





**Shroff S.R Rotary Institute of Chemical Technology** 

**ISSUE 45** 

**AUGUST** 

Kathan

ज्ञानम यज़ामहे।

# AZADI KA AMRITMAHOTSAV

#### Rotary

Ankleshwar Rotary Education Society Chairperson

Ms. Sandra Shroff, Chancellor UPL University

Mr. Ashok Panjwani, President UPL University

Mr. Angiras Shukla, Secretary ARES

Mr. Kishore Surti, Treasurer ARES

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Ms. Amishi Popat (Assistant Professor-EST)

Mr. Apurba Chakraborty (Assistant Professor-CT)

Dr. Mari Kumar (Assistant Professor-M.Sc.)



#### IN THIS ISSUE

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- √ Technical Articles
- ✓ Kathan Write-Up
- ✓ Hobby Corner

# STUDENT EDITORS





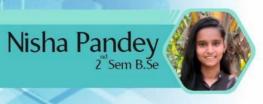
















## **Student Co-Editors**



Purusattam Das 7<sup>th</sup> Sem EST

Moinuddin Shaikh





Velin Shah



#### INDEPENDENCE DAY CELEBRATION

On completion of 75 years of independence (Azadi ka mahotsav), Department of Environmental Science & Technology organized the 76th Independence Day Celebrations at UPL University of Sustainable Technology campus. Flag hoisting was done at the hands of the Chief guest: Rtn. Arpan Surti (President Rotary club of Ankleshwar) in the presence of other members from Rotary club of Ankleshwar, members from Rotary eclub of Ankleshwar Green, members from Rotract club of UPL University, Provost- UPL University, Deans, Registrar, HODs, Faculty members, staff members and students. Celebrations included Flag Hoisting followed by cultural programmes having poem recitation, script play, speeches, dance and musical performances by Students and faculty members of UPL University of Sustainable Technology. Entire event was streamed online for students and other distant viewers where Respected Chancellor-UPL University, Mrs Sandra Shroff, President-UPL University, Mr Ashok Panjwani and Hon. secretary (ARES), Mr. Angiras H Shukla and many other guests, students and their parents joined the program online.









# Faculty Achievements

Dr. K. Nagaraj received certificate of Recognition for Research Excellence Award 2022 from InSc Scholars certified & Registered under Ministry of MSME & Corporate affairs, Govt. of India.

Dr. K. Nagaraj received certificate of Recognition "InSc Reviewer" for Journal of Basic and Applied Sciences from InSc Scholars certified



Connecting Scholars Since 2014
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UAM: KR-09-0001606 CIN: U80904KA20210PC143961

#### Research Excellence Award 2022

Dr. K. Nagaraj M.Sc., MPhil., Ph.D., Assistant Professor Department of Organic Chemistry SRICT-Institute of Science and Research UPL University of Sustainable Technology

For the work with the following details

Publication Type: Journal

Paper Title: Influence of self-assembly on intercalative DNA binding interaction of double-chain surfactant Co(III) complexes containing imidazo[4,5-f][1,10] phenanthroline and dipyrido[3,2d:2'-3'-f[quinoxaline ligands: experimental and theoretical study† Journal Name: Dalton Transactions

olume: 43

Month of Publication: April

Year: 2014

Page No: 18074



This is to certify that

Dr. K. Nagaraj

M.Sc., MPhil., Ph.D., Assistant Professor Department of Organic Chemistry SRICT-Institute of Science and Research UPL University of Sustainable Technology

is recognized as a Reviewer for INSC International Journal under the stream: **Basic and Medical Sciences** 

Nanjesh Bennur

Nanjesh Bennur

Dr. K. NAGARAJ. successfully participated in IP Awareness/Trainin g program under NATIONAL INTELLECTUAL **PROPERTY AWARENESS** 



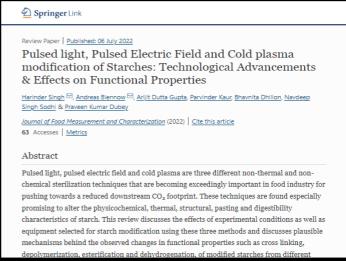


# Faculty Achievements

Dr. Arijit Dutta Gupta has published paper on Recent Developments in Starch Modification by Organic Acids: A Review

Dr. Arijit Dutta Gupta has published paper on Pulsed light, Pulsed Electric Field and Cold plasma modification of Starches: Technological Advancements & Effects on Functional Properties





Mr. Karan
Chabhadiya has
successfully
pursued
certificate
course on
Introduction to
ESG on
31.08.2022



# List of faculty members received FDP Certificate (Online) from Chandigarh University

| Sr.no | Faculty name                  | Programme | Торіс   |  |  |  |  |  |
|-------|-------------------------------|-----------|---|--|--|--|--|--|
| 1     | Dr. Nikhil Pareh              | FDP       | "Advanced<br>Characterization<br>Techniques (ACT-2022)" |  |  |  |  |  |
| 2     | Dr. Trupti Patel              | FDP       | "Advanced<br>Characterization<br>Techniques (ACT-2022)" |  |  |  |  |  |
| 3     | Dr. R. Marikumar              | FDP       | "Advanced<br>Characterization<br>Techniques (ACT-2022)" |  |  |  |  |  |
| 4     | Dr. Tulasi Barik              | FDP       | "Advanced<br>Characterization<br>Techniques (ACT-2022)" |  |  |  |  |  |
| 5     | Dr. Manik Chandra<br>Sil      | FDP       | "Advanced<br>Characterization<br>Techniques (ACT-2022)" |  |  |  |  |  |
| 6     | Dr. K. Nagaraj                | FDP       | "Advanced<br>Characterization<br>Techniques (ACT-2022)" |  |  |  |  |  |
| 7     | Dr. Anup Kumar<br>Sasmal      | FDP       | "Advanced<br>Characterization<br>Techniques (ACT-2022)" |  |  |  |  |  |
| 8     | Dr. Bhuwanesh<br>Kumar Sharma | FDP       | "Advanced<br>Characterization<br>Techniques (ACT-2022)" |  |  |  |  |  |

# Paper published by Faculty members and students

## **Abstract**

Wastewater generated from allied industry contains high organic load and the treatment is primary carried out using biological methods. Sustainable wastewater treatment is considered the most advanced and cost-effective solution for the high organically polluted industrial waste stream. However normal treatment plants are associated with the recovery of energy that seems to be a potential approach for waste treatment and conservation. On the other hand, Microbial Fuel Cell (MFC) represent a new bio-electrochemical system for generation of electricity directly from biodegradable organic compound. This enables us to harness the power of organic compounds through the action of microbes. In the current scenario, Industrial wastewater is a potential hazard to the natural water body. The waste water contains many organic matter, which is toxic to the various life forms of the system. Industrial waste water has a complex mixture of chemicals whose behaviour alter towards biological systems. Treatment of waste water is therefore over riding process. This study is designed to treat waste water with the generation of bioelectricity and minimising the parameter of the waste water before it been released into a water source. Primary treatment of waste water is done with the help of corn cobbed to eliminate primary treatment of wastewater and the addition of substrate in the MFC. In the current study efficiency of Microbial Fuel Cell (MFC) in eliminating contaminate and generation of bioelectricity was determined, its break-even point was analysed and 15 L model was constructed for the operational analysis and to put into effect on a large industrial scale. From the experiment, we found that MFC is an effective method for waste water treatment with the generation of bio-electricity.







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Materials Today: Proceedings Volume 57, Part 4, 2022, Pages 1781-1788

Sustainable technology for modern era effluent treatment: Microbial fuel cell

Jigisha Modi △ , Aditya Choumal, Devarshi Vyas, Dhruvil Shah, Kashyapkumar Joshi, Khyatil Patel, Kartik Iyer

> Shroff S R Rotary Institute of Chemical Technology, UPL University of Sustainable Technology, Ankleshwar-393002, Gujarat India

Available online 12 January 2022, Version of Record 19 April 2022.

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Outline

≪ Share

• Cite

https://doi.org/10.1016/j.matpr.2021.12.476 Get rights and content Dr. Nilesh Badgujar was granted a patent by G.O.I for the invention entitled "Process for treatment of paint sludge".

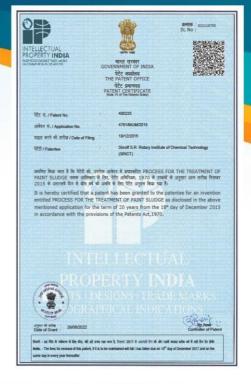








Dr. Nilesh Prakash Badgujar
Associate Professor
& Head Department of Chemical
Technology



Granted his Second patent by Government of India.

The title of the invention is on "Process for treatment of Paint Sludge"

The present invention provides an innovative eco friendly and clean technology of recycling and conversion of paint sludge, a hazardous waste into user friendly primers meeting customer's specifications.

Further the process of the present invention will avoid incineration of paint sludge, saving money and time taken to dispose of the sludge at hazardous waste disposal sites.

# Technical Article

Can Copper Save Us from the Coronavirus?

Claims of miracle treatments for our health and wellness never seem to end. We are bombarded with ads for fad diets, medicines that cure everything from acne to toe fungus, and supplements that not only make us healthy but also happy. Determining whether claims by purveyors of would-be treatments are credible, however, is very difficult to do without wide-scale testing.

One recent claim is that a familiar metal, copper, could help us beat back the COVID-19 pandemic. There is already some basic science to suggest that it might help in some ways. Copper has natural antibacterial and antiviral properties, which seem to come from copper's ability to conduct electricity. If a microbe touches a copper surface, the metal carries electrons away from the organism's outer layer, disrupting its metabolism and destroying it in a matter of minutes to hours.

#### **Ancient Origins**

Copper's antimicrobial properties have been put to use for at least 8,000 years, even though the earliest adopters didn't understand how the metal worked. During the Bronze Age, water was stored in copper vessels to help prevent waterborne illnesses. Today, some health experts suggest that we should convert surfaces in hospitals and other public places to copper to take advantage of the metal's germ- busting effect. Copper door handles and countertops instead

of stainless steel, which lacks the ability to kill microbes, might make public places safer.

Creating copper surfaces is not meant to be a stand-alone tactic, however, as it takes up to four hours or longer for SARS-CoV-2 (the coronavirus that causes COVID-19) to be killed on a copper surface. Also, research points to aerosols as the primary mode of transmission, not surfaces.

To block airborne viral particles, face masks have become an important line of defense, particularly to help prevent asymptomatic carriers from spreading the disease. Applying what we know about copper, several manufacturers incorporate fine copper mesh in face masks.

### Weighing What We Know

But is it worth paying extra for a copper layer? Many medical experts doubt that copper masks work better than regular masks for multiple reasons. Face masks with a copper layer contain varying amounts of copper, and there's no way for a consumer to know how much coverage copper provides in any given mask.

Rather than debate the merits of copper masks versus cloth- only face coverings, medical experts are more concerned with getting people to wear masks at all. By mid-summer, several studies on mask-wearing and declining infection rates suggest that donning masks—infused with copper or not—can greatly reduce the rate of transmission of the coronavirus.

Additionally, wearing face masks is only one tactic of several that are required for reducing the spread of COVID-19. According to the U.S. Centers for Disease Control and Prevention, other ways to limit the spread of the coronavirus

include minimizing in-person contact with others, staying at least 6 feet apart when you are in the presence of others, and frequently washing your hands with soap and water for at least 20 seconds. These methods have been shown to effectively reduce the spread of disease.

### References

https://www.acs.org/content/acs/en/education/resources/high school/chemmatters/past-issues/2020-2021/october- 2020/openfor-discussion-copper.html

> Ritu Mehta MSc SEM -II







With advances in technology, many things we use every day may soon switch partly or fully to solar power, including cell phones, iPods, cars, homes, and city trash cans.

Every day, the sun delivers enough energy to the Earth's surface to meet the entire human population's energy demands thousands of times over. Yet when it comes to running our homes, factories, appliances, and vehicles, solar power provides less than 1% of the world's energy today.

That's not just because we have been stuck in the old habit of using fossil fuels. It's because solar energy-collecting technologies can capture and redirect only a tiny fraction of the energy they get from the sun into a battery or power supply.

every year, those technologies improve, and recent innovations are making it possible for the sun to do a lot more work for us.

#### Solar's New Turf

Virtually any small appliance or battery-powered device could be run on solar energy. One strategy is to fit the device with a panel of solar cells, the most common type of solar energy collector. Solar cells convert sunlight into electricity through a process called the photovoltaic effect. In this process, the solar cell harnesses the energy from the sun by channeling it into an electric current.

#### Learn how solar cells work

To facilitate this process, the surfaces of solar cells are covered in a material called a semiconductor. Semiconductors, such as silicon, are more conductive than insulators, such as glass, but less conductive than metal. They are useful because their conductivity can be altered by heat, light, or impurities.

In the case of a typical solar cell, when sunlight hits its surface, the small particles that make up light, called photons, knock off electrons from the solar cell's surface material. These electrons flow in a particular direction (Sidebar below). This creates an electric current, which can be used to power machines and devices.

#### www.upluniversity.ac.in

As we all know, smartphones, iPods, and other 21st century technologies often need to be recharged. To run these devices, a solar-powered battery charger could be a better option. This type of battery charger contains solar cells that charge an internal battery, so the charger can sit idly and collect solar energy all day long. When connected via USB, the charger transfers the stored energy from its own battery into a smartphone or iPod battery—no wall socket required!

Some solar battery chargers have been adapted into other products, including a solar backpack. It's an ordinary cloth backpack fitted with thin solar cells that connect to a built-in battery, which can charge external devices, such as smartphones, MP3 players, and even computers. Solar backpacks are useful for hikers, rescue crews, and military personnel who spend long days in the sun without access to electricity.

Watches can also be powered by the sun. Some of the early solar watches were available in the 1970s. Over the years, the design of these watches has evolved to the point that some of them barely look like regular watches. For instance, a Solaris watch (shown on page 9) does not have a numbered dial or a digital display. The hours are shown as blue lights and the minutes as purple lights, with both types of light moving along a circle. But despite their esthetic differences, all solar-powered watches contain solar cells that convert sunlight into electrical energy to power the watch.



# Reference

http://science.nasa.gov/science-news/science-at-nasa/2002/solarcells/

Nisha D Pandey B.Sc Student (SEM -II)





#### What is Doxing and How can you avoid it?

- Doxing is the act of publicly disclosing someone's name, address, or other sensitive information online. Doxing involves uncovering private information without the victim's consent. Unmasking a person behind an unknown username can reveal their real identity online.
- Doxing attacks range from harmless and false mail sign-ups or food deliveries to highly hazardous ones, such as blackmailing a person's family or a close one, identity fraud, threats, and the possibilities of various cyber-crimes. Some situations can even escalate to the point of in-person aggravation.
- ✓ If you're doxed, you should promptly take action towards it. You should initially report doxing assaults to social media platforms like Twitter, Facebook, and Reddit. These platforms consider doxing to be an infringement on their terms of service.

#### How to prevent Doxing?

#### 1. Set Up Google Alerts

Google alerts can notify you if your name, phone number, address, or other private information is doxed. Activate these Google alerts.

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#### 2. Prevent Excessive Sharing Of Posts

Excessive sharing of posts via social media, online discussions, or Messages can be potentially perilous. Sharing too much data provides

Doxers with a great amount of data that they might expose.

#### 3. Update Your Account Privacy

Private social media accounts are less vulnerable to doxing. If your account is public, doxers can access your posts. Private social media accounts and posts are always safer.

#### 4. Use a VPN While Browsing

Signing up with a virtual private network, or VPN can safeguard your private data from doxers. When you connect to the internet through a VPN, your real IP address won't be visible. This implies that hackers will not be able to track the location of your area or any other relevant data.

#### 5. Avoid Disclosing Personal Information.

Doxers can access your data through online surveys, polls, and questionnaires. Don't include sensitive information like your address, school, or credit card on questionnaires and surveys.

Vidhi Patel BE Computer Engg. Semester 2



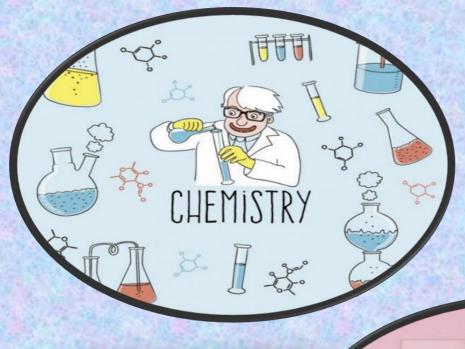
# SOCIAL MEDIA

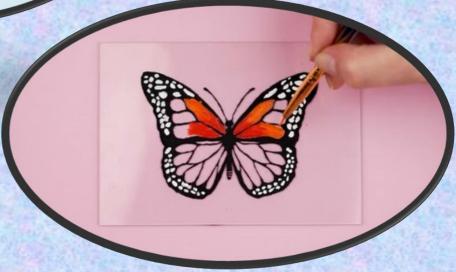
Social media nowadays is among the 'best possibilities available' to an item to get in touch with potential customers. Community social networking websites are the method to interact socially. These new media win the believe in of customers by linking with them at a deeper level. Community online marketing is the new mantra for several manufacturers since early a season ago. Promoters are considering many different social media possibilities and beginning to apply new social projects at a higher rate than ever before. Community online marketing and the companies that utilize it have become more sophisticated. One cannot afford to have no existence on the social programs if the competitor is creating waves with its solutions and items. The blast of social media trend is as amazing as that and the speed at which it is improving is frustrating. International companies have identified social media promotion as a potential promotion system, used them with enhancements to power their marketing with social media promotion. This paper discusses about the ideas of social media and social media promotion and other aspects like the development and advantages, aspect and importance of social media in promotion, social media promotion methods. It also presents an outline on social media promotion in Bangladesh.

# Rahul









Aman Mondal

MSc

Sem-2



# Internal Quality Assurance Cell (IQAC) Meeting

IQAC of UPL University of sustainable technology organized a meeting on 04/07/2022 at 10 am in Seminar Hall- 1, UPL University campus.

The meeting was started with Sarasvati Vandana and welcome address & agenda of discussion by IQAC chairman & Provost Dr. Shrikant J Wagh. Dr. Hemant Kumar Gupta, IQAC Coordinator presented Vision/Mission of the University, action taken report of last meeting and various activities being conducted in association with IQAC. Mr. Dharmesh Patel, Registrar shared the information regarding faculty & recruitments, Ph.D. program status, NEP meeting details etc. Mr. Kulkarni. Industrialist suggested his views for implementation & starting of various one day short term course for industry fraternity. HoD's presented the dept. activities & future planning. Mr. Tejas Patel, Alumni, SRICT attended and suggested for various activities. Suggestions from the other members were noted for necessary action and implementation.

The meeting was ended with vote of thanks by Dr. Hemant Kumar Gupta, IQAC Coordinator followed by Vandematram song in chorus.





**IQAC** meeting organised in SRICT Seminar Hall-1

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#### Incredible Management by Pramukhswami Maharaj

UPL University of Sustainable Technology experienced the spiritual with the seminar entitled bath "Incredible Management by Pramukh Swami Maharaj" on the auspicious occasion of Birth centenary celebration of Pramukh Swami Maharaj on 23-07-2022 at University campus. The program was jointly organized by UPL University of Sustainable Technology under the banner of "Azadi Ka Amrit Mahotsav" & Research Institute, AARSH Swaminarayan Akshardham, Gandhinagar. The audience delved deep into the lecture sessions delivered by speaker Shri Gyan Vijaydas Swami Ji, Head of IPDC Program, BAPS Swaminarayan Mandir, Sarangpur.

The special address was delivered by Prof. Dr. Shruti Prakashdas Swami Ji, Director, AARSH Research Institute, Swaminarayan Akshardham, Gandhinagar. Also, Anirdeshdas Swami Ji, Kotharishree, BAPS Swaminarayan Mandir, Bharuch illuminated the audience with his address.

The audience was very keen to listen majestic address by all speakers.









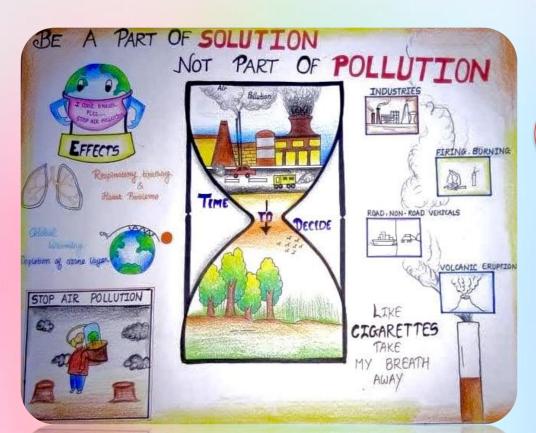
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- 11. The rainwater less than pH 5 is termed as.
- 12. It consist of 97% of land area.
- 13. It's a planet
- 14. 26th January is celebrated as \_\_\_\_ day?
- 15. A place in India famous for its coffee productions.
- 16. A place where first nuclear test was done.
- 17. A scientist who gave us the law of motion.
- 18. Indian cricketer who's brand ambassador of Bharat Matrimony.
- 19. Profession of M.F. Husain?
- 1. The segment of atmosphere in which ozone layer is found?
- 2. Which Gujarat Athlete won gold medal in  $4 \times 400$ -meter team relay event at 2018 Asian games.
- 3. Name of highest dam built on Bhagirathi River.
- 4. Headquarters of United Nations Environment Programme is located in which city of Kenya?
- 5. The pet name of this Indian cricketer is "Cheeku"
- 6. Indian state having the largest coastline.
- 7. A method of collecting rainwater for future use.
- 8. India Pakistan border near state of Punjab.
- 9. Name of bridge recently inaugurated by PM Narendra Modi on Brahmaputra River in the state of Assam.
- 10. A river of Rajasthan which ends in land of Rann of Kutch in Gujarat.
- 20. Total number of seats in Gujarat state assembly?

Prepared by:
Mr. Kunal
Majmudar, Asst.
Prof., DEST





PAINTING

Prepared by:
Ms. Charmi
Panchani,
Lecturer, DEST



### Har Ghar Tiranga

Faculty staff members of UPL University of Sustainable Technology along with the students participated in the event of national drive "har ghar tiranaga", a campaign-as a part of Aazadi ka Amrit Mahotsav (AKAM) in the honour of the national tricolor.





