, CUSAT

**Topic:** Water recycling in campus and Chemical waste management: Challenges and Strategies.

**Participants:** 96 teachers from various departments of the college.

## TOTAL QUALITY MANAGEMENT

Date: 8<sup>th</sup> November 2018



**Collaborators:** Internal Quality Assurance Cell of the college  
**Resource person:** Shri Lalachan Arakkal, Senior Manager of DC Mills and former HR manager of Kerala Spinners (Birla Group) and CEO of Alleppey Management Association.

**Participants:** 23 faculty members from various departments of the college, 16 office staff and 114 students from NCC, NSS, IQAC student wing, College Union and Chemistry association.

**Activity:** Carrying out audit of the arts block campus by participants to find out the areas in the campus that needed quality improvement, feedback about the programme by students.

## State Level Workshop for Laboratory Staff

## First Aid and Safety Techniques, FAST 2018

Date: 9<sup>th</sup> November, 2018



**Resource persons:** Mr. Sanish Michael (Area Sales Manager- South, Borosil Glass Works Limited), Mr. Vinod Kumar GK (General Manager, Quality Assurance and R & D, Nice Chemical Pvt. Ltd.), Dr. Jude Martin Mendez, Associate Professor, Department of Chemistry, St. Albert's College, Ernakulam and Dr. Alphonsa Vijaya Joseph (Associate Professor, Department of Botany, St. Teresa's College).

**Participants:** 67 Laboratory staff from various colleges

**Activity:** Sessions on Safe working with Laboratory Glasswares, Safety Measures and General Precautions for Avoiding Accidents on Chemical Laboratory, First Aid for Laboratory Accidents, Biosafety in Biolabs. Release of poster on First Aid in Laboratory prepared by Miss Sicily Rilu Joseph (Guest Lecturer), Miss Smithamol K J (Laboratory Assistant, Chemistry Department), Release of booklet on First Aid and Safety Techniques in Laboratory prepared by faculty of the college, Dr. Saritha Chandran A, Dr. Ushamani M, Dr. Alphonsa Vijaya Joseph; Distribution of the booklet and poster to all participants along with certificate of participation; visit to the science laboratories of St. Teresa's College.







**Resource person:** Prof. Toshiaki Enoki, Emeritus Professor, Tokyo Institute of Technology; a pioneer in the field of nanographene

**Participants:** 130 including teachers and students from science departments

**Objective:** To provide a platform for the students to meet an eminent personality from the field of material science, to give an insight in to research facilities in Japan, to motivate the students to pursue research outside India particularly in Asian countries.

**Topic:** Molecular Science of Nano Graphene

## KITAAB - Book exhibition in association with GOONJ (NGO)

Date: 14<sup>th</sup> & 15<sup>th</sup> February 2019



**Collaborators:** Library club of the college and Goonj, an all India NGO

**Objective:** Book exhibition and book collection drive for setting up libraries in schools of flood hit rural areas organized by "Beyond Self" the social service unit of the Department of Chemistry

No: of books: Over 4000 under various categories such as technical, academic, general, novels and primary books

**Activity:** Owning of books either free of cost or at nominal rates from the exhibition, handing over of first installment of books collected for the library reconstruction project of Goonj

**Beneficiaries:** All students and teachers of the college and St. Teresa's school



## WOMEN ACHIEVERS IN SCIENCE – SERIES 2

Date: : 26<sup>th</sup> February 2019



**Women Achiever :** Dr. J. Letha, Former Vice Chancellor, CUSAT

**Participants:** 171 including teachers from the various departments and all the students of chemistry department

**Objective:** To provide an opportunity for the student community to interact with eminent women achievers who excels in their career, to motivate students to pursue their career in science

**Activity:** A motivational talk by the guest of honour, interactive session, honouring Dr. J Letha with a ponnada and merit certificate





**Participants :** 57 old students of the department, retired staff members, teachers and current students of the department

**Activity:** Addressing of gathering by the retired staff members and the Current Head of the Department, self introduction, cultural events, sharing of memories, distribution of gifts.



### Dr. Sr. Bertille Endowment Lecture Series



**Lecture I:** 14<sup>th</sup> August 2018, UV-IR and Microwave Spectroscopy by Dr. Sam John, Assistant Professor, S.B College Changanassery

**Lecture II:** 6<sup>th</sup> October, 2018, Thermodynamics of Living Cells by Dr. Krishnaraj M V, Assistant Professor Baselius College, Kottayam

**Lecture III:** 6<sup>th</sup> February 2019, Computational Chemistry by Dr. Cyriac Mathew, Associate Professor (Retired) from St. Albert's College (Autonomous), Ernakulam



The department of chemistry has been organizing the Dr. (Sr.) Bertille Endowment Lecture series every year in the loving memory of Dr. (Sr.) Bertille who was the founder HOD of the department.



Visit to NIIST (CSIR), TVM: 28 students from I PG and II PG and two teachers. Viewed the working of analytical instruments like HPLC, Mass spectro-meter, NMR, LASER, TEM, SEM etc.

