

# Asharm's e-Journal

Department of Pharmaceutics, IT-BHU

August 2011



Pharmaceutical Society , IT-BHU

## Editorial

The seventy-ninth academic year of our department begins with a note of welcome to all the new faces. The excitement of coming to IIT Delhi is mixed with anxiety and a mixed feeling prevails in all our minds. An insight into IITD: fresh air, sports arenas, NCC, Bharatiya Kala Bhawan, Language Diploma, the events, big roads, fruit corners, LC 'n' DCC, LAH etc... many things to keep your mind off the course. I mean, the Degree Course. To the freshmen, the college days are here and with liberty at hand, a gate of opportunities open up for you; however, a word of advice, use it wisely.

As the monsoon washes away previous years we get a new page to write upon. The hostel room, as it may seem, gets smaller and smaller and we stack new accessories and book (not many) into already cramped spaces. To contrast this, the department is fathoms away from the hostels. The mess food is perfect complement to the nostalgic aroma of mom's home cooked food. And to put the icing on the cake, the heat of July with or without the rains is bathing most of us in sweat, if not in water. On the other hand our troubles are nothing in comparison to what the nation on the whole is facing: corruption, tax evasion, terrorism, public unrest... but as they say if the winter has arrived than the spring can't be far behind. The question remains whether it's the winter or it's the autumn that's arriving?

Pharm-fanzine begins its fourth year of publication and we strive to spread the word of our department's activities among ourselves and to the alumni at the far corners of the country and the world. In the last three years, the magazine has progressed and now covers every activity of the department with utmost diligence. The Pharm-fanzine will achieve another milestone as it becomes a part of the department website. We appreciate your contribution in any form to the magazine and welcome any fresh incentives from your side.

- Editor



# PHARM-FANZINE

# Biography - Sir Alexander Fleming

Sir Alexander Fleming (8 August 1881 – 11 March 1955) was a Scottish biologist and pharmacologist, specialising in bacteriology, immunology, and chemotherapy. His best-known discoveries are the enzyme lysozyme in 1923 and the antibiotic substance penicillin from the mould *Penicillium notatum* in 1928, for which he shared the Nobel Prize in Physiology or Medicine in 1945 with Howard Florey and Ernst Chain. He is named as one of the 100 important people in the 20<sup>th</sup> century by the *Time Magazine* for his discovery of penicillin.



## The Story Of The Discovery of Penicillin

In 1928, Fleming was investigating the properties of staphylococci. He was already well-known from his earlier work, and had developed a reputation as a brilliant researcher, but his laboratory was often untidy. On 3 September 1928, Fleming returned to his laboratory having spent August on holiday with his family. Before leaving, he had stacked all his cultures of staphylococci on a bench in a corner of his laboratory. On returning, Fleming noticed that one culture was contaminated with a fungus, and that the colonies of staphylococci that had immediately surrounded it had been destroyed, whereas other colonies further away were normal. Fleming showed the contaminated culture to his former assistant Merlin Price, who reminded him, "That's how you discovered lysozyme." Fleming grew the mould in a pure culture and found that it produced a substance that killed a number of disease-causing bacteria. He identified the mould as being from the *Penicillium* genus, and, after some months of calling it "mould juice" named the substance it released penicillin on 7 March 1929. He investigated its positive anti-bacterial effect on many organisms, and noticed that it affected bacteria such as staphylococci and many other Gram-positive pathogens that cause scarlet fever, pneumonia, meningitis and diphtheria, but not typhoid fever or paratyphoid fever, which are caused by Gram-negative bacteria, for which he was seeking a cure at the time. It also affected *Neisseria gonorrhoeae*, which causes gonorrhoea although this bacterium is Gram-negative.

Fleming's accidental discovery and isolation of penicillin in September 1928 marks the start of modern antibiotics. Fleming also discovered very early that bacteria developed antibiotic resistance whenever too little penicillin was used or when it was used for too short a period. He cautioned not to use penicillin unless there was a properly diagnosed reason for it to be used, and that if it were used, never to use too little, or for too short a period, since these are the circumstances under which bacterial resistance to antibiotics develops.

-A.SRIRAM VIKAS

## Department News

### MedChem Europe 2011

Dr. Sanjib Raha A. Associate Professor, attended the 9th International Conference on "MedChem Europe 2011" organized by Select Biosciences at Munich, Germany during 28-29 March 2011. He also presented a research paper entitled "Design and synthesis of conformationally restricted analogs of insulin zinc-carboxylates as potential antidiabetics - Development of a pharmacophore model."



Ms. Manikshi Dhanawat, Senior Research Fellow, Department of Pharmaceutics, IT-BHU presented her research Paper on "Design, Synthesis and evaluation of anticonvulsant activity of some N3 aryl and heteroaryl acetamide derivatives of imidazolidine" at Med Chem Europe, which was held during 28 - 29 March 2011 in Munich, Germany.

### Sizzling Articles In Sciencedirect

Das, N.; Dhanawat, M.; Dash, B.; Nagarwal, R.C.; Shrivastava, S.K. Their article "Codrug: An efficient approach for drug optimization," published in European Journal of Pharmaceutical Sciences, Volume 41, (Issue 5, December 2010, Pages 571-588), was seventh in the 25 hottest articles in Oct-Dec 2010 and twenty first in the 25 hottest articles in Jan-March 2011 as reported in Sciencedirect.



### Distinguished Professor Retires

... Prof. P. N. Singh

## A Name Engraved On The Department Forever.....

### .....PROFF. P.N. SINGH

A distinguished professor of Pharmacology of the Department of Pharmaceutics, Prof. P.N. Singh, retired this August after serving thirteen years in this department . A farewell function was held in his honor on 1st August, 2011.



Dr. Paras Nath Singh is an alumnus of the department of Pharmaceutics, I.T. BHU having obtained his B.Pharma, M.Pharma and Ph.D. degrees from this university. He joined his parent department in 1998. Thereafter , he was steadily promoted as Reader and Professor.

Professor P.N.Singh has wide academic and administrative experience. He has guided nine Ph.D. Scholars and more than twenty-five post graduate students. He has several research collaboration with the DRI, BRI, ITRC- Lucknow, CSIR- New Delhi and has more than a hundred research review papers or articles to his credit published in national and international peer reviewed journals.

He also has contributed a chapter in the book "Medicinal and Aromatic Plants", Taylor & Francis Group, London & New York, 2003 and his articles are cited in books such as "Text book of Pharmacology and Therapeutics" by Goodman and Gilman, 5<sup>th</sup> edition, 1976, Published by Mc-Graw Hill, Medical Publishing Division, New York and "Pharmacology" by Das PK, Bhattacharya SK and Sen P, 1<sup>st</sup> edition, 1995, Published by BI Churchill Livingstone Pvt. Ltd, New Delhi. He also received many awards like "Servier Young Investigators Award" of France for his Co-authored paper presented at the International congress on *Frontiers in Pharmacology & Therapeutics in 21<sup>st</sup> Century*, New Delhi (1999).

He contributed in various ways to the department, introduced *new and innovative laboratory experiments* in Pharmacology for UG and PG programmes of the department, also established *Neuro-Pharmacology Laboratory* in the Department. He also contributed in development *four laboratory manuals* for Pharmacology related experiments which are being Nationally used for manpower training. His numerous works will always be remembered.

## Cocoa, aka 'Chocolate'

How much chocolate we eat on an average in a year? According to a survey, a person consumes normally 40 kilos of chocolate in a year. It is the symbol of delight in today's life. It represents happiness and harmony.

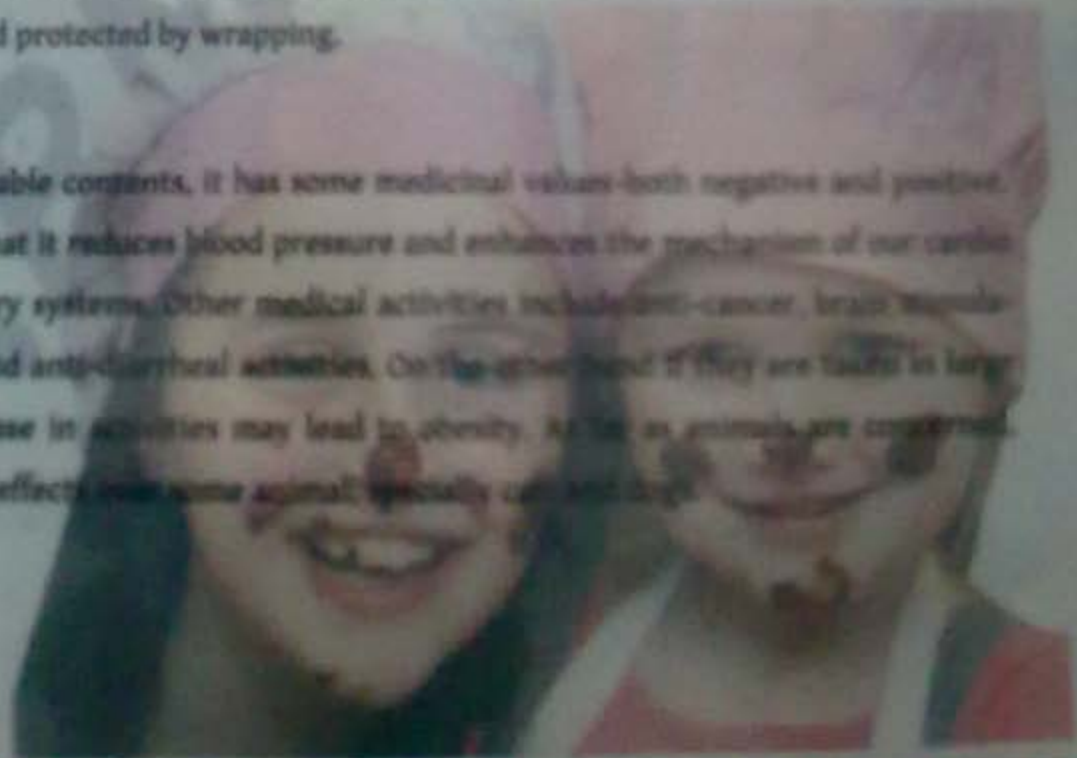
Chocolate is raw or processed food from seeds of the tropical cocoa tree. '*Theobroma cacao*' family Sterculiaceae Cocoa has been cultivated for at least three millennia in Mexico and Central America. Mostly, two third of the production takes place in West Africa with an average production of over 45%. Chocolate as such is not sweet in taste. It is obtained from seeds of cocoa tree having intense bitter taste, which are fermented to develop the flavor. After fermentation, drying, cleaning and roasting processes are carried out to bring it to its delicious taste, yet a lot of sugar is added to make it really sweet. Much of the chocolate consumed today is sweet chocolate, combining cocoa solid, cocoa butter, other fats and sugar.

The chocolate candies and chips that we eat are processed through a number of stages. Chocolate makers use harvested cocoa beans and other ingredients to produce the yield. Chocolate is very sensitive to temperature and humidity. Ideal storage temperatures are between 15 and 17 degree centigrade with a relative humidity of 50%. Its storage requires extra precautions. It must be kept away from other foods as it can absorb different aromas. Additionally, they are stored in dark place and protected by wrapping.

Apart from the pleasurable contents, it has some medicinal values both negative and positive. A research has found that it reduces blood pressure and enhances the mechanism of our cardiovascular and circulatory systems. Other medical activities include anti-cancer, brain modulator, cough preventer and anti-diarrheal activities. On the other hand if they are taken in large quantity without increase in activities may lead to obesity. As far as animals are concerned, they have serious toxic effects even some animal specially cat and dog.

-ABHISHEK PANDEY

(B.PHARM Part II)



Sl. No	Company/Inventor Name	Patent Name
1	GlaxoSmithKline	Glaxo Patent 100 Patent 100 Patent 100 Patent 100 Patent 100
2	Novartis India	Novartis Patent Novartis Patent Novartis Patent Novartis Patent
3	Novartis Laboratories	Novartis Patent Novartis Patent Novartis Patent Novartis Patent
4	Dr. Reddy Labs	Novartis Patent
5	Dr. Reddy Labs	Novartis Patent
6	Novartis Pharma	Novartis Patent
7	Novartis	Novartis Patent
8	Novartis Pharma	Novartis Patent Novartis Patent Novartis Patent Novartis Patent
9	Novartis R&D Centre	Novartis Patent
10	Novartis Pharma India Ltd.	Novartis Patent
11	Novartis Pharma	Novartis Patent
12	Novartis Laboratories Ltd.	Novartis Patent
13	Novartis Pharma	Novartis Patent
14	Novartis Pharma Ltd.	Novartis Patent

## The Curious Case Of 100% FDI Cap In The Indian Pharma Sector

Planning Commission Deputy Chairman Montek Singh Ahluwalia on Monday endorsed allowing 100% foreign direct investment (FDI) in the pharmaceutical sector. "I endorse the view that there should be no case for rollback from 100% FDI," Ahluwalia said in response to a question posed to him at a conference. It's not uncommon these days to hear news of foreign MNCs taking over Indian pharma giants. It started with the Japanese major Daiichin taking over the home grown Ranbaxy. Then came the acquisition of Piramal healthcare and now recently Matrix Labs was taken over by Mylan and it's still counting.

It begs the obvious question-Is it right? Domestic pharma companies, spearheaded by the Indian Drug Manufacturers Association and Indian Pharmaceutical Alliance, had raised concerns that the takeover of Indian companies by foreign firms could lead to a situation of overpricing of drugs and marginalization of home-grown firms and the current 100% cap on FDI in this field should be discontinued with. Industry groups backed by domestic players have been seeking restrictions on mergers and acquisitions arguing that India would turn into a contract manufacturing centre and would lose its edge. Another concern is that prices of medicines will increase due to lack of generics and rise of imported patented drugs. While, on the other hand, some say that it would do the indigenous pharma R&D a world of good and, our government seems to be "supporting" the latter "cause". "I don't think there is any move anywhere to prevent the expansion of existing 100 per cent foreign owned pharmaceutical companies or to prevent green field investment by foreign companies," Planning Commission Deputy Chairman Montek Singh Ahluwalia said. While the foreign companies have supported the move saying that a reduction in the ceiling would mark the first instance of a sectorial cap being reduced in India. "FDI should not stand for funds deserting India," Novartis president Ranjit Shahani, who is president of the OPPI (Organisation of Pharmaceutical Producers of India), a lobby group representing multinational drug companies had told TOI last week. OPPI has argued that the government has tools available with it to address concerns raised by the domestic players and civil society groups. Yes, it's true that Indian healthcare has long been neglected and taken for granted and, neglecting the pharmaceutical R&D is one of the reasons; that is to say, the amount of investment on it. But, there's a flip side to the coin and that is the Indian economy is not in its best phase and the takeover of these homegrown majors by foreign multinationals is not helping.

So, what do we do? Gautama Buddha once said, "Middle path is the best path". What our bureaucrats and politicians need to do is to heed "The Enlightened" advice and do what is best for the nation, economically as well as socio-economically. And, with an envious ensemble of economic and healthcare intelligentsia. It's certainly not the most difficult job for our Union Cabinet especially, the health department.

Let's just say, "Hope this article finds the Indian citizen in the best of his spirits and health."

PRAGJAL SAIKAT

M.PHARM (UD PART III)



## Independence Day

On 15<sup>th</sup> August, 1947 India became the largest Democratic Independent nation in the world and the day has been celebrated as Independence Day in our country since then. It is the day which reminds us of our victory, reminds the memories of sacrifices made by great heroes of The Freedom Struggle who devoted everything for the pride of their country. And, the day is to pay respect to soldiers; salute our tricolour flag fluttering in the free air of India.



The day is celebrated with great vigour across the length and breadth of India. Flag hoisting ceremonies are the predominant affair of the day, while colourful kites fill the sky in the evening, symbolizing freedom. The Indian citizen is filled with an air of hope. Even on television, patriotic movies and the biographies of our revolutionary heroes are broadcasted throughout the day.

But, there are some dark sides hidden behind this great celebration. It appears as if, it is the only day for our great revolutionaries of past; the deceased ones. While, some people who played a great role in bringing independence and are still alive, are living in very poor conditions. We were not part of the fight for independence; however, we have a debt towards them for our freedom. Paying homage doesn't mean to put garlands on statues and move about our own business simply too busy to consider why was it that they fought in the first place. Our job must be to make the country of their dreams true and existent; the way our revolutionaries wanted India to be.

Since our independence there have been many problems in our country leading to financial, social and cultural controversies. Despite the adverse times, we stood united for our bright future. Even today, corruption and other regional issues are trying to threaten the liberty and peace of our country. 15<sup>th</sup> August is high time to infuse the spirit of nationalism in everyone and stand firmly against such threatening issues. They say change yourself, the world around you changes, think of 1.2 billion people taking the pledge — that's what I call Happy Independence Day.

— HARPREET SINGH

M.Pharm (IDD) Part II

## Recently Published / Accepted Research Articles

1. **Kanwar R, Shri Kant, Singh P R, Pandit J K:** "Effect of Hydroxypropyl-Beta-cyclodextrin on the Ocular Bioavailability of Dexamethasone from a pH Induced Mucoadhesive Hydrogel." *Current Eye Research* (In Press).
2. **Dai H, Dhanraj M, Kulkarni A, Shrivastava S K:** "Pharmacophoric modeling and atom-based 3D-QSAR of novel 1-aryl-3-(1-acylpiperidin-4-yl) urea as human soluble Epoxide Hydrolase inhibitors (sEHIs)." *Medicinal Chemistry*, 2011. (Accepted, In Press).
3. **Thuri S, Chaturvedi A P, Tripathi Y B and Mishra B:** "Macrophage specific targeting of isoniazid through mannosylated gelatin microspheres." *AAPS PharmSciTech* (Accepted).
4. **Patel BB, Thuri S and Mishra B:** "Bilayered osmotic tablets for sustained co-delivery of isoniazid and rifampicin – a technical note." *Inventi Rapid: NDDS*, 2011 (Accepted).
5. **Jha RK, Thuri S and Mishra B:** Bioadhesive microspheres for bioavailability enhancement of raloxifene hydrochloride: formulation and pharmacokinetic evaluation. *AAPS PharmSciTech*, 12; 650-657, 2011.
6. **Mishra B, Punigrahi D, Mishra M and Shukla D:** "Matrix based extended release tablet of an antihyperlipidemic drug: design and development" *Inventi Rapid: NDDS*, 2011 (Accepted).
7. **Shukla S, Kumar P, Srivastava R S, Shrivastava S K, Trivedi P:** "RP-HPLC Method Development and Its Validation for Simultaneous Estimation of Alprazolam and Fluoxetine Hydrochloride in Pharmaceutical Dosage Form", *Eurasian J. Anal. Chem.* 5(3): 239-245, 2010.
8. **Shukla S, Kumar P, Mounthy M S H N, Shrivastava S K, Trivedi P, Srivastava R S:** "QSAR studies on trans-3, 4'-bispyridinylethylenes as a potent and novel inhibitor of protein kinase B (PKB) having inhibitory action against myeloma cells", *International Journal of Pure and Applied Chemistry*, 6, Issue 1 of IJPAC, 2011.
9. **Patel DK, Kumar R, Laloo D, Hemalatha S:** "Evaluation of phytochemical and antioxidant activities of the different fractions of *Hybanthus emmeaspermus* (Linn.) F. Muell. (Violaceae)." *Asian Pac J Trop Med* 2011; 4: 391-6.
10. **Patel DK, Kumar R, Prasad SK, Sairam K, Hemalatha S:** "Antidiabetic and in vitro antioxidant potential of *Hybanthus emmeaspermus* (Linn.) F. Muell. in streptozotocin-induced diabetic rats." *Asian Pac J Trop BioMed* 2011; 1: 316-22.
11. **Sahu A N, Hemalatha S, Sairam K, Laloo D and Patra A:** "Quality Control Studies of *Ochrocarpus longifolius* Flower Buds." *Pharmacognosy Journal*, 2010; 2(6): 118-123.
12. **Laloo D and Sahu A N:** "Antioxidant activities of three Indian commercially available Nagakesar: An in vitro study." *Journal of Chemical and Pharmaceutical Research*, 2011; 3 (1): 277-283.
13. **Kumar M, Mandal V, Hemalatha S:** "Detection of metformin hydrochloride in a traditionally used Indian herbal drug for antidiabetic: a case report." *International Journal of Pharm and Bio Sciences*, 2011; 2: 307-313.

## Upcoming Birthday's

NAME	CLASS	BIRTHDAY
KAMLESH	M.Pharm part-II	2-AUG
BIVASH PATEL	B.Pharm part-III	5-AUG
SUPRIYA MANDAL	B.Pharm part-I	5-AUG
GITESH GUPTA	M.Pharm(IDD) part-IV	7-AUG
DHANANJAY	M.Pharm(IDD) part-IV	8-AUG
UJJAWAL BAIRAGI	B.Pharm part-I	15-AUG
RAHUL JAIN	B.Pharm part-IV	16-AUG
ARTI VERMA	B.Pharm part-III	18-AUG
RAJESH KUMAR	Ph.D	20-AUG
HARSHIT GARIA	B.Pharm part-I	25-AUG
AYOUSH KUMAR	B.Pharm part-III	26-AUG
O.NEELKANTH	M.Pharm(idd) part-IV	27-AUG
RAJU DUDIPALA	B.Pharm part-I	29-AUG
M. DILIP KUMAR	B.Pharm part-IV	31-AUG
Dr. A . SENTHIL RAJA	Associate Professor	2-SEP
PRAKHAR SAHAY	M.Pharm(idd) part-III	3-SEP
AEANKASH	B.Pharm part-IV	7-SEP
DEEPIKA DUBEY	B.Pharm part-III	9-SEP
VIJAY PRAKASH YADAV	B.Pharm part-III	11-SEP
VIJAY SINGH MEENA	M.Pharm part-III	13-SEP
AJAY KUMAR JAIN	B.Pharm part-III	13-SEP
ANKUR VERMA	B.Pharm part-III	21-SEP
RAHUL TRIPATHI	Ph.D	25-SEP
VINEET SINGH PAWAR	B.Pharm part-III	28-SEP
PANNALAL SEERVI	B.Pharm part-III	29-SEP
ACHINT JAIN	Ph.D	30-SEP



**World Peace Day**  
**21<sup>st</sup> September**

*Handwritten signature*

## Kavyanjali

वर्ल्डकप की जीत में मचा खुशी का घमासान,  
 खुशी का घमासान झूमे तारा हिन्दुस्तान ।  
 टीम इंडिया धोनी की ये क्या क्या गुल खिन्साती है,  
 कभी फर्स्ट राउण्ड में हारे तो कभी वर्ल्डकप लाती है ।  
 लगा के छक्का जीत का पहना धोनी ने ताज,  
 युसुफ होके सब रूठते पूतल पंखे को आज,  
 बधा बधाती फिर रही वो बाल्य अपनी साज ।



सचिन साहसग जो दो गिरे अटक गयी थी सौम,  
 तब विराट गभीरे ने बौंधी जीत की जाम ।  
 युवी ने धोया लका को धोनी ने कहर छाया,  
 धौंधी मेट संतानीत पे जीत का छक्का लगाया ।  
 जीत गया अब इंडिया कंधे पे सचिन को उठाया,  
 युसुफ जहीर भज्जी युवी ने मैदान का चक्कर लगाया,  
 बना आदमी मैच का अपना धोनी राजा,

गानखेरे में लका का खुब बजाया बाजा ।  
 मैन आफें द सिरीज बन युवी ने बल्ला घुमाया,  
 भारत सरकार ने भी टीम पर खुब पैसा बरसाया ।  
 वर्ल्डकप की खुशी में कहता हूँ ईक बात,  
 करो भक्ति क्रिकेट की पर भूलो ना भारत महान,  
 अपनी मातृभूमि का खूब बढ़ाओ मान ।  
 याद रखे तुम्हें सब दुनिया कुछ करके जाओ,  
 याद रखे तुम्हें सब दुनिया कुछ करके जाओ ॥



Gopal Sharma

M.Pharm (IBD) Part-V

Or is it the other way around

To Hell !!!  
Save Me...



Freshers



Senior

Hey Buddy!!  
What's up?

How many of you  
comprehend the term  
Follower?



what does  
'comprehend'  
mean?

