

**PG & RESEARCH DEPARTMENT OF CHEMISTRY,
D.G.VAISHNAV COLLEGE, ARUMBAKKAM, CHENNAI**

ANNUAL REPORT OF THE ACADEMIC YEAR 2017-18

Inauguration of D.G.Vaishnav Chemical Society–28.08.17

D.G. Vaishnav Chemical society was inaugurated on 28.08.2017 by **Dr. B.G. Goswami, General Manager (Chemistry), and Head, Regional Geoscience Laboratory, ONGC, Cauvery basin Chennai**, at seminar hall, Krishna block at 10.00 a.m. **Mr. P.K. Nag, AGM, Chemistry lab, ONGC, Chennai** was also invited for the inaugural function. The welcome address was presented by the Head of the Department **Dr. K. Premalatha**. She highlighted the activities of the chemical society and introduced the chief guest to the audience. The chief guest later released the newsletter “**Oganesson**”, the first of its kind from the Department of Chemistry. The society office bearers and student representatives were introduced by **Dr. T. Augustine Arul Prasad**, student coordinator of the Department. Mr.P.K. Nag Spoke about the career prospective in ONGC and gave tips to crack the ONGC interview.

The chief guest of the day, Dr.B.G. Goswami presented a lecture on, “**Role of Geochemistry in petroleum exploration**”. He highlighted the importance of exploration taking place in Cauvery basin. He also gave valuable inputs about the career opportunities in ONGC. Finally **Mr. Richardson (III-BSc)**, Joint Secretary of the chemical society proposed the vote of thanks.

Chembattle “An Intradepartmental Talent Search Contest” - 13.12.17

The second edition of CHEM BATTLE, an intradepartmental talent search contest was held at Lions Edifice Auditorium. The event was inaugurated by Principal **Dr. T. Santhanam** at 9.00am. The Head of the Department **Dr. K. Premalatha** highlighted the importance of having such events. Students from both UG and PG participated in events like Quiz, JAM, Chalk n talk, acting Craziee, WOW, cooking without fire and Kuch Rang. The events were conducted to bring out the inherent talents of students and to popularize the ever mesmerizing chemistry amidst them. During the valedictory function, our beloved Secretary **Shri Ashok kumar Mundra ji** appreciated the initiative of the department and

distributed certificates and medals to the winners. The event was sponsored by DBT- Star College Scheme.

Lecture Workshop on CSIR-JRF NET Examination - 12.09.2017 &13.09.2017

An inter-collegiate two days Lecture Workshop on CSIR-JRF NET Examination on 12th and 13th September was held at Gyan Darshan Hall. The main objective of this program was to motivate the students to do research in various Central Institutes and Universities for which CSIR-JRF would be the basic requisite for pursuing such goals.

Around 50 students and 6 staff from other city colleges and 60 Post graduate students and Research scholars of our department attended this program. **Dr. P. Sivasami**, COE (PG) Ayyanadar Janakiammal College, Sivakasi and **Mr. A. L. Muthukumar**, IITM were invited to be the resource persons who kindly consented and graced the occasion.

The welcome address by the Head of the Department **Dr. K. Premalatha**. The Principal-in-charge **Dr. T. Thanigaivel** while addressing the audience appreciated the efforts made by the faculty of the Department of Chemistry to conduct such program. He encouraged the students and staff of the Department to continue their efforts and organize such programs in a large scale.

Dr. P. Sivasami commenced his session with a motivational talk. It was a real eye opener to the students as they were made aware of the wide ranging opportunities available for them in various corporate and other research avenues. He continued the session with the VSEPR theory in which he discussed about hybridization shape and angle of the molecule.

In the post lunch session, **Mr. A. Gopalakrishnan** of the Department welcomed Mr. A.L. Muthukumar and introduced him to the audience and requested him to share his experience. Mr. Muthukumar explained the basic concepts involved in Organic Chemistry and reaction intermediates followed by the problem solving session.

On the second day in the forenoon session Dr. P. Sivasami gave an introduction about metal clusters and explained in depth with examples the classification and structure of boranes, carboranes and Zintl ions.

In the afternoon session Mr. A.L. Muthukumar engaged the students on reaction intermediates and stereochemistry. The students with their brilliant response and enthusiasm transformed all the sessions into a resonating field without any drop in their energy level.

On the concluding day one student from each college gave the feedback about the program. Unanimously all the students submitted that they were enriched by the additional inputs given over the two days in the program. They expressed their desire that such program should be conducted frequently for the benefit of the students.

The vote of thanks was proposed by **Dr. L . Sowbagyalakshmi Prabha**

“Fun With Chemistry” Held On 24.04.2018 For Government School Students

The Department of Chemistry organized a Practical workshop “Fun with Chemistry” for ninth standard students of Government School, Koyambedu under DBT Star College Scheme on 24.01.2018. Students were introduced to basic glasswares used in a Chemistry Laboratory like RB flask, Pipette, Burette, Conical flask etc., and were made aware of the basic safety measures that should be followed inside laboratory. Then the students were surprised by the experiments like

1. Magic colours
2. Cracking on walking
3. Lightning and thunder in test tube
4. Dancing sodium
5. Tyndall effect
6. Oxygen- a supporter of combustion

Annual Inter-Collegiate Cultural Program Rasayanotsav 2018 – 1.02.2018

The program was inaugurated by the Chief guest, **Dr.V.S.Brahmananda Rao**, Scientific Officer G, Fuel Chemistry division, IGCAR, Kalpakkam. The inaugural program ended with a scintillating presentation by the chief guest regarding the opportunities for Chemists in the Department of Atomic Energy, Government of India.

There were 195 participants from 15 city colleges who took part in various events like UG & PG Quiz, Kuch Rang, JAM, Cook without fire, Dance your Ph.D, Acting craziee, Chem tunes, Adzap, Mr. & Ms.Chemist etc., The students participated with vigour and talent and exhibited their skills. During the valedictory function, **Dr.Jayashree Ghosh**, Principal, Anna

Adarsh College for Women, Chennai gave the valedictory address and distributed prizes and certificated to the participants. The **overall shield was won by Stella Mari's College** which bagged the first prize in various events.

Lecture on Basic and Advanced Stereochemistry by Dr.P.S.Kalsi Held On 23.02.2018

A lecture on Basic and Advances Stereochemistry by **Dr. P.S. Kalsi**, Professor of Eminence, Shoolini University of Biotechnology and Management Science was held on 23rd February 2018 at Vallabacharya Auditorum. Head of the Department of Chemistry **Dr. K. Premalatha** welcomed the gathering and introduced the chief guest. The lecture was attended by UG & PG students of the college and faculty from nearby colleges. Prof. Kalsi gave a brief introduction on the Basics of Stereochemistry like configurations, conditions for chirality and then swiftly explained the details of Stereospecificity, Steroselectivity, homomorphic groups etc.. The program was very informative and enlightening. The students were very interactive and had a fruitful session.

Interdepartmental workshop -24.2.2018

The Department of Chemistry in collaboration with SACSE, IGCAR conducted a one day 'Interdepartmental workshop on Basic Sciences' on 24th February under the support of DBT Star College Scheme. Eminent Scientists **Dr.T.S .LakshmiNarasimhan**, Scientific Officer & Associate Director, Resource Management Group, **Dr.K.Sankaran**, Head Analytical Chemistry and Spectroscopy, **Dr.Brahmananda Rao**, Scientific officer G, Fuel Chemistry Division and **Dr.Sivaraman**, Head Fuel Chemistry Division and Dean HomiBhabha National Institute from the Society for Advancement in Chemical Sciences Educational & Research (SACSE) gracefully participated in the program. The Head of the Department **Dr. K.Premalatha** gave the welcome address followed by the inaugural speech by **Dr.T.S.Lakshmi Narasimhan**. In his brief talk he highlighted the avenues open in the field and the basic requirements for its entry. Important tips with practical examples on how to face the interview were well received by the students. Dr.K.Sankaran and Dr.N.Sivaraman demonstrated some experiments to explain the basic concepts involved in the chemical reactions. Participants for the quiz competition were decided from a written test; ten students were selected and divided as 5 teams. The Quiz was

conducted by **Dr.C.V.S.Brahmananda Rao**, and judged by **Dr.N.Sivaraman**. The winners received the prizes and certificates from **Dr.K.Sankaran**.

ACTIVITIES OF STUDENTS (CO-CURRICULAR)

Sr.Bindhu Thomas, Research Scholar, has presented a paper in the National Conference organized by the Department of Chemistry, Sacred Heart College (Autonomous), Tirupattur, on 23rd and 24th August 2017, sponsored by University Grants Commission (UGC), new Delhi in association with Rural Society for Advanced of Chemistry(RUSAC).

Sr.Bindhu Thomas, Research Scholar, has presented a paper entitled “ Characterization & Application of silver nanoparticles synthesized from the aqueous leaf extract of Coleus vettiveroids plant” in the International Seminar on Recent trends in chemistry held on 20th Sept 2017.

Sr.Bindhu Thomas, Research Scholar, has participated in the UGC Sponsored International Seminar on “Models and Methods in Bioinorganic Chemistry” held at Department of Chemistry, Loyola College (Autonomous), Chennai – 34, on 22nd Feb 2017.

Ms.S.Gayathri has presented paper entitled “ Photophysical and electrochemical studies on the interaction of 4-dicyanomethylene, 2,6-dimethyl-4-H-pyran-Ylidine malononitrile(DDP) with hydrogen bonding solutes in aqueous solution(weak acid) in 2nd international conference on recent advances in materials chemistry (ICRAMC-2018) 14-16 Feb.

Ms.S.Gayathri has presented paper entitled “ Electrochemical and photophysical studies on 4-dicyanamethylene,2,6-dimnethyl-4-H-Pyran(DDP) with hydrogen bonding solutes in aqueous solution in the International Conference on advancements and Challenges in chemical sciences (ICACCS 2018) on 2nd & 3rd Feb 2018 held PG & Research Department of Chemistry, Pachaiyappa’s College.

Ms.K.Anju has presented a poster entitled “Photophysical studies of acridinedione dyes in amino acids in water”. In the International conference on recent advances in material chemistry (ICRAMC 2018), SRM University.

Ms.Sumita.A has presented a poster in 2nd international conference on recent trends in analytical chemistry held at University of Madras, Guindy Campus from 15-17th March 2018. She has also presented a paper entitled “Electrochemical studies of PET and Non- PET based acridinedione dyes with amino acid in aqueous media at International Confernce on Recent advances in material chemistry” organized by SRM University from 14th -16th Feb 2018. she has also presented a paper on “ Corrosion Inhibition properties of Mimoso Pudica on mild steel” at Sri Ram Engineering College, permalpattu on 26th Sep17. She has attended an International seminar on “Emerging Challenges on sustainable Environment ECOSE-2017 Conducted by JBAS College on 23.8.17.

Our M.Phil students **Mr.K.Murugan**, has participated in the International Conference on advancements and Challenges in chemical sciences (ICACCS 2018) on 2nd & 3rd Feb 2018 held PG & Research Department of Chemistry, Pachaiyappa’s College.

Ms.Nirmala Devi has presented paper in the International Conference on Advancements and Challenges in Chemical Sciences (ICACCS 2018) on 2nd & 3rd Feb 2018 held PG & Research Department of Chemistry, Pachaiyappa’s College.

Ms.D.Bhagya lakshmi, has presented paper entitled “ synthesis and characterization of aliphatic poly (ester-amide)s” in the International Conference on Advancements and Challenges in Chemical Sciences (ICACCS 2018) on 2nd & 3rd Feb 2018 held PG & Research Department of Chemistry, Pachaiyappa’s College.

ACTIVITIES OF STUDENTS (EXTRA-CURRICULAR)

The UG & PG Students of the Department of Chemistry have participated in many cultural fests held in various city colleges and won prizes for the academic year 2017-18. The list of students who won prizes and respective events are presented as follows. Mr.Sanjay (III B.Sc), Ms.Hari priya of II B.Sc and Ms.Priya Lakshmi of II M.Sc have won (**I place**) in Zathura Ms.Shanmuganathan of I B.Sc has won (**III Place**) in JAM AND QUIZ conducted by Stella Maris College. Mr.R.Kaviyarasanof I M.Sc have won (**II place**) for presentation at Loyola College cultural fest.

STUDENT ACHIEVEMENTS

R.Kaviyarasan (I M.Sc) is being selected for Summer Research Fellowship programme in Indian Academy of Sciences (IASC) at INCASR Institute, **R.Abinaya (I M.Sc)** is being selected for IITM Summer Fellowship Programme

Haripriya.S (II B.Sc) is being selected for TIFR Visiting students Internship Programme. **M.Sainath (II B.Sc)** has been shortlisted for Summer Student Programme, IISER, Pune.

STAFF ACHIEVEMENTS

Mr.V.Rajagopalan has cleared SET-2017 conducted by Mother Teresa Women's University, Kodaikonal, Tamilnadu.

Ms.K.Kavitha is going to attend the faculty induction programme conducted by IIT Madras in May.

CONFERENCE/SEMINAR/ SYMPOSIUM ATTENDED

Dr.K.Premalatha, Assoc.Prof and Head, has participated & presented a paper entitled "Synthesis, Characterization & Photo catalytic activity of Cobalt chromite-D-Titania nano composite for the reduction of toxicity of malachite green in aquaculture – a green approach" in the 2nd International Conference on recent advances in material chemistry (ICRAMC-2018) organized by the Department of Chemistry, SRM Institute of Science & Technology in association with Alternative Energies & Atomic energy Commission (CEA), France & IRD India during 14-16th Feb 2018. She has chaired the session in the International Conference on advancements and Challenges in chemical sciences (ICACCS 2018) on 2nd & 3rd Feb 2018 held PG & Research Department of Chemistry, Pachaiyappa's College.

Dr.R.Kumaran, Asst. Prof, presented a paper in the " Seminar on developing New Curriculum-2017" held at Kalaivanar Arangam, Chennai-600002/ Anna University, Chennai-600025 on 21st & 22nd of July 2017. He also chaired a session in the 2nd International Conference on Recent Advances In Material Chemistry, SRM University.

Dr.L.Sowbagya Lakshmi Prabha has acted as one of the executive members in the International Conference on advancements and Challenges in chemical sciences (ICACCS 2018) on 2nd & 3rd Feb 2018 held PG & Research Department of Chemistry, Pachaiyappa's College.

Dr.T.Augustine Arul Prasad, Asst.Prof, has participated in the International Conference on Impact of Nanotechnology on Health and environment held on 26th and 27th Feb 2018 at Quaid-E-Millath Government College for Women, Chennai-600002

Dr.R.Vasanthi, Asst.Prof, has presented a paper entitled “ Synthesis, structural and electrochemical characterization of Ni_{0.85}Mn_{0.15} and Ni_{0.85} Mn_{0.15}O with PANI, in the International Conference on advancements and Challenges in chemical sciences (ICACCS 2018) on 2nd & 3rd Feb 2018 held PG & Research Department of Chemistry, Pachaiyappa's College.

Mr.V.Rajagopalan, Mr.A.Naveen Kumar & Ms.N.Lakshmi Kruthika has participated in “Prof T.Raju felicitation Seminar on Chromatographic Techniques” held at school of Chemical Sciences Auditorium, University of Madras, Guindy Campus, Chennai on June 29,2017.

INVITED LECTURE (RESOURCE PERSON)

Mr.A.Gopalakrishnan, Asst. Prof, has delivered a lecture on “IR & NMR spectroscopy- an overview” on 3.10.2017 in Shrimathi Denkunvar Nanalal Bhatt Vaishnav College for Women.

Mr.A.Gopalakrishnan, Asst. Prof, was called as resource person for the CSIR-NET coaching classes conducted at Holy Cross College, Trichy on 27.10.2017 and 28.10.2017.

Mr.A.Gopalakrishnan, Asst. Prof, gave lecture in quantum chemistry on 16.3.2018 at Stella Maris College.

Mr.A.Gopalakrishnan, Asst. Prof, gave lectures on quantum mechanics on 27.3.2018 to motivate them in appearing competitive exams like CSIR-NET,GATE, SET Exams, Srimad Andavar Arts & Science College, Trichy.

PAPERS PUBLISHED

Dr.R.Kumaran, Asst.Prof has published paper in Journal of Photochemistry and Photobiology Part A: Chemistry 341 (2017) 78-76. Photophysical studies of a food hydrocolloid, gum Arabic with resorcinol based acridinedione dyes in water.

Dr.R.Kumaran, Asst.Prof has published paper “ Photophysical studies on the interaction of PET and Non- PET based acridinedione dyes with glycine in water. In the Journal of Luminescence (Elsevier Publication)

Dr.T.Augustine Arul Prasad, Asst.Prof, has published a paper entitled “Synthesis of silver nanoparticles impregnated soap and its study on antibacterial activity using green principles. Int.J.S.Res.Sci.Engg.Tech., 4(4),2018,271-275.

Dr.T.Augustine Arul Prasad, Asst.Prof, has published a paper entitled “ Antibacterial and antioxidant effect of synthesized silver nanoparticles from aqueous leaf extract of *Sechium edule*. The Pharma Innovation Journal 2018; 7(4): 42-46. **Dr.T.Augustine Arul Prasad, Asst.Prof**, has published in The Pharma Innovation Journal 2018; 7(4): 42-46.

Dr.M.Vanjinathan, Asst.Prof has published a paper entitled “Synthesis, Electrolyte properties & Solar cell performance of hyperbranched poly(aryl-ether-urea)s. Journal of Macromolecular Science, PartA: pure & applied Chemistry 2017, Vol 54, No.12, 978-985.