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Dr. Satyendra Deka  
Principal, PIPS

### CHAIRMAN's MESSAGE:

A year has already gone by when Pratiksha Institute of Pharmaceutical Sciences began with the ideology to provide state of the art education in the field of pharmaceutical sciences in order to create confident professionals who can make a difference in the field of healthcare. Going forward, the need to provide quality news from different areas of the pharmaceutical sector which can actually enhance the knowledge of students and professionals alike was long felt necessity. This has led to the dawn of the online newsletter Pharma Herald from our institute which is a sincere attempt at keeping abreast of important news, events and other information which can benefit everyone. I genuinely hope that it can contribute meaningfully to the ever-growing pharmaceutical sector of India.

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*"Always laugh when you can. It is cheap medicine."*

– Lord Byron, 19th-century English romantic poet

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### PRINCIPAL's MESSAGE:

*If four things are followed - having a great aim, acquiring knowledge, hard work, and perseverance - then anything can be achieved.*

– Dr. A.P.J. Abdul Kalam

With great pleasure I would like to announce the release of the inaugural edition of the online pharma newsletter Pharma Herald on the occasion of World Pharmacists Day, 2019. It has been especially designed to benefit all persons related to the field of pharmacy. The issue would be yearly to begin with and with active support from all quarters the frequency of publication may gradually increase. It is still at a nascent stage and we would generously welcome constructive criticism from our readers to further improve it in the later issues. I hope it meets the expectations of people from different fields of pharmaceutical sciences and becomes a beacon of information in the near future.



Dr. Chandrajit Dohutia  
(Editor)

Hello readers! You are currently reading the very first edition of the online Pharma News Letter "*Pharma Herald*" brought to you by the Pratiksha Institute of Pharmaceutical Sciences. The newsletter will contain information on research, industry, marketing apart from specific news pertaining to the pharmaceutical sector of the state. There will be a guest column in the future editions from eminent personalities from the field of industry and research which would be quite helpful for students and professionals alike. Since this is the first edition it might have many loopholes, and we will welcome any constructive criticism to make it bigger and better in the future editions to come. Thank you!

**A special thanks to DR. S. SAMANTA**

**Professor and Head, Pharmaceutical Sciences, BIT MESRA for his encouraging words:**

*"I congratulate the organizer of your Institute to inaugurate the online Magazine "Pharma Herald" in the month of September 2019. This activity will strengthen the professional platform to share scientific articles, development in the field of Pharmacy and achievement of your Institution. All the best."*



Prof. Dr. S. Samanta  
Head of Pharm. Sciences Dept.  
BIT MESRA

The editorial column today is an attempt to throw light on the reasons which have led to the death of children who have consumed litchis by providing a detailed simplified understanding of the matter.

### ***Litchi: the forbidden fruit?***

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Litchi, the sweet succulent fruit of summer, hides a potential toxin methylene cyclopropyl glycine (mcp). This chemical does not affect adults and children who have adequate diet. This only affects malnourished or undernourished children who consume litchis at night or at breakfast on an empty stomach. The reason for it causing deaths in children is due to severe hypoglycemia.



#### **Mechanism:**

The brain requires adequate supply of glucose for proper functioning. In absence of dietary glucose, a process called glycogenolysis begins inside our body in which the reserve glucose stored as glycogen is broken down to provide glucose to the brain and cells. this glycogen reserve is limited in malnourished children due to which another process called as gluconeogenesis occurs which synthesizes glucose from non-carbohydrate sources like fatty acids, pyruvate. However, to get the raw material for gluconeogenesis, fatty acid oxidation is required and this toxin especially prevents this step, which causes severe depletion of glucose reserves in the body leading to confusion, seizures and coma.

Treatment: 10% glucose/dextrose solution coupled with 3% saline within 4 hours of symptoms can safeguard the child against life threatening condition.

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Reference: "*How litchi toxin is causing the deaths of undernourished children in Muzaffarpur*"; R. Prasad; The Hindu newspaper, June 19, 2019

Dr. Chandrajit Dohutia  
Asst. Professor, PIPS

## Research Corner

### Saffron molecules from natural sources can inhibit cancer cell growth:

IIT Bombay researchers found that, crocin (from saffron) arrested the progression of cell cycle in the G2/M phase and inhibited the formation of mitotic spindles in breast cancer. The study was based on observing how breast cancer cell lines respond to different concentrations of crocin exposure. The researchers found that crocin inhibits microtubule assembly by aggregating tubulin monomers into multimeric groups or by restricting the addition of tubulin dimers at the '+' end of the microtubules.

Source: <https://indiabioscience.org/news/2017/natural-saffron-molecules-inhibit-cancer-cell-growth>

### Hope for Indian gall bladder cancer patients

In a recent study, researchers have identified new potential genetic drug targets for gallbladder cancer by profiling mutations in Indian patients. These results may point a way towards personalized treatment for gallbladder cancer, a form of cancer that is highly prevalent in Indian populations. The researchers collected early-stage gallbladder tumour samples from patients and performed high throughput genome-wide analysis to detect genetic abnormalities in these cells. The researchers found that a number of genes that are associated with the EGFR signalling pathway were mutated or dysregulated in a large proportion of tumour samples. Most importantly these are druggable, which means that their activity can be inhibited by approved drugs used to treat other cancer types.

Source: <https://indiabioscience.org/news/2019/towards-personalized-therapy-for-indian-gallbladder-cancer-patients>

### Researchers develop 'Trojan Horse' Chemo Drug Delivery System

Northwestern University researchers have developed a drug delivery system that can disguise chemotherapy drugs as fat, meaning that tumours readily consume them, the drugs are then activated to suppress tumor growth and eventually the tumour dies. The system is an engineered long-chain fatty acid with two binding sites on each end for the drugs, which is hidden inside human serum albumin (HSA). The body's cellular receptors recognize the fats and proteins supplied by the HSA, and allow the fatty acid to enter cells.



## India joins the Global Antimicrobial Resistance Research and Development Hub

India has joined the Global Antimicrobial Resistance (AMR) Research and Development (R&D) Hub as a new member. This was announced today by the Department of Biotechnology, Ministry of Science & Technology in New Delhi. This expands the global partnership working to address challenges and improve coordination and collaboration in global AMR R&D to 16 countries, the European Commission, two philanthropic foundations and four international organizations (as observers).

Source: <https://pib.gov.in/newsite/PrintRelease.aspx?relid=193143>

## Preventing tumor metastasis

Researchers at the Paul Scherrer Institute, together with colleagues from the pharmaceutical company F. Hoffmann-La Roche AG, have taken an important step towards the development of an agent against the metastasis of certain cancers. Using the Swiss Light Source, they deciphered the structure of a receptor that plays a crucial role in the migration of cancer cells. This makes it possible to identify agents that could prevent the spread of certain cancer cells via the body's lymphatic system. The researchers have now published their results in the journal Cell.

Source: <https://www.worldpharmanews.com/research/4915-preventing-tumor-metastasis>

## Alzheimer's Memory Loss Reversed with Electromagnetic Waves:

NeuroEM Therapeutics announced results from an open-label clinical trial that showed a reversal of cognitive impairment in Alzheimer's disease after just two months of treatment. The results showed that the company's wearable head device for in-home treatment, TEMT, was safe in the eight patients in the trial. The results are published in the Journal of Alzheimer's Disease. The patients were treated twice a day for one hour using NeuroEM's first-in-class MemorEM head device. The head device uses multiple specialized emitters in the head cap that are activated sequentially. Evidence suggests that TEMT directly affects Alzheimer's disease by penetrating the brain and brain cells to break up beta-amyloid and tau protein clusters. The company and its researchers are now planning a pivotal clinical trial of 150 mild to moderate Alzheimer's patient later this year.

Source: <https://www.biospace.com/article/research-roundup-alzheimer-s-memory-loss-reversed-and-more/>

# Students' Corner

## Pharmaceutical MNC's in Assam

| Sl. No. | Name  | Address   |
|---------|---|---|
| 1       | Sun Pharma Drugs Pvt. Ltd.                      | Kokjhar, Mirza, Palashbari Rd, P.O.: - Palashbari, Dt. Kamrup   |
| 2       | Natco Pharma Limited                            | Kokjhar, Mirza-25 Dist.: - Kamrup(R).   |
| 3       | Eris Lifesciences Limited                       | Brahmaputra Industrial Park, Sila, Ghy-31   |
| 4       | Ajanta Pharma                                   | Mirja, Palashbari Road, Vill:- Kokjhar, Kamrup(R), Assam  |
| 5       | Ozone Pharmaceuticals                           | Amingaon, EPIP, Ghy-781031, Kamrup(R), Assam  |
| 6       | Hetero Labs. Ltd                                | Vill:- Hudumpur, Mauza Chayani, P.O. & P.S.: - Palashbari, Kamrup   |
| 7       | Akums Drugs/Pure and Cure Health Care Pvt. Ltd. | Bortezpur, Rampur, P.O.: - Kukurmara, Kamrup(R), Assam  |
| 8       | Phoenix Laboratories                            | Narayanpur, 105 No. Kochparagaon Panchayat, Mirza, Dist:- Kamrup(R)   |
| 9       | Midas Care Pharmaceuticals Pvt. Ltd.            | Brahmaputra Industrial Park, Plot No.112, Vill Sila, Mouza- Sila Sindurighopa, P.O.: - Changchari, P.S.: - Kamalpur, Kamrup |
| 10      | Dabur India Ltd. (FMCG)                         | Industrial Growth Centre (I.G.C), Balipara, P.O.: - Ghoramari, Sonitpur-784105, Assam                                       |
| 11      | Hindustan Unilever (FMCG)                       | Doom Dooma, Tinsukia  |

## PHARMA NEWS

### Cipla enters Chinese market in joint venture with Jiangsu Acebright

(Business Today, July 16, 2019)

Mumbai-based global pharmaceutical company Cipla announced that it has entered the Chinese market in a joint venture with Jiangsu Acebright. Cipla will set up a manufacturing plant for respiratory products in China under the joint venture. A combined total investment of \$30 million will be made for the joint venture. Cipla EU, a wholly-owned subsidiary of Cipla, will hold an 80% stake and Acebright will hold a 20% stake.

### Glenmark Pharma launches anti-diabetes drug in India

(Business Today, April 30, 2019)

Glenmark Pharma announced the launch of its anti-diabetes drug Remogliflozin under the brand names 'Remo' and 'Remozen' in India. Glenmark is the first company in the world to launch the novel SGLT2 inhibitor Remogliflozin and India is the first country to get access to this innovative drug. The drug is indicated in the treatment of type-2 diabetes mellitus in adults.

### US FDA finds "significant violations" at India's Strides plant

(The Economic Times July 17, 2019)

The US Food and Drug Administration (FDA) said it found adulteration and "significant violations" of current good manufacturing practice (CGMP) regulations at Strides Pharma Sciences Ltd's plant in Puducherry in south India. The drugmaker was caught trying to dispose quality-control records, the FDA said in a letter made public on July 16.

### Bayer's move to block Natco's colorectal cancer brand dismissed by Delhi HC

(The Economic Times, Jul 14, 2019)

Bayer a German drug maker had raised an objection against Hyderabad-based drug maker Natco Pharma's brand launched under the name Regonat alleging infringement of its patent rights. Bayer alleged its drug Regorafenib was granted patents in 2004 and sold under brands Stivarga, Nublexa and Resihance. Therefore, Bayer is eligible for intellectual property protection rights for 20 years. The court has sent back the case to the single judge for hearing the matter afresh. The case is likely to come up for hearings later this month.

### Addressable market for e-pharmacies in India to reach \$18.1 bn by 2023 EY

(The Economic Times, May 29, 2019)

The total addressable medicine market for e-pharmacies in India is likely to reach USD 18.1 billion by 2023, driven by increasing internet penetration through smartphones, healthcare spend and rise in chronic diseases, according to a

report. As per the report 'E-pharma: Delivering Healthier Outcomes' by consultancy firm EY, the addressable medicine market for e-pharmacies in the country stands currently at USD 9.3 billion and is estimated to grow at a CAGR of 18.1 per cent. The key growth drivers for e-pharma market in India are increasing internet penetration and smartphone ownership along with the ease of ordering medications through an e-commerce platform, it said. Besides, the increase in chronic diseases, rising per capita income and resultant healthcare spend will also aid to its growth.

#### **Alembic Pharma gets USFDA nod for overactive bladder treatment drug :**

(The Economic Times, May 21, 2019)

Drug firm Alembic Pharmaceuticals Tuesday said it has received approval from the US health regulator for Solifenacin Succinate tablets, used for treatment of overactive bladder. The approved products is therapeutically equivalent to the reference listed drug, Vesicare tablets of Astellas Pharma US, Inc.

#### **Malaria vaccine launched in Kenya:**

(WHO, September 13, 2019)

Kenya has joined Ghana and Malawi to launch a landmark vaccine in pilot introduction. The World Health Organization (WHO) has congratulated the Government of Kenya for launching the world's first malaria vaccine in Homa Bay County, western Kenya. The malaria vaccine pilot programme is now fully under way in Africa, as Kenya joins Ghana and Malawi to introduce the landmark vaccine as a tool against a disease that continues to affect millions of children in Africa. The vaccine, known as RTS, S, will be available to children from 6 months of age in selected areas of the country in a phased pilot introduction. It is the first and only vaccine to significantly reduce malaria in children, including life-threatening malaria. Malaria claims the life of one child every two minutes. The disease is a leading killer of children younger than 5 years in Kenya.

#### **Potential interaction between diuretics and laxatives found:**

(The Pharmaceutical Journal, 13 SEP 2019)

Researchers have identified a plausible drug-drug interaction between laxatives and non-potassium-sparing diuretics, according to an article published in Cardiovascular Drugs and Therapy. People who take concurrent non-potassium-sparing diuretics and laxatives were found to have a two-fold increased risk of cardiovascular mortality compared with non-users. The researchers said that further research was needed, but that doctors and pharmacists should ask patients receiving non-potassium-sparing diuretics about their laxative use, particularly since these are available without prescription. They suggested that people using both drug classes may need their potassium levels checked more regularly than others.



## **FDA grants RMAT designation to SanBio's cell therapy**

[\(https://www.pharmaceutical-technology.com/news/sanbio-cell-therapy-fda/\)](https://www.pharmaceutical-technology.com/news/sanbio-cell-therapy-fda/)

The US Food and Drug Administration (FDA) has granted regenerative medicine advanced therapy (RMAT) designation to SanBio Group's cell therapy, SB623, to treat chronic neurological motor deficits secondary to traumatic brain injury (TBI). SB623 is an investigational cell therapy using modified and cultured mesenchymal stem cells from adult bone marrow after temporary genetic modification. Implantation of these cells into injured nerve tissue in the brain allows restoration of lost motor functions by stimulating the organ's natural regenerative ability. RMAT granted designation due to SB623's clinical data, including the Phase II STEMTRA trial conducted over 12 months to assess the safety and efficacy of the cell therapy.

## **State Pharma News**

### **Investment worth Rs 15,925 Crore in pipeline in Assam:**

Assam Chief Minister Sarbananda Sonowal said on 28th May 2019 that investment proposal to the tune of Rs 15, 925 Crore are in pipeline for different industrial sectors in the state. Chairing a meeting of Industries and Commerce Department to assess quantum of investment in the state post Advantage Assam: Global Investors Summit held in 2017, Sonowal asked the department to woo investors. According to state government investment worth Rs. 57,437 crores have already taken shape in different sectors. This is likely to usher in more pharmaceutical industries to the state.

### **NPCC held in Assam:**

The 1st National Pharmacists's Convention 2019 was held successfully in the premises of ITA, Machkhowa on 9<sup>th</sup>-10<sup>th</sup> March 2019. The event was a conglomeration of some of the most respected people of the pharmacy profession. The President of PCI, Dr. B.Suresh was the Chief Guest of the event. Problems regarding the pharmacy profession in India and their solutions were discussed in the event which was ably managed by the members of NPCC with assistance of member of the pharmaceutical fraternity from across the state.

## UPCOMING SEMINARS AND CONFERENCES

### 1. The World Congress on Drug Discovery and Development

Date: 20-21 Nov 2019

Address: Navi Mumbai, India

### 2. Lecture Workshop on Role of Chemistry in Interdisciplinary Research

Date: 22, 23 October 2019

Venue: Chemistry Department (22.10.19) & Indira Miri Conference Hall (23.10.19) Dibrugarh University, Dibrugarh-786004

### 3. National Seminar on Current Research in Drug Discovery and Development

Date: November 13-14, 2019

Venue: Dept. of Pharmaceutical Sciences, Dibrugarh University, Dibrugarh-786004

### 4. Royal Society of Chemistry Roadshows 2019

Date: 6 November, 2019 09:00-17:30,

Venue: IIT Guwahati, Guwahati, Assam

### 5. Pharma Innovation & Technology Summit

Date: 12 Dec 2019

Venue: Hyatt Regency Mumbai, Mumbai, India

GLIMPSES OF VARIOUS EVENTS HELD AT PIPS









