

Admission in Biotechnology (M.Sc) and Genetics (M.Sc) is going on

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Vision

TO GROW AS A CENTRE OF EXCELLENCE IN THE FIELD OF
PHARMACEUTICAL AND BIOLOGICAL SCIENCE



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**GURU NANAK INSTITUTE OF PHARMACEUTICAL SCIENCE AND
TECHNOLOGY**

26-07-2013



GNIPST BULLETIN

MESSAGE FROM GNIPST

GNIPST BULLETIN is the official publication of **Guru Nanak Institute of Pharmaceutical Science & Technology**. All the members of GNIPST are proud to publish the 27th Volume of “GNIPST BULLETIN”. Over the last two years this bulletin updating readers with different scientific, cultural or sports activities of this prestigious institute and promoting knowledge of recent development in Pharmaceutical and Biological Sciences. Student’s section is informing readers about some curious facts of drug discovery, science, sports and other relevant fields. We look forward to seeing your submission and welcome comments and ideas you may have.

LETTER TO THE EDITOR.

NEWS UPDATE

△ **New technique for the treatment for Alzheimer's disease** (26th July, 2013)

UCLA chemists and molecular biologists have for the first time used a "structure-based" approach to drug design to identify compounds with the potential to delay or treat Alzheimer's disease, and possibly Parkinson's, Lou Gehrig's disease and other degenerative disorders. The UCLA researchers, led by David Eisenberg, director of the UCLA-Department of Energy Institute of Genomics and Proteomics and a Howard Hughes Medical Institute investigator, report the first application of this technique in the search for molecular compounds that bind to and inhibit the activity of the amyloid-beta protein responsible for forming dangerous plaques in the brain of patients with Alzheimer's and other degenerative diseases. [Read more](#)

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△ **Brain implants may stop Epilepsy** (25th July, 2013)

According to a new study published in the *Journal of Clinical Investigation*, silk implants placed in the brain of laboratory animals and designed to release a specific chemical, adenosine, may help stop the progression of epilepsy. [Read more](#)

△ **New system for personalized healthcare** (25th July, 2013)

University of Notre Dame researchers have developed a computer-aided method that uses electronic medical records to offer the promise of rapid advances toward personalized health care, disease management and wellness. [Read more](#)

△ **Biotechnology tool from pathogenic bacteria** (25th July, 2013)

Duke researchers have devised a way to target and tinker with any gene in the human genome. The new tool, which builds on an RNA-guided enzyme they borrowed from bacteria, is being made freely available to researchers who may now apply it to the next round of genome discovery. [Read more](#)

△ **Rapamycin's effect on ageing** (25th July, 2013)

A team of researchers from the German Center for Neurodegenerative Diseases (DZNE) and the Helmholtz Zentrum München has now found that rapamycin extends lifespan but its impact on aging itself is limited. The life-extending effect seems to be related to rapamycin's suppression of tumors, observed in animal model. [Read more](#)

△ **Women's Height Linked to Cancer Risk**
(25th July, 2013)

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According to a study published in *Cancer Epidemiology, Biomarkers & Prevention*, the taller a postmenopausal woman is, the greater her risk for developing cancer. [Read more](#)

△ **Potential New Target to Treat Malignant Pleural Mesothelioma** (25th July, 2013)

Malignant mesothelioma is a rare asbestos-associated malignancy with limited therapeutic options. Researchers conclude that Ephrin (EPH) B2 seems to play an important role in malignant pleural mesothelioma cell lines and tumors. [Read more](#)

HEALTH AWARENESS

Mono Sodium Glutamate

Monosodium glutamate (MSG), also known as sodium glutamate, is the sodium salt of glutamic acids, one of the most abundant naturally occurring non-essential amino acids.

Professor Kikunae Ikeda from the Tokyo Imperial University isolated glutamic acid as a new taste substance in 1908 from the

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seaweed *Laminaria japonica*, kombu, by aqueous extraction and crystallization, and named its taste "umami" He noticed that the Japanese broth of *Katsuobushi* and *Kombou* had a peculiar taste that had not been scientifically described at that time and differed from sweet, salty, sour and bitter. The ionized glutamate was responsible for the umami taste.

The calcium, potassium, ammonium, and magnesium salts elicited umami in addition to a certain metallic taste due to the other minerals. Among those salts, sodium glutamate was the most soluble and palatable, and crystallized easily.

- Usage

- Pure MSG does not have a pleasant taste until it is combined with a consonant savory smell.
- As a flavor and in the right amount, MSG can enhance other taste-active compounds, improving the overall taste of certain foods.
- MSG mixes well with meat, fish, poultry, many vegetables, sauces, soups, and marinades.
- Since MSG mixes well with many foods, it can also increase the overall preference of certain foods like beef consommé.
- But like other basic tastes, except sucrose, MSG improves the pleasantness only in the right concentration: an excess of MSG is unpleasant.

- Health impacts of MSG

- There is an interaction between MSG and salt (sodium chloride), and other umami substances such as nucleotides. With these properties, MSG can be used to reduce salt intake (sodium), which predisposes to hypertension, heart diseases and stroke.
- The "MSG symptom complex" was originally termed the "Chinese Restaurant Syndrome" when Robert Ho Man Kwok reported the symptoms he felt after an American-Chinese meal. Kwok suggested

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multiple reasons behind the symptoms, including alcohol from cooking with wine, the sodium content, or the MSG seasoning.

- In normal conditions, humans have the ability to metabolize glutamate that has a very low acute toxicity. The oral lethal dose to 50% of subjects (LD50) is between 15 to 18 g/kg body weight in rats and mice respectively, five times greater than the LD50 of salt (3 g/kg in rats). Therefore, the intake of MSG as a food additive and the natural level of glutamic acid in foods do not represent a toxicological concern in humans.
- Because glutamate is absorbed very quickly in the gastrointestinal tract (unlike glutamic acid-containing proteins in foods), glutamate could spike blood plasma levels of glutamate.
- Glutamic acid is in a class of chemicals known as excitotoxins, high levels of which have been shown in animal studies to cause damage to areas of the brain unprotected by the blood–brain barrier and that a variety of chronic diseases can arise out of this neurotoxicity.
- At a meeting of the Society for Neuroscience in 1990, the delegates had a split opinion on the issues related to neurotoxic effects from excitotoxic amino acids found in some additives such as monosodium glutamate.
- Some scientists believe that humans and other primates are not as susceptible to excitotoxins as rodents and therefore there is little concern with glutamic acid as a food additive. While they agree that the combined effects of all food-based excitotoxins should be considered, their measurements of the blood plasma levels of glutamic acid after ingestion of monosodium glutamate and aspartame demonstrate that there is not a cause for concern.
- Other scientists believe that primates are susceptible to excitotoxic damage and that humans concentrate excitotoxins in the blood more than other animals. Based on these findings, they claim that humans are approximately 5-6 times more susceptible to the effects of

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excitotoxins than rodents are. While they agree that typical use of monosodium glutamate does not spike glutamic acid to extremely high levels in adults, they are particularly concerned with potential effects in infants and young children and the potential long-term neurodegenerative effects of small-to-moderate spikes on plasma excitotoxin levels.

- Shayeri Nandy

B.Pharm 3rd Year Student

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DISEASE OUTBREAK NEWS

△ Middle East Respiratory Syndrome coronavirus (MERS-CoV) (21st July, 2013)

WHO has been informed of two additional laboratory-confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection in Saudi Arabia. [Read more](#)

FORTHCOMING EVENTS

△ The 2nd Pharm. Tech IAPST International Conference on "New insights into diseases and recent therapeutic approaches" from 17th to 19th January 2014 in Kolkata, India. [Read more](#)

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DRUGS UPDATES

△ FDA permits marketing of first U.S. test labeled for simultaneous detection of tuberculosis bacteria and resistance to the antibiotic rifampin (25th July)

The U.S. Food and Drug Administration today allowed marketing of the Xpert MTB/RIF Assay, the first FDA-reviewed test that can simultaneously detect bacteria that cause tuberculosis (TB) and determine if the bacteria contain genetic markers that makes them resistant to rifampin, an important antibiotic for the treatment of TB.

[Read more](#)

CAMPUS NEWS

△ One day seminar cum teachers' development programme for school teachers on the theme of "Recent Trends of Life Sciences in Higher Education" organized by GNIPST held on 29th June, 2013 at GNIPST auditorium. The programme was inaugurated by Prof . Asit Guha, Director of JIS Group, Mr. U.S. Mukherjee, Dy Director of JIS Group and Dr. Abhijit Sengupta, Director cum Principal of GNIPST with lamp lighting. The programme started with an opening song performed by the B.Pharm students of this institute. The seminar consists of a series of lectures, video presentations and poster session. On the pre lunch session 4 lectures were given by Dr. Lopamudra Dutta, Mr. Debabrata Ghosh Dastidar, Ms. Swati Nandy and Ms.

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Tamalika Chakraborty respectively. On their presentation the speakers enlighten the recent development of Pharmacy, Genetics and Microbiology and their correlation with Life Sciences. On the post lunch session, Ms. Saini Setua and Ms. Sanchari Bhattacharjee explained the recent development and career opportunities in Biotechnology and Hospital Management. The programme was concluded with valedictory session and certificate distribution.

About 50 Higher secondary school teachers from different schools of Kolkata and North & South 24 Parganas district of West Bengal participated in this programme. A good interactive session between participants and speakers was observed in the seminar. The seminar was a great success with the effort of faculties, staffs and students of our Institute. It was a unique discussion platform for school teachers and professional of the emerging and newer branches of Life Science.

△ The following B.Pharm. final year students have qualified, GPAT-2013. We congratulate them all.

Amanpreet Kaur, Mohua Das,

Sourav Bagchi, Uddipta Ghosh Dastidar,

Siddarth Shah, Prapti Chakraborty,

Subhradip Roychoudhury, Soumyajit Das,

Mounomukhar Bhattacharjee.

△ GNIPST is now approved by AICTE and affiliated to WBUT for conducting the two years post graduate course (M.Pharm) in **PHARMACEUTICS**. The approved number of seat is 18.

STUDENTS' SECTION

❖ WHO CAN ANSWER FIRST????

- ✓ *Which device was first invented by A. Ban, D. Moran and O. Organ?*
- ✓ *What is dysgeusia?*

Answer of Previous Issue's Questions:

A) Bharat Biotech B) Rota virus

- *Send your thoughts/ Quiz/Puzzles/games/write-ups or any other contributions for Students' Section & answers of this Section at gnipstbulletin@gmail.com*

EDITOR'S NOTE

I am proud to publish the 3rd issue of 27th Volume of **GNIPST BULLETIN**. GNIPST BULLETIN now connected globally through *facebook account 'GNIPST bulletin'*

I want to convey my thanks to all the GNIPST members and the readers for their valuable comments, encouragement and supports.

I am thankful to **Dr. Abhijit Sengupta**, Director of GNIPST for his valuable advice and encouragement. Special thanks to **Dr. Prerona Saha** and **Mr. Debabrata Ghosh Dastidar** for their kind co-operation and technical supports.

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An important part of the improvement of the bulletin is the contribution of the readers. You are invited to send in your write ups, notes, critiques or any kind of contribution for the forthcoming special and regular issue.

ARCHIVE

- The general body meeting of APTI, Bengal Branch has been conducted at GNIPST on 15th June, 2012. The program started with a nice presentation by Dr. Pulok Kr. Mukherjee, School of Natural Products, JU on the skill to write a good manuscript for publication in impact journals. It was followed by nearly two hour long discussion among more than thirty participants on different aspects of pharmacy education. Five nonmember participants applied for membership on that very day.
- GNIPST is now approved by AICTE and affiliated to WBUT for conducting the two years' post graduate course (M.Pharm) in PHARMACOLOGY. The approved number of seat is 18.
- The number of seats in B.Pharm. has been increased from 60 to 120.
- AICTE has sanctioned a release of grant under Research Promotion Scheme (RPS) during the financial year 2012-13 to GNIPST as per the details below:
 - a. *Beneficiary Institution:* Guru Nanak Institution of Pharmaceutical Science & Technology.
 - b. *Principal Investigator:* Dr. Lopamudra Dutta.
 - c. *Grant-in-aid sanctioned:* Rs. 16,25000/- only
 - d. *Approved duration:* 3 years

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e. *Title of the project:* Screening and identification of potential medicinal plant of Purulia & Bankura districts of West Bengal with respect to diseases such as diabetes, rheumatism, Jaundice, hypertension and developing biotechnological tools for enhancing bioactive molecules in these plants.