NSUPC PRESENTS

season 11

pharmaquest 2024

DISCOVER, DEVELOP, DELIVER

an olden legacy of
Discovery,

a commitment to
Development,

a worldwide quest to
Deliver.

IN ASSOCIATION WITH
Department of Pharmaceutical Sciences
North South University

SQUARE *offers*

Superior formulation with 22.5% pellets

Nexum® Capsule

Esomeprazole 20 & 40 mg

Superb acid control for 24 hours

Nexum® MUPS Tablet

Esomeprazole 20 & 40 mg

Effectively reduces heartburn & GERD

- Ensures faster absorption, greater bioavailability & amplified therapeutic efficacy than conventional dosage form
- Stable pH>4 for 24 hours ensures no GI irritation whole day
- Can be taken at any time (before or after meal)
- Small tablet/capsule: easy to swallow, better patient compliance

Since 1958

SQUARE PHARMACEUTICALS PLC. BANGLADESH

www.squarepharma.com.bd

SQUARE

Scan for more information

Contents

1 "Discover, Develop, Deliver" Title Article

3 Editorial Message & Body

14 Department of Pharmaceutical Sciences

15 Core Faculty Members & Lab Officers

21 Welcome to the Club

22 NSUPC Core Team

28 Faculty Article

29 Student Articles

46 BINGO!

51 Photography

57 Events

60 Alumni Spotlight

65 Fest Preparations

68 Fest Committees

73 Batch Photos

79 Acknowledgements

Rod of Asclepius
one of the most widely recognized symbols of medicine

also known as the asklepian, is a serpent-entwined rod wielded by the Greek god Asclepius, a deity associated with healing and medicine in Greek religion and mythology

SCAN HERE
FOR THE DIGITAL VERSION

"Discover, Develop, Deliver"

From Ancient Roots to Modern Remedies:
A Legacy of Pharmacy and Healing

By Samara Subaita. 211

The slogan for this year's Pharma Fest—"Discover, Develop, Deliver"—connects to the ancient Greek practices that laid the foundation for modern medicine, which is why the Greek theme was chosen for this year's event.

The cover art reflects this connection, drawing inspiration from the pioneering spirit of Greek healers like ***Dioscorides*** and the early herbalists known as 'farmakas'. These ancient practitioners were among the first to explore nature's potential, showcasing the medicinal properties of plants in works like the Materia Medica. Their commitment to discovering remedies, developing formulations, and delivering healing through their knowledge directly parallels the mission of today's pharmacists.

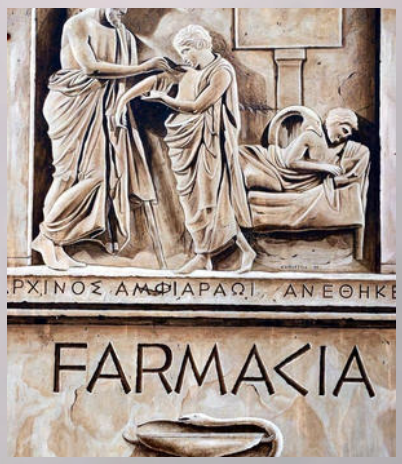
Pharmacy's roots trace back to the ancient world, where amongst the many regions, the pursuit of healing began amidst Greek temples and herbal gardens. The ancient Greeks, known for their contributions to philosophy and science, were equally influential in shaping the early principles of medicine and pharmacy. This voyage of healing, starting with the natural remedies of early physicians, serves as a link between the past and the advances we've made in the world of pharmaceutical sciences today. It emphasizes the continuity of this mission, from ancient Greece to modern practices.

Asklepieion, in Kos, Greece, was an ancient Greek and Roman sacred centre of healing based on the teachings of Hippocrates. The ancient medical centre dates back to the early 3rd century BC, built in honour of Asclepius, god of health and medicine, and is termed ***the birthplace of medicine.***

The role of ancient Greece in medicine is well known, with historical figures like ***Hippocrates*** advocating for a rational understanding of disease. This shift in perspective—understanding illnesses through natural causes rather than divine intervention—marked a turning point in medicine, and it laid the groundwork for observation and evidence-based practices. These principles are crucial to medical research today, reflecting the enduring influence of Greek thought.

Greek healers gathered in temples of ***Asclepius***, named after the god of healing, where they used herbs, baths, and dietary recipes to treat patients. Despite its mystical aspects, these temples were some of the earliest places where healthcare was practiced, blending spiritual and systemic knowledge. This blend of spirituality and empirical methods provided a foundation for what would eventually become a structured approach to healing, bridging ancient methods with modern concepts.

The **Caduceus** or the **Rod of Asclepius**, a staff with a single serpent coiled around it, became the lasting symbol of medicine, representing rejuvenation and renewal. Asclepius, the Greek god of medicine, was believed to possess the power to heal the sick, and his serpent symbolized rebirth, much like the snake shedding its skin only to renew it. This symbolism carries through to the present, where it serves as a universal emblem of healthcare, continuously reminding us of its significance.



The **farmakas**, which were early Greek herbalists, can be seen as the ancestors of today's pharmacists. Long before lab coats and rats were a thing, they mastered the art of blending natural ingredients to create remedies for various ailments, like using willow bark for pain relief and garlic for infections. These healers utilized the therapeutic properties of plants and minerals; though they lacked today's technologies, their work laid the early foundation. In many ways, their meticulous attention to natural substances mirrors the modern pharmacist's focus on precision and care.

*Pedanius Dioscorides'**De Materia Medica***

In the first century AD, ***Pedanius Dioscorides*** documented the world's medicinal plants in his colossal work, ***De Materia Medica*** —a handbook for herbal knowledge. With over 600 plant concoctions mentioned for treatment along with extraction methods for the infamous use of poppy for pain relief, Dioscorides' approach was meticulous and immaculate, to say the least. His work mirrors the structure of contemporary pharmacopoeias, which ensure the standardization and safety of today's medicines. This continuity underscores how ancient practices still influence the systems we use today.

While Greece's contributions are indispensable, other ancient civilizations also played contributing roles in the evolution of medicine. In **Egypt**, the Ebers Papyrus—one of the oldest medical texts—introduced the use of garlic for heart health and honey for wound healing. Across the **Indian** subcontinent, Ayurvedic health providers developed a comprehensive approach, using herbs like Ashwagandha for stress and Turmeric for inflammation. Furthermore, Traditional **Chinese** Medicine (TCM) structured a complex system of herbal formulas, such as Ginseng for energy and Ginger for digestive issues, many of which we claim as holy grails in our day-to-day lives. The **Persian** Empire left a significant mark on the history of medicine. Figures such as Avicenna (Ibn Sina) revolutionized medical thought with texts like The Canon of Medicine, which synthesized Greek, Roman, and Islamic knowledge. Persian physicians introduced the use of alcohol for antiseptic purposes and pioneered early forms of pharmacology, cataloging plants and minerals for healing. Their holistic approaches to treating the body, mind, and spirit laid the groundwork for many modern medical practices. These ancient traditions remind us that the quest for healing has always been a global endeavor, rich with history and knowledge. Together, they form a broader tapestry that demonstrates how diverse cultures have shaped the journey of medicine.

The transition from ancient herbalists and healers to today's pharmacists showcases how much has changed—and how much hasn't. Today's pharmacists continue the legacy of the early compounding experts, but with significant differences. In times of the old farmakas, they crushed their remedies in simple clay bowls whereas we use automated compounding machines today with the support of modern science and advanced technology. Yet, the essence of the profession endures—careful preparation, meticulous study, and a deep commitment to improving patient outcomes. What began in the shadow of Greek temples has transformed into a massive field globally, but the desire to discover, develop, and deliver remains the same to its core.

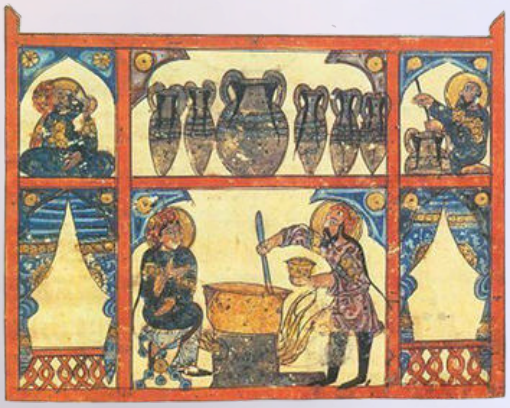
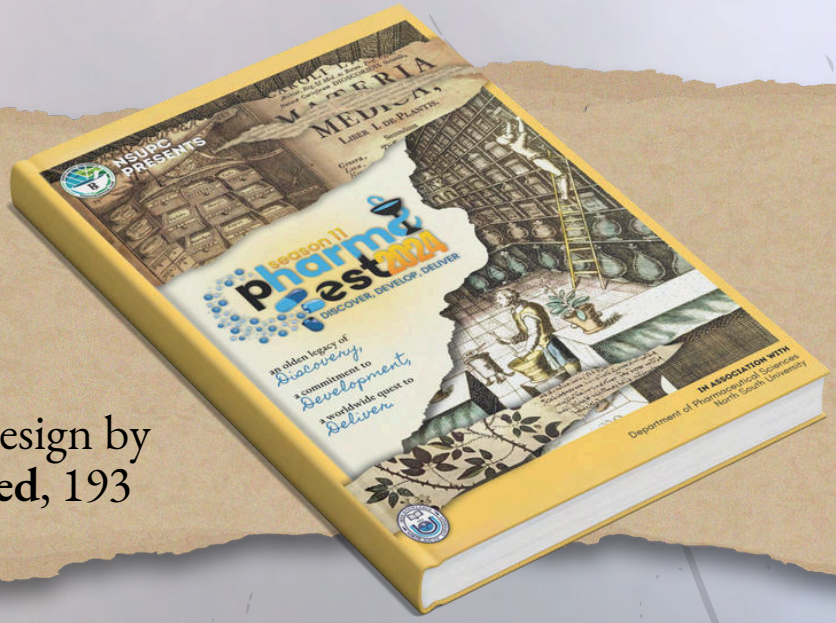


Illustration of a pharmacist preparing drugs, from "De Materia Medica", a Greek manuscript that heavily impacted Arab medicine

cover and
magazine design by
Saad Ahmed, 193



Editorial MESSAGE

After a two-year hiatus, the North South University Pharmaceutical Club (NSUPC) is thrilled to announce the revival of its flagship event, PharmaFest 2024, in collaboration with the Department of Pharmaceutical Sciences. As the event approaches, the Publication team is excited to unveil the latest edition of our annual magazine. This publication showcases the achievements of our students and faculty over the past couple of years and highlights key moments from events hosted by both the club and the department. PharmaFest serves as a vital link between faculty members, students, and prominent figures in the pharmaceutical sciences community. It offers aspiring pharmacists the chance to explore opportunities beyond our university and forge lasting connections.

This year's PharmaFest theme is "Discover, Develop, and Deliver," which underscores the important role of pharmacists in Bangladesh's healthcare sector. Our country has recently experienced political turmoil, sparking a movement to reform various sectors and uplift the community. This event provides a platform to recognize the contributions of pharmacists in enhancing patient care and to acknowledge their valuable work.

Since its inception in 2010, PharmaFest has grown into one of the most successful events at North South University. We take great pride in being part of this occasion. The festival atmosphere is indescribable and can only be fully appreciated by participating in the countless tasks required to ensure its success. It offers students a unique opportunity to interact freely with their mentors and apply the knowledge they have gained. Additionally, it allows students to showcase their talents to esteemed members of Bangladesh's pharmaceutical sciences community.

The Publication Team has worked tirelessly to add to the highly anticipated success of PharmaFest 2024 in this issue. We sincerely hope you enjoy reading the magazine and appreciate the dedication and effort of our team.

Editors

Dr. Md. Shaki Mostaid
Associate Professor
Department of
Pharmaceutical Sciences

Saad Ahmed, 193
Publication Secretary
NSUPC

Lamia Islam, 193
Faaiza Farbin Ali, 193
Jaheen Raisa, 201
Faria Rahman, 201
Rahil Rayhan, 201
Zoerya Aziz, 211

Editorial Body

Faculty Members

Dr. Asim Kumar Bepari

Dr. Md. Shaki Mostaid

Dr. Rezwana Ahmed

Sabrin Islam Khan

Mahinoor Fairooz

Junayet Hossain Khan

Student Members

Lamia Islam

Saad Ahmed

Faaiza Farbin Ali

Jaheen Raisa

Zoerya Ayesha Aziz

Md. Rahil Rayhan

Faria Rahman

Samara Subaita

Kazi Zubaer Bin Selim

Bibi Humayara Shaheen

Fardeen Khan Tonoy

Sumyea Hossain Hira

Nahiyan Tahmid

Ramisha Noor

Rifa Tasnia Totini

Mehnaz Arabi Saba

Maxpro® MUPS

Esomeprazole 20 & 40 mg Tablet

CLINICALLY TESTED

BIOEQUIVALENT

ESOMEPRAZOLE **in Bangladesh**

Manufactured in

US FDA APPROVED FACILITY

Also Accredited by

UK MHRA Regulating Medicines and Medical Devices

BRAZIL ANVISA

Further information is available on request from

Renata PLC
Plot # 1, Milk Vita Road, Section # 7 Mirpur, Dhaka-1216, Bangladesh

Please "Like" us on facebook /Renatalimited

We take it minute by minute, drop by drop, molecule by molecule. The miracle of a pyramid is in the perfection of every stone. The miracle of life is in the health of every cell. At Beximco Pharma, we are tireless at achieving such perfection in every molecule of our medicines. That's our little contribution to life. Here's to perfection. Here's to life.

BEXIMCO PHARMA
here's to life

Certified: **US FDA** ☑ **TGA Australia** ☑ **Malta (EU)** ☑ **Health Canada** ☑ **WHO** ☑

MESSAGES

I am delighted for the upcoming Pharma Fest 2024 arranged by the North South University Pharmaceutical Club (NSUPC). This event is a wonderful celebration of talent and innovation at the university. Activities including the informative stalls, Olympiad, dramas, poster presentations as well as the Pharma Walk will showcase student's creativity on the ramp!

Pharma Fest is not just about showcasing the talents of our students; it's also a chance to connect with other universities and the pharmaceutical industry. Guests from various institutions and industries will share their knowledge and ideas. Such sharing will enhance our students' experiences.

I congratulate all the organizers, faculty advisor, as well as the participants for their extraordinary efforts, and I hope the event will be a great success.

31 OCT 2024

Professor Abdul Hannan Chowdhury
Vice Chancellor
North South University

I am delighted for the upcoming Pharma Fest 2024 arranged by the North South University Pharmaceutical Club (NSUPC) since this event is a wonderful celebration of talent and innovation in our North South University community. There are a lot of activities including the informative stalls, an olympiad, engaging dramas, and poster presentations as well as the Pharma Walk, where our students will showcase their creativity on the ramp!

Pharma Fest is not just about showcasing the talents of our students; it's also a chance to connect with other universities and the pharmaceutical industry. There will be guests from various institutions and industry leaders joining us to share knowledge and ideas. You are encouraged to engage with them and make connections that can help you in your educational journey. I congratulate all the organizers, faculty advisor as well as the participants for their extraordinary efforts and I hope the event will be a great success.

Professor Abdur Rob Khan
Pro Vice-chancellor, Treasurer (in charge)
North South University

I am delighted for the upcoming Pharma Fest 2024 arranged by the North South University Pharmacy Club (NSUPC) since this event is a wonderful celebration of talent and innovation in our North South University community. There are a lot of activities including the informative stalls, an Olympiad, engaging dramas, and poster presentations as well as the Pharma Walk, where our students will showcase their creativity on the ramp!

Pharma Fest is not just about showcasing the talents of our students; it's also a chance to connect with other universities and the pharmaceutical industry. There will be guests from various institutions and industry leaders joining us to share knowledge and ideas. You are encouraged to engage with them and make connections that can help you in your educational journey. I congratulate all the organizers, faculty advisor as well as the participants for their extraordinary efforts and I hope the event will be a great success.

Prof. Dr. Dipak Kumar Mitra
Dean and Professor
School of Health and Life Sciences
North South University

With great pride and pleasure, I extend my warmest welcome to all participants, faculty members, and industry professionals on the occasion of Pharmafest 2024. The return of this prestigious event marks a significant milestone for North South University, and as the Chairman of the Department of Pharmaceutical Sciences, I am honored to have had the opportunity to organize this esteemed event.

Pharmafest is more than just a celebration—it is a platform for learning, growth, and innovation. The success of this event is a direct reflection of the hard work and unwavering dedication of the members of the NSU Pharmaceutical Club. Their passion and commitment have been essential in reviving Pharmafest, allowing it to once again serve as a beacon of excellence within the academic and professional pharmaceutical community.

This year's Pharmafest provides students with an invaluable opportunity to showcase their knowledge and skills through a wide range of competitions, including Olympiads, Poster Presentations, and Stall Exhibitions. Beyond these events, it fosters a collaborative environment where students can engage with and learn from some of the most distinguished leaders in the pharmaceutical industry. Pharmafest is not only about competition but also about bridging the gap between academia and industry, offering a space for meaningful interactions between students, faculty, and professionals. It inspires growth, enhances proficiency, and helps all participants develop confidence and essential leadership skills.

I would like to take this opportunity to express my sincere gratitude to the members of the NSU Pharmaceutical Club, our dedicated Club Advisor, the esteemed faculty members, and our brilliant students. Their collective effort, diligence, and enthusiasm have been crucial in making this year's Pharmafest a grand success. Together, we are not only celebrating our achievements but also shaping the future of pharmaceutical education and innovation at North South University. I look forward to witnessing the many successes and breakthroughs that Pharmafest 2024 will bring and to the continued evolution of pharmaceutical education at NSU.

Dr. Md. Mahbubur Rahman
Chairman and Professor
Department of Pharmaceutical Sciences
North South University

Pharma Fest 2024: Bridging Gaps and Shaping the Future of Pharmaceuticals in Bangladesh

As Executive Director of Techno Drugs Ltd., it's a privilege to be able to address the talented minds at The Pharma Fest 2024, hosted by the Department of Pharmaceutical Sciences at the North South University. This event, now in its 11th season, stands as a vital platform for discussing the future of Bangladesh's pharmaceutical industry, celebrating progress, and identifying opportunities to overcome current challenges.

The pharmaceutical sector in Bangladesh has shown remarkable growth, currently meeting around 98% of the country's domestic demand and increasingly expanding exports to over 150 countries. Yet, to sustain this momentum and reach new heights, the industry must address the key areas where improvement is critical.

Opportunities and Challenges in the Industry

One of the most significant opportunities lies in expanding the export market further, particularly in regulated regions like the U.S. and EU. While the industry has made strides, we still face hurdles in meeting internationally recognized documentations in terms of regulatory standards consistently. This is a skill and resource gap that academia and industry partnerships can help fill. Universities can enhance curriculums to incorporate regulatory compliance in documentation and global quality standards, which would better prepare graduates to meet the demands of international markets.

Additionally, there's a pressing need to address the shortage of skilled professionals in niche areas such as biotechnology, pharmacovigilance, and advanced R&D. Currently, only a limited percentage of professionals are skilled in these high-impact areas, which stifles innovation. By enhancing specialized training and fostering interdisciplinary studies, we can cultivate a workforce that's ready to lead Bangladesh's pharmaceutical industry into a more diversified future. Partnerships between industry and educational institutions—such as internships, hands-on workshops, and industry-led courses—can play a pivotal role in bridging this skill gap.

Data-Driven Solutions to Address Industry Needs

Our local industry, despite being robust, often faces challenges in supply chain efficiency, regulatory adherence, and scaling innovations quickly. Incorporating data-driven approaches like AI and big data analysis into the curriculum could address this by training future professionals in predictive analysis, process optimization, and compliance monitoring.

One of the most promising solutions I believe is digital transformation across pharmaceutical processes. By integrating IT tools, companies can better predict supply chain disruptions, optimize resource allocation, and maintain compliance—all crucial for staying competitive in an increasingly data-centric world. With my background in IT, I've implemented cross-disciplinary skills like data science and digital transformation in my field of work in pharmaceutical that empowered the industry to overcome longstanding bottlenecks.

Commitment to a Bright Future

Pharma Fest 2024 marks more than a decade of excellence in fostering young talent and is a testimony to the vision of the North South University leadership and the commitment of its faculty. It is essential that we continue this momentum, creating a seamless bridge between academic preparation and industry needs. I want to extend my gratitude to the Vice Chancellor and the entire organizing team for making this gathering possible, and for helping to prepare the students for a field that is as challenging and rewarding as it is.

Techno Drugs Ltd. is committed to supporting initiatives like Pharma Fest that allow students to explore practical solutions to real-world industry challenges. Together, we can ensure a future in which Bangladesh's pharmaceutical industry not only meets local demand but also continues to expand its global footprint, driven by skilled, adaptable, and innovative professionals.

Arefeen Raafi Ahmed
Executive Director
Techno Drugs Ltd.

It is my sheer joy to observe Pharmafest 2024 is taking place in its traditional grand fashion. Pharma Festival is one of the most celebrated events of North South University that includes poster presentations, Olympiads and debates by the brilliant minds of university students across the country. As the Director of Student Affairs, I have seen how the entire department came together to pull of this gala event, despite the busy academic calendar. Thanks to all who put their efforts in making the event a successful one.

This year's theme for Pharmafest, "Discover, Develop, Deliver," highlights how advanced technology, including the use of AI and nanotechnology, has transformed the pharmaceutical sector in drug discovery, development, and delivery. It emphasizes how these advancements can serve as new tools in tackling previous challenges and creating new opportunities for pharmacists and physicians alike, ultimately improving patient care and making medicine more accessible around the world. I eagerly anticipate yet another festival that has consistently outdone itself each year and extend my best wishes to the organizing club and the students in making it a grand success.

Dr. Md. Syeed Uz Zaman Khan
Director, Office of Student Affairs
North South University

The most-awaited Pharmafest has finally arrived! From serving as the Club president in 2014 to my current role as the Faculty Advisor of the North South University Pharmaceutical Club (NSUPC) after a decade, it has been a true pleasure to guide, support, and collaborate with our passionate club members in organizing Pharmafest 2024. Recognized as one of the premier events at North South University, Pharmafest continues to impress with its diverse offerings, including fascinating poster presentations, the dynamic Pharma Olympiad, captivating cultural nights, exciting stall exhibition, and many other highly anticipated events. The successful return of Pharmafest is a testament to the hard work and dedication of everyone involved behind the scenes—the members of the NSUPC.

I would like to express my heartfelt gratitude and encouragement to the Executive Body, Sub-Executive Body, Officers, Sub-Committee members, and all other members of NSUPC. Their commitment and tireless efforts have played a crucial role in bringing this event to life. It is inspiring to witness the teamwork and creativity that have shaped Pharmafest into such a remarkable experience. Together, we have not only organized an event but also fostered a sense of community and enthusiasm within our university.

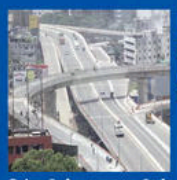
Also, for the first time, NSUPC will be hosting an ‘Alumni Night’ with a gala dinner. Here’s to a successful Pharmafest and many more in the future!

Junayet Hossain Khan
Faculty Advisor
North South University Pharmaceutical Club

ORION is one of the leading conglomerates in the country and a famous brand name in the business arena of Bangladesh with a highly diversified portfolio including Pharma & Healthcare, Infrastructure Development, Power Generation and Energy, Cosmetics & Toiletries, Textiles & Garments, Footwear, Home Appliance Ltd. and Consumer Products sectors. Orion in recent times has focused extensively on Power Generation & Energy, Hi-Tech Construction and Infrastructure Development. Orion has been consistently successful in all major investment undertakings so far and significantly contributing to country's economic growth and stability through adoption of appropriate business to business strategies. Orion always valued effective partnerships with government, foreign corporations and involved foreign technological expertises as and when required.

taking our NATION a step towards TOMORROW ...

Orion Infusion Ltd.


Orion Infrastructure Ltd.

Orion Pharma Ltd.

City Center

Orion Power Meghnaghat Ltd.

Dutch Bangla Power & Associates Ltd.

Digital Power & Associates Ltd.

Orion Power Rupsha Ltd.

Orion Power Sonargaon Ltd.

Energon Renewables (BD) Limited

Orion Power Unit-2 Dhaka Ltd.

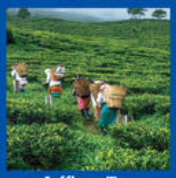
Orion Oil & Shipping Ltd.

Orion Gas Ltd.

Orion Footwear Ltd.

Orion Consumer Products Ltd.

Orion Tea Company Ltd.


Jafflong Tea Company Ltd.

Orion Home Appliance Ltd.

Orion Knit Textiles Ltd.

Orion Quaderia Textiles Ltd.

Kohinoor Chemical (BD) Ltd.

Corporate Office: Orion House, 153-154 Tejgaon Industrial Area, Dhaka-1208, Bangladesh.
Tel : +88-02-8870133, Fax : +88-02-8870130
E-mail : orion@orion-group.net, Web : www.orion-group.net

ORION
Pharma Ltd.

In Search of Excellence

The #1 Basal Insulin Worldwide

LANTUS®
insulin glargine [rDNA origin] injection

IMPORTED FROM GERMANY

Ultra Safe, Ultra Long-acting Insulin

Toujeo®
insulin glargine 300U/mL

Imported from: SANOFI PASTEUR

FIGHT THE FLU
Get an annual flu shot with
VaxigripTetra
(Quadrivalent Influenza Vaccine)

To effectively reduce CVD or CV risk factors
by controlling hyperlipidemia

RoZenon® 5mg 10mg 20mg
Rosuvastatin Calcium USP

Reduce Reserve Revive

QUALITY PREMIUM ROSUVASTATIN

3 Minutes FAST ACTION *Works instantly

4 Hours REFLUX FREE TIME *Shield acid reflux

For fast relief of acidity & heartburn

GAVISYN™

Sodium Alginate, Sodium Bicarbonate
& Calcium Carbonate

For rapid symptomatic relief of
allergic conditions and nasal congestion

Phenergan Plus®

Promethazine 6.25mg + Phenylephrine 5mg/5ml

A breath of relief

synovia
hope. health. happiness.

1ST OEB-5
Anti-Cancer Facility in Bangladesh

Striving for Excellence

QbD QUALIFIED

Healthcare Oncology

IS NOW EU GMP COMPLIANT

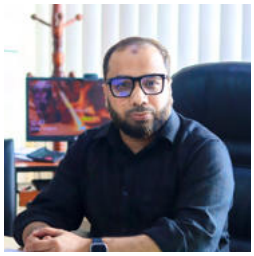
Achieving Global Excellence in Oncology

- Our commitment towards excellence is going to be recognized with EU-GMP accreditation.
- Since 2014, Healthcare Oncology Ensures world-class quality and safety in cancer treatment.
- And Now, We are Challenging Our Limits, breaking barriers, Becoming Global.

Healthcare Pharmaceuticals Limited

Department of
PHARMACEUTICAL SCIENCES

CORE FACULTIES



Dr. Md. Mahbubur Rahman
Professor & Chair

Dr. Hasan Mahmud Reza
Professor

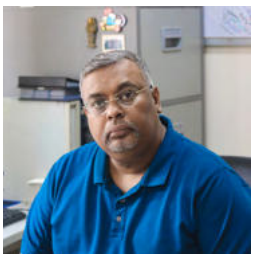
Dr. Preeti Jain
Professor

Dr. Mohammad Hossain Shariare
Professor

Dr. Asim Kumar Bepari
Professor

Dr. Md. Nurul Islam
Professor

Dr. Md. Ashraful Alam
Professor



Dr. G.M. Sayedur Rahman
Professor

Dr. Murad Hossain
Professor

Dr. Nusrat Subhan
Associate Professor

Dr. Manik Chandra Shill
Associate Professor

Dr. Ferdous Khan
Associate Professoror

Dr. Shazid Md. Sharker
Associate Professor

Dr. Md. Borhan Uddin
Associate Professor

Dr. Md. Hasanuzzaman Shohag
Associate Professor

Dr. Md. Shaki Mostaid
Associate Professor

Abdullah-Al Masum
Associate Professor

Dr. Rezwana Ahmed
Assistant Professor

Dr. Mohammad Burhan Uddin
Assistant Professor

Dr. Reatul Karim
Assistant Professor

Dr. Nusrat Hossain
Assistant Professor

Dr. Muhammed
Mahfuzur Rahman
Assistant Professor

Tahmina Yasmin
Senior Lecturer

Md. Adit Muktadir Pavel
Senior Lecturer

Sabrin Islam Khan
Senior Lecturer

Javed Ibne Hasan
Senior Lecturer

Junayet H Khan
Senior Lecturer

Sadia Shabnam
Lecturer

Md. Zahidul Islam Zahid
Lecturer

Anika Tabassum Bristy
Lecturer

Mahinoor Fairooz
Lecturer

Nadia Afrin
Lecturer

Umarah Miazi
Lecturer

ADMINISTRATIVE OFFICERS & STAFF

Ms. Sharmin Alam Shilu
Senior Officer

Md. Jasim Uddin
Senior Officer

Ms. Sharmin Sultana
Asst. Officer (Seminar Library)

Md. Lokman Sarker Record
Assistant

Md. Moniruzzaman
Office Support Staff

Shewly Akter Bokul
Office Support Staff

Sadia Binte Aziz
Pharmacist
NSU Model Pharmacy

Azmir Hossin
Lab Attendant

Md. Obaydullah
Lab Attendant

Md. Hasan Molla
Lab Attendant
NSU Model Pharmacy

LAB OFFICERS

Sharmin Sultana

Md. Delower Hossain

Umme Salma (Tania)

Syed Abdul Kuddus

Tushar Imran

Shaiful Alam

Mithun Saha

Esfat M. Saim Brishty

Astrid Mukta Biswas

Anik Kumar Saha

Nushrat Jahan

ONLY GERMAN-TECH

ESORAL® MUPS

Esomeprazole MUPS 20mg & 40 mg Tablet

Advanced GI Medication, for the Nation

Follows Originator's Formula

Better equipped Esomeprazole formulation

- Multi-layered Micro-pellet
- Higher Pellet Count (940-950)
- Larger Surface Area More Absorption

Technology from Evonik Germany

Esomeprazole from USFDA Approved Source

SK+F

ESKAYEF PHARMACEUTICALS LTD.

Approved by: US FDA | UK MHRA | EU GMP | TGA Australia | Brazil ANVISA

Scan QR Code & Stay Connected with Esoral MUPS

esoralmups.com

Healthcare Oncology | Healthcare

/clemoncleardrink | akijfairvalue.com

Welcome to the Club

NSUPC is an epitome of a dynamic platform where students from all batches of the Department of Pharmaceutical Sciences, along with our dedicated faculty members, join together to explore new ideas and nurture excellence. Our club is committed to fostering creativity, talent, and growth, providing opportunities for personal development, academic prowess, and collaboration across diverse interests. NSUPC continues to prosper as experienced and committed executive and sub-executive board members, and a group of passionate officers continue to work hard and utilize their organizational expertise with the guidance of our honorable faculty advisor. We remain one of NSU's most respected and vibrant clubs due to their dedication to perfection.

This year, our theme—Discover, Develop, Deliver—perfectly encapsulates the objective of the club. We encourage our members to discover new ideas and insights, develop their potential through practical and innovative experiences, and ultimately deliver excellence in both academic and extracurricular endeavors.

Our activities, from thoughtfully organized seminars and workshops to remarkable events such as Pharma Fest, Annual Sports, and Field Trips, are designed to promote academic proficiency and general life skills. Pharma Fest, our signature event, remains a key highlight, where students showcase their artistic flair, creativity, and skill sets in a radiant and collaborative atmosphere. NSUPC is more than just a club; it is a community of future leaders and aspirants with a vision to radiate excellence in academic pursuits, research, and innovation. Students gain invaluable experiences, develop long-lasting bonds, and create cherished memories by participating in various engaging club activities.

In addition to our team efforts, we take pride in celebrating the individual accomplishments of our members. We recognize the outstanding achievements of our members in research, academics, and community engagement. Together, let's continue to discover, develop, and deliver as we shape the future of the pharmaceutical field.

NSUPC 2023-2024

the core team

SUB EXECUTIVE BODY

LOGISTICS

Kawser Ahmed

Md. Kamruzzaman Redoy

Md. Safayat Chowdhury

PUBLICATION

Jaheen Raisa

Saad Ahmed

Faaiza Farbin Ali

SPONSORSHIP

A.F.M Faiz-Ur-Rahman

Mahdiat Kabir

Siddiqui Salsabil Sayeed

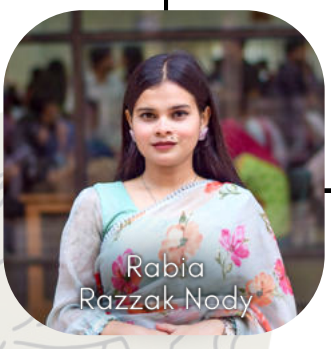
PUBLIC RELATIONS

Md. Mashir Hossain

Farhana Sabur Ahmed

Md. Nazmul Hossain Shanto

DECORATION


Rabia Razzak Nody

Intia Hamid

Rubaiyat Mustarin

PHOTOGRAPHY

Safayet Haque Sadbin

Tanjimul Rafsan

GRAPHICS

Ziad Ibn Alam

Oyshi Chowdhury

Md. Mahidul Islam Emon

CULTURAL

Prantor Dey

Md. Fazzle Rabbi

Nusrat Jahan

Eshanoor-E-Hossain Jatno

SPORTS

Omit Hasan

Md. Adnan Mahmud Rafi

Mohibullah

CORE TEAMS

Logistics

Publication

Sponsorship

STUDENT
AFFAIRS
Decoration

Graphics

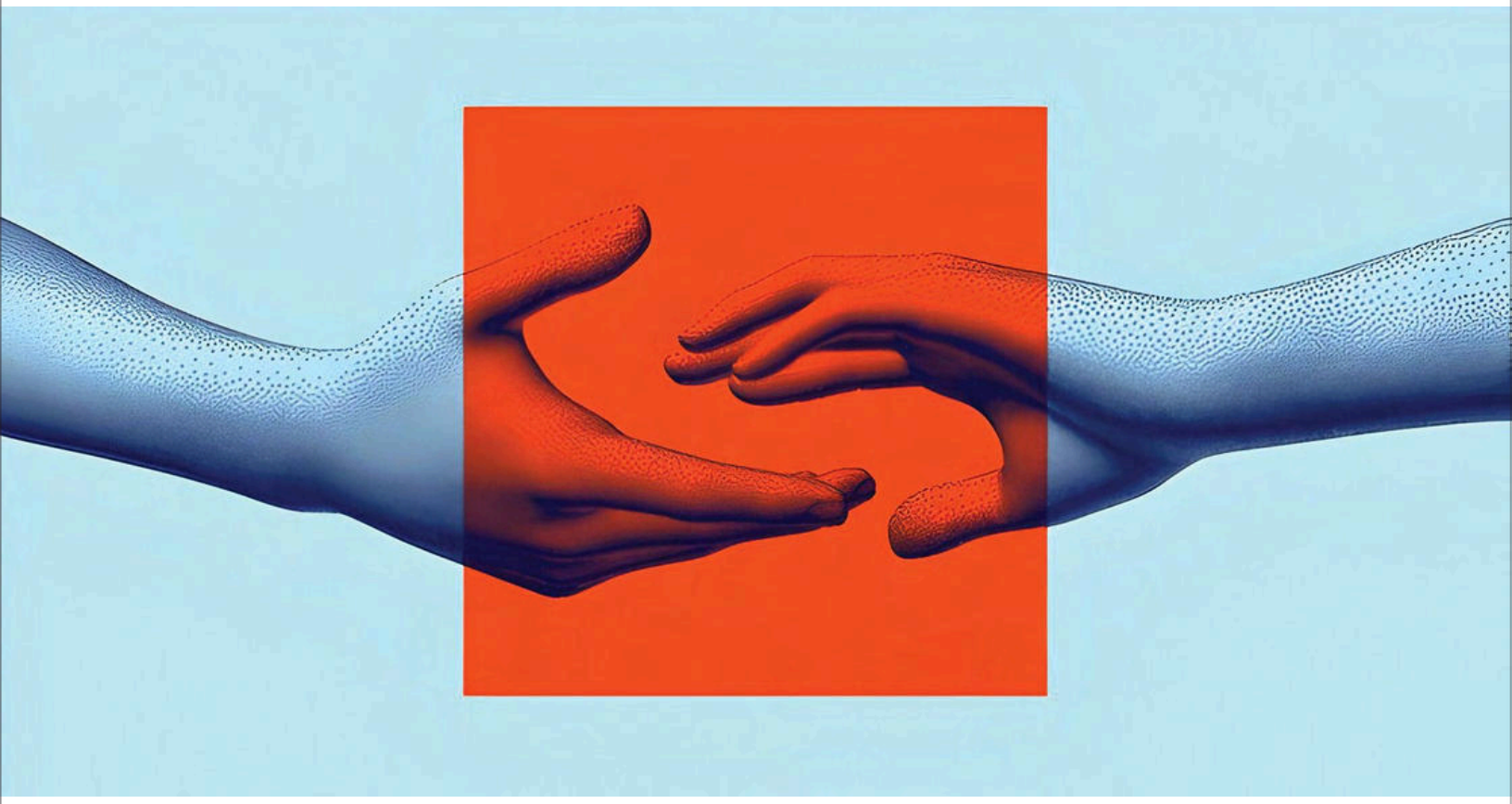
Photography

OFFICE OF
STUDENT
Public Relations

OFFICE OF
STUDENT
Cultural

Sports

TOUCHING LIVES
to the **Power of Cure**



BEACON®

Light for life

FACULTY ARTICLE

Dr. Muhammed Mahfuzur Rahman
Assistant Professor

Surveillance on drugs after approval - why and how?

A drug or medicine (although not the same thing) goes through a lot of trials and errors before getting approval for going into the market i.e. approval for use by the patients. The tests a drug molecule must go through are for finding out the adverse drug reactions i.e. side effects, among other things. Although most of the ADRs get found out this way but not all of them. A rare side effect may not occur in preclinical or clinical trials as well as uniqueness of patients can bring out some adverse events that were not found during the trials. Therefore, a question may arise- who is monitoring these events? Who is looking after these drugs after getting the market approval?

Thus, the idea of Pharmacovigilance (PV) arises. Although PV deals with all the ADRs i.e. documented ADRs during phase-I, II, and III of clinical trials as well as the ones that occur in real clinical settings, one of the main focuses of PV is post-marketing surveillance. There are authorities responsible for the management of health-related issues in every country and these authorities conduct this surveillance, such as the DGDA of Bangladesh, the FDA of the USA, and so on.

Post-marketing surveillance is also known as Phase IV of a clinical trial, although a drug does not need to pass this phase to get authorization to market the drug. This phase comes after market approval, hence the name "post-marketing surveillance". This surveillance can be based on spontaneous or mandatory reporting. Mandatory reporting is done by the manufacturer periodically to report whether there are any new findings on the drug or not. Spontaneous reporting is done by healthcare professionals (HCPs), though the initial report should come from the consumer i.e. the patient i.e. the normal people. If you as a patient feel severe ADR, you need to contact your nearest HCP so that he/she can report it to the authority. This is spontaneous reporting.

Spontaneous reporting is carried out by using a card, usually named "Yellow card"(although the Americans use FDA 3500 form as they need to be different than others). The yellow card scheme was first introduced in the UK in 1964, courtesy of a historical phenomenon called the "Thalidomide Tragedy". We can thank Australian Physician McBride for sending a letter to the Lancet informing us about the tragedy regarding thalidomide. His letter pointed out the key information required in doing spontaneous reporting, therefore, based on this letter, the yellow card was developed.

Now, a point may arise what should be reported in the yellow card? Well, as a consumer of drugs/ medicines, you can report any adverse event related to the medication. It can range from a tear in the blister pack to feeling discomfort due to taking the drug. You will inform the nearest HCP and then that HCP will report through a "Yellow card" i.e. spontaneous reporting. One of the examples that we experienced such cases in the near past is taking the COVID-19 vaccine and reporting if any side effects arise due to taking the vaccine. That is how the knowledge of ADRs has been gathered, apart from the others reported from the trials.

What happens after you report- one can ask the question. Let us see an example in Bangladesh- following the reports from the HCPs the forms are collected and similar reports i.e. reports of a specific drug are collated. This collection of ADRs is known as " signal". Then the Adverse Drug Reaction Management Cell of DGDA will analyse the signal and assess whether there is a causal relationship with the drug. If yes, then consequences can range from changing the classification of the drug to a permanent ban from use in patients. A permanent ban can occur when the drug is found to be teratogenic or carcinogenic or causing severe, life-threatening ADRs.

All the processes related to a drug molecule in developing, and authorizing for human consumption are to ensure the rational use of that drug. PV is a key factor in ensuring the safe and efficient use of drugs in a clinical setting. Therefore, the regulatory authorities are responsible for keeping a keen eye on adhering to the proper PV process.

STUDENT ARTICLES

Shahriar Alam Shanto
2021352049

Neuro-phosphoproteomics:

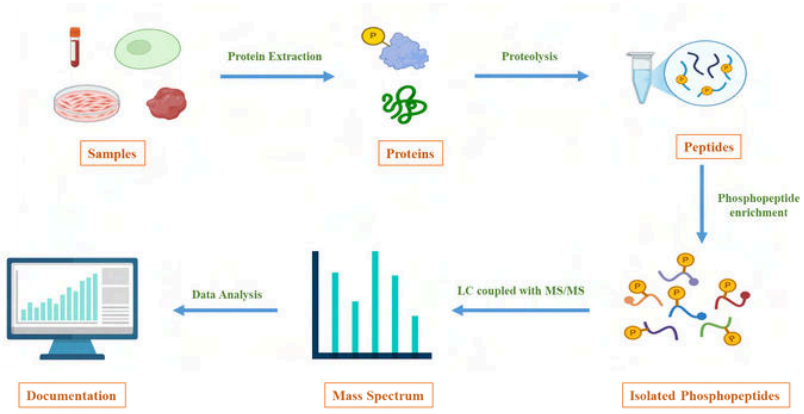
Unraveling Phosphorylation Dynamics in the Nervous System

Neuro-phosphoproteomics is a specialized field of proteomics that focuses on investigating the phosphorylation of proteins in the nervous system. Phosphorylation is a reversible post-translational modification, in which kinases add a phosphate group to proteins, generally at serine, threonine, or tyrosine residues, and its removal by phosphatases. This process is critical for regulating protein activity, location, and interactions with other molecules. Phosphorylation plays a crucial role in the central nervous system, modulating processes like synapse formation, neurodevelopment, axon growth, synaptic transmission, plasticity, and response to injury or diseases.

Phosphorylation also plays an important role in neurons because of their distinct and intricate signaling pathways. Neurons use phosphorylation to control the position, activity, and functionality of proteins, particularly those involved in synaptic transmission and plasticity. Phosphorylation is an important regulatory mechanism in these activities, particularly in the modulation of synaptic proteins and receptors like NMDA and AMPA. Dysregulation of phosphorylation is associated with decreased synaptic plasticity, which has been connected to neurodegenerative illnesses such as Alzheimer's disease (hyperphosphorylation of tau protein), Parkinson's disease, and Huntington's disease.

Sophisticated approaches are required to capture phosphoproteins since they are rare and have transient phosphorylation states. Phosphorylated peptides can be isolated from complicated protein mixtures using techniques such as metal oxide affinity chromatography (MOAC), titanium dioxide (TiO2) enrichment, and immobilized metal affinity chromatography (IMAC). These phosphoproteins are then identified and quantified using mass spectrometry (MS), which enables researchers to map phosphorylation sites and deduce the biological significance of these sites. After digestion of proteins, MS can detect phosphorylated peptides by comparing the mass differences between phosphorylated and non-phosphorylated counterparts following protein digestion. Phosphorylation levels in various samples or situations are frequently compared using techniques like tandem mass tag (TMT) labeling, isobaric tags for relative and absolute quantification (iTRAQ), and label-free quantification (LFQ).

In recent years, neuro-phosphoproteomics has become instrumental in uncovering potential biomarkers for neurological diseases and identifying therapeutic targets. By mapping phosphorylation networks, researchers can investigate how kinases and phosphatases interact in disease states, providing novel insights into therapy development. Additionally, this field of study has facilitated the discovery of cross-talk between phosphorylation and other post-translational modifications, such as ubiquitination and acetylation. Ultimately neuro-phosphoproteomics is helping to shed light on the molecular complexities of the brain, advancing our understanding of neurological diseases and their treatments.



Ramisha Anan Rahman
1831695049

MicroRNAs with Macro-potential

How the 2024 Nobel prize winning discovery translates to the field of pharmaceutical sciences

You may have recently come across the Nobel prize announcement in the field of Physiology and Medicine awarding two exceptional scientists for their discovery of the microRNA, tiny molecules of non-coding RNA spanning only 21 to 23 nucleotides. With their seminal research in the 1990s, Victor Ambros and Gary Ruvkun made the groundbreaking discovery, unveiling a completely novel field in biochemistry waiting to be explored. The plethora of research that ensued regarding the functions of microRNAs as a game-changer in gene regulation caused seismic effects in the medical field.

The genetic material in the form of DNA housed in all organisms provide instructions for synthesizing proteins that carry out uncountable functions. Interestingly, all cells in the human body contain the same DNA, thus provided with the same set of instructions. Then how is it that the cells constituting the heart cannot secrete insulin like the pancreatic beta cells? The secret to cell differentiation lies in the differences in gene expression, governed by transcription factors which help create mRNAs, and subsequently proteins, corresponding to only specific sections of the DNA. miRNAs play a significant role in the expression of different proteins through binding to target mRNAs and causing their functional loss.

Due to the abundance of miRNAs and their varied roles in disease development, miRNA therapeutics is segregated broadly into two categories. miRNA mimics are those which emulate the effects of endogenous miRNAs, and is often used to replenish tumor suppressive properties of miRNAs downregulated in various cancers. For example, the miR-34 family is downregulated predominantly in lung and breast cancers; therefore, use of miRNA mimics may be beneficial in this regard. On the other hand, miRNA inhibitors, also known as antimiRs can target specific miRNA and hinder their function in cases where the miRNA exhibit a deleterious role. Some miRNAs known as oncomiRs act as oncogenes and are found to be upregulated in various cancer types, such as miR-10b and miR-221.

RNA based therapeutics have garnered much attention in the past few years, with the development of SARS-CoV-2 mRNA vaccines playing a vital role in controlling the deadliest pandemic of recent decades. The Nobel prizes of the last two consecutive years (2023 and 2024) in medicine both concerning a form of RNA highlights the importance of such therapeutics. However, despite vast research, miRNA therapeutics lag behind. A notable challenge lies in the off-target effects of miRNAs, which requires highly targeted delivery systems to ensure specificity. Toxicity and adverse effects remain a crucial impediment to miRNA therapeutic development since a single miRNA can play roles in various targets, thus producing undesired off-target effects. For example, a miR-34a mimic, MXR34 was found to cause immune-related adverse effects in addition to tumor suppression. Furthermore, delivery systems themselves can induce immunologic reactions. In addition to the technological difficulties, the field of miRNAs is a budding field yet to be completely understood. With more research comes more opportunities for leveraging miRNA therapeutics in ways unimagined before, potentially changing disease management forever. This vast realm opened up by a single tiny molecule requires the expertise of pharmacists to develop enhanced delivery systems and miRNA therapeutics that may help ameliorate a number of diseases which are ineffectively and incompletely managed as of yet.

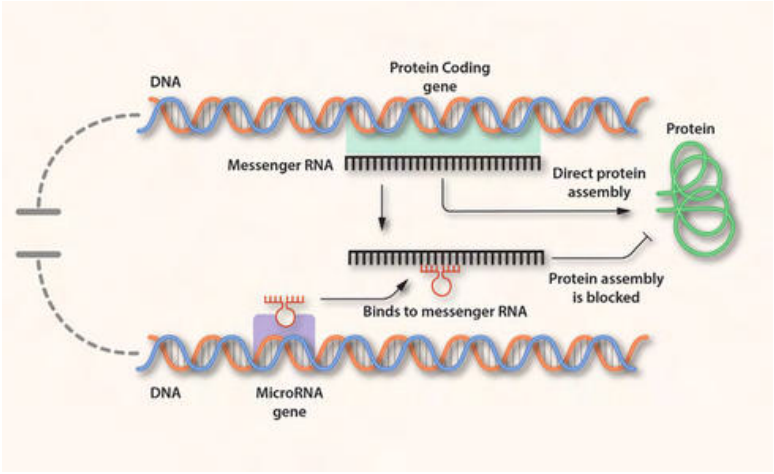


Figure: Mechanism of microRNA induced inhibition of mRNA

PulseTech™

MediPOS®
Pharmacy POS Software
More than a POS

- ৩০,০০০+ মেডিসিন ডাটাবেজ
- সহজ ক্রয়-বিক্রয় হিসাব
- সর্ট স্টক অ্যালার্ট
- অনলাইনে ওষুধ ক্রয়-বিক্রয়ের সুবিধা
- মালিকদের জন্য আলাদা অ্যাপ
- অনলাইন এবং অফলাইনে ব্যাবহার যোগ্য
- স্টক- ইনভেনটরি নিয়ন্ত্রণ
- কম্পিউটার এবং ট্যাবে ব্যাবহার যোগ্য
- সম্পূর্ণ নিরাপদ সফটওয়্যার

বিস্তারিত জানতে

+88 096 09 08 07 06

+88 01322 800 321

+88 01322 800 322

www.medipos.app

Quality is our passion, not just a responsibility

The history started when a father said "don't manufacture any medicine which you can't give to your parents". He said this when his sons sought his permission to establish **ARISTOPHARMA** in 1986. The father has passed away, children have grown up, grandchildren have come but the advice has remained fresh in the hearts of all ARISTO members. Every granule we formulate, every tablet we compress, every drop we produce – we take care so that it can be given to our parents, our children, our grandchildren. With continuous practice, it has now turned from responsibility to our passion & this is **ARISTOPHARMA** – passionately committed to produce quality medicines.

ARISTOPHARMA LTD.

M M Shanjid Islam
1911983049

Back to the Future:
Psychedelics in the Spotlight

Interest in the therapeutic potential of psychedelics, having lain relatively dormant in the face of stigma and heavy regulations for decades, has reignited in the last ten years. Although the contemporary resurgence of psychedelics research is still in its infancy, clinical trials in humans are showing promising results of psychedelic-assisted therapy for treating a variety of mental health disorders.
Psychedelic compounds can be divided into four classes based on their pharmacological profiles and chemical structures:

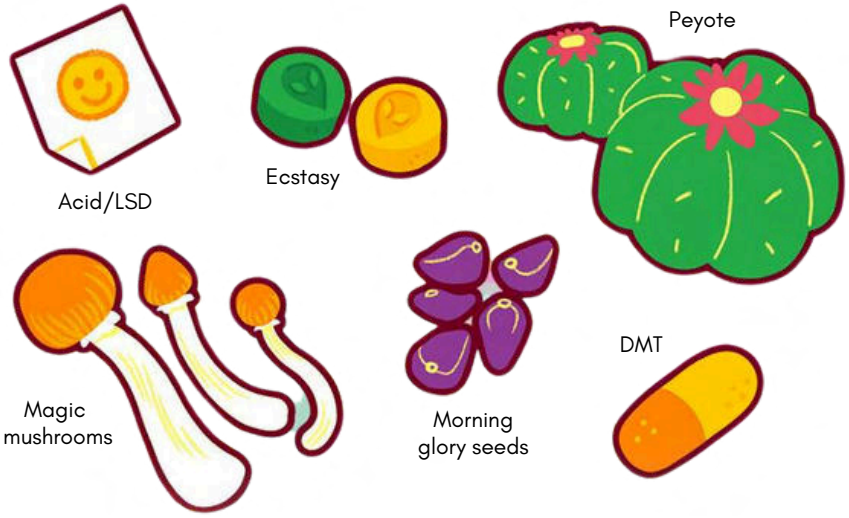
Classic Psychedelics: Two of the most popular psychedelic compounds, psilocybin and lysergic acid diethylamide (LSD) fall under this category. Psilocybin is found in a group of fungi called "Magic Mushrooms". LSD on the other hand, is a semisynthetic substance derived from lysergic acid, a natural product extracted from the ergot fungus. D-lysergic acid amide (LSA) originating from the morning glory seeds and "Ayahuasca", a decoction containing N,N-dimethyltryptamine (DMT) and β-carboline, also belongs to this class. Classical psychedelics basically act as serotonin 2A (5-HT2A) receptor agonists with varying affinity to different subtypes of the receptor. These compounds are effective against a number of disorders including depression, anxiety, mood disorders, substance use disorder, OCD, and PTSD.

Empathogens or Entactogens: 3,4-Methylenedioxymethamphetamine (MDMA), also known as "Ecstasy", is a popular entactogen which acts as a serotonin agonist and increases the release and reuptake inhibition of dopamine and norepinephrine. It is a ring-substituted phenethylamine with structural similarities to mescaline, another psychoactive alkaloid, found in the cactus named "Peyote". MDMA is currently on the verge of regulatory approval and is under investigation as a drug to treat eating disorders, anxiety disorders, and PTSD.

Dissociative Anesthetics: The N-methyl-D-aspartate (NMDA) receptor antagonist "Ketamine", is a poplar dissociative anesthetic that has shown antidepressant efficacy across multiple clinical trials. It can also be used for managing addiction, chronic pain, autism, and suicidal ideation.

Atypical Hallucinogens: Basically, a group of unrelated distinct chemical substances with legal status and therapeutic potentials, capable of causing or giving rise to psychedelic-like effects through diverse pharmacological mechanisms. Examples include the indole alkaloid Ibogaine, the kappa opioid receptor agonist Salvinorin A, and the anticholinergics: Atropine and Datura.

Clinical research involving psychedelic drugs, has huge potential to advance our understanding of the neurobiological processes and therapeutic outcomes. While we support research on the medical applications of these compounds, we are realistic about the need for more clinical trials using rigorous and validated methodology, to address concerns about the potential for substance abuse and significant medical and psychiatric sequelae in vulnerable populations.



Amiaya Biswas Turjya
2122055649

Designing Drugs That Target 'Twin' Cancer Proteins

There are multiple types of proteins in our body, which have various functions. Drugs can easily block some proteins in our human body. These proteins have certain specific site in their structure where the drug can bind and inhibit its function. However, at the same time there are other proteins, which are more difficult to target, with no clear drug-binding sites.

In order to design drug that blocks a cancer-related or autoimmune disease related protein, Scripps Research scientists took an idea from the protein's twin or paralog, in a groundbreaking approach they call "paralog hopping."Proteins in human cells often have a near-identical sibling known as a paralog. These paralogs are the result of evolutionary gene duplications that produce similar proteins with slightly different roles in the body. About half of all human proteins have these twins, many of which are implicated in diseases like cancer or autoimmune disorders. Scripps scientists discovered that by studying a paralog with an easier-to-target structure, they could develop drugs to block its more elusive twin.

The research team, led by Dr. Benjamin Cravatt and graduate student Yuanjin Zhang, published their innovative approach in Nature Chemical Biology. They focused on two paralogs, CCNE1 and CCNE2, which are known to be overactive in various cancers such as breast, ovarian, and lung cancers. The challenge? CCNE1 lacked a clear site for drugs to bind, while CCNE2 had a drug-friendly feature called a cysteine—an amino acid that makes a great landing spot for certain drugs. By engineering CCNE1 to mimic this druggable cysteine, the team was able to design drugs that could target both proteins.

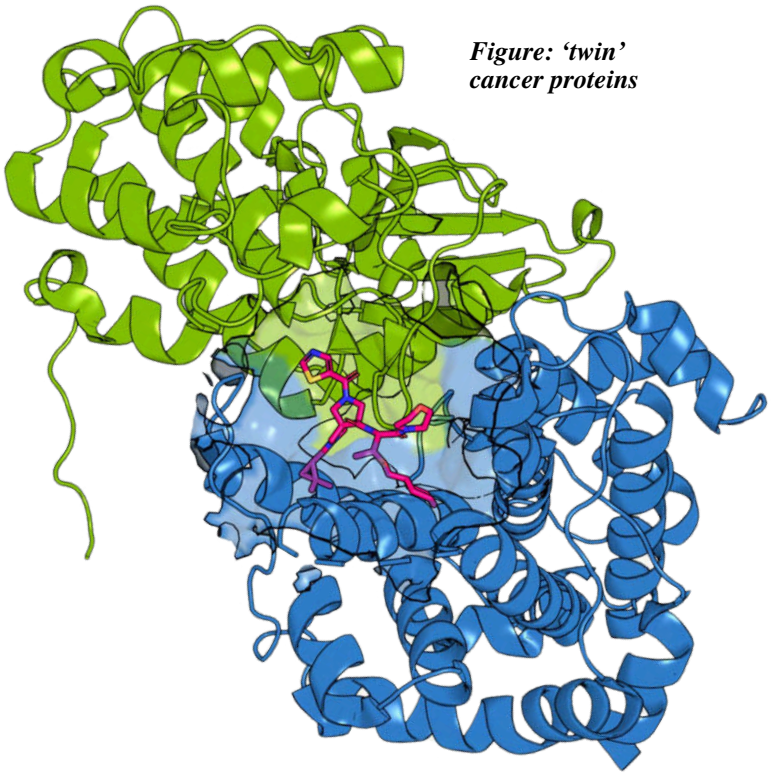


Figure: 'twin' cancer proteins

Through creative screening methods, the scientists discovered compounds that bound to a previously hidden pocket on CCNE1. Some of these compounds acted differently, even stabilizing the protein instead of deactivating it. This showed that targeting proteins in new ways could lead to a variety of unexpected drug functions.

This "paralog hopping" technique not only opens up new possibilities for drug discovery but also highlights the value of thinking outside the box when designing treatments for cancer and other diseases. As Cravatt and his team continue to apply their approach to other cancer-related proteins, their work could revolutionize the way we find druggable targets in some of the body's most challenging proteins.

Oyshi Chowdhury
2021372049

Telomeres and Aging:
Can We Slow Down the Clock?

Telomeres are essential for cell division in practically all creatures, from the simplest to the most complex. With each cell replication, the telomeres shorten until they are so short that our cells can no longer divide. When cells stop dividing, tissues age. Telomeres are structures located at the ends of chromosomes that are composed of proteins and DNA sequences. Think of them like a shoelace's tip, covering and shielding a chromosome's end, thus playing a crucial role in maintaining the stability of our DNA, helping to keep our cells functioning properly as we age. The effects of telomere shortening have received much attention from the scientific community worldwide in recent years.

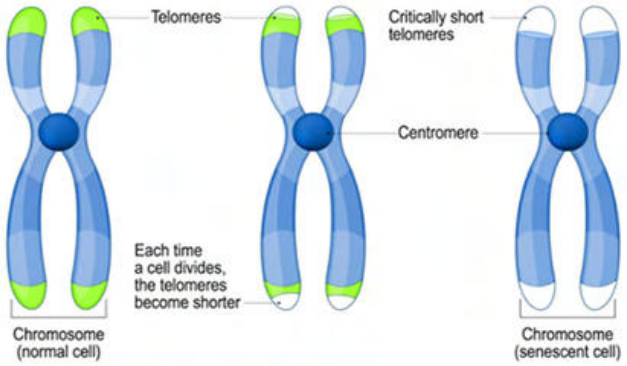
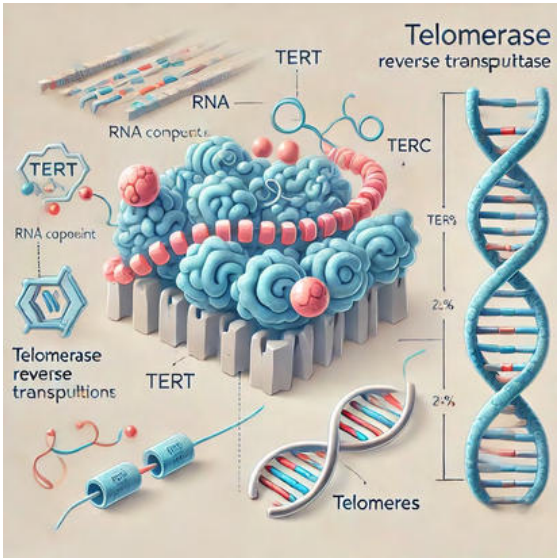


Figure: 'Hallmarks of Aging' *Cell division will cease once telomeres shorten to a critical length*



Shorter telomeres considerably increase the risk of various psychiatric illnesses, and increase the likelihood of developing Alzheimer's disease. It is associated with longer disease duration, lower brain volumes (as measured by MRI scans), and a higher degree of disability among people with multiple sclerosis. Also, association with an increased risk of cardiovascular illness, as well as a higher risk of complications in patients with coronary heart disease are evident.

Researchers at Stanford University School of Medicine have unveiled an innovative method that can effectively and rapidly lengthen human telomeres. Instead of stalling or dying in the lab dish, treated cells grow rapidly, acting much younger than untreated cells. The scientists claim that the process, which uses a modified form of RNA, will enhance researchers' capacity to produce vast quantities of cells for research or drug development. The process stretched the telomeres of skin cells, allowing them to divide up to 40 times more frequently than untreated cells.

The researchers extended the telomeres with modified messenger RNA. RNA transports instructions from genes in the DNA to the cell's protein-producing factories. The RNA utilized in this experiment contains the coding sequence for TERT (Telomerase reverse transcriptase), the active component of a naturally occurring enzyme known as telomerase. To ensure that the telomeres of these cells remain optimal for the following generation, stem cells—including those that give rise to sperm and egg cells—express telomerase. We are optimistic that these findings may lead to new ways of treating illnesses associated with telomere shortening.

Kazi Zubaer Bin Selim
2321561648

Beyond the Avogadro Number: The Science of Homeopathy

Homeopathy, the only medical practice where "less is more" has a whole new meaning. You might have heard the joke, "It is like throwing a pinch of salt into the ocean and hoping the entire sea tastes salty." It often feels like they shake a bottle of water and label it as a cure. Despite the controversy, homeopathy has continued to thrive well over two centuries. Well, I am not here to claim that homeopathy works, but I do have something interesting about it that may change your perception.

Let's start with Samuel Hahnemann, who invented homeopathy in the late 18th century. It is based on three fundamental principles. Firstly, the "Law of Similars" states that a substance producing symptoms in a healthy person can cure those symptoms in a sick person; secondly, the "Law of Minimum Dose" postulates that the more a remedy is diluted, the more potent it becomes, and lastly, the most controversial "Potentization" a procedure involving repeated dilution and vigorous shaking of substances. The substances are thought to be so highly diluted that they may not contain any original material, let alone have any therapeutic effect. Because of potentized solutions at high dilutions (30C, 200C, etc.), beyond the Avogadro number (12C), the original substance is diluted so much that it's not expected to be present.

This belief has fueled debates for decades, besides citing homeopathy as pseudoscience. But all of these beliefs are challenged by one recent scientific breakthrough. A team of researchers led by Camelia Berghian-Grosan investigated highly diluted ethanol- and water-based solutions of gold, also known as Aurum metallicum or AUR-a homeopathic remedy, using such dvanced techniques as electron microscopy and Raman spectroscopy. By employing transmission electron microscopy (TEM), researchers revealed the presence of nanoparticles in Aurum metallicum solutions even at extreme dilutions like 30C and 200C, which goes beyond the Avogadro number, where no material was expected to remain. ,
They found that at 6C potency, nanoparticles were clearly observed, and even at higher dilutions of 30C and 200C, nanoparticles and clusters of particles were still present. Further investigation using energy-dispersive X-ray spectroscopy (EDX) confirmed that gold was detected in all the samples. In fact, it has been observed that the particles' arrangement changes with the different potency levels. It seems that the process of potentization does not erase the original substance but reorganizes it into new structural forms.

To confirm this idea, they applied Machine learning algorithms to Raman spectroscopy data and successfully distinguished between potentized and non-potentized solutions. This revealed that potentized solutions retain molecular "fingerprints" of the original material, as explained, and suggest potential structural changes that could explain their biological effects. These findings definitively debunk the misconception that potentized homeopathic solutions contain no trace of the original material. While it does not provide solid proof of homeopathy's therapeutic efficacy. But as we now know, it's not just magic water or sugar pills, after all! Some science may be behind those tiny nanoparticles and clusters that stick around after potentization. This research gives homeopathy a solid scientific footing to explore its potential because it is still an unfinished science. Besides, we're not ready to declare it the new frontier of medicine, but it raises some curious questions now.

Moringa LX

Moringa oleifera leaf extract 500 mg Capsule

A Revolution
for health and wellness

- A good source of nutrients like Vitamins, Minerals & Proteins that boost energy & immunity
- Helps to delay progression of diabetes
- Decreases fasting and postprandial blood glucose level
- Could be used as add on therapy for type II diabetic patients
- Reduces bad cholesterol and protects heart
- Alleviates inflammation & chronic bone-joint pain
- An alternative solution for Iron Deficiency Anemia
- Increases volume and flow of breast milk
- Helps in relieving constipation

The **IBN SINA**
Natural Medicine Ltd. (Herbal Division)

Quality, We Assure

www.ibnsinapharma.com

This is circulated with prior approval of the Licensing Authority (Drugs).

BEAT™
facebook.com/beatzafir
GA-041A, Ground Floor,
Jamuna Futuer Park,
Dhaka.
VISIT NOW

Sumyea Hossain Hira
2221594649

Digital Bio-Banking: Revolutionizing Pharmacy

Biobanking is the process of collecting, storing, and managing biological samples (such as blood, tissue, DNA, or other bodily fluids) for use in research and medical studies. Digital biobanking refers to the integration of digital technologies into the traditional biobanking process using advanced data management systems to store, organise, and analyse large-scale biological data such as genetic information, medical records, and other health-related data.

Digital bio-banking is transforming the landscape of pharmacy by enabling the efficient collection, storage, and analysis of biological samples. This innovative approach leverages advanced technologies such as blockchain and artificial intelligence to ensure the integrity and security of biospecimens. Digital biobanks often use cloud storage, artificial intelligence (AI), and machine learning to manage and interpret complex datasets. By digitising the bio-banking process, pharmacists can streamline research and development, leading to faster discovery of new drugs and personalised treatments.

One of the key benefits of digital bio-banking is its ability to support precision medicine. By maintaining comprehensive digital records of genetic, environmental, and lifestyle data, researchers can develop targeted therapies tailored to individual patients. This not only enhances treatment efficacy but also minimizes adverse effects.

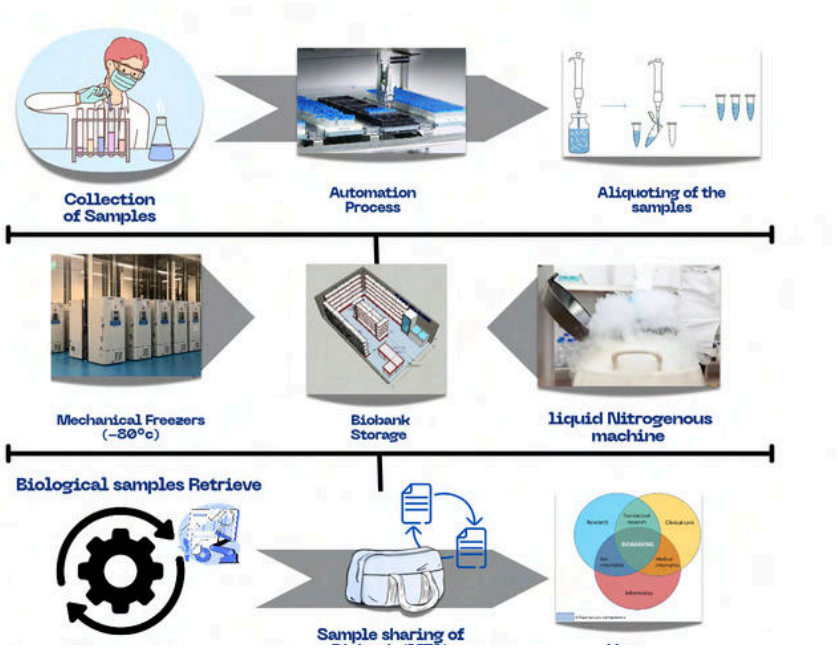


Figure: *Hypothetical workflow model for collection, storage and distribution of samples in biobanking. a displays an example of automation of biological sample aliquoting. b shows a storage unit where biosamples can be stored in mechanical freezers or liquid nitrogen storage device. c displays the phases needed for samples sharing. A management software is needed for samples retrieval and an approved material transfer agreement (MTA) in case of both internal and external users before samples transferring*

Digital bio-banks utilize multi-layered advanced security measures such as encryption and decryption, data anonymization, role-based access control (RBAC) etc. to ensure enhanced security and protect sensitive patient information.

Pharmaceutical companies can access biobank datasets to better understand the genetic markers or proteins involved in various disease mechanisms. This information can help them identify potential therapeutic targets for developing new drugs. Data from digital biobanks can also be used to study the pharmacokinetic profile i.e. the absorption, distribution, metabolism, and excretion of drugs, as well as their safety and efficacy information.

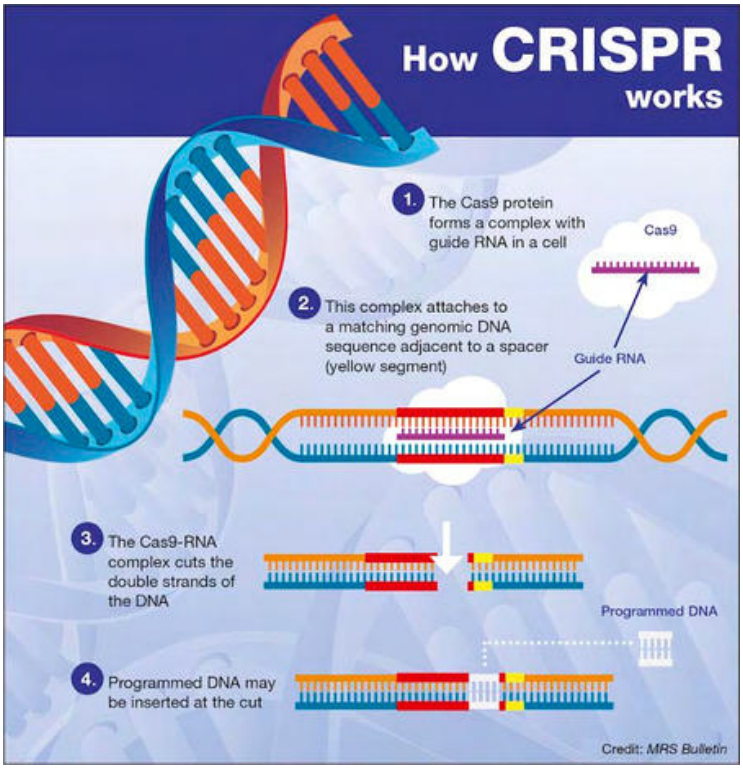
Moreover, digital bio-banking facilitates global collaboration among researchers, accelerating the pace of scientific breakthroughs. It enables large-scale multi-institutional research projects and provides a unified platform for the researchers. As the pharmacy sector continues to embrace digital transformation, the integration of digital bio-banking stands out as a pivotal advancement, promising a future of more effective and personalized healthcare.

Muhammad Izaz Mahmud
2411090649

CRISPR: Revolutionizing Drug Delivery with Genetic Precision

CRISPR, a revolutionary gene-editing tool, is rapidly transforming the landscape of medicine, holding immense potential for drug delivery. Traditionally, delivering drugs to specific cells within the body has been a complex and imprecise process. Often medications can have unintended side effects on healthy tissues as they circulate throughout the body. CRISPR offers a new level of control, allowing scientists to target and edit genes with unprecedented precision. This paves the way for a future of personalized medicine, where treatments are tailored to a patient's specific genetic makeup,

One of the most exciting applications of CRISPR in drug delivery lies in its ability to correct faulty genes responsible for various diseases. Imagine a future where cystic fibrosis or sickle cell anemia, caused by mutations in specific genes, can be permanently cured. CRISPR can act as a molecular scalpel, editing these genes directly within a patient's cells. This approach has the potential to offer a one-time treatment that addresses the root of the disease, rather than just managing its symptoms.



CRISPR's versatility extends beyond gene repair. It can also be used to engineer cells to become miniature drug factories. Scientists can introduce genes that instruct cells to produce specific therapeutic proteins or molecules. This allows for the treatment to be delivered directly to the site of action, minimizing off-target effects and maximizing treatment efficacy. Imagine immune cells equipped with the ability to recognize and destroy cancer cells, or diseased liver cells programmed to produce healthy proteins. This targeted approach holds immense promise for revolutionizing the treatment of cancer, metabolic disorders, and a wide range of other complex diseases.

A crucial challenge in CRISPR-based drug delivery is getting the CRISPR machinery, consisting of the Cas9 protein and guide RNA, into the target cells. Researchers are developing innovative methods to overcome this hurdle. Viral vectors, modified viruses that can deliver genetic material into cells, are one promising approach. Another strategy utilizes nanoparticles, microscopic carriers that can be engineered to encapsulate and deliver CRISPR components safely and efficiently.

CRISPR technology is still in its early stages, and research is ongoing to address challenges like off-target effects and ensuring long-term safety. However, the potential of CRISPR in drug delivery is undeniable. With continued research and development, this powerful tool could transform the way we treat diseases. We can look forward to a future where patients receive personalized, targeted therapies with the potential for long-lasting or even curative effects. CRISPR offers the promise of a more precise and effective approach to medicine, ushering in a new era of personalized healthcare.

Serving the nation since 1956

with STATE OF THE ART manufacturing facility

Opsonin Pharma Limited

Ideas for healthcare

Euro Bangla City Ltd.
স্বপ্নের ঠিকানায়
সুনিশ্চিত ভবিষৎ
ইউরো বাংলা
সিটি
বিস্তারিত জানতে কল করুন
01401144153
01401144107

Avidipta Bhowmik
2411037049

Artificial Intelligence in healthcare: Are we there yet?

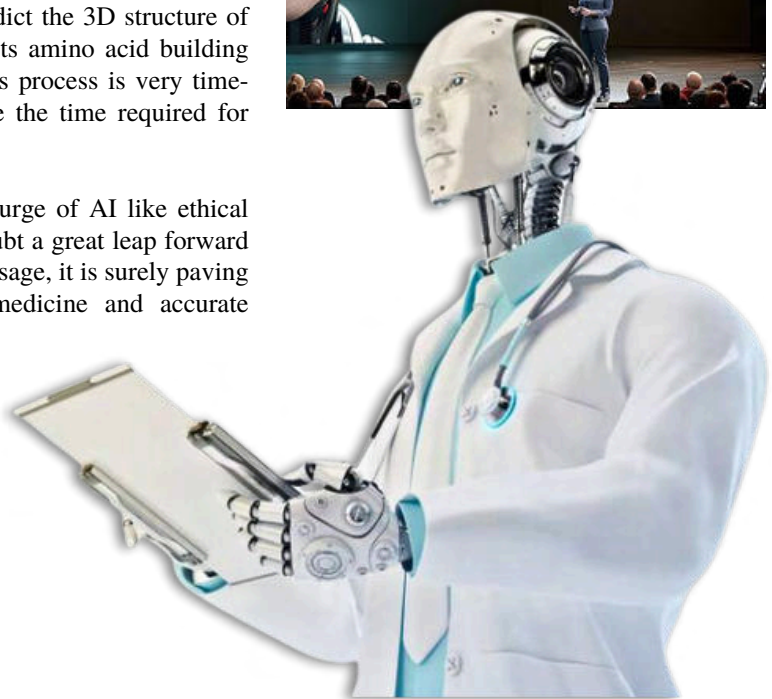
In a recent study aimed to understand the effectiveness of Artificial Intelligence (AI) to assist doctors, research produced extravagant results. The study comprised four groups: expert ophthalmologists, eye doctors in training, unspecialized junior doctors, and state of the art Large Language Models (LLMs). They were given to answer a mock exam of 87 questions sourced from textbooks required for doctors preparing for the entry level in the UK which contained information not freely available on the internet. Statistical analysis results showed that 3 of the AI models scored slightly above and below most junior doctors; however, GPT 4 scored about the same as the eye doctors in training and almost as good as the experts.

Although the intention of the study was not to see whether AI can replace eye doctors as a whole, but instead bring to light a brand-new era of healthcare where AI assists doctors and physicians to make more accurate and life-saving diagnoses. With integration of AI and machine learning in every industry, the question arises: can AI be fully trusted in healthcare and drug development?

If we look at the scope of AI for doctors and surgeries, application of machine learning and AI have had remarkable progress to improve patient welfare. In many developed countries AI assisted surgeries, such as AI-aided decision support systems with ultrasound or MRI machines are being used. Moreover, machine learning algorithms are largely at use to produce personalized treatment plans and medicines tailored for individual patient needs. This not only saves time but also reduces cost by making more accurate and efficient diagnoses, which will only get better over time as it evolves rapidly.

If we move over to drug discovery using generative AI, we can see increasing interest by pharmaceutical pioneers to integrate AI in discovering new drugs. Novartis CEO, Vasant Narasimhan, announced collaboration with Microsoft Research Labs and recently with Isomorphic Labs with the aim to accelerate the process of bringing new medicines by cutting down 6-9 months of research time. Application of AI techniques have proven to be successful in numerous cases such as drug-target and bioavailability prediction and de novo drug design. In addition, scientists at Google DeepMind have announced AlphaFold 3, a machine learning system that can predict the 3D structure of every possible protein known to science, using just its amino acid building blocks. This is a huge breakthrough, as otherwise this process is very time-consuming and expensive, it can significantly reduce the time required for new medicine discovery.

Although, there are several drawbacks of the rapid surge of AI like ethical dilemmas, privacy, and availability, it is without a doubt a great leap forward in the field of healthcare. With proper guidelines and usage, it is surely paving the way for a bright future for more effective medicine and accurate treatment.



Naziat Mahmud
2014133049

Healthcare, Pharmacists, and Bangladesh 2.0

Pharmacists have long been recognized as the trusted manufacturers and suppliers of medical products, a role that has shaped the profession for many years. However, the field of pharmacy is now undergoing a major transformation due to the growing demand for pharmacists. Healthcare is increasingly adopting a patient-centered approach, driven by the rising complexity of medications and challenges in ensuring proper compliance. This is where pharmacists become indispensable!

"Bangladesh 1.0" Despite nearly four decades of independence, our healthcare system remains underdeveloped. Currently, physicians and nurses are the primary healthcare providers in the country. In contrast, in developed nations, healthcare teams typically include physicians, pharmacists, and nurses, working together to provide comprehensive care. Unfortunately, in Bangladesh, pharmacists are largely absent from government hospitals, with only a few diploma-holding pharmacists managing drug and disease treatment. These individuals are not even certified as A-grade pharmacists, highlighting an outdated approach, which we might call "Bangladesh 1.0."

According to the National Drug Policy of 2005, only graduate pharmacists are authorized to work alongside physicians and nurses in hospitals. The title "Pharmacist" should be exclusively reserved for those who have completed a pharmacy degree, while others should be categorized as technicians.

"Hospital Pharmacies" Hospital pharmacists play an essential role in healthcare systems worldwide, particularly in developed nations, yet they are often overlooked in less affluent countries. Bangladesh has over 1,600 hospitals, with around 650 being government-run. However, only a few JCI-accredited private hospitals, such as Square, Evercare, and United Hospital, employ pharmacists. These institutions represent a tiny portion of the broader healthcare system, contrasting sharply with countries like Nepal, where pharmacists are a standard part of hospital teams.

"The need for a Pharm.D program" Many developed countries, including the United States and Japan, have embraced the Pharm.D program, which focuses on providing comprehensive pharmaceutical care centered around disease and patient management. Unfortunately, in Bangladesh, most pharmacy schools primarily train graduates for the pharmaceutical industry.

Recently, Dhaka University, North South University, and several other institutions upgraded their Bachelor of Pharmacy (B.Pharm) programs to a five-year B.Pharm (Professional) curriculum, which includes limited internships in hospitals and clinics. However, the University Grants Commission (UGC) recently reverted to the previous four-year program. This decision, made in 2024, is a major step back at a time when we should be advancing towards "Bangladesh 2.0."

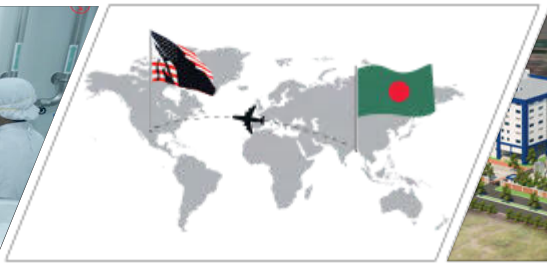
As we strive toward building "Bangladesh 2.0," our focus must be on fostering a healthy and educated workforce. A healthy nation requires equitable access to healthcare practitioners and effective medication management. A well-rounded healthcare team consisting of doctors, pharmacists, and nurses is essential for effective disease management and treatment.

Pharmacists, as medication experts, play a critical role in ensuring the safe dispensing of medications, monitoring for drug interactions, and tailoring treatments to individual patients. To meet the growing demand for healthcare services, the government must act swiftly to create positions for hospital pharmacists. Their expertise is vital in achieving better patient outcomes and advancing Bangladesh's healthcare system.

US FDA
Approved Facility

ACME
For Health, Vigour and Happiness

State of the Art
Manufacturing Facility



Exports Medicines to
the Market of USA

The ACME Laboratories Ltd.
(API Unit)

www.acmeglobal.com

QUALITY ASSURED BY

US FDA | UK MHRA | Australia | World Health Organization

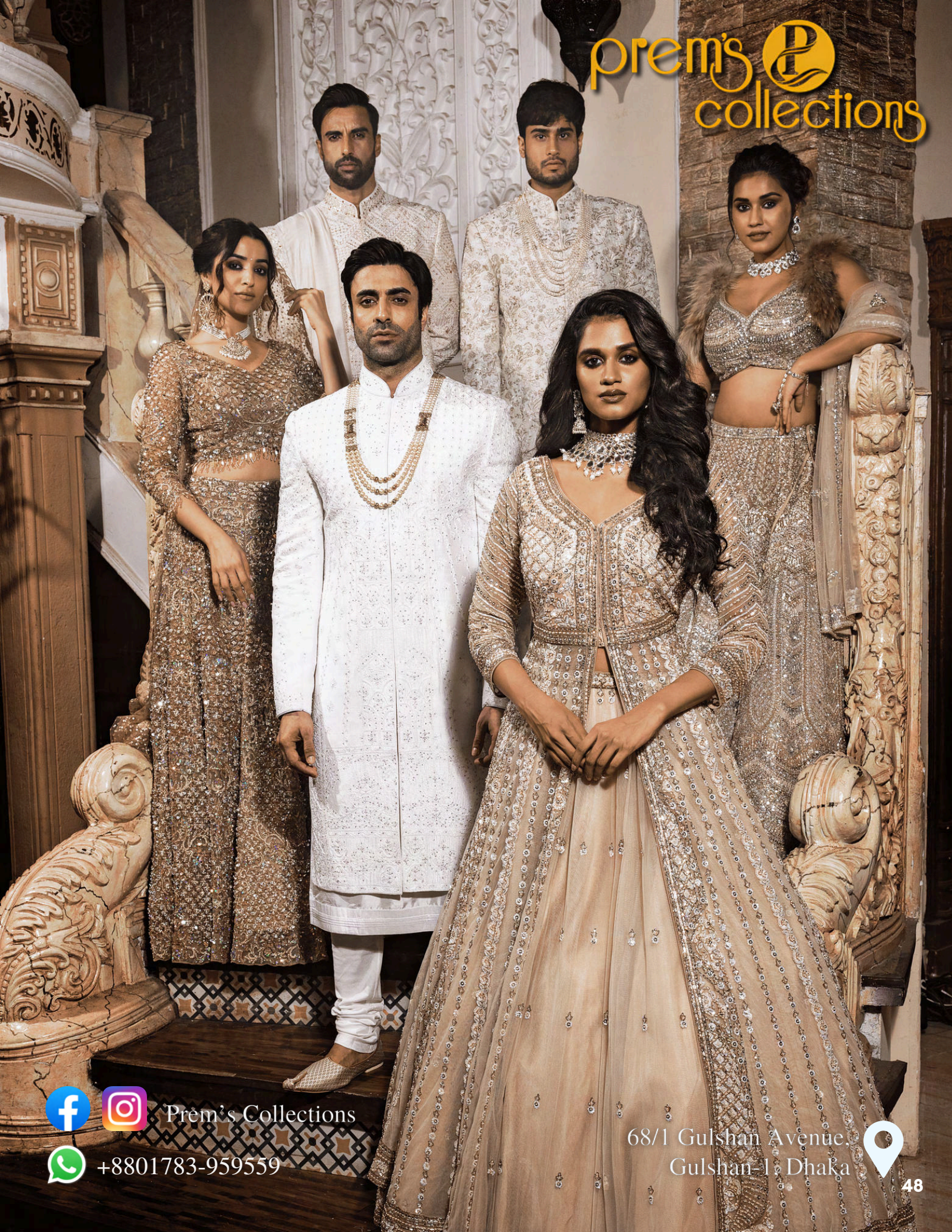
ACME

Pharmacy Student BINGO

How to play:
Bingo scorecards have 25 randomly labelled squares on them. If a student has all words or pictures covered diagonally, across a row or vertically in a column, they should call BINGO

Tried mixing random chemicals in the lab	Pulled an all-nighter for a quiz	Got your card punched by a friend because of attendance	Doodled on your friends copy mid-lecture	Googled answers for questions during lectures
Became the personal pharmacist for your family	Celebrate d a birthday at SAC7	Had a crush on someone in the same course as you	Turned in an assignment just seconds before the deadline	Studying pharmacy because med school didn't work out (ouch)
Borrowed a friends lab coat since you forgot yours	Wore a saree/suit for a presentation	FREE SPACE	Negotiated with God before an exam	Had a mental breakdown in the bathroom
Toungue-tied during a presentation and had to quit	Lost most friends you made in your first year	Had an argument with a BBA student about which subject is harder	Had a hard time getting permission for field trips	Been a part of Pharma Fest
Mandatory coffee runs after every class	Waited for the revelation of answers before a quiz	Single handedly managed a "group" project	Had 3 or more finals/mids on the same day *shudder*	Thought "I just need to pass" before an exam

+8801926649646, +8801766946433
Privé by Nahila Hedayet
Nahilahedayet
House:23/B, Road-102, Gulshan-2


prem's collections
Prem's Collections
+8801783-959559
68/1 Gulshan Avenue,
Gulshan-1, Dhaka

Cancer is Treatable

Hertin

Trastuzumab INN 440 mg Injection

Trastuzumab improved overall survival and progression-free survival in HER2-positive women with metastatic breast cancer

A Powerful chemotherapy for HER2-positive breast cancer

TECHNO DRUGS LTD.
Where innovation never stops...

Proud partner of NIPRO global

"Exploring science into our practice to serve
the ailing humanity at the global standard level"

NIPRO
JMI Pharma

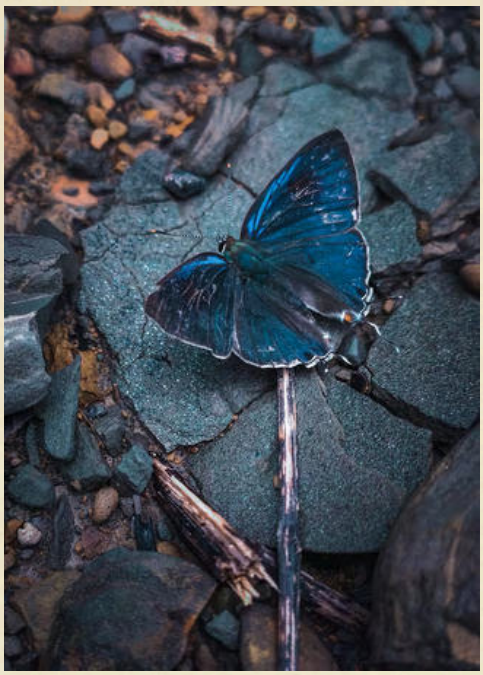
A Japan Bangladesh Company

Unique Heights, Level-6, 117, Kazi Nazrul Islam Avenue, Ramna, Dhaka-1217, www.niprojmipharma.com

Photography

Md. Tanjimul Rafsan, 201

Siam Al Mahmud 241



Avidipta Bhowmik, 241

Azmain Arif, 232

Azmain Arif, 232

Safayet Haque Sadbin, 202

Adrita Basher. 222

Somnath Banik 2031224649

Md. Rahil Rayhan Farid, 201

Md. Toshriful Islam, 212

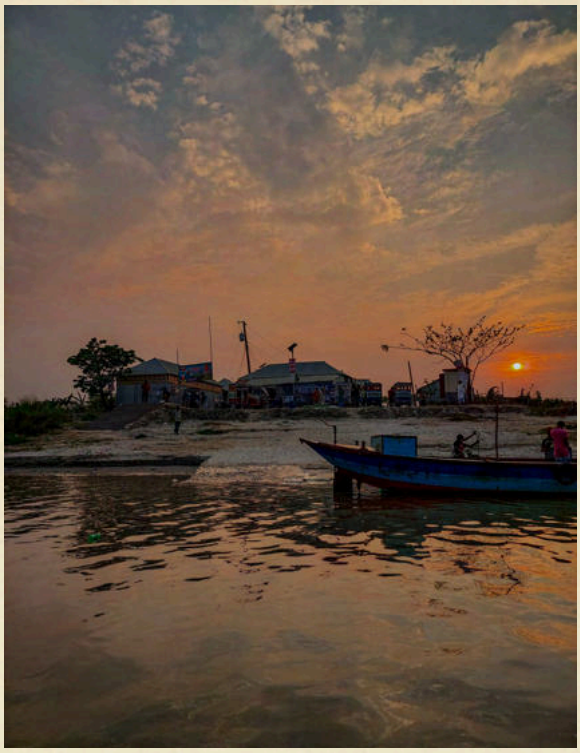
Imtiyaz Ahmed Rabbi, 221

Tirtha Banik Arnab, 201

Md. Anik Ahmed, 221

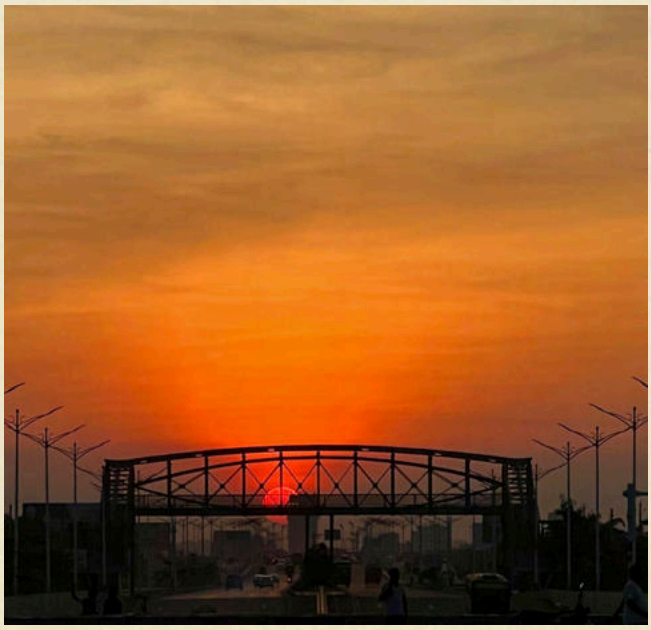
Tirtha Banik Arnab, 201

Sofia KK

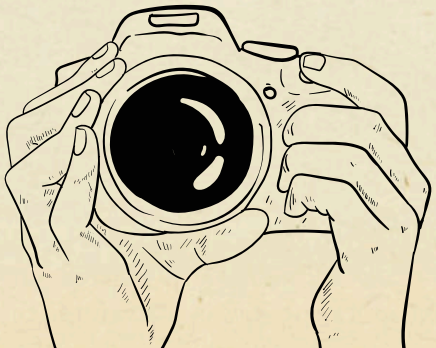


Ramisha Noor, 232

M M Shanjid Islam, 191



Abid Hassan Bhuiyan, 202



Study Abroad?

USA

Webstar University
Adelphi University
St. Louis University

Canada

University of Windsor
University of Manitoba
University of Alberta
Trent University
Conestoga College

Australia

UK

University of West London
University of Law
London Southpark University

La Trobe University
Curtin University
Monash University

Confused?

Where to Apply

YOUR FUTURE
STARTS HERE....

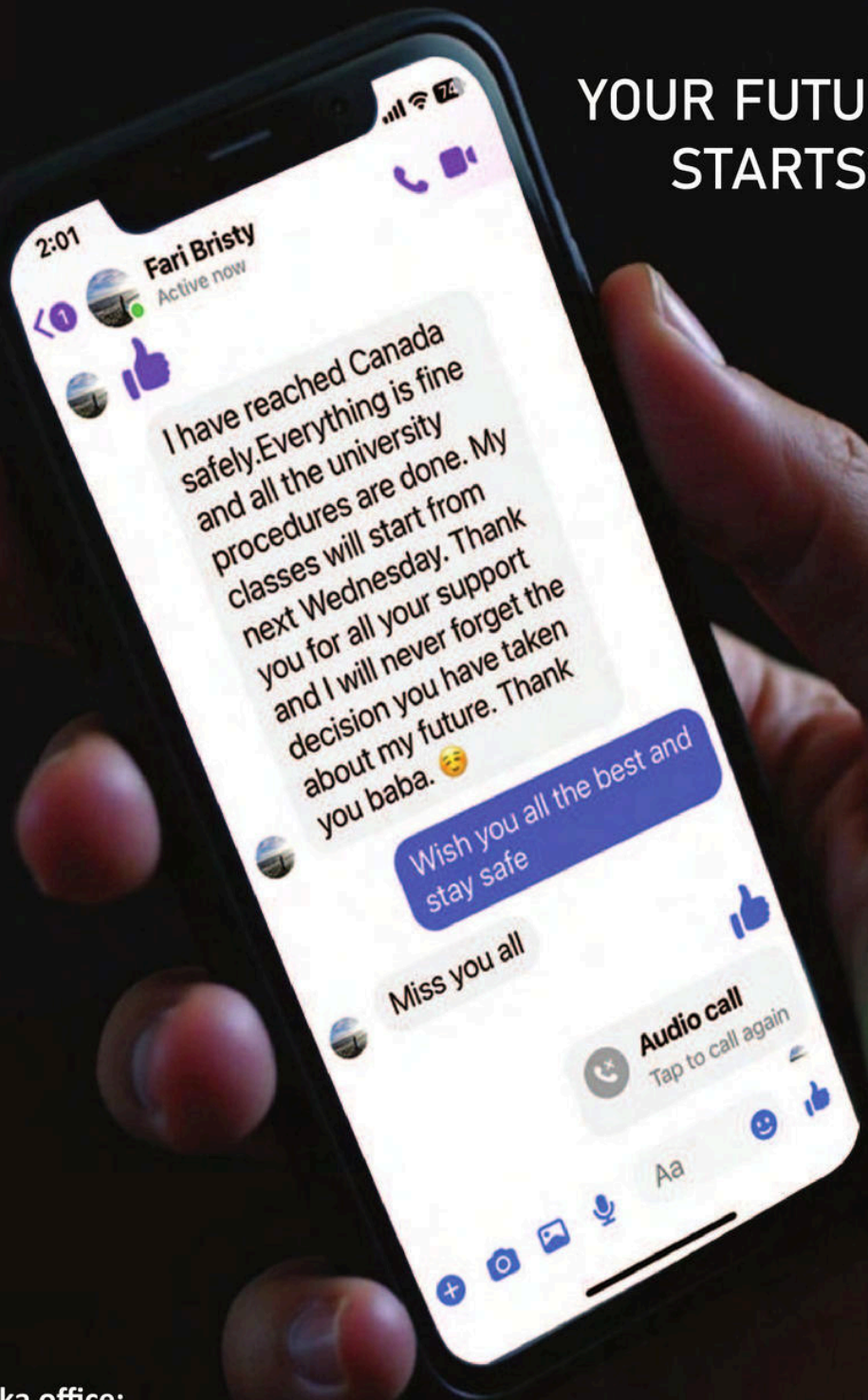
More Info
01708 522778, 01708 522776
www.amazonimmigration.com
https://www.facebook.com/amazonimmigration

Amazon
Immigration Services

Your achievement...
Happiness of your Daughter...

Amazon
Immigration Services

YOUR FUTURE STARTS HERE....



Dhaka office:
Abanti, Flat-A2, H-37, R-27, Block-A, Banani 1213.
Canada offices:
3209, Danforth Avenue, Toronto, Ontario, M1L 1B8
3018 A, Danforth Avenue, Toronto, Ontario, M4C 1M7
504, Gormanville Road, North Bay, Ontario, P1B HD5

Events 2023-2024

Succession Ceremony 2023

The Succession Event marking the end of an era for the beloved Executive and Sub-Executive Bodies (2022-2023) of NSUPC, an unforgettable moment of mixed emotions as we celebrated the unwavering dedication and achievements of the outgoing panel members. Their legacy of perseverance and commitment was honored as they passed the torch to the new panel members. This transition heralds a new dawn, filled with opportunities and aspirations, as the new leaders step forward with vigor and vision. Honourable Ex-Dean of SHLS Dr. Hasan Mahmud Reza, along with our beloved chairman Dr. Md. Mahbubur Rahman, former faculty advisor Anika Tabassum Bristy and Junayet Hossain Khan, and distinguished faculty member Dr. Md. Borhan Uddin, graced the occasion, adding to the grandeur and significance of this pivotal moment. The ceremony not only celebrated past accomplishments but also set the stage for future growth and success, embodying the spirit of continuity and progress.

Pharmacy Football League (PFL) 2023

The Pharmacy Football League (PFL) 2023, organized by NSUPC, was a resounding success, featuring 14 teams divided into four competitive groups. The honorable Chairman of the Department of Pharmaceutical Sciences, Dr. Md Mahbubur Rahman, unveiled the glorious trophy to inaugurate the tournament. Faculty advisor Junayet H. Khan and Assistant Professor Dr. Abdullah Al Masum joined him.

Endometriosis: It's Time to Know the Disease

When an auditorium full of young minds were asked whether they had ever heard about endometriosis, a highly prevalent yet overlooked disease among women, only 2-3 people raised their hands. Surely, by the end of the seminar that was not the case. March, the Endometriosis awareness month, saw NSUPC organize a seminar titled "Endometriosis- It's Time to Know the Disease"; in collaboration with Acme's Gynocare. Joysree Saha, associate professor at Popular Medical College, graced the event as the honourable speaker and shared her profound knowledge on the subject matter. Professor Dr. Hasan Mahmud Reza, Dean of School of Health and Life Sciences, and Associate professor Dr. Md. Mahbubur Rahman, Chairman, Department of Pharmaceutical Sciences, were present as the Chief guest and special guest respectively. Chairperson Junayet Hossain Khan, lecturer and Faculty Advisor, made the seminar more insightful by taking part in the question answer session held afterwards.

Knowledge for Leverage

The seminar, "Knowledge for Leverage" on lung cancer was an informative event sponsored by Eskayef Pharmaceuticals Ltd. It featured an engaging keynote address by Retired Professor Brigadier General Dr. Md. Quadrat-E-Elahi. The seminar discussed non-small cell lung cancer and emphasized the importance of early detection. The seminar highlighted the stark contrast of survival rates amongst cancer stages and the urgent need for timely intervention. The discussion included the mechanisms of chemotherapy, focusing on how it targets tumor cells and the challenges of tumor growth and resistance. Attendees gained insight into how tumor size impacts treatment effectiveness. it also shed light on the the importance of achieving a tumor kill post-chemotherapy. Lifestyle improvements were a major theme throughout the seminar. The seminar concluded with a strong message about the value of screening and proactive health measures.

World Pharmacists Day 2023

To celebrate this event, the North South Pharmaceutical Club, NSUPC organised a rally followed by a seminar on 25 September 2023, at 10.30 am, to honour pharmacists all over the world.

This day was celebrated by the honourable Pro-Vice Chancellor of NSU, Dr. M Ismail Hossain, the Dean of the School of Health and Life Sciences, Dr. Hasan Mahmud Reza, and Chairman, Dr. Md. Mahbubur Rahman, who were joined by the respected faculties, EB members and members of our pharmacy club by participating in the rally followed by the seminar. The day serves to honour pharmacists and celebrate their roles as a pillar of healthcare worldwide.

Polycystic Ovarian Syndrome (PCOS) Awareness

A seminar to raise awareness on Polycystic Ovarian Syndrome (PCOS) was held on 3rd October 2023 in collaboration with Renata Pharmaceuticals Ltd, with Dr. Nusrat Mahmud as the keynote speaker and Mr. Khairul Islam, the marketing manager of Renata Pharmaceuticals being present.

With the widespread prevalence of PCOS and with about 70% of affected women remaining undiagnosed worldwide, the keynote speaker Prof. Dr. Nusrat Mahmud, used this platfrom to educate and raise awareness among the students about this leading cause of ovarian and fertility issues. This was preceded by an opening speech from the Dean of the SHLS, Dr. Hasan Mahmud Reza, followed by the event being concluded with an interactive Q&A session.

NPL 2024 Champion Pharma Kings

The Pharmacy Department has once again proven their excellence, not only in research and innovation but also on the cricket field! In a thrilling finale of the NSU Premier League (NPL 2024) organised by NSUAC, **PHARMA KINGS** the Pharmacy Department's cricket team, emerged victorious, defeating the formidable CSE Probation team. This exciting intra-university cricket tournament saw 37 teams from 24 departments across 4 schools compete fiercely, and PHARMA KINGS rose above them all to claim the championship on October 24, 2024. Their remarkable victory showcases the Pharmacy Department’s undeniable talent and passion, both academically and athletically, reaffirming their dominance in every field!

The Pharma Troopers: Navigating Your Career in Pharmaceutical Industry

The Career and Placement Center (CPC), North South University, had hosted an informative seminar on "The Pharma Troopers: Navigating Your Career in Pharmaceutical Industry" to help hundreds of students make the quote, "Choose a job you will love, and you will never have to work a day in your life" a reality. The guest speakers were none other than the alumni of the Pharmaceutical department. A big thank you to Saiham Ahmed Bin Halim- Sr. Assistant Manager, Beximco Pharmaceuticals Ltd., Shaikh Raisuzazaman - Manager, Eskayef Pharmaceuticals Ltd. , Shoaib-Ul Islam- Sr. Deputy Manager, Synovia Pharma, for making time for us and give us their valuable insight.

FDA U.S. FOOD & DRUG ADMINISTRATION

ACI

Approved
ACI Healthcare Ltd.

Recently ACI has been approved to manufacture pharmaceutical products for the USA market also.

✓ Quality ✓ Safety ✓ Efficacy

ALUMNI SPOTLIGHT

Saiham Ahmed Bin Halim

Currently working as Senior Deputy Manager & Business Lead of International Business and Marketing at Nuvista Pharma Limited (a subsidiary of Beximco Pharma). Previously, he worked at Beximco Pharma for over a decade. He completed his B.Pharm at North South University (NSU) and obtained his MSc in Pharmacology from the University of Hertfordshire in the UK.

Paromita Islam

Paromita Islam is, currently, a Doctoral Researcher at Biomedical Technology & Cell Therapy Research Laboratory, McGill University, funded by McGill- Islamic Development Bank Scholarship. She completed her MSc. in Pharmaceutical Sciences from University of Copenhagen. She is also serving as a Senior Lecturer at NSU from 2015, currently on study leave. She is a former president and faculty advisor of NSUPC as well.

Zaki Farhad Habib

After completing his BPharm from NSU (Batch 091), he pursued an MSc in Pharmacology from the University of Oxford, joined NSU Department of Pharmaceutical Sciences as a Lecturer (2015-2018), then traveled again to the UK to complete his PhD from the University of Cambridge. Zaki served as the President of NSU Pharmaceutical club (2012) and as the Faculty Advisor (2016). He currently works as a Postdoctoral Research Fellow at AstraZeneca and Postdoctoral Research Associate at the University of Cambridge, focused on discovering and developing novel biotherapeutics.

Zerin Tasnim Rushmi

A dreamer who believes only the sky is the limit. She is the youngest AGM & Head of Corporate Branding & Market Communications at Evercare Hospital Dhaka. With over a decade of experience in the healthcare marketing sector including pharmaceutical industry, she stands out as a vibrant and dynamic leader in her field.

RADIANT
PHARMACEUTICALS

QUALITY

built into products

- Radiant Pharmaceuticals Limited
- Radiant Nutraceuticals Limited
- Radiant Distributions Limited
- Radiant Business Consortium Limited
- Radiant Export Import Enterprise
- Radiant Care Limited
- Pharmacil Limited
- Jenphar Bangladesh Limited

www.radiantpharmabd.com

SKS Tower (Level 7 & 8), 7 VIP Road, Mohakhali
Dhaka 1206, Bangladesh

T: +880 9606 112233

Global Leader of Herbal Therapeutics

Hamdard

Serving Humanity for 119 years

Soap
100 g

Ihram™

Glycerin Neem Soap

For skin care

» Skin ailments like Boil, acne, pimple, blemishes, eczema, psoriasis, scabies

Oil
130 ml

Hamdard Bhringaraj

Mahabhringaraj Taila

Ensures long, strong & shiny hair and promotes hair growth

» Hair fall
» Premature graying of hair
» Dandruff
» Headache

Syrup 450, 225, 100 ml
Capsule 30's

SAFI

Natural blood detoxifier

» Blood impurities
» Boil, acne, pimple, blemishes, eczema, psoriasis, scabies
» Obesity
» Burning sensation during urination

Sachet
20's

ISPA PLUS

Isabgul Spicy

More than a laxative

» Constipation
» Piles
» IBS
» Hyperlipidemia
» Bowel regulation for bed ridden patient

Hamdard
Trusted Name, Tested Products

Hamdard Laboratories (Waqf) Bangladesh

Providing goodness of nature in your service since 1906

HEAD OFFICE
Rupayan Trade Centre, Level-12-13, 114 Kazi Nazrul Islam Avenue, Banglamotor, Dhaka-1000. (02)-48311301-6

FACTORY
Unit-1: Meghnaghat, Sonargaon, Narayanganj.
Unit-2: 116, Monoharkhar Bagh, Dewanbagh, Madanpur, Bandar, Narayanganj.

marketing@hamdard.com.bd
www.hamdard.com.bd
hamdardbd
hamdardbd

SUNQUICK
SINCE 1966

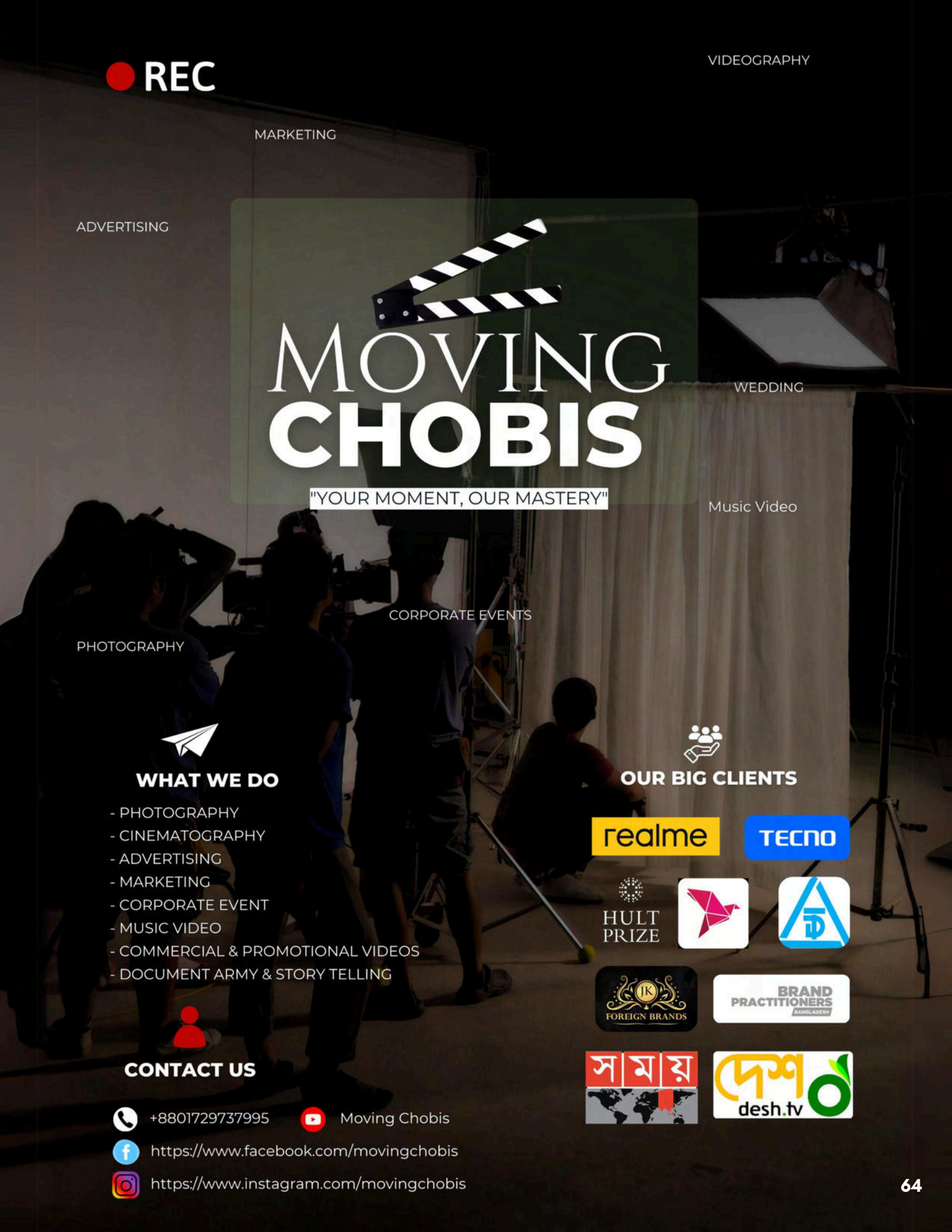
ডেনমার্ক থেকে ভালোবাসা নিয়ে
সেরা ফলের দারুণ স্বাদে

UNCAP করো ফুটেস

RICH IN VITAMIN C RICH IN VITAMIN
ভিটামিন-সি সমৃদ্ধ

MADE WITH FRUIT
প্রিজারভেটিভ নেই

FROM DENMARK WITH LOVE



WHAT WE DO

- PHOTOGRAPHY
- CINEMATOGRAPHY
- ADVERTISING
- MARKETING
- CORPORATE EVENT
- MUSIC VIDEO
- COMMERCIAL & PROMOTIONAL VIDEOS
- DOCUMENT ARMY & STORY TELLING

OUR BIG CLIENTS

realme
TECNO
HULT PRIZE
FOREIGN BRANDS
BRAND PRACTITIONERS BANGLADESH
সময়
দেশ desh.tv

CONTACT US

+8801729737995
Moving Chobis
https://www.facebook.com/movingchobis
https://www.instagram.com/movingchobis

Fest Preparations

With Best Compliments

Team

Team Pharmaceuticals Ltd.

Art of Medicine, Love of Humanity

www.teampharmabd.com

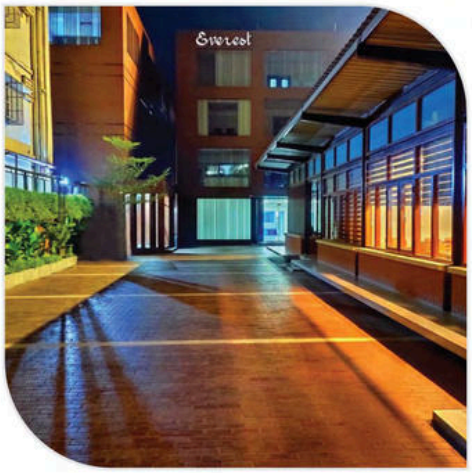
Fb.me/TeampharmaLtd

A CONCERN OF TEAM

Everest
Pharmaceuticals Ltd.

Transforming Oncology and Hematology with Innovative Oral Generics

• Available • Affordable • Accessible



Everest Pharmaceuticals Ltd.
Dhaka, Bangladesh
www.everestpharmabd.com

Everest
Vision . Innovation . Generation

Faculty Sub-Committees

EXECUTIVE COMMITTEE

Prof. Dr. Mahbubur Rahman

Junayet Hossain Khan

INVITATION & PROMOTION SUBCOMMITTEE

- Prof. Dr. Hasan Mahmud Reza
- Prof. Dr. G.M Sayedur Rahman
- Prof. Dr. Md. Mahbubur Rahman
- Dr.Reatul Karim
- Dr. Muhammed Mahfuzur Rahman
- Ms.Anika Tabassum Bristy
- Junayet Hossain Khan

OLYMPIAD SUBCOMMITTEE

- Prof. Dr. Hasan Mahmud Reza
- Prof. Dr. Preeti Jain
- Ms. Tahmina Yasmin
- Prof. Dr. Md. Mahbubur Rahman
- Dr. Md. Hasanuzzaman Shohag
- Dr. Ferdous Khan
- Dr. Mohammad Burhan Uddin
- Dr. Md Shaki Mostaid
- Umarah Miazi
- Sadia Shabnam

STALL SUBCOMMITTEE

- Dr. Ferdous Khan
- Prof. Dr. MN ISLAM
- Dr. Manik Chandra Shill
- Dr. Nusrat Subhan
- Dr. Abdullah Al Masum
- Dr. Rezwana Ahmed
- Dr. Nusrat Hossain
- Umarah Miazi

DEBATE SUBCOMMITTEE

- Prof. Dr. Ashim Kumar Bepari
- Dr. Md. Borhan Uddin
- Dr. Nusrat Hossain
- Ms. Tahmina Yasmin
- Md. Adit Muktadir Pavel
- Sabrin Islam Khan
- Dr. Ferdous Khan

FINANCE & SPONSORSHIP SUBCOMMITTEE

- Prof. Dr. Mohammad Hossain Shahriare
- Dr. Md. Borhan Uddin
- Md. Adit Muktadir Pavel
- Junayet Hossain Khan
- Mahinoor Fairooz

POSTER SUBCOMMITTEE

- Prof. Dr. Mohammad Hossain Shahriare
- Prof. Dr. MN Islam
- Prof. Dr. Md. Ashraful Alam
- Dr. Manik Chandra Shill
- Md. Zahidul Islam Zahid
- Dr. Shazid Md. Sharker
- Dr. Abdullah-Al Masum
- Dr. Md Shaki Mostaid

MAGAZINE SUBCOMMITTEE

- Prof. Dr. Ashim Kumar Bepari
- Dr. Rezwana Ahmed
- Dr. Md Shaki Mostaid
- Sabrin Islam Khan
- Junayet Hossain Khan
- Mahinoor Fairooz

CULTURAL SUBCOMMITTEE

- Dr. Md. Borhan Uddin
- Sadia Shabnam
- Ms. Anika Tabassum Bristy
- Junayet Hossain Khan
- Mahinoor Fairooz
- Nadia Afrin

FOOD & LOGISTIC SUBCOMMITTEE

- Prof. Dr. Murad Hossain
- Javed Ibne Hasan
- Dr. Md. Hasanuzzaman Shohag
- Dr. Muhammed Mahfuzur Rahman
- Md. Adit Muktadir Pavel

Student Sub-Committees

INVITATIONS & PROMOTION

OLYMPIAD

POSTER
PRESENTATION

LOGISTICS

ঝলমলে, সহজ ও সর্বশেষ খবর

আপনার পণ্যের সর্বাধিক প্রচারের জন্য
দেশ-বিদেশের যেকোনো প্রান্ত থেকে
প্রিন্ট, মাল্টিমিডিয়া ও অনলাইন
পোর্টালে বিজ্ঞাপন দিন

আগামিকে নয়, পুরো সত্য

০১৭১৬৪০৫১১৫
০১৯১৪২৪০০৪৬

ছাপা কাগজের মতোই জনপ্রিয়

www.kalerkantho.com

কালের কণ্ঠ

Jenphar Bangladesh | جنفار بنغلاديش

The Art of Formulation Engineering

Introduces

Isolator CRABS Technology

With the Motto of

"Getting the Highest Standard of Product Quality"

dedicated to serving the Community with Excellence in:

Liver Diseases | **Oncology** | **Hematology** | **Thalassemia**

Jenphar Bangladesh | جنفار بنغلاديش

Further information is available on request from
Jenphar Bangladesh Ltd.
SKS Tower (Level-8), 7 VIP Road, Mohakhali
Dhaka-1206. Bangladesh. www.jenphar.com

an affiliate of RADIANT PHARMACEUTICALS

Batch Photos

191

192

193

201

OFFICE OF
STUDENT
AFFAIRS

OFFICE OF
STUDENT
AFFAIRS

202

203

AFFAIRS

211

212

221

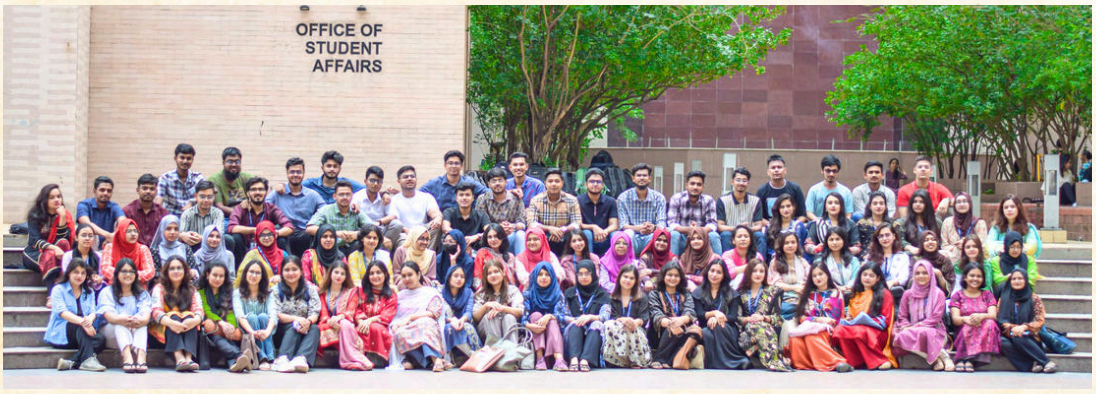
222

231

232

241

242



nuvista
care. unconditional.

Nuvista Pharma
A subsidiary of Beximco Pharma

BANGLADESH'S FIRST WOMEN CENTRIC PHARMA COMPANY

Let every woman be who she wants to be.

Supporting her in health and happiness in every stage of her life, we at **Nuvista Pharma** aspire to care like a mother and be there, for her and her family.

BIOPHARMA
Manufactures
BIOEQUIVALENT
Products

BIOEQUIVALENT APPROVED PRODUCT

Biopharma Limited has been practising its quality policy from the inception in 1999 in order to provide finest quality medicines for the patients in home and abroad. Recently, 11 products have been undergone Bioequivalence (BE) Study in US-FDA approved, renowned Contract Research Organization (CRO) and compared with innovator company's products. These BE studies have shown and proven that Biopharma's Products comply with Pharmaceutical and Pharmacological parameters and Bioequivalent to the Originator Brands.

BESTCEF® Cefixime trihydrate equivalent to **Tergecef (Unilab)**

Maczith® Azithromycin equivalent to **Zithromax (Pfizer)**

Inpro® Omeprazole equivalent to **Losec (AstraZeneca)**

Mextil® Cefuroxime equivalent to **Zinacef (GlaxoSmithKline)**

Glucostat MR® Gliclazide Modified Release equivalent to **Diamicron MR (SERVIER)**

Clamycin® Clarithromycin equivalent to **Klaricid (Abbot)**

Vasofex XR® Prazosin extended release tablet equivalent to **Minipress XL (Pfizer)**

We are Exporting to 29 Countries.

Afghanistan, Benin, Bhutan, Cambodia, Cameroon, DR Congo, Gabon, Guam, Guatemala, Haiti, Iraq, Ivory Coast, Kenya, Liberia, Madagascar, Malaysia, Mozambique, Myanmar, Nigeria, Nepal, Philippines, Senegal, Sierra Leon, Somalia, South Africa, Sri Lanka, Swaziland, Vietnam, Zambia

BIOPHARMA LIMITED

Committed to Serving Mankind

ACKNOWLEDGEMENTS

Title Sponsor	TECHNO DRUGS LTD.
Olympiad Title	RENATA LIMITED
Co-Sponsor	SQUARE
Platinum Sponsor	BEXIMCO PHARMA
Diamond Sponsor	ORION Pharma Ltd.
Gold Sponsor	Healthcare Pharmaceuticals Limited
Silver Sponsor	synovia hope. health. happiness.
Associate Sponsor	SK+F ESKAYEF PHARMACEUTICALS LIMITED BEACON Pharmaceuticals Limited Light for life ARISTOPHARMA PLC. SUNQUICK SINCE 1966

Media Partner	NEWS24 news24bd.tv daily sun কালের কণ্ঠ radio today 89.6fm The 1st & #1 Private Radio
Snacks Partner	New Zealand Dairy
Wardrobe Partner	prem's collections
Makeover Partner	Privé BY NAHILA HEDAYET
Jewellery Partner	CLOTH & ALL
Beverage Partner	CLEMON ক্লিয়ারলি লেমন
Cinematography & Photography Partner	MOVING CHOBIS
Gifts Partner	Stitches Clothing Co.
Skincare Partner	BIO-XIN cosmeceuticals

Largest Hormonal Plant in South Asia
Techno Drugs Industrial Park

Bk Bari Project

1996 Year of Establishment

with Veterinary medicine production. First company to manufacture Veterinary medicine in Bangladesh.

2003 Entered into the Human medicine market

First time manufacturer of over 77 individual medicines (Human & Veterinary), which has never been manufactured in the country before.

2010 Introducing Anti-Cancer Medicine

First company in Bangladesh to manufacture Oncology medicines in the country.

2019 Started manufacturing Contraceptive implants

Being the 1st and only company in Bangladesh, and one of the five companies worldwide to manufacture Contraceptive Implants.

First time in Bangladesh

femi Plant

Levonorgestrel USP 75 mg/Rod x 2

2 Stick Contraceptive Implant

Miso Kit

Mifepristone 200 mg & Misoprostol tablet 200 mcg

Smart Way to Terminate Pregnancy

EC-Pill

Levonorgestrel BP 1.5 mg

Emergency Contraceptive Pill

Techno

- Human Division
- Oncology Division
- Veterinary Division
- Anesthetic Division

TECHNO DRUGS LTD.
Where innovation never stops...

Head Office:
J.K. Tower, 31 Segunbagicha,
Ramna, Dhaka-1000.

Factory Address:
i) Satirpara, Narsingdi, Bangladesh.
ii) B.K. Bari, Mirzapur, Gazipur, Bangladesh

www.technodrugsltd.com