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# The NGSMIPS Herald

The Official news letter of the Nitte Gulabi Shetty Memorial  
Institute of Pharmaceutical Sciences, Mangaluru

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## VISION

To achieve excellence in academics and research in pharmaceutical sciences with high degree of professional and ethical standards.

## MISSION

To create an environment conducive for pursuing quality education and research in pharmaceutical sciences enabling the students and teachers attain high degree of competence to play a key role in national health mission

*'For Private Circulation Only'*



## **NGSM Institute of Pharmaceutical Sciences**

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## From the Editor's desk



Dear Friends and Colleagues,

This editorial mainly focused on the productivity of the research projects which we and our students carry out in our labs. My truthful observation is that the research output from our educational labs rarely leads to commercialization and revenue generation. So, are we doing a product based research or paper-based research? It's a debatable topic. However, from one research paper we refer and produce another research paper and the cycle goes on. So another question which arises here is, are we doing research activity to help a fellow researchers research project or eyeing to bring some stuff for commercialization? It's an extremely difficult question and I believe most of our academic researchers will not be able to justify why they are doing research activity and publish fancy research papers. According to me our researchers put more focus on google screen than pharmacist shelf, as a consequence we see less productivity from our researchers. Institutional base of research in India is extremely narrow and does not yield anything significantly. Less industrial and clinical exposure also contribute to this misery. From here, how to improve

the situation? How to create economic values from scientific research? According to me three components which may play a pivotal role to improve the situation and probably can create more economic values from scientific research. The first component is to inspire students with the proper vision, secondly allow them to carry out quality scientific research and lastly incubate where students should be capable of converting research output to products and services. Another way to improve our research output is to design the project as per the market needs instead of the current journal needs. We need to look for patent, until and unless we do this we will not be able to achieve the real essence of our research. Well, this is the high time to strike a perfect balance between productivity and publicity.

As an executive editor, these are my personal views and as an individual your views also should be respected.

**Dr. Akhilesh Dubey**  
Executive Editor

## PHARMACEUTICAL REGULATORY AFFAIRS STUDENTS GIFTED A NEW LOOK TO REGULATORY AFFAIRS DEPARTMENT



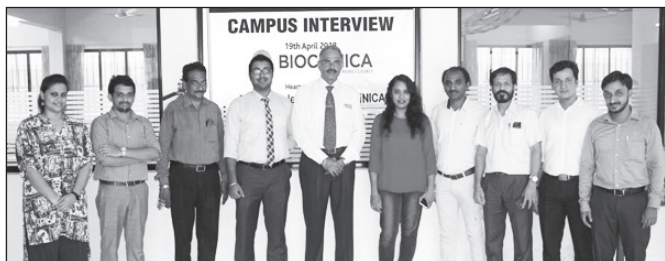
## CAMPUS BUZZ

### Campus Drive by BIOCLINICA at NGSMIPS

The Institute-Industry Collaboration & Placement (IICP) Cell of NGSM Institute of Pharmaceutical Sciences, Paneer campus, Deralakatte organized a campus drive on 19th April, 2018 by the Bangalore based Bioclinica, world-leading provider of scientific and technology-enabled solutions for clinical research. The Principal, Dr. C. S. Shastry introduced the Bioclinica HR team comprising of Mamatha Rajen-HR Manager, Pharmacovigilance, Mr. Suranjoy Ray-Project Manager and Mr. Sandeep Anandamurthy Associate Project Manager. The proceedings started with the Company Presentation which was followed by written test, technical aptitude test and personal interview. Students from M. Pharm, Pharm. D and B. Pharm attended the interview. Among the participants, 11 students were selected from the college in which 5 student each from Pharm. D and M. Pharm and 1 student from B. Pharm was selected.

### International Yoga day celebration at NGSMIPS

The NSS Unit of NGSM Institute of Pharmaceutical Sciences organised the International Yoga Day on 21st June, 2018. Dr. Rashmitha Alva, Lecturer, Nitte Institute of Physiotherapy was the Chief Guest. Welcoming the guest and the staff, the Principal, Dr. C. S. Shastry explained the importance of yoga and stated that yoga is more relevant today than ever before because yoga has been proven scientifically and has been internationally acclaimed to possess the amazing power to calm and soothe the stressed mind, body and the



soul due to the erratic life style that we are all exposed to. Later, Dr. Rashmitha Shetty guided the gathering to perform a few asanas which were much appreciated. The NSS Program officer, Dr. Santanu Saha delivered the Vote of thanks.

### Voter awareness Programme held at NGSMIPS

Voter awareness programmes were conducted across the Nitte (Deemed to be University) to increase the voter turnout to the maximum possible extent on May 11, 2018 for Karnataka assembly elections. Prof Raviraj Kini, Head of the Department, Nitte Institute of Communication spoke about the importance of vote and administered vote awareness pledge to the teachers. He



discussed various aspects of elections and stressed "this is the only way we can strengthen our democracy". Staff members of NGSMIPS attended the programme and pledged to cast their vote without fail.



### Staff Achievement

Mr. Srinivas Hebbar, Assistant Professor, Department of Pharmaceutics, presented an e-poster entitled, "RP-HPLC method development and validation of Asiatic acid isolated from the plant Centella Asiatica" in the National level symposium on "The New paradigm shift in Pharmacy profession at Shree Devi College of Pharmacy, Kenjar from 7th-8th April 2018. He received a best e-poster presenter award in the conference.

### CONFERENCES/SEMINARS ATTENDED BY THE STAFF

S.No	Staff	Conference/Workshop/Place	Date
1	Dr. Anoop Narayanan V	National Level symposium on The New Paradigm Shift in Pharmacy Profession organised by Shree Devi College of Pharmacy, Mangaluru	7-8 April 2018
2	Dr. Akhilesh Dubey	National Level symposium on The New Paradigm Shift in Pharmacy Profession organised by Shree Devi College of Pharmacy, Mangaluru.	7-8 April 2018
3	Dr. Prasanna Shama Khandige	National Level symposium on The New Paradigm Shift in Pharmacy Profession organised by Shree Devi College of Pharmacy, Mangaluru.	7-8 April 2018
4	Mr. Ravi G S	National Level symposium on The New Paradigm Shift in Pharmacy Profession organised by Shree Devi College of Pharmacy, Mangaluru.	7-8 April 2018
5	Ms. Avril Candida Mathias	SELECT BIO 2nd Edition of Novel Formulation Strategies held in Mumbai.	12-13 April 2018
6	Dr. Uday Venkat Mateti	One-day intensive executive development program on Understanding Artificial Intelligence and Design Thinking for Building an Organisation of the Future organised by Justice K S Hegde Institute of Management, Nitte (Deemed to be University)	27 April 2018



7	Dr. Gururaj M P	One-day intensive executive development program on Understanding Artificial Intelligence and Design Thinking for Building an Organisation of the Future organised by Justice K S Hegde Institute of Management, Nitte (Deemed to be University)	27 April 2018
8	Dr. B C Revanasiddappa	One-day intensive executive development program on Understanding Artificial Intelligence and Design Thinking for Building an Organisation of the Future organised by Justice K S Hegde Institute of Management, Nitte (Deemed to be University)	27 April 2018
9	Dr. Santanu Saha	One-day intensive executive development program on Understanding Artificial Intelligence and Design Thinking for Building an Organisation of the Future organised by Justice K S Hegde Institute of Management, Nitte (Deemed to be University)	27 April 2018
10	Dr. Anoop Narayanan V	National Level Conference on Biosensors: A Pharmaceutical Perspective organised by PSG College of Pharmacy, Coimbatore.	27-28 April 2018
11	Mr. Nandakumar U P	Workshop on Innovations in Antidepressant Interventions: The Theory and Practice of Ketamine Use organised by Dept. of Psychiatry, KSHEMA, Deralakatte.	30 April 2018
12	Dr. Juno J Joel	Workshop on Innovations in Antidepressant Interventions: The Theory and Practice of Ketamine Use organised by Dept. of Psychiatry, KSHEMA, Deralakatte.	30 April 2018
13	Dr. Jobin Jose	International Seminar on Rare Genetic Disorders organised by Nitte (Deemed to be University) Centre for Science Education and Research, Deralakatte.	25 May 2018
14	Dr. Abhishek Kumar	International Seminar on Rare Genetic Disorders organised by Nitte (Deemed to be University) Centre for Science Education and Research, Deralakatte.	25 May 2018
15	Dr. Pankaj Kumar	International Seminar on Rare Genetic Disorders organised by Nitte (Deemed to be University) Centre for Science Education and Research, Deralakatte.	25 May 2018
16	Mr. Sandeep D S	International Seminar on Rare Genetic Disorders organised by Nitte (Deemed to be University) Centre for Science Education and Research, Deralakatte.	25 May 2018
17	Mr. Nandakumar U P	International Seminar on Rare Genetic Disorders organised by Nitte (Deemed to be University) Centre for Science Education and Research, Deralakatte.	25 May 2018
18	Mr. M Vijay Kumar	International Seminar on Rare Genetic Disorders organised by Nitte (Deemed to be University) Centre for Science Education and Research, Deralakatte.	25 May 2018
19	Dr. Juno J Joel	International Seminar on Rare Genetic Disorders organised by Nitte (Deemed to be University) Centre for Science Education and Research, Deralakatte.	25 May 2018
20	Dr. Sneha Priya	International Seminar on Rare Genetic Disorders organised by Nitte (Deemed to be University) Centre for Science Education and Research, Mangaluru.	25 May 2018
21	Dr. Sneha Priya	National Workshop on Computational Tools in the Design of Pharmaceutical Formulations held at Manipal College of Pharmaceutical Sciences, Manipal.	8-9 June 2018
22	Dr. Anoop Narayanan V	National Workshop on Computational Tools in the Design of Pharmaceutical Formulations held at Manipal College of Pharmaceutical Sciences, Manipal.	8-9 June 2018
23	Mr. Sandeep D S	National Workshop on Computational Tools in the Design of Pharmaceutical Formulations held at Manipal College of Pharmaceutical Sciences, Manipal.	8-9 June 2018
24	Dr. Marina Koland	National Workshop on Computational Tools in the Design of Pharmaceutical Formulations held at Manipal College of Pharmaceutical Sciences, Manipal.	8-9 June 2018
25	Dr. Marina Koland	Characterizing Exosomes and Nanoparticles: visualizing, sizing and concentration" at AIMIL Ltd., Nagavara, Bangalore in association with Malvern Panalytical.	19 June 2018
26	Dr. Uday Venkat Mateti	Ignite-Pharmacists Trainers Summit Program held at Saubhagya Inn International, Ambeghar, Ganatiwadi, Pen, Maharashtra.	14-17 June 2018
27	Dr. Uday Venkat Mateti	International Seminar on Rare Genetic Disorders organised by Nitte (Deemed to be University) University Centre for Science Education and Research, Mangaluru.	25 June 2018

## POSTER/PAPER PRESENTATION IN CONFERENCES/SEMINARS/WORKSHOPS BY THE STAFF

S. No	Staff	Conference/Place	Topic	Date	Presentation
1	Mr. Ravi GS	National Level symposium on The New Paradigm Shift in Pharmacy Profession organised by Shree Devi College of Pharmacy, Mangaluru	Herbal nano complexes for hepatoprotectivity	7-8 April 2018	Oral
2	Dr. Anoop Narayanan V	National Level Conference on Biosensors: A Pharmaceutical Perspective organised by PSG College of Pharmacy, Coimbatore	Mangiferin loaded silver nanorods: synthesis and anticancer activity	27-28 April 2018	Poster
3	Mr. Srinivas Hebbar	National Level symposium on The New Paradigm Shift in Pharmacy Profession organised by Shree Devi College of Pharmacy, Mangaluru	RP-HPLC method development and validation of Asiatic acid isolated from the plant Centella Asiatica	7-8 April 2018	e-Poster
4	Mrs. Zeena Fernandes	National Level symposium on The New Paradigm Shift in Pharmacy Profession organised by Shree Devi College of Pharmacy, Mangaluru	Pharmacological screening of persea americana mill. extract as an anxiolytic	7-8 April 2018	Oral

## DEPARTMENT ACTIVITIES

## Research/Review Publications / Paper Reviewed / Patent Applied/Granted/Book/Chapter Published

## Department Of Pharmaceutical Chemistry

Sharmila, KP, Bhandary SK, Fernandes RN, Kumari S, Bhat VS, Shetty JK, Jose JM, Alex Peter J. Radioprotective Potential Of Asparagus Racemosus Root Extract And Isoprinosine Against Electron Beam Radiation- Induced Immunosuppression And Oxidative Stress In Swiss Albino Mice. J Nat Sci Biol Med 2018;9(2):242-6.

## Department Of Pharmaceutics

Sandeep DS, Narayana Charyulu R, Anoop Narayanan V. Smart In Situ Gels For Glaucoma- An Overview. Int J Pharm Sci Rev Res 2018;50(1):94-100.

## Department Of Pharmacology

Shilpa K, Chacko N, Shetty P, Sandhya Sa. Investigation Of Anti-Arthritic Activity (In Vitro Models) Of Hibiscushispidissimus Griffith. J Phytopharmacol 2018;7(1):60-5.

Sandhya SA, Chacko N, Shetty P, Shilpa K. In-Vitro Anti-Arthritic Potential Of Syzygium Caryophyllatum (L) Alston Leaf Extract. Saudi J Med Pharm Sci 2018; 4(1A): 95-101

## Department Of Pharmacy Practice

Shareef J, Nandakumar UP, Bhat M. A Study On Assessment Of Adverse Drug Reactions In Patients With Tuberculosis In A Tertiary Care Teaching Hospital. J App Pharm Sci 2018;4: 99-104.

## Library

Chandrashekhar D. Prospects for Continuing Professional Education for LIS Professionals in Health Science College Libraries of Dakshina Kannada and Udupi Districts. Indian J Library Inform Sci 2018;12(1); 35-41.

## FUTURE OF E- PHARMACY IN INDIA - ISSUES AND CHALLENGES

E-Pharmacy or online pharmacy is a freshly invented and sprouting business model in India followed by e-commerce, but unlike any other online shopping site, these websites have the responsibility of human lives associated with their business which makes it more crucial and thus different from any other online shopping portal. The online pharmacy model is getting more and more attention of investors and entrepreneurs. According to industry experts, this sector has great business potential and is believed to grow from \$18 billion markets to \$55 billion by 2020.

Since Pharmacy is a healthcare sector, it comes with its own rules and norms which are to be followed strictly to ensure the quality and safety of drugs as well as human lives. There is wave of opposition for e-pharmacies in India by offline pharmacists. But unfortunately, they are also not practicing well their functions. Offline pharmacists don't check prescription properly and retain 1 copy of the prescription. Sometimes they deliver and sell medicines without a prescription. All these could be solved in case of e-pharmacies as transparency is there.

## Legal Issues:

There is no legal provision present for the online pharmacy, which is

Submitted By,  
Mr. Sandeep DS  
Assistant Professor, Department of Pharmaceutics  
NGSMIPS

causing the actual chaos in the market and creating a contradictory situation between the businessmen and the legislation. The Drug and Cosmetic Act, 1940 and the Drug and Cosmetic Rules, 1945 includes the norms like selling of Schedule H and Schedule X drugs, considered as restrictive drugs will require the prescription given by a Registered Medical Practitioner. Schedule X drugs include drugs which are more likely to cause addiction and thus their prescription must be maintained and retained for two years by a licensed pharmacist, also the home delivery of the drugs is not allowed under this Act. In Dec 2015, Drug Controller General of India (DCGI), Dr. GN Singh announced in the meet organized by Federation of Indian Chambers of Commerce and Industry (FICCI) that the authority is in a process to formulate new guidelines. He has formed a seven-member panel to assess the feasibility of online pharmacies.

FICCI highlights the importance of certification and recommended

a certification for the online marketplace, so they register with the regulator and are certified as organized players within the purview of the regulator. Online companies should clearly display the certificate on their home page and consumers should be made aware to only buy from certified online pharmacies.

#### Advantages

- Time and money saving.
  - 24/7 access possible.
  - Convenience increased.
  - Easy accessibility to medicines.
  - Increased availability of medicines.
  - Refund possible.
  - Easy comparison of medicines in terms of cost.
  - Increased consumer information and information exchange.
- #### Disadvantages
- Chances of drug resistance, drug interaction, drug abuse and drug misuse.
  - Chances of misdiagnosis and promote self-medication.
  - Purity and quality of drugs not assured.
  - Financial privacy issues.
  - Electronic health records security and privacy concerns.
  - Easy availability of illegal substances.
  - Encourage direct to consumer advertising of prescription drugs which is illegal.

#### Other Challenges

The online pharmacies are providing up to 20 % discount on the drugs. This has created a rage among the medical store chemist

and pharmacists. The All India Chemists and Druggist Organization (AICDO) protested against online pharmacies claiming that they are causing a threat to their income by giving big discounts along with deterioration in the quality and safety of medicines and lives of many. Medical store retailers should understand that as the other E-retailing doesn't affect the offline market, E-pharmacy will not cause any difference on the offline medical stores. Around 75-90% of the current customers will continue to purchase medicines from the medical stores and pharmacies. Moreover, it will help the small retailers to grow more by registering for various "marketplace" expansions via tie-ups with regional or national E-pharmacy players or by launching their own E-retailing portals.

#### Conclusion

Currently, 35 million Indians prefer buying products online and this number is expected to cross 100 million by 2020. Regulatory authorities find it difficult to control, monitor and track sell of drugs via internet as there is lack of clear-cut guidelines in India for regulating e-pharmacies. Although the model is promising great opportunity for the business, it has some drawbacks also and a number of regulatory hurdles in its way of success. Regulatory authorities and government of India should think about existing pharmacy system and pharmacists while framing the rules for e-pharmacies. Patient's safety and quality of drug should paramount whilst framing rules.

#### Source

<http://searchhealthit.techtarget.com/definition/e-prescribing>.

<http://searchcio.techtarget.com/definition/e-commerce>.

<http://www.mchemist.com/blog/wp-content>.

## COCONUT MILK – NATURE'S GIFT

Submitted By,  
**Dr. Anoop Narayanan V**  
Assistant Professor, Department of Pharmaceutics,  
NGSMIPS

The coconut tree (*Cocos nucifera*) is a member of family Arecaceae and the only accepted species in the genus *Cocos*. Coconuts are known for their great versatility as evidenced from many traditional uses, ranging from food to cosmetics. The oil and milk derived from it are commonly used in cooking and frying, as well as in soaps and cosmetics. Coconut milk, is obtained primarily by extracting juice by pressing the grated coconut white kernel or by passing hot water or milk through grated coconut, which extracts the oil and aromatic compounds. It has a total fat Content of 24 %, most of which (89 %) is saturated fat, with lauric acid as major fatty acid. When refrigerated and left to set, coconut cream will rise to the top and separate from the milk. The milk can be used to produce virgin coconut oil by controlled heating and removal of the oil fraction. The color and rich taste of coconut milk are attributed to its high oil content, most of which is saturated fat.

#### Nutritional value:

In a 100 ml (gram) portion, coconut milk provides 230 calories and is 68 % water, 24 % total fat, 6 % carbohydrates and 2 % protein. The fat composition includes 21 grams of saturated fat, half of which is lauric acid. Coconut milk is a rich source of manganese, phosphorus, iron and magnesium.

#### Health benefits:

The major saturated fat, lauric acid of coconut milk is similar to that found in breast milk which can promote the brain development and bone health. Lauric acid is converted in the body into a highly beneficial compound called monolaurin, an antiviral and antibacterial substance that destroys a wide variety of disease causing organisms. As mentioned earlier the lauric acid and capric acid present in coconut milk has got antifungal and antiviral properties thereby

supporting the immune system. Animals studies have demonstrated the cell regenerative effect of coconut milk on pancreatic cells helping in treating diabetes.

New research has revealed that not eating enough fat can actually make you fat. According to Bruce Fife, N.D. in his article, "The fat that can make you thin" the people who include more healthy fat in their diet, such as medium-chain triglycerides in coconut milk eat less than those who don't get enough fat, eventually keeping them thin. While all fats help body feel full and satiate the brain receptors that control appetite, the fat in coconut milk may increase metabolism and perhaps increase weight loss on a reduced calorie diet. Coconut milk can supply about 22 % of the recommended daily allowance of iron, helps to treat anemia. The antioxidant compounds available in it can prevent cell damages by free radicals. Coconut milk was also found to be a microsomal enzyme inducer for drug metabolism, there by acting as an antidote in some drug poisoning. As coconut oil contains vitamin E and fats, it can effectively moisturize and protect hair and hence widely used in hair preparations. It nourishes and promote hair growth and prevent hair fall as well. It can also be used in cleansing the pores of skin by removing excess sebum and dirt leaving the skin soft and supple with a radiant complexion.

#### Conclusion

The high nutritional value and the other benefits of coconut milk make it superior to cow milk and can be used as a dairy substitute. The effective utilization of coconut milk in children are highly recommended.



# Genetically Modified Foods: Harmful or Helpful?

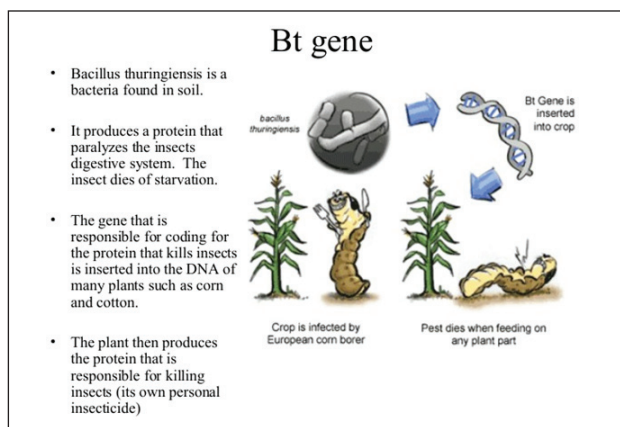
Submitted By,  
Dr. Jainey P. James

Assistant Professor, Department of Pharmaceutical Chemistry  
NGSMIPS

## What are genetically-modified foods?

The term GM foods or GMOs (genetically-modified organisms) is most commonly used to refer to crop plants created for human or animal consumption using the latest molecular biology techniques. These plants have been modified in the laboratory to enhance desired traits such as increased resistance to herbicides or improved nutritional content. The enhancement of desired traits has traditionally been undertaken through breeding, but conventional plant breeding methods can be very time consuming and are often not very accurate. Genetic engineering, on the other hand, can create plants with the exact desired trait very rapidly and with great accuracy. For example, plant geneticists can isolate a gene responsible for drought tolerance and insert that gene into a different plant. The new genetically-modified plant will gain drought tolerance as well. Not only can genes be transferred from one plant to another, but genes from non-plant organisms also can be used.

The best known example of this is the use of B.t. genes in corn and other crops. B.t., or *Bacillus thuringiensis*, is a naturally occurring bacterium that produces crystal proteins that are lethal to insect larvae. B.t. crystal protein genes have been transferred into corn, enabling the corn to produce its own pesticides against insects such as the European corn borer.



## Development

GM foods were first put on the market in the early 1990s. Typically, genetically modified foods are plant products: soybean, corn, canola, and cotton seed oil, but animal products have been proposed. The first commercially grown genetically modified whole food crop was the tomato puree (called FlavrSavr), which was made more resistant to rotting by Californian company Calgene. Currently, there are a number of foods of which a genetically modified version exists.

## What are some of the advantages of GM foods?

The world population has topped 6 billion people and is predicted to double in the next 50 years. Ensuring an adequate food supply for this booming population is going to be a major challenge in the years to come. GM foods promise to meet this need in a number of ways:

Better quality food.

Higher nutritional yields.

Inexpensive and nutritious food, like carrots with more antioxidants.

Foods with a greater shelf life, like tomatoes that taste better and last longer.

Food with medicinal benefits, such as edible vaccines - for example, bananas with bacterial or rotavirus antigens.

Crops and produce that require less chemical application, such as herbicide resistant canola.

## What are some of the criticisms against GM foods?

Environmental activists, religious organizations, public interest groups, professional associations and other scientists and government officials have all raised concerns about GM foods, and criticized agribusiness for pursuing profit without concern

for potential hazards, and the government for failing to exercise adequate regulatory oversight. It seems that everyone has a strong opinion about GM foods. Most concerns about GM foods fall into three categories: environmental hazards, human health risks, and economic concerns. Food regulatory authorities require that GM foods receive individual pre-market safety assessments. Also, the principle of 'substantial equivalence' is used. This means that an existing food is compared with its genetically modified counterpart to find any differences between the existing food and the new product. The assessment investigates:

Toxicity (using similar methods to those used for conventional foods).

Tendency to provoke any allergic reaction.

Stability of the inserted gene.

Whether there is any nutritional deficit or change in the GM food.

Any other unintended effects of the gene insertion.

**Economic concerns:** Bringing a GM food to market is a lengthy and costly process, and of course agri-biotech companies wish to ensure a profitable return on their investment. Many new plant genetic engineering technologies and GM plants have been patented, and patent infringement is a big concern of agribusiness. Yet consumer advocates are worried that patenting these new plant varieties will raise the price of seeds so high that small farmers and third world countries will not be able to afford seeds for GM crops, thus widening the gap between the wealthy and the poor. One way to combat possible patent infringement is to introduce a "suicide gene" into GM plants. These plants would be viable for only one growing season and would produce sterile seeds that do not germinate. Farmers would need to buy a fresh supply of seeds each year. However, this would be financially disastrous for farmers in third world countries who cannot afford to buy seed each year and traditionally set aside a portion of their harvest to plant in the next growing season.

## Environmental hazards

Unintended harm to other organisms: Last year a laboratory study was published in *Nature* showing that pollen from B.t. corn caused high mortality rates in monarch butterfly caterpillars. Reduced effectiveness of pesticides, gene transfer to non-target species. Governments around the world are hard at work to establish a regulatory process to monitor the effects of and approve new varieties of GM plants. Yet depending on the political, social and economic climate within a region or country, different governments are responding in different ways. In Japan, the Ministry of Health and Welfare has announced that health testing of GM foods will be mandatory as of April 2001.<sup>36,37</sup> Currently, testing of GM foods is voluntary. Japanese supermarkets are offering both GM foods and unmodified foods, and customers are beginning to show a strong preference for unmodified fruits and vegetables. Though India has resisted GM food production till now, there have been instances of GM food being imported into the country (including corn, baby food and breakfast cereal, which have been introduced without adherence to relevant labelling laws). While a Directorate General of Foreign Trade notification in 2013 addressed the issue of labelling by requiring those importing GM food to explicitly mention it in their labels, in the case of home-manufactured products like edible oil, there are chances of GM cottonseed oil being mixed with other edible oil without any labelling. Though, government in India has not permitted commercial cultivation of GM food till now, field trials for 21 GM food crops, including GM vegetables and cereals, have been approved by the government. It is highly likely that India will decide that the benefits of GM foods outweigh the risks because Indian agriculture will need to adopt drastic new measures to counteract the country's endemic poverty and feed its exploding population.



## NATIONAL WORKSHOP ON, "COMPUTATIONAL TOOLS IN THE DESIGN OF PHARMACEUTICAL FORMULATIONS" AT MCOPS, MANIPAL



## CONGRATULATIONS TO ALL M.PHARM TOPPERS



**MS. KADEEJATH RIZWANA**  
M. PHARMA II SEMESTER  
(PHARMACOLOGY)  
CGPA: 8.75 (539/650)



**MS. AISWARYA VIJAYA KRISHNA**  
M. PHARMA II SEMESTER  
(PHARMACY PRACTICE)  
SGPA: 8.75 (557/650)



**MS. ANITTA SUSAN ALEX**  
M. PHARMA II SEMESTER  
(PHARMACEUTICS)  
CGPA: 8.58 (532/650)



**MS. RISHAL RELITA MENDONCA**  
M. PHARMA II SEMESTER  
(PHARMACEUTICAL REGULATORY AFFAIRS)  
CGPA: 8.92 (548/650)



**MS. CHAITHRA R. SHETTY**  
M. PHARMA II SEMESTER  
(PHARMACEUTICAL CHEMISTRY)  
CGPA: 9.42 (577/650)  
OVERALL TOPPER



**MR. EDWIN PAUL**  
M. PHARMA II SEMESTER  
(PHARMACEUTICAL QUALITY ASSURANCE)  
CGPA: 8.75 (556/650)

*Book Post*