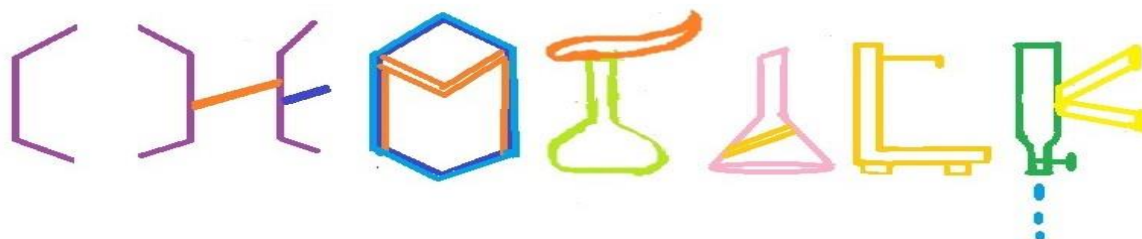


CHEMTALK 2021

A.P.C.Mahalaxmi College For Women

Thoothukudi.

Department of Chemistry



A Students' Magazine

Edition I, Volume VIII

10/11/2021



This edition brings an article with did you know about Chemistry. Besides this, Chem Innovations and Chemistry facts and Riddles are also discussed.

From Editor's Desk

Dear Readers,

As our Government has strongly enforced plastic ban, we have also tried to take a step towards environmental protection by publishing a novel method of plastic degradation. To give a new perspective of chemistry to readers, we have introduced chemfiction, i.e. a fictional story on chemistry. We assure that this edition will satisfy the expectation of the readers.

- Editor

Editorial

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DEPARTMENTAL ACTIVITIES

On behalf of the chemistry association, an orientation, for the students of chemistry (both UG and PG) through Google meet.

The **75th Independence Day** was celebrated at the College premises by the **Department of Chemistry** on August 15th, 2021 at 8.30 a.m. Dr.N.Meenakumari, Principal,A.P.C.Mahalaxmi College for Women, Thoothukudi invited to hoist the National flag. An alumnae meet was conducted at 10.00 a.m on 16.08.2021. Mrs.D.Rajalakshmi M.Sc., B.Ed., Science HOD & IIT School Coordinator, Amrita Vidyalayam, Thoothukudi, alumna of Chemistry welcomed the gathering.

An alumnae meet was conducted at 10.00 a.m on 11.09.2021. Dr. A. Muthulakshmi, Head and Assistant Professor of chemistry, Department of Chemistry, V.O.chidambaram College, Thoothukudi alumna of Chemistry welcomed the gathering. In connection with the Birth Anniversary celebrations of Dr.A.P.J.Abdul Kalam, Chemistry Association conducted a Special Day Programme at 2.30pm on 12.10.2021 Dr.S.Banumathi, Associate Professor of Tamil, A.P.C.Mahalaxmi College for Women, Thoothukudi was the invited chief guest and delivered a talk on “சரித்திரபடைத்தசாதனைநாயகன்”.

A Guest lecture was conducted at 11.00 p.m on 15.09.2021. Dr. J. Clara Jeyageetha Assistant Professor, Pope's College (Autonomous), Sawyerpuram delivered a talk on electrochemistry and its applications. In connection with International Space Week celebration falls on 4.10.2021 to 10.10.2021, the Chemistry Association conducted an e-poster competition on the theme “Space Science: The search for a new World”. Chemistry Association & IPR cell jointly organised a webinar on 10.11.2021. Dr. S. Selvam, Assistant Professor, Department of Geology, V.O.Chidambaram College, Thoothukudi delivered a talk on IPR Management and start ups.

Sparkling Diamonds of our Department

University Rank Holders

A.P.C. MAHALAXMI COLLEGE FOR WOMEN
Reaccredited by NAAC with 'B+' Grade
Thoothukudi



B.Sc.Chemistry



R. Soundharya
I Rank (Gold Medalist)



S. Selvalakshmi
VII Rank



S.Uma Sankari
XI Rank



A. Sudha
XVII Rank



M. S. University Rank
Holders 2020

M.Sc.Chemistry



M. Karthiga
V Rank

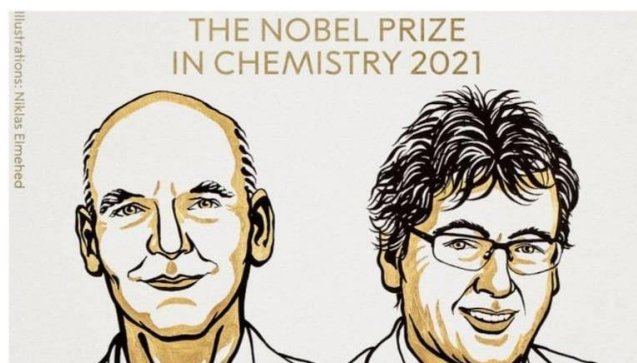


S.Akila
VIII Rank

PG & RESEARCH
DEPARTMENT OF
CHEMISTRY

*Sparkling Diamonds
of our Department*

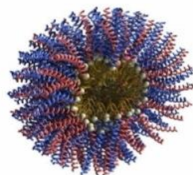
Noble Laureates in Chemistry
-M. Jeevitha(II M.Sc. Chemistry)



Benjamin List from Germany and David WC MacMillan from the United States have been awarded the 2021 Nobel Prize in Chemistry for the development of asymmetric organocatalysis. They have been awarded the prize for the development of asymmetric organocatalysis- the third type of catalysis other than metal and enzyme. Researchers for the longest time believed that there were, in principle, just two types of catalysts available- metals and enzymes. Until, Mac Millan and Benjamin working independently developed asymmetric organocatalysis, the third type of catalysis.

MacMillan worked to develop a more durable type of catalyst, than metal catalysts which are easily destroyed by moisture. For this, he used simple organic molecules, which proved to be excellent at asymmetric catalysis. Benjamin List wondered whether an entire enzyme was really required to obtain a catalyst. He tested whether an amino acid called proline could catalyse a chemical reaction and it ended up working brilliantly.

Asymmetric organocatalysis has now taken molecular construction to an entirely new level. It has not only made chemistry greener but also made it much easier to produce asymmetric molecules, the Nobel Prize Committee said. Organocatalysis has developed at an astounding speed. Using these reactions, researchers can now more efficiently construct anything from new pharmaceuticals to molecules that can capture light in solar cell. In this way, organocatalysts are bringing the greatest benefit to humankind.



Nanopesticide

Pesticides don't have the best history when it comes to the environment and human health. Over the years we've learnt that, unmanaged, pesticides and other agrochemicals find their way into our ecosystems, contaminating soils, sediments and waterways and adversely impacting wildlife. But the emergence of new types of pesticides, nanopesticides, offers hope of a more environmentally-friendly approach. A small number of nanopesticide products with either higher efficacy or a better environmental profile are already on the market. For example, a turf fungicide based on water-based (non-petroleum) nano/microemulsion technology has been developed with several attractive features. According to the product developer, the nano/micron sized particles prevent rapid settling of the emulsion, do not require frequent stirring, stop clogging of filters in spray equipment and make the formulation stable for a longer time. The "nano-formulation" allows systemic properties, which is intended to stop the product washing-off easily in the rain.

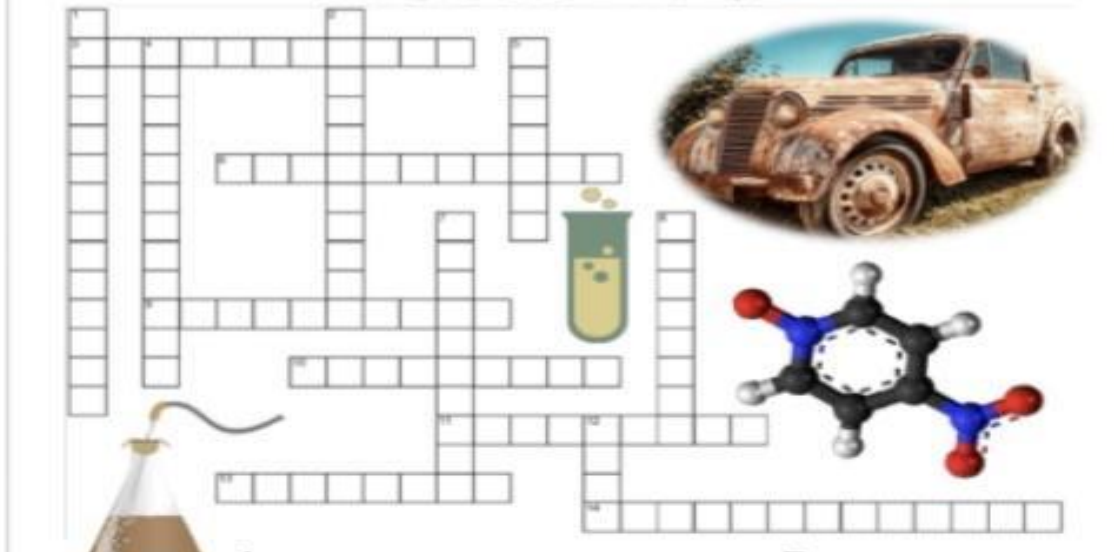


INTERESTING FACTS ABOUT SOME ELEMENTS

A. Evangelin Thangam (II B. Sc., Chemistry)

- The basic chemistry fact you should know to increase your general awareness that vit-B12 is present in rainwater as it is fallen through the air and the microorganisms present in the air caught up and generate this vitamin by their metabolic process.
- It smells after lighting because lighting strikes produce O₃, and a sharp smell can be felt just after lighting..
- The volume of water increases after freezes.The chemistry facts behind this are the strange shape of the water molecule, although it vibrates a little ,but after the icebformation, it requires more volume.
- DNA present in our body is a flame retardant.Due to its structure when it is heated up the phosphate restraining backbones generates phosphoric acid that chemically replaces water and produce a flame.
- The basic chemistry fact you should know that Lipsticks consists of fish scales.
- Alkali is used in making soaps , as it reacts with the fat in our hands in a saponification process

CHEMYSTERY



Across

- 3) Reaction that takes in energy in the form of heat
- 6) Factor affecting the rate of reactions
- 9) Reaction that gives out energy in the form of heat
- 10) Gain of oxygen by a substance during a chemical reaction
- 11) Substance which slows down or stops a chemical reaction
- 13) Substance that participates in a chemical reaction
- 14) Chemical reaction in which a single compound breaks down into two or more elements or compounds

Down

- 1) Reaction between an acid and base forming water and salts
- 2) Solid that forms from a solution during a chemical reaction
- 4) Reaction in which one element replaces another within a compound
- 5) Substance formed as a result of a chemical reaction
- 7) energy is the energy needed to start a reaction
- 8) Substance that speeds up a reaction without being consumed
- 12) Chemical link that holds molecules together

Please send your answers to chemtalk123@gmail.com. Cash award Rs.100 will be given to puzzle solver. The winner of the previous Chemystery puzzle is N. L. Lakshmi Priya(I B.Sc.The Correct answers are 1.Fluorine, 2.Neon, 3.Uranium, 4.Platinum, 5.Beryllium, 6.Helium,7.Aluminium,8.Hydrogen,9.Neodymium,10.Sodium, 11.Sulphur, 12.Gold. 13.Silicone,14.Tin,15.Nickel,16.Gallium,17.Oxygen,18.Calcium,19.Arsenic,20.Xenon,21.Nitrogen,22.Phosphorus,23.Mercury, 24.Iodine,25.Iron,26.Tungsten,27.Magnesium