

JIT NEWSLETTER **EXPLORE**

Issue 04 | February 2022



EDITORIAL BOARD

Chief Editor

Dr. Syed Kazim Mehdi

Editor

Dr. MD. Kaleem

Members

Dr. A. K. Mishra (Principal, JIT)

Dr. A. A. S. Ghazi (Principal Engg, JIT)

Dr. Shahid Jamil (Principal Pharmacy, JIT)

UPCOMING EVENTS

8th
March

International Women's Day

12th
March

Workshop for Faculty by the Dept. of Pharmacy

18th
March

Shab - e - Barat / Holi

21-23rd
March

Workshop by the Depts. of EE & ECE

OUR MISSION

To provide quality and affordable education to the less privileged sections of Indian society by leveraging all tools of modern education and to bring up such element sections to be able to find a place of dignity and distinction both within and outside the country.

FROM THE DEPARTMENTS



KASHIF NAZEER

ASSISTANT PROFESSOR, EE

Origami inspired self assembling robots

A team of researchers at MIT and Harvard University have been working for years on reconfigurable robots, that can self assemble and fold up. Inspired by the traditional Japanese art form of origami, they are been called origami robots.

A robot made almost entirely of parts produced by laser cutter, paper and plastics, which folds itself and walks away as soon as the batteries are attached to it, as reported by Science.

The researchers created their robot by using parts and materials that are readily available, such as self-folding hinges, as well as a 3-D-design software program called "Origamizer."

The robots are made of five layers of materials, each cut according to digital specifications by a laser cutter. The middle layer consists of a copper etched in an intricate network of electrical leads, which provides heat to initiate the folding process. This layer is sandwiched between two structural layers of paper; the outer layer consists of shape-memory polymers, which fold upon being heated.

While the researchers experimented with both single-motor and four-motor designs, the Science paper reports a design that uses two motors. Each motor controls two of the robot's legs; the motors are synchronized by the microprocessor. Each leg, in turn, has eight mechanical "linkages," and the dynamics of the linkages convert the force exerted by the motor into movement.

Origami robotics is "a pretty powerful concept, because cutting planar things and folding is an inherently very low-cost process," Fearing says. "If you have a hollow-shell structure, then you have something that is very strong and very lightweight. If you put motors on there, you end up with a robot that is very powerful for its weight, so you start to be able to take advantage of things like you see with insects carrying so many times their weight. Folding, I think, is a good way to get to the smaller robots."

References:

Jesse I. Silverberg et al. "Using origami design principles to fold reprogrammable mechanical metamaterials." *Science* 8 Aug 2014, Vol 345, Issue 6197, pp 647-650

FROM THE DEPARTMENTS

CHANDAN YADAV

ASSISTANT PROFESSOR, FOP

An Introduction to Curcumin: Its pro-Liposome and Liposome Formulation

Curcumin (Cur) is broadly accepted for its useful functions. Cur has low water solubility therefore its application in drug delivery became a challenge for researchers. To overcome the absorption, bioavailability and overall biochemical/structural degradation we may develop pro-liposomes and liposomes of Cur. The pro-liposomes generally administrated by orally, topically and parentally and mainly used in cosmetic and hair technologies, diagnostic purpose, sustained release formulations and as good carriers in gene delivery. This review highlights the speculative approach and some new advancement for the preparation of pro-liposomes in general. Various methods to formulate pro-liposomes (Film-deposition carrier method, Spray drying method, Fluidized-bed method, Supercritical anti-solvent method), evaluation parameters (Hydration study, Zeta potential, Flow property) thereof and applications of pro-liposome are highlighted. This may help for further preparation and evaluation of Cur. based formulations. Additionally different features of curcumin related to its pharmacological profile and mechanism of protection in various ailments have been reported.

Curcumin (diferulomethane), a naturally occurring polyphenol found in the rhizome of the *Curcuma longa* L., or turmeric. Curcumin generally used in the food industry as flavouring, coloring, and preservative agents and several products like cheeses, curry, soups, mustard and ice cream . In addition of these curcumin shows such medicinal properties like antimicrobial anti-inflammatory, anti-oxidant, anti-cancer activities, all suggested to be related to its chemical structure, this structure includes hydroxyl groups linked to benzene rings, double bonds in the alkene portion, and a central β -di-ketone moiety. Inspite of these, direct immix of curcumin into aqueous-based food formulations is hindered due to its low solubility in water (11 ng.mL⁻¹ at 25°C), high photosensitivity and instability in the presence of chemical oxidants.

Sources:

Just like spinach is rich in iron and lemons are full of vitamin C, turmeric is a great sources of curcumin. The turmeric root basically contains about 2 to 5% of curcumin. Curcumin belong to a family of chemicals that are known as curcuminoid and which have a bright yellow colour. These compound leads to the distinctive colour of the spice. Curcumin was first identified mainly as a compound back in 1815. Since then, there have been several studies conducted to learn more about its abilities. It is believed that curcumin work on multiple functions and processes at the same time that is why it has been touted to cure everything from pain and inflammation to fighting tumours and promoting brain health.

APPLICATIONS:

Pro-liposomes can be formulated by mentioned routes of administration.

1. Parenteral delivery
2. Pulmonary delivery
3. Oral delivery
4. Nebulizer
5. Mucosal delivery
6. Transdermal delivery
7. Ocular drug delivery

REHAN NAFEES

ASSISTANT PROFESSOR, CE

Colourism in India

India has been a victim of colourism for almost centuries now. It is ironic because, given the climatic conditions in this region, the dark complexion is natural. However, this doesn't seem to be of any sense to the ones who propagate the idea of fairness creams or those who buy these creams. They want fair brides, fair employees, and fair pageant queens. How could turning into a lighter complexion help you find a job or win a tournament, or get accepted for marriage? The answer is because the lighter-toned are automatically placed on a higher pedestal than the dark-toned. Your skills are considered later, first it is the appearance that matters. All you went through to become something won't matter if you are dark-complexioned. Such standards are set by society and the younger generations are raised in such an environment. This is among the many ugly truths in our society. India is obsessed with fair skin. Our media sources are bombarded with advertisements, telling us that if we are not fair-skinned we are going to have an unsuccessful life. The first instance of fairness creams being advertised in India was when 'Afgan Snow' was introduced by E. S. Patanwala in 1919. We can most definitely say that India's this obsession is thousands of years old. However, the biggest move to monetizing that obsession came when Unilever launched a new cream called 'Fair and Lovely' in 1978. In the following decades, the market was flooded with creams that promised to make your complexion lighter within days. The Indian whitening cream market was estimated at around 535 million dollars in 2010 and by 2014 the industry was estimated at almost half a billion dollars.

MAZHARUL HAQUE

ASSISTANT PROFESSOR, EE

A Manager Vs A Leader

Managers do things in right manner.	Leaders do things which is right.
Managers create goals.	Leaders create a vision.
Tool of manager is incentive & punishment.	Tool of Leader is Inspiration.
Manager blames others.	Leader blames self
Manager himself takes all credit of success.	Leader gives credit of success to other.
Managers copy.	Leaders are unique.
Managers rely on existing, proven skills	Leaders grow personally.
Managers think in short-term.	Leaders thinks in long-term.
Managers control risk.	Leaders take risks.
Managers take care as per rule book.	Leaders take care as per human emotions.
Managers build systems and processes.	Leaders build relationships
Managers direct.	Leaders coach.
Manager focus on self-growth 1st.	Leaders focus on win/win.
Managers are reactive.	Leaders are responsive.
Managers have employees.	Leaders create fans.

STUDENT'S CORNER

SYED NASIR ALI B TECH-II ME

Ali: The Undefeated Warrior

Hazrat Ali was the undefeated warrior of Islam, who always stood for Humanity and Truth. He was Born in the holy city of Makkah, in Arabia, on 13 of the Islamic month of Rajab, which coincides with 15 Feb this year, and from then to this day, he is one of the few most impressive and humble personalities after the Prophet S.A.W . His Contribution to Islam, with his famous sword 'Zul-fiqar', can't be defined in normal words.



A gentle personality, who left a powerful impact on people of his time, in the 8th century, also continuously motivates us to face struggles of life with patience and calmness.

The global icon of patience and faith, Imam Hussain, was the son of Hazrat Ali, and this helps us to understand the very character of Ali. Any kind of appreciation can define only a small fraction of the qualities of Ali. Without knowing Ali, it's not possible to start journey on 'Sirat-al- Mustaqeem'- or the right path of Islam.

The battle of Khayber showed the unpredictable strength of Ali. In that battle, a line became very popular that Ali means 'Definite Win' for Islam. Behind victory in every battle, there was the hand of Ali. The enemies of the Prophet used to fear, and also hate, Ali.

Ali was not just a worrier but was also a saint, a leader, and had a personality with helping nature, for the poor and weak persons. If people had any problem, they came to his house. His doors were always open for helping, and supporting, the sad and defeated humans.

MOHD ARHAM KHAN B-TECH-III EE

How Does Social Media Affect Teenagers?

An expected 63% of young people say they utilize web-based media consistently, while 45% say they are on the web "nearly constantly," according to the Pew Research Center, which led a 2018 study incorporating interviews with 743 youngsters.

YouTube, Instagram, and Snapchat are the most globally recognized web-based media platforms for youngsters. And keeping in mind that exploration has observed that web-based media can contrarily affect youngsters, there are numerous beneficial outcomes also.



Like the technology in general, web-based media has both a potential gain and a drawback. Also, with regards to the online media impacts on youngsters, those upsides and downsides are especially critical.

On the addition to side, platforms like TikTok, Twitter, Instagram, and Snapchat can be lifelines for youngsters who feel disconnected or underestimated. What's more, web-based media assisted teenagers with feeling more associated and not as isolated during the pandemic.

Be that as it may, the effect of web-based media on youth can likewise be altogether unfavorable to psychological wellness. Besides, abuse of the applications opens teenagers to cyberbullying, self-perception issues, and tech dependence, and results quicker than expected spent doing solid, genuine exercises. And keeping in mind that most the guardians accept they know what their kid is posting via web-based media, as indicated by a Pew Research survey, a review of adolescents observed that 70% of them are concealing

their web-based conduct from their folks.

An article by Common Sense Media tracked down that:

- 1 of every 4 youngsters is a substantial web-based media client, utilizing at any rate two unique sorts of online media every day.
- 51% of teens visit the internet on a daily basis
- In excess of 33% of teenagers visit their major social media site several times a day.

The precise amount of social media for your teen

Setting boundaries can help your teen learn to utilize social media positively without bearing from the negative impressions-

- Limited use of social media, for instance, time limits on media usage.
- Control social media behavior, by following teens' social media accounts or asking for access.
- Talk openly about expectations around social media. For instance, explain the impact of cyberbullying, and inspire teens to never say something online that they wouldn't say in person.

It's also essential for parents to have frequent conversations on how to use social media responsibly and securely. When parents navigate the world of social media together, a teen's online world becomes much more controllable.

KHUSNUMA BANO D.PHARMA-II

GURU RAVIDAS JAYANTI



Guru Ravidas Jayanti is marked to celebrate the birth of Guru Ravidas. Guru Ravidas jayanti honors the birthday of Guru Ravidas and this festival is celebrated with extreme jocularity in North India, preferably in the Indian states of Punjab. He was born in 15th century in Varanasi.

He is an Indian mystic poet Saint of the bhakti movement. Baba Santokh Das was the Father of Ravidas and Mata Kalsa Devi was the mother of Guru Ravidas. Guru Ravidas is one of the members of bhakti movement, who marked against social division based on caste thorough his verses and teaching.

PRIYANSI B-COM III



STUDENT'S CORNER

MOHD HASSAN
D. PHARM-II

IMAM HAZRAT ALI

(On birth Anniversary)

The birth anniversary of Imam Hazrat Ali is observed every year on the 13th day of Rajab the seventh month according to the Islamic calendar, in the city of Makkah. Hazrat. Ali was cousin and sun-in-law, and cousin of Prophet Muhammad (SAW). Ali was deeply involved in the military defence of the Islamic community, according to both Sunni and Shia sources.

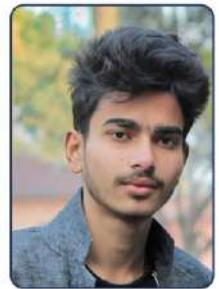


When Holy prophet (SAW) started preaching Islam, everyone was against him, except some of the people, including Hazrat Ali . Hazrat Ali never lost his courage in collaborating with his cousin and in expressing his love and loyalty towards the Prophet on every occasion. He acted as a shield to protect the Prophet (SAW) against all odds. Hazrat Ali was not only a great warrior but a great scholar as well. The Holy prophet (SAW) said about Him "I am the **City of Knowledge**, and Ali is the Gate to this City."

AHMAD HAMZA JAFRI
B-TECH - I AI & ML

WHY TIME MANAGEMENT IS IMPORTANT?

Time management is the process of organising and managing your time. Good time management helps you to schedule your time between your most important activities. Time management is important to help you prioritise better and increase your productivity. Good time management helps you work smarter, not harder, ensuring you get more productive work done in less time. When you **work smarter not harder** you achieve better results in less time with less effort.



Nowadays we all can easily see that most of the peoples or I can say most of the students are wasting time regularly. Many students are wasting time on social media or just to play a videogame on smart phones or PC's. They use social media platforms just to scroll reels and shorts for fun and sharing it and laughing on it. It's totally a waste of time , You don't get anything from it but our youth are totally obsessed with this garbage.

If they use this time on focusing their goals or future or study , they would get a better future or better marks in their results. They should use their android phones for work , for study something good , something related to their field , not to just scroll on.

No matter how you use it or manage it there are only 24 hours in a day. Time is not an infinite resource, and it's up to you to use the most of it.

If you lose money, you might make it back , but a wasted minute is irreplaceable.

MOHD HAMZA QURAISHI
B-TECH-I CSE

How Artificial Intelligence will change the world.

"AI is going to change the world more than anything in history of mankind"~Dr.Kai-Fu Lee.

Since I am using the term 'Artificial Intelligence' and many others too use this term in their daily life or at least have come across this term, but do we know what the term exactly stands for? It means ability of a computer system or a machine to operate and process information like a human being is called Artificial Intelligence or simply AI.



AI in future will be able to make human life much easier by providing a solution to almost all challenges.

In compliance with the National Education Program (NEP) 2020, the Indian government believes in integrating technological advances including AI into the curriculum.

Artificial intelligence can help students learn better and faster when paired with high-quality learning materials and instruction. AI has great importance in healthcare use. For the business sector, Artificial Intelligence can save a lot of time and effort. AI is a great way of increasing manufacturing as well. In various other fields as well, the contribution of Artificial Intelligence is huge.

AI and Machine Learning are progressing at a breakneck speed today. Currently, tech leaders such as Google, Apple, IBM along with numerous more are delving deep into this idea and are investing millions. The results are stunning driverless cars roaming the streets of Phoenix and Speech recognition, machine learning platforms, deep learning platforms, biometrics, robotics, automation, image recognition, etc. all are the result of AI technology. We'll continue to see its influence permeate deeper into the many other industries for the foreseeable future.

SAFIYA KHATOON
B.COM-III

Your worth is not in the things you do.
Your worth lies in your care and through.
You go beyond your limit in life.
You are so strong from inside.
You are there for people you love all the while.
You are a true woman of substance.
And a big salute to you in life.
Being so pure and true....



MANAS SHARMA
D.PHARMA-I



EVENTS



PHARMACOGNOSY TOUR

The students and faculty members of Faculty of Pharmacy visited the Herbal Garden located at JIT campus.

The objective of this event was to identify the plants with their botanical names, and the medicinal uses of various plants.

