

Powering Education...Towering Knowledge

# CREDENCE MAGAZINE 2023-24





**The Governing Body of The Indian Pharmaceutical Association - Maharashtra State Branch's**  
**Bombay College of Pharmacy**  
request the pleasure of your company at the



## **66<sup>th</sup> Annual Day Celebration**

to be held on Vikram Samvat 2080, Magha Shukla Paksha Chaturdashi,  
Friday, February 23<sup>rd</sup>, 2024 at 5.30 pm.  
at the Bombay College of Pharmacy - Autonomous,  
CST Road, Kalina, Santacruz (E), Mumbai 400 098

### **Dr. V. G. Nayak**

Independent Director, Aarti Pharmalabs Ltd &  
Director, Surge Chemicals  
has kindly consented to be the Chief Guest

### **Prof. Roop K. Khar**

Director, B. S. Anangpuria Educational Institutions, Faridabad  
has kindly consented to be the Keynote Speaker

### **Dr. E. C. Coutinho**

Dean Research,  
St. John Technical & Educational Campus

### **Pavankumar Bhoje**

Assistant Police Inspector,  
Vakola

have kindly consented to be the Guests of Honor

### **Dr. N. Sivaprasad**

President - The Indian Pharmaceutical Association - Maharashtra State Branch  
will grace the occasion

### **Nitin N. Maniar**

Chairman, Governing Body, Bombay College of Pharmacy - Autonomous  
will preside over the function

### **Dhruv Gandhi**

General Secretary  
Students' Council

### **Dr. Alka Mukne**

Students' In-charge

### **Dr. Krishna Iyer**

I/C Principal

Programme overleaf



## Programme

- Lighting of the Lamp
- Welcome address and presentation of Annual Report by the Principal
- Report of Students' activities by the General Secretary, Students' Council.
- Felicitation of Guests
- Release of Students' Magazine-Credence
- Address by the Chairman, Governing Body, Bombay College of Pharmacy - Autonomous
- Address by the President, The Indian Pharmaceutical Association - Maharashtra State Branch
- Address by the Guests of Honor
- Address by the Keynote Speaker
- Address by the Chief Guest
- Prize Distribution
- Vote of Thanks
- Cultural program & Dinner

RSVP on WhatsApp No. 98198 74227 (Ms. Anitha Lalwani)



## EDITOR'S NOTE



Dear Readers,

I am delighted to present before you, Bombay College of Pharmacy's annual magazine - Credence '24. This magazine is a testament to the legacy that our college holds - it's infrastructure, professors, laboratories, and students - all of which make BCP our home for 4 years.



We've put together everything you need to know about our college - our teachers, our achievements, scholarship awards and articles published by our teachers and students. This magazine also showcases the creativity and power of expression among the students through their drawings, poems and photography.

We should also take a moment to recognize the fun elements that made this year's magazine stand out. From innovative layouts to colorful illustrations, we poured in all our creative magic to add that extra zing!

Finally producing the magazine is a team effort and, although the ultimate responsibility falls to the Editor-in-Chief, there are others working behind the scenes to make the magazine what it is.

**Happy Reading!**

**Riya Pandit and Nikhil Mane**

Editor-in-chief

## TEAM CREDENCE



**Team Editorial** - Riya Pandit, Nikhil Mane, Shruti Jadhao, Kavya Kanhere, Atharva Kokate, Pranav Giri

**Team Technical** - Mohammed Osama Subhani, Bhumika Mhapankar



## INDEX

## Pg No.

MESSAGE FROM PRESIDENT - IPA-MSB	06
MESSAGE FROM CHAIRMAN - GOVERNING BODY	07
MESSAGE FROM PRESIDENT - BCP-AA	08
MESSAGE FROM PRINCIPAL	09
GS's NOTE	10
GOVERNING BODY OF BOMBAY COLLEGE OF PHARMACY	11
INDIAN PHARMACEUTICAL ASSOCIATION (MAHARASHTRA STATE BRANCH)	15
BOMBAY COLLEGE OF PHARMACY - INTAKE	18
TRAINING AND PLACEMENT CELL	19
ALUMNI FUNCTIONS/ AWARDS AND ACCOLADES	20
BOMBAY COLLEGE OF PHARMACY - MILESTONES	21
VARIOUS DEPARTMENTS OF BOMBAY COLLEGE OF PHARMACY	23
GUEST LECTURES AT BCP 2023-2024	41
ANNUAL REPORT	43
ABOUT SCHOTT SCHOLARSHIP	49
KUDOS TO BCP	51
ALUMNI SPEAKS	61
POETRY	66
SCIENTIFIC ARTICLE	65
NON-SCIENTIFIC ARTICLE	77
THE PHARMA BINGO	79
PHRASE SPRINT	81
BCP STUDENTS'- ARTWORK	83
BCP STUDENTS'- PHOTOGRAPHY	84
BCP COMMITTEES and STUDENT CHAPTERS	85
CLASS PHOTOGRAPHS	89
TEACHING STAFF	91
NON-TEACHING STAFF	91
SECURITY AND HOUSEKEEPING STAFF	92



## MESSAGE FROM PRESIDENT, IPA-MSB



Dear readers,

I am delighted to pen a message on behalf of The Indian Pharmaceutical Association - Maharashtra State Branch (The IPA-MSB) for CREDENCE 2024, the college magazine of The IPA MSB's Bombay College of Pharmacy (BCP). Glad to know that Credence, the annual publication of the College which is designed, written, edited and published by the Students Council of the College during the Annual Day Celebration .

Bombay College of Pharmacy (BCP) is one of the well recognized pharmacy education institutes in India. The excellent performance of BCP students in academic and extracurricular activities is testimony to this recognition. I am pleased to mention that BCP is managed and governed by The IPA MSB, a professional organization of pharmacists. For The IPA-MSB, development of skilled pharmacist, with the sense of serving the society, through effective pharmacy education is one of the focus areas and The IPA-MSB is able to achieve this goal through the quality education imparted to students by BCP. Thus, BCP has been immensely contributing in making available to industry and healthcare system of the nation, the much needed skilled pharmacy professionals. In this College research is an integral part of teaching and learning program and I appreciate the students of this College for their active participation under the guidance of the faculty in number of industry linked research projects. I also wish to take this opportunity to emphasize on an important point for the students to give attention to. Pharmacy is rapidly evolving and adopting developments in other science and technology. Hence it is important to acquire knowledge and explore developments in other areas of science and technology .This recent trend in pharmacy profession is also opening new avenues for pharmacists to contribute.

The IPA-MSB is thankful to the Principal, Faculty & staff and Chairman & management of the College for their contribution to ensure quality education and research in the College. Let us all work hard to give our best and make this College a model for teaching and learning of pharmacy.

The College magazine CREDENCE 2024 reflects the ethos, inspiration and enthusiasm of the students. I wish the Annual Day a grand success and congratulate the CREDENCE 2024 Editorial team.

Wishing the students all the best!

**Dr. N Sivaprasad**

President,

The Indian Pharmaceutical Association- Maharashtra State Branch (IPA-MSB)



## MESSAGE FROM CHAIRMAN - GOVERNING BODY



Dear friends,

I convey my best wishes on 66th Annual Day of The Indian Pharmaceutical Association-Maharashtra State Branch's Bombay College of Pharmacy-Autonomous to Team Credence, Teaching, Non-Teaching Staff and Students!!!

**After back-to-back Amrut Mahotsav of Azadi and Pharmacy Act, 2024 is the Amrut Mahotsav of the Training course, i.e. The IPA-Bombay**

(now Maharashtra) State Branch, parent association of BCP started "Practicing Pharmacist Training Course" which was inaugurated by Dr.M.D.D.Gilder, Minister of Health, Govt. of Bombay in "1949, 25th Sept". (25th Sept' - Now it's celebrated as World Pharmacist Day).

In adherence to National Education Policy and prevailing excellent teaching/research environment and autonomous status of BCP, our equal priority is to strengthen Extracurricular activities and optimally utilization of Information & Technology so to achieve many more milestones in near future set by The IPA-MSB that includes BCP Vision 2032 consists of Integrated Campus, Industry/University Collaboration, Centre of Excellence, Hostel, Pharmacy Museum and many more features in phase manner and expecting wholehearted support from one and all including BCP-Alumni Association for same.

We are trying our best to support and strengthen required infrastructure at BCP Campus for teaching/non- teaching staff & students for safety, security & comfort even after limitations due to aided & self-financing status and parallelly that needs to be properly maintained by concern one and all which includes students as well, and we are sure it would be done.

We profoundly thank to IPA, Founders, Contributors, Teaching/Non-Teaching Staff, Alumnus, Professionals and Colleague/s at The IPA-MSB for their wholehearted support, cooperation to BCP due to which attained status of premier pharmacy institute in the country.

With warm wishes

**Nitin N. Maniar**

Chairman-Governing Body, The IPA-MSB's BCP-Autonomous & Hon. Secretary, The IPA-MSB  
chairman@bcp.edu.in / 9594032520

23rd February 2024

## MESSAGE FROM PRESIDENT BCP - ALUMNI ASSOCIATION



Dear Readers,

Greetings from the President's desk of the BCP Alumni Association, and the managing committee.

I hope this message finds you in great spirits, amidst the joyful atmosphere of our annual day celebrations. As the President of the Alumni Association of our esteemed college, I am honoured to reach out to you on behalf of our vibrant and ever-growing community.

Our association stands as a testament to the enduring bonds forged during our time at our alma mater. Whether you graduated recently or decades ago, BCP holds a special place in our hearts. We remain integral to the collective legacy and success of our college. Last year, BCP had the pleasure of welcoming the batch that celebrated their 50th graduation anniversary. Alumni from around the globe gathered at the college to reconnect and reminisce about their time here.

The pharmacy profession in India has earned the prestigious title of the "Pharmacy of the World" in recent years. The successful integration of various pharmacy domains into the digital revolution defining today's pharmaceutical industry, coupled with the increase in international accreditations received by the industry, has heightened the value of graduating students in the pharmacy profession. To our students and their parents, rest assured, you are on the path to unlocking a successful career potential.

In the spirit of fostering connections and collaborations, I encourage all of you to stay engaged with the various activities that BCP AA offers. Whether through mentorship opportunities, networking events like "Chai pe Charcha", or philanthropic initiatives, alumni have been making a meaningful difference in the lives of current students and fellow alumni.

Looking ahead to the future, I am excited about the possibilities that lie ahead for our association and the collective impact we can make on the students of Bombay College of Pharmacy, and beyond.

To my fellow alumni, thank you for your unwavering support and dedication to our alma mater. To the current students, we eagerly anticipate continuing our journey together. Keep smiling, keep networking, as the future holds you in high esteem as professionals.

Warm regards,

**Dr. Amita Karnik**

President of the Alumni Association



## MESSAGE FROM PRINCIPAL



Dear readers,

It is with pride and pleasure that I present to you the annual students' magazine CREDENCE, on the occasion of the 66th Annual Day celebrations of IPAMSB's Bombay College of Pharmacy. At the outset I express my gratitude to all the students and the faculty who have put in enormous efforts and time to collect data, analyze and organize the data and convert the data into information that is now part of the CREDENCE magazine.

The CREDENCE team has assembled a multidimensional canvas of information comprising of the class/faculty/staff photographs, student achievements in competitive exams, scholarships received, scientific articles (on the curricular front) and poems, art, memes, crosswords, and fun facts (on the extracurricular front). The magazine showcases the range of artistic skills, craftsmanship and genius of our students and is proof of the drive and efforts of BCP to foster the overall growth of an individual student.

I congratulate the team CREDENCE and take this opportunity to thank everyone at BCP and the extended BCP family members and convey my best wishes to all.

With due respects to all the elders, and seeking your blessings and good will,

Yours always,

**Prof. Krishna Iyer**

Principal

Bombay College of Pharmacy

## GS's NOTE



Dear Readers,

As we stand at the threshold of a new dawn, the echoes of our achievements reverberate through the corridors of Bombay College of Pharmacy. This year has been a canvas of resilience, painted with strokes of creativity and dedication, creating a masterpiece of excellence.

Nelson Mandela once said, "Education is the most powerful weapon which you can use to change the world." This sentiment resonates deeply within our college community, where education is not just a means to an end, but a transformative journey that empowers us to create positive change in the world around us.

As we reminisce about the past year, our hearts are filled with memories of the vibrant Garba Night, the enchanting Diwali celebration, the warm camaraderie of the Freshers' Party, and the empowering discussions at the 26th January Youth Parliament. Let us not forget the heartfelt Teachers' Day celebration, where we honored our mentors with gratitude and admiration. Throughout the year, we paid tribute to the Jayantis and important days of great leaders, embodying their values in our journey. These events have not only enriched our college experience but have also woven a tapestry of unity and belonging within our community.

For our annual fest Resonance, we chose the theme Elemental Echoes, which is our attempt at reinforcing the importance of natural elements. It is a reminder to never forget our roots and protect the elements of Nature from getting destroyed due to global warming.

Our students have been the driving force behind our success, constantly pushing the boundaries of knowledge and innovation. They have not only excelled in academics but have also demonstrated exceptional leadership and character, embodying the spirit of our college motto, "Excellence in Education, Leadership in Pharmacy."

Our faculty members have been the pillars of our institution, providing us with guidance, mentorship, and inspiration. Their dedication to teaching and research has been instrumental in shaping the minds of future leaders and innovators.

I am deeply grateful for the privilege of serving as your General Secretary and am excited to see what the future holds for Bombay College of Pharmacy. Thank you for your unwavering support, dedication, and commitment to our college. Here's to a year filled with continued growth, success, and prosperity.

Regards,

**Dhruv Milan Gandhi**

General Secretary  
BCP SC 2023-24



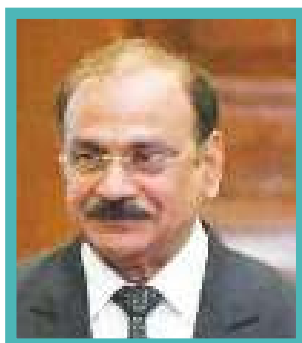
## GOVERNING BODY OF BOMBAY COLLEGE OF PHARMACY



**Mr. Nitin N. Maniar**  
Chairman



**Dr. Pramod Naik**  
Jt. Director DTE -Member



**Prof. S.K. Jain**  
UGC nominee-Member



**Dr. Supriya Shidhaye**  
VC nominee  
Member



**Dr. N. Sivaprasad**  
Member



**Dr. Hemant Mondkar**  
Member



**Dr. Anand Shedge**  
Member



**Dr. Satish Shah**  
Member



**Dr. Harita Desai**  
Member



**Dr. Krishnapriya  
Mohanraj**  
Member



**Prof. Krishna Iyer**  
Principal/  
Member Secretary

## COMPOSITION OF ACADEMIC COUNCIL

(Revised w.e.f 07.01.2023)

Sr. No.	Category	Member	Affiliation
1	Principal/Chairperson	Dr. Krishna Iyer	Bombay College of Pharmacy
2	HOD (Pharmaceutical Chemistry)	Dr. Premrata Ambre	
	HOD (Pharmaceutical Analysis)	Dr. Vaishali A Shirsat	
	HOD (Pharmaceutics)	Dr. Ujwala Shinde	
	HOD (Pharmacognosy)	Dr. Alka Mukne	
	HOD (Pharmacology)	Dr. Anuradha Majumdar	
3	Five teachers from the college representing different categories of teaching staff by rotation on the basis of seniority of service in the college	Dr. Clara Fernandes	Bombay College of Pharmacy
		Dr. Harita Desai	
		Dr. Galvina Pereira	
		Dr. Mangal Nagarsenker	
		Dr. Mala Menon	
4	Four experts/academicians from outside the college representing such areas as Industry, Commerce, Law, Education, Medicine, Engineering, Sciences etc., to be nominated by the Governing Body.	Dr. Sampada P Patvardhan	Consultant-Medical Writing & Healthcare Services, 1302/ Pristine, Vasant Lawns, Pokhran Road-2, Voltas Compound, Thane (West)-400601, Mob: 9820662080, Email: spatvardhan@gmail.com
		Dr. Rajiv Desai (Lupin)	Executive Vice President, Corporate Quality, Lupin Limited, Kalpataru Inspire, 6 <sup>th</sup> Floor, Off Western Express Highway, Santacruz (East), Mumbai-400055, Mob: 8980803550/022-66402502, Email: rajivdesai@lupin.com
		Dr. S.K. Kulkarni	Emeritus Professor of Pharmacology & Former Pro-Vice Chancellor (DUI) (PU), 404, Queens Court, Apartment, Vaccine Depot Road, Tilak Wadi Belgaum -590006, Karnataka, Mob: 9886203247, Email: skkulkarni46@gmail.com
		Dr. Eswaran Iyer (Law IPR)	IP Consultant A/001, Shiv Sudama Nandan, Plot RM 89, MIDC, Milap Nagar, Dombivili (East), Thane, Dist-421203, Mob: 9820395353, Email: eswaranier@ictpmumbai.edu.in, shreerangvjoshi@rediffmail.com
5	Three nominees of the university	Prof. Shreerang Joshi	Professor of Pharmaceutical Sciences and Head, Department of Pharmaceutical Technology, Institute of Chemical Technology, Nathalal Parekh Marg, Near Khalsa College, Matunga, Mumbai-400019. Mob: 9820600226, Email: sv.joshi@ictpmumbai.edu.in, shreerangvjoshi@rediffmail.com
		Prof. Rajendra Shinde	Director CIP & Principal, St. Xaviers College (Autonomous), 5, Mahapalika Marg Dhobi Talao, CST Fort Area Fort, Mumbai-400001. Mob: 9819100131, Email: rajendra.shinde@xaviers.edu
		Prof. Sudha Rathod	Principal, Oriental College of Pharmacy Plot No: 3,4,5, Sector-2, Sanpada (W), Navi Mumbai Mob: 9769000309, Email: principal@ocp.edu.in
6	Member Secretary	Dr. Krishnapriya Mohanraj	Bombay College of Pharmacy

**Term:** The term of the nominated members shall for three academic years (A.Y. 2022-2023 to A.Y 2024-2025)

**Meetings:** Academic Council shall meet at least twice a year.

## COMPOSITION OF THE BOARD OF STUDIES FOR UNDERGRADUATE B.PHARM PROGRAM (UG-BoS)

(w.e.f 07/01/2023)

**A.Y 2022-2023 to 2024-2025**

Sr. No.	Category	Details of Members
1	Principal and Chairman-Board of Studies (BoS)	Prof. Krishna Iyer
	Head of Department	Dr Ujwala Shinde (Member Secretary)
		Dr. Vaishali A Shirsat
		Dr. Anuradha Majumdar
		Dr. Premrata K. Ambre
		Dr. Alka Mukne
2	Outside the parent University recommended by the Academic Council	Dr. Pratima Tatke, Principal & Professor, CU Shah College of Pharmacy, SNDT Women's University, Juhu Tara Road, Juhu Campus, Santacruz (West), Mumbai,-400049 Mob: 9869430228/9920685857 Email: <a href="mailto:pratima.tatke@cushahpharmacy_sndt.ac.in">pratima.tatke@cushahpharmacy_sndt.ac.in</a>
		Dr. Sadhana Sathaye, Professor of Pharmacology, Institute of Chemical Technology, Nathalal Parekh Marg, Near Khalsa College, Matunga, Mumbai-400019. Mob: 9821272821 Email: <a href="mailto:ss.sathaye@ictmumbai.edu.in">ss.sathaye@ictmumbai.edu.in</a>
3	One recommended by Vice-chancellor from a panel of Six by the college principal	Prof. Dr. Tejal Mehta Professor and Head, Department of Pharmaceutics, Nirma University, Gujarat Mob: 9879357584 Email: <a href="mailto:tejal.shah@nirmauni.ac.in">tejal.shah@nirmauni.ac.in</a>
4	One representative from Industry	Mr. Ashish Baktiwale, Managing Director, Navigo Analytix India, 503, Malvika Tower, D. N. Nagar, Andheri (W), Mumbai-400053 Mob: 9867557858 Email: <a href="mailto:ashish.b@navigoanalytix.com">ashish.b@navigoanalytix.com</a>
5	One postgraduate meritorious alumnus by Principal	Dr. Ratnakar Mehendre Technical Director-Gelnova Laboratories (I) Pvt. Ltd. Door No. C 125, T. T. C Industrial Area, Pawane, Village Pawane, Mahape, Navi Mumbai - 400701 Mob: 9820304839 Email: <a href="mailto:mehendre@yahoo.com">mehendre@yahoo.com</a>

**Term:** The term of the nominated members shall be for three academic years **2022-2023 to 2024-2025**

**Meetings:** Board of Studies shall meet at least twice a year.



## COMPOSITION OF THE BOARD OF STUDIES FOR POSTGRADUATE B.PHARM PROGRAM (PG-BoS)

(w.e.f 07.01.2023)  
A.Y 2022-2023 to 2024-2025

Sr. No.	Category	Details of Members
1	Principal and Chairman (BOS)	Prof. Krishna Iyer
	Head of the Department	Dr. Vaishali A Shirsat(Member Secretary)
		Dr. Ujwala Shinde
		Dr. Anuradha Majumdar
		Dr. Alka Mukne
		Dr. Premlata K. Ambre
2	Outside the parent University Recommended by the Academic Council	Prof. S. Y. Gabhe, Professor of Pharmaceutical Chemistry, C-1/10, Shivtara Garden Society, D. P. Road, Near Gananjay Society, Kothrud, Pune-411038 Mob: 9766592664 Email: <a href="mailto:sy52gabhe@gmail.com">sy52gabhe@gmail.com</a>
		Prof. Vandana Patravale, Professor of Pharmaceutics, Institute of Chemical Technology, Nathalal Parekh Marg, Near Khalsa College, Matunga, Mumbai-400019, Mob: 9820029314 Email: <a href="mailto:vb.patravale@ictmumbai.edu.in">vb.patravale@ictmumbai.edu.in</a>
3	One Recommended by Vice-chancellor from a panel of Six by the college principal	Dr. S. D. Sawant Principal and Professor of Pharmaceutical Chemistry, Smt. Kashibai Navale College of Pharmacy, Kondhwa Campus, Kondhwa, Pune Mob: 9850067999 Email: <a href="mailto:principal.skncop@sinhgad.edu">principal.skncop@sinhgad.edu</a> <a href="mailto:drdsawant69@gmail.com">drdsawant69@gmail.com</a>
4	One representative from Industry	Mr. Prateek Agarwal Assistant Vice President RD Center, Macleods Pharmaceuticals Ltd III, R&D,18, Rd Number 9, Marol Industrial Area Andheri, Mumbai – 400093 Mob: 9769693850 Email: <a href="mailto:prateeka@macleodspharma.com">prateeka@macleodspharma.com</a>
5	One postgraduate meritorious alumnus appointed by the college Principal	Dr. Parizad Elchidana, Principal Technical Consultant, ACG, Dalamal House,10 <sup>th</sup> floor, Nariman Point,Mumbai-400021, Mob: 9769466586/022-50961434 Email: <a href="mailto:parizad.elchidana@acg-world.com">parizad.elchidana@acg-world.com</a> <a href="mailto:pelchidana@gmail.com">pelchidana@gmail.com</a>

**Term:** The term of the nominated members shall be for three academic years **2022-2023 to 2024-2025**

**Meetings:** Board of Studies shall meet at least twice a year



## Divisions:



## The Indian Pharmaceutical Association (IPA)

The Indian Pharmaceutical Association (IPA) is the premier professional association of pharmacists in India founded on 23rd December 1939, with a member base of over 10,000, spread across the length & breadth of the nation. IPA operates in India through 21 state branches & more than 46 local branches. The members represent various facets of pharmaceutical profession viz. industry, regulatory, community pharmacy, hospital pharmacy & education. IPA is also actively associated in managing several academic programmes. As member of the Drug Technical Advisory Board, India, IPA is actively involved in advising the government on matters of professional importance. IPA is affiliated to international pharma associations like FIP, FAPA, CPA, AAPS, AAiPS, IPSF & WHO, for carrying out various collaborative professional activities which include organizing training programmes for professionals from industry, academics, regulatory & practice, making representations to the authorities on matters of professional interest & working towards constantly upgrading the standards of professional services offered by the pharmacists.

## Mission

**Mission:** The Indian Pharmaceutical Association (IPA) is the national professional body of pharmacists engaged in various facets of the profession of pharmacy. The IPA is committed to promote the highest professional and ethical standards of pharmacy, focus the image of pharmacists as competent healthcare professionals, sensitize the community, government and others on vital professional issues and support pharmaceutical education and sciences in all aspects

## IPA Students' Forum (IPA-SF)

**IPA Students' Forum (IPA-SF)** is a national forum for pharmacy students under the IPA. It aims to bring all pharmacy students under one umbrella so that their energies can be synergized to make a difference. The forum enables them to become better future pharmacists while abiding with the highest ethical and professional standards. This catalyzes their overall development and facilitates development of their academic, leadership and professional skills for their benefit and in turn the profession and thus health of INDIA. Activities of IPA-Student Forum are guided by esteemed personalities of Pharmaceutical professionals from India and abroad.

## The Indian Journal of Pharmaceutical Sciences

The Indian Journal of Pharmaceutical Sciences is the bimonthly scientific publication of the IPA. The journal publishes original research work in the areas of Pharmaceutical Sciences (Pharmaceutical Technology, Pharmaceutics, Biopharmaceutics, Pharmacokinetics, Pharmaceutical/ Medicinal Chemistry, Computational Chemistry and Molecular Drug Design, Pharmacognosy and Phytochemistry, Pharmacology, Pharmaceutical and bioanalysis, Pharmacy Practice, Clinical and Hospital Pharmacy, Cell Biology, Genomics and Proteomics, Pharmacogenomics, Bioinformatics and Biotechnology of Pharmaceutical Interest). IJPS is indexed by various abstracting agencies e.g. Chemical Abstracts, DOAJ, International Pharmaceuticals Abstracts, Journal Citation Reports, PubMed, Pubmed Central, Science Citation Index Expanded, Scimago Journal Ranking, SCOLAR, SCOPUS, SIIC databases & is available online ([www.ijpsonline.com](http://www.ijpsonline.com)) Original research work is published in IJPS either as a Full Research Paper or as a Short Communication. Review Articles on current topics in Pharmaceutical Sciences are also considered for publication by the Journal.

## Pharma Times

Pharma Times is the news magazine of the IPA. It is a scientific journal and in addition to featuring general articles of professional interest, it also publishes proceedings of the Central Executive Council of IPA, the Annual Report and Accounts of the Association, reports on branch activities, proceedings of IPA Convention, notifications of IPA and other information such as articles, advertisements, announcements etc. Pharma Times is indexed by the search engines - Scopus & Embase of the premier scientific publication house Elsevier.







The formal announcement of the commissioning of the 50kw Solar Power-on-grid System at Bombay College of Pharmacy (BCP) campus was done at the programme on 28th May 2015, BCP's Foundation Day and concluding ceremony of the Centennial Birth Anniversary of Padmabhushan Late Shri Amrut Vitthal Das Mody (Founder Chairman of the Governing Body of the BCP).

Looking at the success ratio of the 50kv solar power-on-grid system at BCP additional 90kv system has been installed on 4<sup>th</sup> Feb 2017 totaling to 140kv. followed by installation of Net Metering for the optimal utilization of resources

HINDUSTAN TIMES, MUMBAI  
MONDAY, NOVEMBER 13, 2017

hindustan**times** | metro | 05

# Sun shines on Kalina college; ₹1.6L saved

**WATT AN IDEA** 453 solar panels, installed across a 13,500 sq ft terrace, generate 15,399 units of electricity every month



Badi Chatterjee

badi.chatterjee@hindustantimes.com

**MUMBAI** One of the largest rooftop solar power generation systems in Mumbai helps Bombay Pharmacy College in Kalina to power 70% of its electricity requirements from the sun.

The college saves ₹1.6 lakh every month in electricity bills by running the 140 kilowatt-power (kW) system that has 453 solar panels installed across a 13,500 sq ft terrace area. The system generates an average 15,399 units of electricity per month and runs lights, fans, air-conditioners, and lifts across 13 laboratories, seven classrooms, the college administration office area and the canteen. For a comparison, a two-bedroom flat in Mumbai uses 300-350 units of electricity per month.

Solar energy, apart from being renewable and free, does not cause pollution unlike power plants that burn coal, gas and oil. Solar energy can be used in remote areas where electricity

## SOAKING UP THE SUN

### WHAT IS SOLAR ENERGY?

Solar energy is a free source of renewable energy.

### WHY IS IT IMPORTANT?

Generation of solar power does not cause carbon emissions that come from burning coal, gas and oil for generation of electricity.

Solar energy can be used in remote areas where electricity from the grid cannot be accessed.

Gadgets like calculators, street lights and other low power-consuming devices can be powered by solar power.

The potential to harness solar energy as a natural resource is infinite.

■ The 453 solar panels installed across a 13,500 sq ft terrace area.

### HOW TO HARVEST RAINWATER

Rainwater can be harvested in several ways:

One way is to assist rainwater to seep into the ground and recharge groundwater levels. In this process, wells will have water for a longer period in the dry season.

Rain water falling on building terraces can be diverted and stored for use in the dry season.



■ Students and staff stand near the medicinal garden located near the entry of the college.

PHOTO BY KUNAL PATEL/HT

### KEEP IN MIND

Rain can be acidic, because it mixes with atmospheric gases, so it needs to be processed before it is used for drinking or cooking. Unprocessed rain water can be used for non-potable purpose like flushing toilets and watering gardens.

Around 800 million litres of water is wasted through leakages in tankers every day, according to the data provided by the BMC. Rainwater harvesting can help save this precious resource.

from the grid cannot be accessed.

Nitin Navnitray Maniar, chairman, governing body, Bombay Pharmacy College and special executive officer for the state government, said, "We went for such a large-scale setup because this energy source is

both eco-friendly and cost-effective, and allows us to give something back to the environment."

Founded by the Indian Pharmaceutical Association, Maharashtra State Branch in 1957, the college has over 400 undergraduate, postgraduate and PhD stu-

dents along with 90 teachers and staff members. The college is spread across 65,000 sq ft area with one quarter of an-acre garden that has medicinal plants and a large ground allocated for extracurricular activities and events.

The solar project was completed in two phases. In the first phase, a 50kWp setup at a cost of ₹39.5 lakh in May 2015, and in the second phase in February this year, a 90kWp unit was installed for ₹49.5 lakh. "We expect to recover the entire ₹89

lakh by 2021. We have already received ₹34.58 lakh in the form of subsidy (30%) from the state government. We estimate annual savings of ₹20 lakh from this project," he said.

Prior to the solar installation, the monthly electricity bill for the college was ₹3.25 lakh that fell to ₹1.65 lakh post installation. The campus also uses a net-metering system, which allows surplus power generated through solar panels to be sent back to the grid and any deficiency is imported from the grid.

The college also has a rainwater harvesting system that collects water during the rains for use later. The college estimates that it has saved close to 32 lakh litres of water through rainwater harvesting since 2008. The college complex does not depend on the civic body for its non-potable water consumption. The rooftop and common areas act as catchment for rainwater. The water collected is channelled into a well with a capacity of 50,000 litres, and the water is used in the 45 washrooms on campus. "The water is also used in our gardens. Channels have been dug up through the campus that allows water to drain into the well," said Maniar.



## The Indian Pharmaceutical Association, Maharashtra State Branch (IPA-MSB)

IPA-MSB is a state branch of the IPA initiated in 1941 immediately after the foundation of IPA in 1939. IPA-MSB runs an educational institute, Bombay College of Pharmacy (BCP). The Amrut Mody Research Fund (AMRF), The Research Society of Bombay College of Pharmacy (RSBCP), the Dr. M. K. Rangnekar Memorial Testing Laboratory (MKR), the Academy for Clinical Excellence (ACE), IPA-SF-MSB are other ventures which are governed by IPA-MSB. IPA-MSB is the only state branch of IPA, that has the distinction of getting the BEST BRANCH AWARD constituted by IPA four times i.e. 2004, 2005, 2011, 2012, 2016 and 2017. It has till date 2359 Life members and has active local branches at Pune, Nashik, Aurangabad, Solapur, Nagpur, Kolhapur, Amravati, Dhule and Palghar.

### IPA-Student Forum-MSB (IPA-SF-MSB)

IPA-SF-MSB participates actively under the guidance of IPA-MSB in the organization and conducts the National Pharmacy Week celebrations every year. The Rx Festival, which is a cultural event, is also organized by the Student Forum every year, in which students from all the pharmacy Colleges in Mumbai, Navi Mumbai and Thane region and other parts of Maharashtra participate. The IPA-SF-MSB also publishes a magazine called 'Panache' which is greatly appreciated by the members, industry and academicians.

### Some of the Activities (Symposia/Seminars/Lectures, etc.) conducted by IPA-MSB in recent past

- Material Science Solution to Formulation and Drug Delivery with ObD Perspective - Particle Size
- Rx Festival - Every Year
- Prospects after Pharmacy Education
- Training Program for Community Pharmacy
- Building Concentration Through Stress Management - Nerul, Ulhasnagar, Chembur
- Rational Design of Modulators of Human Follicle Stimulating Hormone
- DOTS TB Training Program
- Continuing Professional Development Program
- Matrix & Metrics - Compliance Mantra
- Drug Discovery and Development
- National Pharmacy week (NPW)
- Advanced Instrumental Analytical Techniques
- Studies on Reactive metabolites leading to Mechanism Based Inhibition of Cytochromes
- Orientation and future Trends in Pharmacy
- Overcoming Regulatory Compliance Hurdles
- Role of NAT in blood banking
- Monoclonal Antibodies
- To & Thru the Skin
- Training Workshop on "Regulatory Global Scenario" at Talaja
- International Yoga Day
- Dr. H. P. Tipnis Memorial Lecture
- "Let's Do NBA Accreditation" I P A - M S B & Konkarn Gyanpeeth
- Free Medical Camp at Karjat organised by Rahul Dharkar College Of Pharmacy, IPA-MSB & Konkarn Gyanpeeth
- Health Check-up Camp at Nagpur by Nagpur Local Branch jointly with IPA - MSB
- Interactive lecture by Dr. R. B. Smarta on Soft Skill
- Lecture on GPAT with Pharmacad
- Asthma Checkup Camp at R.F. Naik School, Koparkhairne - WPD
- Seminar on Nutrition at St. Laureate School, Koparkhairne - WPD
- World Pharmacist Day Celebrations at KEM Hospital by Hosp. Pharmacy Div Of IPA-MSB
- Diabetic Monitoring Camp at Div. of Ashwini Chemist - WPD
- Lecture on Stress Management by Dr. Shantesh Kaushik - WPD
- Medical Health Checkup Camp at BCP - WPD
- World Pharmacist Day Celebrations at SNTD college
- Diabetic Monitoring Camp at Shree Sai Medicals, Koparkhairne - WPD
- World Pharmacist Day at Chemist Bhavan Sanpada - WPD
- Diabetic Monitoring Camp at Health Plus Medicals at Navi Mumbai - WPD
- World Pharmacist Day Celebration at Saifee Hospital at Chani Road.
- Nutrition Awareness Camp at R.F. Naik School, Koparkhairne, Navi Mumbai.
- Program on 'Clinical Trials Regulations in India' on 19<sup>th</sup> Oct. 2017 at BCP
- Half Day Seminar on "Recent Trends in Science Journalism and Science Communication"
- Principal Meeting to discuss the Action Plan of 'Education Conclave 2018
- Breath Free Camp held at Ashwini Chemist & General Store
- Interactive meeting with Dr. Khalid and Dr. Giannetti at BCP
- Program oheld on the Occasion of 56<sup>th</sup> NPW Celebration at R.F. Naik School, Koparkhairne.
- Seminar on Innovation in Pharmaceutical Industry - Drug Development and Chromatography.





**VISION**



To be a leader in Pharmacy Education, Pharmacy Training and Research in Pharmaceutical Sciences.

**MISSION**

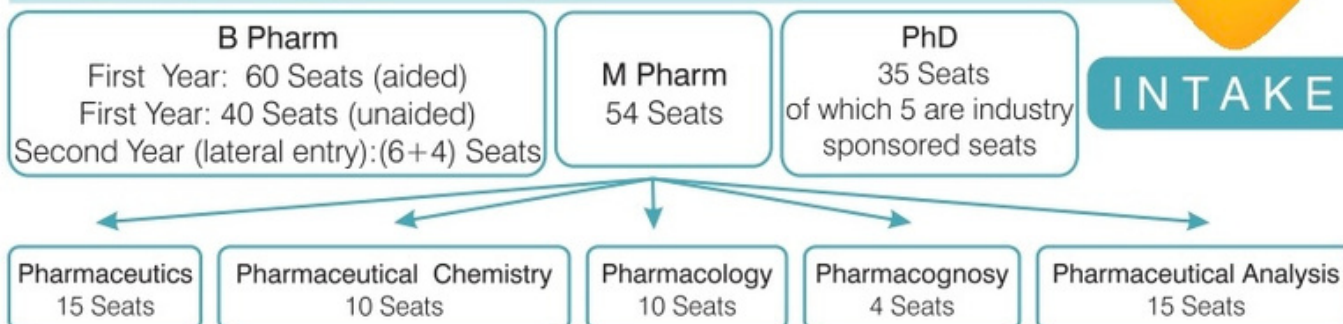


- To educate and train students in the knowledge and practice of pharmaceutical sciences
- To contribute to improvement of health of the society through education programs
- To contribute to improvement of health of the society through research programs

**Bombay College of Pharmacy (BCP)** is a pioneer institution in pharmaceutical education in India. BCP was founded in 1957 by the Indian Pharmaceutical Association - Maharashtra State Branch (IPA - MSB) with financial assistance from the Government of Maharashtra and several pharmaceutical companies. It is centrally located and well connected by road, rail and air. Since its inception as a college offering a Diploma in Pharmacy, the college has grown in stature and at present offers Bachelors, Masters, and Doctoral programs of study in Pharmaceutical Sciences.



**INTAKE**



**PROGRAM EDUCATIONAL OBJECTIVES**

To teach and help assimilate theoretical knowledge in various fields of Pharmaceutical and Allied Sciences namely

- Pharmaceutical Chemistry
- Pharmaceutics
- Pharmacology
- Pharmacognosy
- Pharmaceutical Analysis
- Clinical & Industrial Pharmacy
- Microbiology & Immunology
- Biochemistry & Biotechnology
- Mathematics & Statistics

To teach and help assimilate the practical / laboratory skills/ knowledge in various fields of Pharmaceutical and Allied Sciences namely

- Pharmaceutical Chemistry
- Pharmaceutics
- Pharmacology
- Pharmacognosy
- Pharmaceutical Analysis
- Clinical & Industrial Pharmacy
- Microbiology & Immunology
- Biochemistry & Biotechnology

To foster development of students through participation in the Indian Pharmaceutical Association Student Forum, Drug information Agency, Indian Pharmaceutical Association- Maharashtra State Branch Symposia, International Society for Pharmacoeconomics and Outcomes Research

To develop leadership skills, team building skills, community service outlook, continuing education opportunities, and ethical practices



## TRAINING AND PLACEMENT CELL

The placement cell of Bombay College of Pharmacy acts as a contact point for pharma and allied industries that wish to recruit students from the BCP. It also organizes pre-placement talks for corporates who wish to visit the campus for recruitment.

Some of our eminent recruiters include:



## INDUSTRY INSTITUTE PARTNERSHIP CELL

The main objective of this cell is to act as a liaison between industries and the BCP. The following are the major activities of the IIP cell :-

- Maintenance, co-ordination & promotion of consultancy services
- Industry study tour programme (ISTP), internship programme & placement of students
- Industrial training and industrial visits for students
- Industrial exhibitions
- Training of industrial personnel in Bombay College Pharmacy
- Guest lectures
- Skill Development facilities using online platforms





## ALUMNI

The achievements of alumni of BCP themselves speak of the quality of education and training given here. The alumni are successful entrepreneurs, businessmen, consultants, scientists, administrators and academicians.

Photograph of some alumni functions



## AWARDS AND ACCOLADES OF FACULTY

Few of the Awards and Accolades of Faculty of BCP are listed below :



Dr. Anuradha Majumdar	2023	Most Influential Professor Award 30th Edition of Business School Affairs. Anveshan Western Zone Gold in Health Sciences	Prof. Mala Menon	2017	Best Professor of Pharmaceutics (National Education Award)
Prof. Krishnapriya Mohanraj	2023	Most Iconic Healthcare Leader (Global) Award (World Health and Wellness Congress)	Prof. Mala Menon	2017	Distinguished Professor Award Sponserd by NSTMIS a DIVN of DST
Prof. Krishna Iyer	2023	First Prize at Asia Pacific International Society for Study of Xenobiotics	Prof. Krishnapriya M.	2017	First Prize at 8 <sup>th</sup> Indian Youth Science Congress
Prof. Krishna Iyer	2022	Consolation Prize at Avishkar Research Convention	Dr. Alka Mukne	2016	Fellowship of Indian Pharmaceutical Association (IPA)
Dr. Harita Desai	2022	Second Prize in 17th Avishkar Inter Institute Research Convention	Prof. Mala Menon	2016	Dr. P. D. Patil Best Pharmaceutical Scientist Award from APTI Maharashtra
Dr. M. S. Nagarsenkar	2022	Lifetime Achievement (The IPA MSB-SF)	Prof. Krishnapriya M.	2016	2 <sup>nd</sup> Prize in Avishkar for Poster and Oral Presentation
Dr. Alka Mukne	2021	Distinguished Women Teacher (Contas College of Pharmacy)	Prof. M. N. Saraf	2015	Amrut Mody Distinguished Researcher Award
Dr. Evans Coutinho	2021	Lifetime Achievement (The IPA MSB-SF)	Dr. Anuradha S. Majumdar	2014	Gold Medal in Avishkar
Dr. Mala Menon	2021	Lifetime Achievement (The IPA MSB-SF)	Prof. M.S. Nagarsenkar	2013	Mrs. Manjushree Pal Best Researcher National Award
Prof. Krishnapriya	2020	101 Fabulous Global Health care leader Award (World Health and Wellness Congress & Awards)	Prof. M.S. Nagarsenkar	2012	Amrut Mody Distinguished Researcher Award
Dr. M. S. Nagarsenkar	2019	World top 2% (Stanford University, USA)	Prof. Krishnapriya Mohanraj	2012	Dr. P. D. Sethi Annual Award
Dr. Ujwala Shinde	2019	Best Professor in Pharmaceutics (Dewang Mehta National Education Awards)	Dr. Savita R. Kulkarni	2011	Dr. P. D. Sethi Annual Award
Prof. Mala Menon	2019	Distinguished Professor Award (National Science & Technology Management Informatio System, DST)	Dr. Alka Mukne	2008	Biographical Listing in Marquis who's who in Science & Engineering
Prof. Mala Menon	2018	Award for Promising Innovation in Solid Dosage Form (IPA-ACG Sci Tech)	Mr. Mushtaque S. Shaikh	2006	Best emerging Scientist Award at Focus India
Prof. Mala Menon	2018	Best Professor in Pharmaceutics (Dewang Mehta National Education Award)	Dr. Alka P. Mukne	2006	Outstanding Achievement Award by IPA
Prof. Mala Menon	2018	IPA-ACG Scitech Innovation Award in Solid Dosage Development	Prof. M. N. Saraf	2004	Best Principal Award by APTI
			Prof. Evans C. Coutinho	1995	Career Award for Young Teachers by AICTE
				1993	PAMDAL Best Teacher Award







**2023**

Ranked 55<sup>th</sup> among the Pharmacy institution by National Institutional Ranking Framework, Ministry of Education, Government of India

**2022**

Ranked 32<sup>nd</sup> among the Pharmacy institution by National Institutional Ranking Framework, Ministry of Education, Government of India

**2022**

Nominated by DTE, Regional office for Green Campus Award

**2022**

Prestigious Scholarship 'Prime Ministers' Fellowship for Doctorate Research with industry Partner Bliss GVS Pharma Limited under DST, SERB awarded to Ph. D Student 8/12/2021

**2022**

4 Star rating for institution innovation council (IIC)

**2021**

Ranked 25<sup>th</sup> among Pharmacy institution by MHRD National Institutional Ranking Framework (NIRF)

**2021**

Selected as host Institute for Distinguished Chair Professor Scheme of AICTE

**2020**

Ranked 24<sup>th</sup> among Pharmacy institution by MHRD National Institutional Ranking Framework (NIRF)

**2019**

Conferment of Autonomous Status from 2019-20 to 2028-29

**2019**

Presented with National Education Leadership Award by ABP News

**2019**

Ranked 24<sup>th</sup> among Pharmacy institution by MHRD National Institutional Ranking Framework (NIRF)

**2019**

FICCI 6<sup>th</sup> higher education excellence award special Jury mention for Excellence in Enabling Research Environment

**2018**

2<sup>nd</sup> Prize-Best Industry Linked Institute in Pharmacy category from AICTE-CII

**2018**

Ranked 8<sup>th</sup> among Pharmacy institution by MHRD National Institutional Ranking Framework (NIRF)

**2017**

Ranked 15<sup>th</sup> amongst Pharmacy institutions of India under NIRF MHRD

**2017**

Accreditation for 5 years by NBA

**2017**

Grant Rs. 5.87 Crores from DST DPRP for National Facility for Research & Training

**2016**

Ranked 6<sup>th</sup> amongst Pharmacy Institutions by MHRD under NIRF

**2015**

IndPact Mentor Award for Best Industry - Linked Pharmacy Institute from AICTE-CII

**2015**

BCP and University of Mumbai fetched First runner up Trophy in national research competition AVISHKAR

**2014**

Best Industry Linked Institute in Pharmacy category from AICTE- CII

**2013**

Best Industry Linked Institute in Pharmacy category from AICTE- CII

**2013**

Ranked Country's 4th Best Pharmacy College by a Survey

**2013**

Inauguration of Radioimmuno-assay Laboratory (RIA Lab)

**2011**

BCP and University of Mumbai fetched Gold Medal(s) and a Trophy in AVISHKAR

**2011**

Postgraduate Course in Pharmaceutical Analysis with intake for 18 students

**2008**

Golden Jubilee Celebrations, An International Symposium "Designing the future New Medicines and New Methods" conducted on 18<sup>th</sup> and 19<sup>th</sup> Jan, 2008 at Hyatt Regency Mumbai

**2008**

Accreditation for 5 years by NBA

**2004**

FIST grant from DST for improving infrastructure

**2001**

Patents Awareness Workshop in Collaboration with TIFAC- Govt. of India

**1998**

Golden Jubilee IPCA Conference Jointly with FAPA Conference

**1995**

Inauguration of "Ramesh Banatwala Memorial Industrial Pharmacy Laboratory" and Permanent Affiliation to University of Mumbai

**1993**

International Symposium on "Update on Bioavailability and Bioequivalence"

**1990-1993**

Foundation and opening of "Bioavailability Centre"

**1987**

The VASVIK Research Wing was inaugurated and an International Symposium on "Controlled Release Dosage Forms" was held and the Staff Quarters for senior faculty members was constructed

**1984**

The Silver Jubilee of the college was celebrated and an International Symposium on "Advance in Drug Delivery System" was held

**1982**

The M.S.D auditorium, with seating capacity of 500 was opened

**1981**

The Research Society of the Bombay College of Pharmacy was formed and registered with the Department of Scientific and Industrial Research (DSIR), Govt. of India

**1977**

The Second Commonwealth Pharmaceutical Congress jointly with the 28th I.R.C.A and the Pharma Expo-77

**1976**

The UNESCO Microbiology workshop

**1973**

BCP was affiliated to the Mumbai University for the M. Pharm & the PhD (Tech) course. The College also received its first research grant from CSIR. Since then several important events have marked the progress of BCP

**1970**

BCP was affiliated to the Mumbai University for the B. Pharm course

**1966**

The Building at Kalina was inaugurated and BCP hosted the 18th Indian Pharmaceutical Congress

**1957**

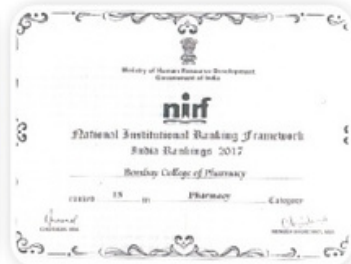
The Diploma course was started and BCP was formally constituted

**1956**

The idea of establishing the Bombay College of Pharmacy (BCP) was formulated under the leadership of the Late Prof. M. L. Khorana in 1956, in the form of a short term course called "Practicing Pharmacists Training (PPT) course"







## OUR SPONSORS



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## DEPARTMENT OF PHARMACEUTICS

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**Harita Desai**, Ph.D. (Tech), Assistant Professor  
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**Neha Raghuwanshi**, M. Pharm, Assistant Professor (neha.raghuwanshi@bcp.edu.in)

**Snehal Borade**, M. Pharm, Assistant Professor (snehal.borade@bcp.edu.in)

**Bhushan Bhale**, M. Pharm, Assistant Professor (bhushan.bhale@bcp.edu.in)



The Department of Pharmaceutics is dedicated to undergraduate teaching and is actively involved in research at the post graduate (M. Pharm. and Ph.D.) level. The department is equipped with the necessary infrastructure essential for smooth undergraduate teaching. The department also has state-of-the-art facility to support post graduate research activities.

### Key Research areas :

- Novel Drug Delivery Systems-Liposomes, Niosomes, Polymeric micelles, Microparticles, Nanoparticles, Gene delivery, Nanodots & Implants.
- Solubility enhancement technology - Cyclodextrin based systems, Crystal engineering
- Probiotic formulation and testing
- Polymeric coatings and Pelletization
- Novel veterinary formulations
- Polymer Synthesis, design of ligands for targeting
- Mucosal vaccine delivery
- Development of analytical methods and validation. *in-vitro* dissolution and permeation methodologies
- Sustained and controlled release systems for oral, pulmonary, nasal, ocular, transdermal and vaginal applications

### The Industrial Pharmacy Laboratory has facilities :

- For solid dosage forms, which include rapid mixer granulator, GMP model compression machine and dissolution test apparatus.
- For novel systems which include probe sonicators, high speed homogenizer, spray dryer, freeze dryer, type 4 dissolution test apparatus, vertical diffusion cells, high pressure homogenizer, DSC, particle size analyzers and HPLC systems.
- For Pulmonary targeted formulation which include Anderson cascade impactor & twin stage impactor.

### Collaborations

The department also collaborates with pharmaceutical corporate clients for preformulation, formulation development and pilot plant scale up projects. Some of the clients include :

- |                       |                          |                           |                |
|-----------------------|--------------------------|---------------------------|----------------|
| • Abbott India Ltd    | • Hansen Probiotics      | • Naprod life sciences    | • Unichem Labs |
| • ACG Group           | • Inventia Pvt. Ltd.     | • Novartis (I) Ltd.       | • USV (P) Ltd. |
| • Bayer (I) Ltd.      | • Lubrizol Life Sciences | • Pfizer Ltd.             |                |
| • Brassica Pharma     | • Macleods Pharma Ltd.   | • Saifee Vetmed Pvt. Ltd. |                |
| • Famy Care Ltd       | • Marico Ltd.            |                           |                |
| • Gattefosse (I) Ltd. | • Mother Dairy           |                           |                |
| • Glenmark Ltd.       | • M/s Infovet            |                           |                |





Department has established several research international as well as national collaborations in areas of drug delivery research. Department has successfully collaborated with:

- Bristol Myers Squibb, USA
- Centre of Drug Research, University of Helsinki, Finland
- Department of Pharmaceutical Technology, Goethe University, Germany
- Interactul Department of Pharmaceutical Technology, University of Jena, Germany
- Janssen Pharmaceuticals, Belgium
- Lupin Pharmaceuticals, USA
- VLAIO, Belgium
- Yuvan Research, USA



#### National Collaborations :

- Advanced Centre for Treatment, Research and Education in Cancer (ACTREC, Navi Mumbai)
- Agharkar Research Institute, Pune
- Board of Radiation and Nuclear Science (BRNS, Mumbai)
- Bombay Veterinary College (BVC, Mumbai)
- Department of Pharmacy, Tripura University (Central Chemistry)
- GS Medical college and KEM Hospital (Parel, Mumbai)
- Haffkine Institute, Parel
- Institute of Chemical Technology, Mumbai
- Serum Institute of India (Pune)
- Centre for excellence in Basic Science, University of Mumbai



Department also provides services in characterization of drug delivery systems which include:

- Size Determination using Beckmann Coulter, USA
- Zeta Potential using Malvern NanoSizer Series ZS (UK)
- In vitro lung deposition using Andresen Cascade Impactor, Copley Scientific, UK
- In vitro skin permeation studies using Vertical Diffusion Cell, Hanson Research, US
- Differential Scanning Calorimetry Studies using DSC, Mettler Toledo, Switzerland
- Size reduction using high pressure homogenizer
- R&D Scale batches on Spray Drier, Fluid Bed Coater, Freeze Dryer.



#### Publications:

More than 200 publications in high impact factor journals like

- |  |   |
|--|---|
| • AAPS PharmSciTech                                  | • Journal of Drug Delivery and Therapeutics             |
| • Carbohydrate Research                              | • Journal of Drug Delivery Science & Technology         |
| • Cell Oncology                                      | • Journal of Microencapsulation                         |
| • Dissolution Technology                             | • Journal of Pharmaceutical Innovation                  |
| • Drug Development and Industrial Pharmacy           | • Journal of Pharmaceutical Sciences                    |
| • International Journal of Pharmaceutics             | • Molecular Pharmaceutics                               |
| • International Journal of Biological Macromolecules | • Nanomedicine-Nanotechnology, Biology and Medicine     |
| • Journal of Controlled Release                      | • Nanomedicine -Future Medicine                         |
| • Journal of Cosmetic Science                        | • Respiratory Drug Delivery (Proceedings of Conference) |
|  | • RSC Advances  |

Faculty has contributed chapters in several books and has acquired patents and trademarks.

Faculty is frequently invited to deliver lectures in field of novel drug delivery systems.

More than 300 papers have been presented by the department in national and international conferences, symposia and seminars.





## DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

### Faculty:

**Dr. Krishna Iyer, Ph.D. (Tech), I/c Principal, Professor**  
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**Dr. Premlata Ambre, Ph.D. (Tech), Head of Department and Associate Professor** (premlata.ambre@bcp.edu.in)

**Mr. Abhijeet Dalvi, M. Pharm, Assistant Professor**  
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**Dr. Rachna Kaul, Ph.D. (Tech), Assistant Professor**  
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**Mr. Avinash Rangaraju, M. Pharm, Assistant Professor**  
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**Mr. Abhishek Rathod, M. Pharm, Assistant Professor**  
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**Mr. Girish Gurbani, M. Pharm, Assistant Professor**  
(girish.gurbani@bcp.edu.in)



### Research Guides from other departments:

**Krishnapriya Mohanraj, Ph.D.(Tech), Professor**  
(krishnapriya.mohanraj@bcp.edu.in)

**Vaishali Shirsat, Ph.D. (Tech), Associate Professor, Head of Department (Pharmaceutical Analysis)** (vaishali.shirsat@bcp.edu.in)

### Areas of Research:

- Multidimensional and multinuclear NMR
- Multidimensional QSAR
- Molecular Dynamics Simulations
- Protein Modeling
- Pharmacokinetics
- Process development for intermediates and bulk drugs
- Waste water treatment
- Molecular modeling and Drug Design
- Drug Metabolism
- Plant xenobiotic metabolism
- Synthetic Medicinal Chemistry
- Stimuli responsive polymer synthesis
- Preparation & evaluation of Polymer Drug Conjugates
- Cell and Molecular Biology

### Facilities available in the department include:

- CEM Discover Microwave synthesizer
- Shimadzu HPLC with dual wavelength UV detector
- Jasco HPLC with PDA and fluorescence detector
- Jasco UV-visible spectrophotometer
- Low temperature synthesizer
- Gel permeation Chromatography with RI detector (Waters - Alliance HPLC)
- Buchi Flash Chromatography with fraction collector C-660 and Buchi pump manager C-615
- Jasco HPLC with UV detector
- CAMAG HPTLC
- Roteva Rotary evaporator
- Molecular modeling software - Amber
- Lovis Ball viscometer (Anton Paar)



#### Extra mural funding:

- All India Council of Technical Education (AICTE-RPS/MODROBS)
- Council of Scientific and Industrial Research (CSIR)
- Department of Science and Technology (DST)
- Spring Bank Pharmaceuticals, USA.
- University of Mumbai
- University Grants Commission (UGC)
- Department of Biotechnology (DBT)
- BASF, Germany
- Bristol Meyers Squibb (BMS, USA)

#### Collaborative Programs:

- Agharkar Research Institute, Pune
- Arati Chemicals, Thane
- Alantas Beck, Pune
- Chandigarh College of Pharmacy, Mohali, Punjab
- Chemworks, Mumbai
- Central Effluent Treatment Plant, Ambernath
- Department of Chemistry, Saurashtra University, Rajkot
- Department of Molecular Microbiology and Immunology, Bloomberg School of Public Health, Johns Hopkins University, USA
- Haffkine Institute Mumbai
- Indofil Ltd., Thane, Maharashtra
- Institute for Pharmaceutical and Medicinal Chemistry, Henrich-Heine University, Dusseldorf, Germany
- KEM Hospital
- Kingston University, London
- Omshri Labs, Mumbai
- School of Biochemistry, University of Bristol, UK
- Tata Consultancy Services
- Tuberculosis Research Centre, University of Illinois, Chicago, USA
- UM-DAE Center for Excellence in Basic Sciences, Mumbai
- University Institute of Pharmaceutical Sciences, Punjab University, Chandigarh

#### Publications:

More than 200 research publications in high impact factor journals like:

- The Journal of American Chemical Society (Formerly known as Journal of Chemical Information and Computer Science)
- Journal of Organic Chemistry
- Biochemistry
- FEBS Lett.
- Tetrahedron
- Journal of Computer Aided Molecular Design
- Journal of Molecular Graphics and Modeling
- Journal of Molecular Modeling
- Drug Metabolism and Disposition
- Biomaterials
- Journal of Medicinal Chemistry
- Current Drug Delivery
- International Journal of Biological Macromolecules
- Water Practice & Technology
- Journal of Chemical Information and Modeling
- Journal of Computational Chemistry
- QSAR and Combinatorial Science
- Journal of Peptide Science
- Bio-organic and Medicinal Chemistry
- Chemical Research in Toxicology
- Biopolymers
- Water Science & Technology
- Journal of Emerging infectious diseases
- Biomedical Research Journal
- Journal of Biological Macromolecules
- Journal of Biological Chemistry
- The Nucleus
- European Journal of Pharmacology
- PLOS One

Faculty has also contributed chapters in several books and Encyclopedia. More than 350 papers have published and been presented by the faculty in Conferences, Symposia and Seminars in India and abroad besides invited for lectures in Conferences, Seminars, Workshops etc.





## DEPARTMENT OF PHARMACOLOGY

### FACULTY:

**Dr. Anuradha Majumdar, Ph.D., (Tech),**  
HOD, Associate Professor & Former Dean, Faculty of Science and  
Technology, University of Mumbai (anuradha.majumdar@bcp.edu.in)

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**Dr. Sinjini Sarkar, Ph.D., Assistant Professor** (sinjini.sarkar@bcp.edu.in)

**Mr. Sanket Shirodkar, M. Pharm, Assistant Professor** (sanket.shirodkar@bcp.edu.in)



The Department of Pharmacology, Bombay College of Pharmacy, is reputed for its preclinical research in India. The department offers Master and Ph.D. in Pharmacology. This course is approved by the All India Council of Technical Education, Directorate of Technical Education, Maharashtra State and the University of Mumbai. The department boasts of experienced and renowned faculty and well equipped Pharmacology and Toxicology laboratories. The laboratories are designed to cater to preclinical pharmacological and toxicological evaluations of drugs/herbals/phytochemicals using contemporary in vivo and in vitro tools. The department has been prolific in its outcome of successful completion of several industry and Government sponsored projects.

### Some of our Research Expertise:

Pharmacological screening and evaluation in the domain of:

- Inflammation and Immunology
- Cardiovascular and Respiratory disorders
- Cancer
- Cellular and Molecular Biology
- Diabetes and Metabolic disorders
- Neuropharmacology and Behavioural Pharmacology
- Pharmacokinetics
- Safety Pharmacology and Toxicology
- Metalloid toxicity studies
- Herbal and Phytochemical analysis
- Metabolism and Pharmacokinetic studies
- NDSS
- Consultancy in pharmacological and toxicological field
- Medical writing (Publication and Medical Information)
- Network Pharmacology
- Kidney Disorders
- Transdisciplinary research which includes Environmental toxicity due to Microplastics and Nanoplastics.
- Herbal and Phytochemical analysis and Evaluation
- Pharmacovigilance

### Facilities available in the department include:

- CPCSEA approved animal house facility.
- HPLC with PDA and fluorescence detector.
- Intracerebroventricular (i.c.v.) drug delivery and CSF aspiration in rodents using Stereotaxic apparatus and Nanomite pump.
- Real time Polymerase Chain Reaction based Equipments both semi-quantitative PCR and RT-qPCR.
- Zebra fish and Drosophila Experimental facility.
- Physiological data acquisition system like Laser Doppler Flow meter, 8 and 4-channel Power Lab data acquisition system with Spirometry, ECG, NIBP, IBP, NCV, isolated muscle preparation nerve electro physiology measurements etc.



- Protein quantification and characterisation through western blot, gel electrophoresis and gel documentation system.
- Dedicated mammalian cell culture facility for Cell Proliferation and Cytotoxicity studies.
- Other instruments include Roteva Rotary evaporator, Plethysmometer, hot plate, Actophotometer, Rota-rod, Cooks pole climbing apparatus, forced swimming test apparatus, rodent and zebrafish mazes, recording devices etc.
- The biochemical parameter assessment through blood-gas analyzer, auto-analyzer, cell counter, ELISA Plate reader.

**Funding, infrastructural support, collaborative research and industrial projects, consultancy assignments include:**

#### **Funding Agency (Government)**

1. All India Council for Technical Education (AICTE)
2. Council of Scientific & Industrial Research (CSIR)
3. Department of Science and Technology (DST)
4. Department of Biotechnology (DBT)
5. University Grants Commission (UGC)
6. Indian Council of Medical Research (ICMR)
7. Board of Research in Nuclear Sciences (BRNS)
8. University of Mumbai
9. Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (Ayush)
10. Department of Biotechnology - Biotechnology Industry Research Assistance Council (DBT-BIRAC)
11. Department of Foreign Affairs & Trade, Australian Government, Australia-India Indo Pacific Oceans Initiative Partnership (AIPOIP)

#### **Funding Agency (Industry)**

Alembic Ltd., Aurobindo Pharma Ltd., Bharat Serums and Vaccines Ltd., Cipla Ltd., Clinworld Pvt. Ltd., Criticare Laboratories Pvt. Ltd., Elder Pharmaceuticals Ltd., FDC Ltd., Glenmark Pharmaceuticals Ltd., Gufic Healthcare Ltd., Hetero Drugs Ltd., Hindustan Lever Ltd., Ipca Laboratories Pvt. Ltd., Kopran Ltd., Khandelwal Labs Ltd., Lupin Laboratories Ltd., Macleods Pharmaceuticals Ltd., Marico Ltd., Medley Pharmaceuticals Ltd., Micro Labs Ltd., Siro Clinpharm Pvt. Ltd., Sun Pharmaceutical Industries Ltd., Shreya Life Sciences Ltd., Sandu Pharmaceuticals Ltd., Themis Medicare Ltd., Torrent Pharmaceuticals Ltd., Unichem Laboratories Ltd., Yasham P2D Life Sciences, Lamar Group of Companies, Charak Pharma Ltd. etc.



**The department also conducts “Technical Developmental Programs” for industry personnel on:**

- Skill development program in animal handling and preclinical pharmacological Evaluation Methods.
- Skill development program for Medical Product Marketing and Sales Representation.

#### **Consultancy Services:**

- Consultancy Services in the field of Preclinical & Clinical Pharmacology





## **DEPARTMENT OF PHARMACOGNOSY & PHYTOCHEMISTRY**

### **Faculty:**

**Alka Mukne**, Ph.D., Assistant Professor, I/C Head of Department (alka.mukne@bcp.edu.in)

**Vishwanath Vaidya**, M. Pharm, Assistant Professor (vishwanath.vaidya@bcp.edu.in)

**Jyoti Kumari Jha**, M. Pharm, Assistant Professor (jyoti.jha@bcp.edu.in)

**Sonali Dangat**, M Pharm, Assistant Professor (sonali.dangat@bcp.edu.in)

The Department of Pharmacognosy and Phytochemistry offers Masters and Doctorate in Pharmaceutical Sciences, approved by All India Council of Technical Education (AICTE), Directorate of Technical Education, Pharmacy Council of India (PCI), Maharashtra State University of Mumbai.



The Department of Pharmacognosy & Phytochemistry has a reputation for excellence in research and has experienced and technically - competent faculty with the following areas of expertise:

- Standardization of crude drugs and herbal extracts
- Bio-activity guided fractionation of herbal extracts
- Evaluation of therapeutic potential of crude drugs and their various extracts
- Study of different parameters of extraction of herbal drugs and optimization
- Isolation and characterization of phytoconstituents from herbal extracts
- Evidence based bioactivity evaluation of herbs, Ayurvedic formulations & nutraceuticals
- Solubility manipulations of drugs of natural origin by various techniques
- Development of conventional formulations and Novel Drug Delivery Systems of herbal extracts & Nutraceuticals
- Analytical method development and validation for crude drugs, herbal extracts and herbal formulations by HPLC, HPTLC and other chromatographic techniques
- Stability studies and shelf life study of herbal & Nutraceutical formulations
- Development and evaluation of Ayurvedic formulations, Nutraceuticals and cosmeceuticals





The department is well-equipped with state-of-the art equipment and facilities for conducting first-grade research in the area of herbal drug discovery, development and evaluation. Given below are few of the high-end equipment available with the department:

- Shimadzu HPLC with PDA detector & autosampler
- CAMAG HPTLC with LINOMAT V Applicator and Scanner
- Agilent HPLC with Quaternary pump & PDA Detector
- Supercritical Fluid Extractor
- Buchi Rotary Vacuum Evaporator
- Virtis Lyophilizer
- Esco Class II Biosafety Cabinet
- BioRad ELISA Reader
- Gel electrophoresis
- Esco CO2 incubator
- Air Purifier

The Department has received funding for its research projects from various government funding agencies including DBT, BARC - BRNS, AICTE, CSIR, UGC and University of Mumbai.

In addition, the department has successfully completed projects sponsored by industry including German Remedies, Marico, Zandu pharmaceutical works, Charak Pharma, Anazeal analyticals and Omniactive Health Technologies. The department has also been engaged in guiding B Tech & MD students of Ayurved faculty regarding the formulations. Many such funded projects also have been completed.





## DEPARTMENT OF PHARMACEUTICAL ANALYSIS

### Faculty:

**Krishnapriya Mohanraj**, Ph.D. (Tech), Professor of Pharmaceutical Analysis (krishnapriya.mohanraj@bcp.edu.in)  
**Vaishali A. Shirsat**, Ph.D. (Tech), Associate Professor and Head of the Department (vaishali.shirsat@bcp.edu.in)  
**Mr. Prashant Kumar Chaturvedi**, M Pharm, Assistant Professor (prashantkumar.chaturvedi@bcp.edu.in)  
**Ms. Kalyani Joshi**, M Pharm, Assistant Professor (Kalyani.joshi@bcp.edu.in)  
**Ms Chetna Jadhav**, M Pharm, Assistant Professor (chetna.jadhav@bcp.edu.in)



### Research guides for M. Pharm. (Pharmaceutical Analysis) from other departments:

**Krishna Iyer**, Ph.D., Professor (krishna.iyer@bcp.edu.in)  
**Premlata Ambre**, Ph.D., Associate Professor, (premlata.ambre@bcp.edu.in)  
**Alka Mukne**, Ph.D., Assistant Professor (alka.mukne@bcp.edu.in)

Established in 2012, the Department of Pharmaceutical Analysis brings another dimension to specialized research arena at Bombay College of Pharmacy. The department is actively involved in training students at undergraduate and postgraduate levels. The department offers Master of Pharmacy Course in Pharmaceutical Analysis which is approved by the All India Council of Technical Education, Directorate of Technical Education, Maharashtra State and the University of Mumbai for an intake of 15 students per year. The Department has state-of-the-art laboratories, supported by good infrastructure and well-trained faculty.

### Distinguished mentors of department:

The department is privileged to have following distinguished mentors who help and guide the department in its various activities including curriculum development, research and resource mobilization.

- Dr. A. J. Vaidya, Director, Analytical Solutions
- Dr. Manish Gangrade, Vice President, Analytical R&D & Regulatory Affairs (API), Cipla Ltd.
- Mr. V. U. Kshirsagar, Director & CEO, TRAC Pharma Consulting

### Some of our research expertise:

- Analytical and Bio-analytical method development and validation
- Spectrophotometric multi-component analysis
- HPLC and HPTLC analysis
- Chiral chromatography
- Stability indicating methods, Impurity profiling
- Metabolism and Pharmacokinetic studies
- Herbal and Phytochemical analysis, Drug-herb interaction studies
- Bioactivity guided fractionation of herbal extracts
- In silico analysis and Computer-aided Drug Discovery
- Bioassays, High throughput assay method development
- Structural elucidation assignments
- Polymer synthesis and their evaluation
- LC-MS/MS, HPTLC-MS & ICP-MS Analysis (both qualitative and quantitative analysis)



### Some Therapeutic areas of interest:

- Antimicrobial: Anti-bacterial, Anti-fungal, Anti-HIV
- Anti-platelet
- Angiogenesis



**Facilities available in the department include:**

- LC-MS/MS - Qtrap (Sciex)
- ICP-MS CAMAG HPTLC, HPTLC-MS
- Agilent LHPLC and HPLC with PDA detector
- Jasco HPLC with UV detector
- Jasco HPLC with PDA and fluorescence detector
- Jasco UV-visible Spectrophotometer
- CAMAG HPTLC
- Gas Chromatography
- FTIR
- Rotary Evaporator
- Molecular Modeling Facility
- Solid Phase Extractor
- Low Temperature Synthesizer
- Nitrogen Evaporator
- Microbiological testing including resazurin microtitre assay (REMA)
- Cell Culture Facility



**Funding, Collaborations and Technology transfer:**

The departmental faculty received substantial **funding from government agencies** namely All India Council of Technical Education (AICTE), University Grants Commission (UGC), Department of Biotechnology (DBT), Department of Science & Technology (DST), National Medicinal Plants Board, Department of AYUSH and University of Mumbai for research projects and travel.

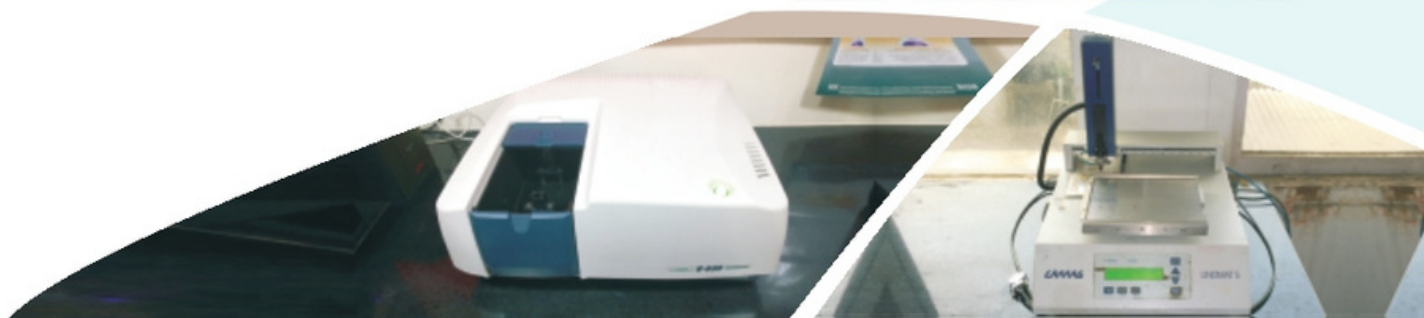
In 2017, **Department of Science and Technology (DST)** sanctioned grant of **Rs. 5.87 crores** for establishment of a **National Facility for Research and Training in Integrated Analytical Strategies for Discovery, Development and Testing of Drugs, Pharmaceuticals and Nutraceuticals** under the Drugs and Pharmaceutical Research Program. The facility includes sophisticated high end analytical instruments viz. **LC-MS-MS, ICP-MS, and HPTLC-MS.**

The faculty collaborates with various pharmaceutical industries and academic institutes for infrastructural support, research, consultancy assignments and technology transfer -

- |  |                                       |   |                            |
|--|---------------------------------------|---|----------------------------|
| • Aarti Healthcare                                       | • Analytical Solutions                | • Nerlikar Hospital                           | • Macleods Pharmaceuticals |
| • GlaxoSmithKline Pharma Ltd                             | • S.G. Pharma                         | • Schrödinger                                 | • Nature Pure Extracts     |
| • Shogun Organics  | • Loba Chemie                         | • School of Pharmacy, Kingston University, UK | • Dharmayug Prioscience ,  |
| • Unichem  | • School of Science, NMIMS University | • Microtracers, USA                           | • ACG World                |
| • T. N. Medical College and B.Y.L. Nair Hospital, Mumbai | • Ambernath Organics                  | • Anshul Life Sciences                        | • IQGEN-X Pharma Pvt. Ltd. |
| • Aventis Pharma   | • Sandu Pharmaceuticals Ltd           | • G S Medical College & KEM Hospital          |                            |

**The department conducts "Technical development programs" for industry personnel on -**

- Analytical skill development
- Chromatographic techniques (Fundamentals, TLC, GC, HPLC, UHPLC)
- Spectroscopic techniques (UV, IR, NMR-1H, 13C, 2D NMR)
- Mass spectrometric and hyphenated techniques (LC MS/MS, GC MS/MS, HPTLC MS, ICP MS)





Amrut Mody Research Fund (AMRF) was created out of a donation from Unichem Laboratories Ltd by Late Shri A.V. Mody to form the corpus of Amrut Mody Research Fund. The main objective of the Amrut Mody Research Fund is to recognize and encourage research carried out in the field of pharmaceutical and allied sciences in the Bombay College of Pharmacy (BCP) and such other pharmaceutical institutions in India.

Late Shri Amrut V. Mody was a visionary industrialist who believed in good health as a basic human need. He was committed to providing medicines, especially to the economically backward sections of the society. In this endeavor he founded the Unichem Laboratory, one of the few earlier domestic pharmaceutical industries in 1944.

He was also committed to quality professional education and research and was instrumental, along with others in establishing and supporting the BCP. The College was to provide trained man power needed for the pharmaceutical industry and the profession. In this pursuit he established Amrut Mody Research Fund in 1972 at BCP to support research and development activities in pharmaceutical and allied disciplines. Service to society always played an important part in Shri Amrut Mody's life. In recognition of his services Shri Amrut Mody was awarded the Padmabhushan in 1972 by the President of India.



#### The aims and objectives of the Amrut Mody Research Fund in addition to those mentioned above are:

- To sponsor doctoral and advanced research in pharmaceutical and allied sciences in the form of scholarships and give grants to the faculty to support the research work of scholars of the BCP.
- To provide/support grants for purchase and maintenance of equipments, books and journals and for creation of such other research facilities to foster research and a research environment in the BCP.
- To promote and encourage scholarly activities of the faculty and scholars of the BCP by providing grants for writing scientific books, monographs, review articles, etc.
- To provide partial travel grants/registration fees to attend and present research findings of the faculty and doctoral students of the BCP at international conferences/seminars, etc once in three years.
- To hold seminars, symposia, conferences and exhibitions for promoting research in pharmaceutical and allied sciences in BCP.
- To arrange lectures or lecture series by inviting eminent scientists and professionals from academia and industry from time to time during each academic year. Amrut Mody Research Fund shall support the honorarium, local travel and such other expenses for the conduct of such activities.
- To carry out all such activities as are incidental or conducive to the attainment of the above objectives or any one of them.

The Amrut Mody Research Fund Distinguished Researcher Award was conferred to Dr. M.S. Nagarsenkar in 2012 and Dr. M. N. Saraf in 2015.

At the occasion of the concluding ceremony of the Centennial Birth Anniversary of Padmabhushan Late Shri. Amrut Vithaldas Mody, his bust was unveiled on the foundation day of BCP i.e 28<sup>th</sup> May 2015.

Some of eminent scientists and professionals from academia and industry who delivered lectures at Bombay College of Pharmacy in recent past:

- Dr. Aditya Das, Consultant at USA & Associated with Cipla
- Dr. Ajaz Hussain, Inside advance & solution LLC
- Dr. Aparna Khanna, Dean, School of Science, NMIMS
- Dr. Archana Krishnan
- Dr. Aruna Khanolkar, Team leader Qbd IPD, Cipla
- Dr. Abhijeet Date, Assistant Prof. Dept. of Pharmaceutical Sciences, The Daniel K. Inouye College of Pharmacy, USA
- Ms. Almas Sayed, PV-SME at Tata Consultancy Pvt. Ltd.
- Dr. Anil Wani, Foundation for innovation & technology transfer, IIT, Delhi
- Dr. Bettine Boltres, Product Manager Pharmaceutical Tubing SCHOTT AG, Germany
- Chris Freeman, Ametek Brookfield





- Col. Nambiar, RMR Retd.OBL Facilitator
- Dr. Daniel A. Heller, Assistant Member at Memorial Sloan - Kettering & Asst. Prof at Weill Cornell Medical College
- Dr. Dhiren Thakker, Ferguson Distinguished Professor and Associate Dean from UNC Eshelman School of Pharmacy
- Dr. Hari Sharma, University Medical Centre, Amsterdam
- Dr. Kalpana Gandhi
- Dr. Kothari
- Dr. Myke Scoggins, Sr. Principal Scientist, Micromeritics Instrument Corpn USA
- Adv. Manali Chitnis, Intellectual Property Lawyer
- Dr. M.S. Kamath, Hon. Secretary, Consumer Guidance Society of India (CGSI)
- Dr. N. R. Jagannathan, Prof. & HOD of NMR & MRI Facility, AIIMS
- Dr. Nancy Pandita, Prof. in School of Science NMIMS University
- Ms. Neha Pandit Tembe, Nutritionist, Founder, Snack-Right
- Dr. Peter Banks, Scientific Director Bio, Tek Instruments Inc.
- Dr. Prashant Karkar, NMIMS
- Dr. R.P. Iyer, Co-founder of Spring Bank Pharmaceuticals Inc, USA
- Dr. Ramaswamy Iyer, Associate Director Bristol-Meyer Squibb (USA)
- Dr. Rodney JY Ho, Prof. University of Washington
- Dr. Shubhada Chiplunkar, Director-ACTREC
- Dr. Stephen Barton, Kingston University
- Dr. Susan Thomas, NIRRH
- Sarita Singh Rajbhar, Strategic Portfolio Management, CIPLA Ltd.
- Dr. S J S Flora, Director, NIPER
- Dr. Suraj Shinde, Officer, Learning & Development Dept. Cytel Statistical Software & Services Pvt. Ltd.
- Ms. Swati Dudhale, Learning Links Foundation
- Seminar on Nutraceuticals
- Dr. T.S. Balganes, Distinguished Scientist CSIR
- Prof Prasad Bharatam, Dept of Medical Chemistry, NIPER
- Prof. G.N. Sastry
- Prof. Padma Devrajan, ICT
- Prof. Prakash Jha, Central University of Rajasthan
- Prof. Subhash Padhye, ISTR Research Labs. Former HOD of the Dept of Chem University Pune
- Seminar with Royal Society of Chemistry
- Workshop by Mr. Ramandeep Singh, Asst. Manager Technical Services Signet Chemical Corpn Pvt. Ltd.
- Dr. Shashidhar Rao, Rutgers University (USA)
- Dr. Khalid, Duquesne University
- Dr. Giannetti, Duquesne University
- Dr. Rahul Thorat, MVSc Laboratory Animal Facility
- Mr. Abhijit Trimbakkar
- Dr. Siddhivinayak Barve, Dy. Director, The Kelkar Education Trust's Scientific Research Center





### The Research Society of Bombay College of Pharmacy (RSBCP):

- RSBCP is a scientific society of pharmacy and related profession established in the year 1981 with one of the mandates of promoting and strengthening the pharmacy profession through research collaborations, management & execution of such research collaborations in association with the Bombay College of Pharmacy (BCP) and its faculty members and students.
- RSBCP is recognized by Department of Scientific and Industrial Research (DSIR)



### AIMS AND OBJECTIVES OF THE RSBCP:

- To promote, organize, sponsor, establish, conduct research and encourage advancement of scientific knowledge in pharmaceutical and allied sciences in the BCP
- To increase the quality and efficacy of research outcome and to develop innovation culture in the BCP
- To finance research projects by providing grants for research and supporting infrastructure, instruments and their maintenance
- To endow research fellowships to support and recognize outstanding contributions of individuals and encourage research scholars to pursue studies & research
- To coordinate and manage industrial research collaborations in the BCP
- To assist the teaching and non-teaching staff of the BCP to develop professional skills.

### SALIENT FEATURES OF THE RSBCP:

#### INDUSTRIAL RESEARCH COLLABORATIONS/ PROJECTS & SERVICES

- The RSBCP manages and effectively coordinates number of industrial research collaborations and industrial projects for pharmaceutical and related industries.
- The research projects are executed in the BCP laboratories by the faculty and their student team.
- The main benefit for industry from these academic research collaborations is the access to the research results and innovative methodologies at reduced cost. It is of mutual benefit that the companies offer industrially relevant research problems of their interest to BCP and the faculty and students of the BCP provide the methodology and expertise.
- The RSBCP also caters to industries by providing 'pay as you use' equipment or instrument usage facilities (e.g., Particle size analyzer in  $\mu\text{m}$  and  $\text{nm}$  range, Zeta potential determination).

List of industries for whom research projects have recently been undertaken and consultancy/ services been provided,

- Inventia Healthcare • Panacea Biotech Ltd. • Glenmark • Abbott Laboratories • Marico
- OmniActive Health Technologies • IPCA • Zytex • Enem Nostrum • Shreya Lifesciences • Cipla • GlaxoSmithKline • Ambernath Organics • Sandu Pharmaceuticals • Bristol Myers Squibb • Getz Pharma Research
- Bharat Serum and Vaccines • Evonik Degussa India
- Neon Labs • Piramal Healthcare • Bajaj Healthcare • Naprod Life Sciences • USV
- Vaidya Patankar Pharmacy





•Nerlikar Hospital •Anazeal Analyticals & Research •Gattefosse India •JMB Pharma •Famy Care •Piramal Life Science •Solumics Plantacid Herbaceuticals •Franco-Indian Pharmaceuticals •Cymbiotics Biopharma •Mank Industries •Syngene International •Lamar Group of companies •Ayurchem.

#### Technology Transfer:

- Technology developed through research at the BCP is made available to industries for further development and commercialization. One recent technology transfer to M/s Saife Vetmed Pvt Ltd was for a novel veterinary formulation for prevention and treatment of bovine mastitis. This technology has been developed in Bombay College of Pharmacy (BCP), in collaboration with Bombay Veterinary College (BVC), Mumbai.
- Another technology transfer to LOBA Chemie Private Ltd. has been done for the synthesis of chiral selector (as mobile phase additive) in enantiomeric separation of several Chiral Active Pharmaceutical Ingredients (APIs), by Reverse Phase High Performance Liquid Chromatography (RP-HPLC) using non-chiral columns. The chiral selector had to be imported from Sigma Aldrich. The BCP team developed a cost effective indigenous method for synthesis of the chiral selector with around 150% reduction in cost. The synthesized chiral selector showed better performance for enantiomeric separation than the commercial imported product.

#### Research Projects in Collaboration with Foreign Industries:

- Spring Bank Pharmaceuticals, USA for Expressions, Purification and X-ray structure determination of Plasmid RIG-1
- BASF, Germany for Assessment and development of computational methods for predicting which aminoacids in a target protein binding-site are most likely to mutate in order to generate resistance against specific crop protection agents.
- Bristol Myers Squibb Company, NJ, USA for project on design of novel delivery systems, grant received US dollars 5000/- .
- Gattefosse India on exploring role of Gelucires in bioavailability enhancement. The project included formulating tablets containing a drug from BCS class 2 and Gelucires by melt granulation, in-vitro characterisation, scale up and kinetic evaluation in healthy human volunteers. Total grant received at BCP Rs 15,00,0000/-.
- Bristol Myer Squibbs, USA through BMS-Biocon -Research Centre to support Ph.D fellowship for project work related to Drug Metabolism.

#### Infrastructural Development:

- RSBCP provides financial support for infrastructural development necessary for research at BCP, e.g., support for purchase of instruments and accessories and development of laboratories.
- RSBCP has developed Radioimmunoassay (RIA) laboratory. The RIA laboratory has the approval of Atomic Energy Regulatory Board (AERB), Dept. Atomic Energy, Govt. of India. The activities of this laboratory is supervised by AERB authorized Radiation Safety Officers. The RIA laboratory has calibrated radiation detectors (donated by Indian Association of Nuclear Chemistry and Allied Scientists) for assay of gamma ray and beta particle emitting radioisotopes and other equipment to carry out the assays of biological analytes such as rat insulin and estradiol.
- RSBCP welcomes industry sponsorship of laboratories for renovation, upgradation and instrument purchase. Laboratories can also be named to recognize the contribution of the sponsoring industry.





## Key personnel:

**Mrs. Manjusha Pimplodkar**, Senior Manager

(mkrlabs@gmail.com, manjushamkr@yahoo.com)

**Mr. Yogesh Abhyankar**, Quality Assurance Manager

**Mrs. Swati Dahibawkar**, In charge of Microbiology Department

## About us :

Dr. M. K. Rangnekar Memorial Testing Laboratory was founded on 2<sup>nd</sup> July 1988 by The Indian Pharmaceutical Association-Maharashtra State Branch's Bombay College of Pharmacy in the memory of Dr. M. K. Rangnekar, the first commissioner of FDA Maharashtra and past President of IPA-MSB. This is a FDA approved and NABL accredited public testing laboratory complying as per schedule GLP L-1. The Laboratory follows Good Laboratory Practices as specified by the regulatory authorities from time to time.

## Infrastructure:

- Trained qualified and competent technical staff
- 21 CFR compliant software for documentation as well as efficient, reliable and accurate reporting
- Work environment to provide high degree of co-ordination
- Specialization in latest analytical techniques
- Excellent standard of service to customers
- EPABX system, CCTV cameras and biometric systems to maintain laboratory discipline, secrecy and confidentiality

## Categories of Products Tested:

- Analysis of APIs, Excipients and Pharmaceutical Formulations as per IP/BP/USP/EP or In-house Standards
- Analysis of Cosmetics, Drug Intermediates, etc.

## Services Provided:

- Analytical method development
- Analytical method validation studies
- APIs, Excipients & Finished product analysis as per pharmacopoeia or in-house specifications
- Stability studies

## Analysis by using the following instruments:

- HPLC
- GC
- FTIR
- UV-Visible Spectrophotometer
- Dissolution apparatus
- Disintegration apparatus
- Potentiometric titrator
- Karl fischer apparatus for moisture content
- Brookfield's viscometer
- Liquid particulate counter
- Digital polarimeter
- Bacterial Endotoxins test
- Particle size analysis (microscopically)
- UHPLC
- HPTLC
- ICP-MS
- LCMSMS



#### Microbial analysis:

Sterility testing

- Microbiological assay by cup-plate, cylinder-plate and turbidometric methods
- Effectiveness of Antimicrobial Preservatives
- Microbial Enumeration Tests
- Test for specified microorganisms
- Rideal Walker Coefficient test for disinfectants
- Microbial kill rate study
- Minimum Inhibitory Concentration
- Anti microbial activity
- Water analysis



**National Facility for Research & Training  
in Integrated Analytical Strategies for  
Discovery, Development and Testing of  
Drugs, Pharmaceuticals and  
Nutraceuticals under Drug and  
Pharmaceutical Research Program**

**Research grant of Rs. 5.87 crores  
from Department of Science &  
Technology (DST), DPRP Scheme**



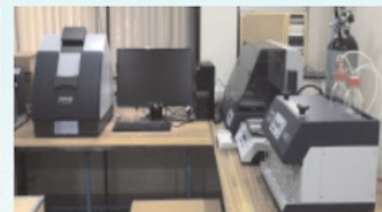
LC MS/MS



HPLC & UHPLC



ICP MS



HPTLC MS

**Research Grants from AICTE, DST, UGC, CSIR, ICMR Rs. 10 crores and Rs 1 crore in Research Grants from the Industrial projects and Consultancy during last five years**



## Key Personnel :

Dr. N. Sivaprasad, President, The IPA-MSB

Dr. Anand Shedde, Chairman, ACE & Vice President The IPA-MSB

## About ACE:

The Academy for Clinical Excellence (ACE) is the pioneering clinical research training institute in India established in February, 2002. ACE is an initiative signed jointly by Pfizer alongwith Suven Life Sciences, Bombay college of pharmacy and Indian Pharmaceutical Association Maharashtra State Branch. The academy is located in the Bombay College of Pharmacy campus. The Academy is a one-stop-shop for the training needs of all clinical research professionals. Our Courses will be run on all weekends as classroom sessions.

## The ACE Advantage:

- **Weekend Programs** - For students pursuing further studies and working professionals
- **Curriculum** - Designed by industry experts from Pfizer Ltd., ClinInvent Research, Lambda Therapeutic Research Pvt. Ltd., Novartis India Ltd., Quintiles Spectral, Ranbaxy Research Laboratories, SIRO Clinpharm Pvt. Ltd., Tata Memorial Hospital, KEM Hospital and Wockhardt Ltd.
- **Faculty** - Eminent persons from the industry and academia
- **Quality of course** - Quality of teaching maintained by strict internal checks
- **Placement** - Placement assistance for students.
- **Facility** - Special classes for soft skills and preparation for interview.



### 1. Advanced Diploma in Clinical Research (ADCR) (8 Months)

The curriculum is:

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 1. Introduction to Clinical Research | 2. Ethics in Clinical Research       |
| 3. Regulations in Clinical Research  | 4. Clinical Research Methodology     |
| 5. Clinical Research Management      | 6. Biostatistics and Data Management |

### 2. Diploma in Pharmacovigilance (DPV) (6 Months)

The curriculum is:

- |                                 |                              |
|---------------------------------|------------------------------|
| 1. Introduction to PV           | 2. PV operations & Processes |
| 3. Safety Database              | 4. Pharmacovigilance         |
| 5. Aggregate Reports            | 6. Project Management        |
| 7. PV Organization & Management | 8. Allied PV Topics          |

- **Eligibility for admission:** Final year Graduating, Graduates and Post Graduates in Life Sciences and Medicine with 50 % aggregate marks
- **Placement:** 100% placement assistance with career opportunities as CRAs, Investigators, Regulatory Managers, Auditors, Data Managers, Medical Writers, QA managers, Drug Safety Officer Etc In top KPO/BPO like TCS, Cognizant, Sciformix, hospitals like Kokilaben Hospital, Tata Hospital, CROs like ICON, SIRO and pharma companies like BI, SunPharma, Sanofi etc.

### 3. Customized Certificate Courses (Specially Designed for Corporate)

ACE offers following Certificate Courses:

- Independent Ethics Committees (IECs)- Composition and Function
- GCP for Investigators
- Fundamentals of Clinical Research and GCP

ACE has successfully done certificate courses for various companies:

- Ramdas Hospital Pune





## DATA ANALYTICS

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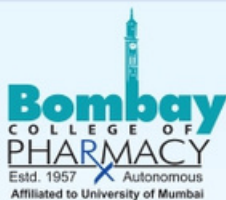


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in Integrative Nutrition & Dietetics

### Post Graduate Diploma

in Integrative Nutrition & Dietetics



## **GUEST LECTURES AT BCP 2023-2024**

1. Interactive session with Dr. Mousa Mohammadain, Assistant Professor of Philosophy in the Humanities and Languages division of the School of Arts and Sciences at Ahmedabad University on 11th August, 2022.
2. Novel & Innovative ways to prepare for GPAT/NIPER by NIPERians by Mr. Dharmesh Mehta from PharmaElite on 13th August, 2022.
3. BRIT-Outreach & Awareness event on Radiopharmaceuticals by Dr. Yojana Singh, Senior Manager, Market Research & Publicity (MR&P), Ms. Uma Sheri Kumar, Scientific Officer TCK-kits group, Shri Vishwas V Murhekar, Senior Manager at Radiopharmaceuticals QA&QC and Dr. Shubhangi Mirapurkar, Senior Manager Oral and Injectables on 20th August, 2022.
4. Interactive session on hypertension by Dr. Jagdish Shah, 24th August, 2022.
5. Addressing Global trends and Challenges in Drug Product Development by Dr. Madhav Kamath, Founder, Kamat Pharmatech LLCi on 8th September, 2022.
6. IISB-Young Leaders Programme by Mr. Ritesh Meshram, Manager at ISB Admission on 1st October, 2022.
7. Demonstration session of microscopic image analysis software by Mr. Sandeep Kulkarni and Mr. Suhas Yewale from ImageProVision on 7th October, 2022.
8. Strategies to Crack GPAT & NIPER by Dr. Tarun Kumar Dasgupta, Propertier, Growell Education, on 15th October, 2022.
9. CPR and First Aid by Dr. Deepak Dalvi on 15th October, 2022.
10. Integrated Rural Development Initiatives by Dr. Manoj Deshmukh, Head of Civil Engineering Department at M. H. Saboo Siddhik Polytechnic, Byculla, Mumbai on 15th October, 2022.
11. Green Awareness and Action Programme by Dr. Aparna Pandey, Dr. Divakar Reddy and Mr. Prathamesh Dongre from RUR Lifesciences, on 15th and 16th December, 2022.
12. Next Frontier in Formulation Development - Tools and Challenges by Dr. Kirti H. Valia, Senior Director, Pharmaceutical Product Development Consulting, NJ on 13th January, 2023.
13. G20 - Start-up opportunities in Pharmaceutical Sector by Mr. Ajit Singh, Founder, ACG Capsules, on 16th January, 2023.
14. Antibiotics Guardians in India helping to deliver the WHO in reducing AMR by Dr. Mahendra Patel from Oxford University, on 16th January, 2023.
15. Healthy Lifestyle for Students by Dr. Rahul Wadke from NAVLIFE Nutraceuticals, on 13th February, 2023.
16. Ceolus: Functional Microcrystalline Cellulose by Mr. Viral Gandhi and Mr. Pralay Pagar from AGM Marketing at Asahi Kasei India, on 28th February, 2023.
17. Gender Diversity, Equity and Inclusiveness by Dr. Farida Virani, HOD and Professor of Human Resources, on 8th March, 2023.
18. College Social Responsibility- Ek Prayas by Mr. Goyal Karale, AOL-Teacher & YLTP Master Trainer, Dr. Manoj Thakur, President-Uran Taluka-Vanwasi Kalyan Ashram and Rtn Santosh Ghodinde, Past President Rotary Club of Panvel and Treasurer, IPA-MSB, on 18th March, 2023.
19. Scope of Pharmacy & Introduction to Data Science by Samir A. Vasavada, IPA-MSB:COO, Natoli-BCP Institute for Research, & Meghana Vasavada, Industrial Training Senior Database Developer and Analyst in commonwealth of Pennsylvania, on 6th April, 2023.

## **GUEST LECTURES AT BCP 2023-2024**

20. Software and Literature assisted 1H-NMR assignments and interpretations by Dr. Ganesh Chaturbhuj, Professor at Dept. of Pharmaceutical Sciences and Technology, ICT, Mumbai, 15th April, 2023.
21. Enterprise Design Thinking Practitioner-Skill Based Course by Ms. Soumya Prasada, Senior Solution Architect at IBM Automation-India Software Labs, Bangalore, on 18th May, 2023.
22. Under the Aegis of Dr. H. P. Tipnis Memorial Lecture Series by Dr. Ramprakash Govindrajan, Alumnus, BCP on 7th July, 2023.
23. Innovation and Sustainable Entrepreneurship Workshop by Mr. Hemant Tambe on 5th August, 2023.
24. PV Unplugged: Insights into patient safety, compliance costs, swiss system and career opportunities, Dr. Joan D'Souza, Prof. Join Don and Mr. Sanjay Menon, ISOP Chair for Switzerland and Austria Adjunct Professor- Dept. of Pharmacology, Country Head, Patient Safety at Novartis on 9th August, 2023.
25. Understanding harmony in the Human Being- exploring human consciousness by Mr. Subash Kelkar, Chief Information Officer at Fin Tech on 19th August, 2023.
26. Understanding harmony in the Human Being- exploring power of thought by Dr. Shilpa Lad, MD Radiology, NM Medical, Mumbai, and Mr. Manish Shinde who works with leading Multinational Corporations across geographies in leadership roles, on 2nd September, 2023.
27. Universal Human Values: Happiness and Well-being for all by Mr. Pralhad Pai, leading the Social, Educational and Secular charitable trust, Life trustee of Jeevandciya Mission, on 30th September, 2023.
28. Financial Literacy by Mr. Saurabh Mane on 9th October, 2023.
29. National cGMP Day: Regulatory Perspectives Schedule M Updates by Dr. Vinay Nayak, Chairman, Technical & Quality Committee, IDMA, on 10th October, 2023.
30. Challenges and Opportunities in the life of Entrepreneurs in the Pharmaceutical Sector by Mr. Arun Sehgal, Chairman and Managing Director- Chempro Pharmaceuticals Pvt Ltd & Chempro Group of Companies on 1st November, 2023.
31. Water- The Elixir of Life by Mr. Myron Mendes, Dr. Anagha Palekar, Ms. Gauri Murthy and Mr. Ritesh Mathur, LSI staff students from other colleges, Bpharm-BCP, on 4th November, 2023.
32. ELSZneo Zeta Potential & Particle Size analyser by Mr. Koji Kawanishi, Director, Overseas Business Developement Dept. on 4th December, 2023.
33. LinkedIn-Aspire for Her by Ms. Nilanjana Basu, Lead Consultant at Aspire for Her, on 22nd December, 2023.
34. AI for Neuroscience by Dr. Yash Jalundhwala, Alumnus, BCP, on 5th January, 2024.
35. PCOD - A Menace, Homeopathy- A Boon by Dr. Sheetal Parekh on 6th January, 2024.



## ANNUAL REPORT 2023-24

In the academic year 2020-2023 BCP continued its legacy of collaborations, awards, and accolades. BCP continued enrollments in the Certificate course on '**Data Analytics in Healthcare**' in association with **Navigo Analytix, Mumbai** and the IPA-MSB's BCP feels proud to have close to 15 batches of the course successfully conducted.

In addition, an Online Certificate course in '**Fundamentals of Global Drug Regulatory Affairs**' was offered by Bombay College of Pharmacy and Pharma Literati in association with The IPAMSB.

The Certificate course on **Universal Human Values-2 (UHV-2)** in line with AICTE requirements was successfully completed by T. Y. B. Pharm students. The course was conducted by the faculty of BCP in collaboration with **Jeevan Vidya Mission**.

The IPA-MSB's BCP in association with '**Lifeness Science Institute (LSI)**' has introduced five Programs/courses in **Integrative Nutrition and Dietetics** namely:

- a) B.Sc. in Integrative Nutrition and Dietetics (3 years, 6 semesters, 160 credits, CBCGS)
- b) M.Sc. in Integrative Nutrition and Dietetics (2 years course, 4 semesters, 104 credits, CBCGS)
- c) PG Diploma in Integrative Nutrition and Dietetics (1 year, 48 credits, CBCGS)
- d) Diploma in Health & Integrative lifestyle (DHIL) (6 months, 30 credits, CBCGS)
- e) PG Diploma in Health & Integrative Lifestyle Medicine (DGHILM) (6 months, 24 credits, CBCGS)

All of these continue, with recent modifications to align with the NEP2020 and its amendments.

BCP is proud to have close to 16 MoUs with various international /national industries and academic organizations. Notable among these are :

1. Natoli Engineering Company, Inc, USA for jointly establishing '**Natoli-BCP Institute for Research & Industrial Pharmacy Training (NBIRIPT)**' referred to as Natoli-BCP Lab.
2. Tata Consultancy Services for an introductory course in "**Clinical Research in Drug Development**".
3. 3D Graphy LLP to introduce the concepts of **3D manufacturing** and encourage research in the application of 3D printing in the drug industry.
4. Jeevan Vidya Mission to introduce the concepts of **Universal Human Values** and self discovery
5. Board of Radiation and Isotope Technology (BRIT) and Department of Atomic Energy (DAE) for training of Radiation Safety Officers.

The other MOUs include those with Emcure, Sardar Patel College, SEAL, Sundyota Numandis Probiotics, Aspire for Her, Hi-Media, HALP, Veteran's India, St. John Institute of Pharmacy Education and Research, Oriental College, VESCOP, YBCOP, KGRDCOP, CIPLA, etc.

To improve the infrastructure for the UG/PG programs renovation of the Pharmaceutical Chemistry Lab and Administrative office has been completed. The renovation of the Pharmacology Labs is now ongoing.

BCP was ranked **55th as per NIRF ranking 2023**, published by Ministry of Education, Government of India.

The **Biodiversity Audit** was conducted in the previous academic year, during which team of student volunteers and faculty from Department of Geography, University of Mumbai and Department of Botany, St. Xavier's college - autonomous, Mumbai worked on plant identification, geotagging of trees, carbon sequestration, map making and QR coding of trees. The activity was completed this year and the map of the flora on BCP campus is now available at the entrance of the college and close to QR codes for most of the trees have been put up.

Some of awards and the honours received by the faculty of BCP are as follows:

**Dr. Anuradha Majumdar -**

1. Completed the Prestigious **International Transdisciplinary Project** in September 2023: Title of project, Microplastic Pollution from Ports and Shipping Activities in the Indo-Pacific: Potential Risks and Mitigation Strategies, Collaborator, University of Tasmania, Australia, Funding Authority, Department of Foreign Affairs and Trade, Australian Government, Australia India, Indo Pacific Oceans Initiative Partnership (AIPOIP), Second Grants Round 2021-22
2. Received the Dewang Mehta, National Leadership Awards, “**Most Influential Professor**” at the 30th Business School Affaire, on 24th November 2023 at the Taj Lands End, Mumbai.
3. Was Jury Member in the **Innovation Excellence Award 2024**, Awards recognizing Innovations in Science and Technology, V. G. Vaze College (Autonomous), Mulund, Mumbai held on 26th January 2024.
4. Was Jury member in the Marshalls’s CiiA-3 Innovations Awards in 2024
5. Dr. Anuradha Majumdar was **APTI Women’s Forum, Western Zone Coordinator**
6. Dr. Anuradha Majumdar was **Invited Faculty at IISER, Trivandrum** to engage course “Pharmacology and Pharmacokinetics”

**Prof Krishnapriya Mohanraj** received Award for **Most Iconic Healthcare Leader (Global)** endorsed by World Federation of Healthcare Leaders, at the World Health and Wellness Congress.

**Dr Alka Mukne -**

1. Was **Member of National Advisor Team for 72nd IPC**, Nagpur & chairperson for a session
2. Delivered keynote address – “**Herbal Medicinal Products for Health & Wellness**” in the Symposium on “Postpandemic healthy lifestyle” organized by GmbH & Co KG, Germany on 17th April 2024
3. Was Awarded the prestigious 2023 **Prof. M L Khorana Memorial Lecture Award** for exemplary contribution to pharmaceutical profession academics and research. Will deliver the Prof. M L Khorana Memorial lecture in the 73rd IPC at Hyderabad in July 2024
4. Was Invited by DGHS as **Expert Member for recruiting Technical personnel** in the National Tobacco Control Laboratory
5. Was Member, **Board of Studies - Pharmaceutical Sciences**, of JSS Academy of Higher Education & Research, Mysuru from 2021 - 2023
6. Was Board Member of **Patient Safety & Access Initiative of India Foundation (PSAIIF)** & Consumer Online Foundation (COF) since October 2020 to December 2023
7. Was Editorial Board Member of “**The Aware Consumer**”, a premium and contemporary monthly magazine playing a pioneer role in empowering consumers and spreading awareness among them about issues of prime importance, since August 2021 to December 2023



**Dr. Premlata Ambre** was featured as the **first Indian researcher on the Biochromato website**, providing a testimonial for the Smart Evaporator Instrument. This recognition highlights the significance of her contributions as the first Indian researcher utilizing this innovative instrument. <https://biochromato.com/testimonials/smart-evaporator/bombay-college-of-pharmacy/> [Page of Smart Evaporator- DMSO Evaporator- Biochromato, JAPAN (1st Indian Scientist)].

**Mr. Avinash Rangaraju** was selected as the **Editorial Board member** for Acta Scientific International Open Library.

Some of awards and the honours received by the students of BCP are as follows:

**Mrs. Mayuri Padhye**, PhD Tech in Pharmacology student received the **Gold medal, second prize** for the project titled **“Transforming rice husk waste into a sustainable solution for removing nanoplastics from potable water”** at the 18th Maharashtra State Level **“Avishkar”** Inter-University Research Convention, at MUHS Nashik on 15th January 2024, 2023-24, Category 6 Medicine and Pharmacy and level PPG. Mentor Dr Anuradha Majumdar

**Mrs. Mayuri Padhye**, PhD Tech in Pharmacology student received the **silver medal, second prize** for the project titled **“The Journey of Rice Husk from Waste to Use in Removing Nanoplastics from Potable Water”** at the 18th Maharashtra State Level **“Avishkar”** Inter-University Research Convention, of University of Mumbai, 2023-24, Category 6 Medicine and Pharmacy and level PPG. Mentor Dr Anuradha Majumdar

**Mr. Siddhesh Desai**, M Pharm student received the **silver medal, second prize** for the project titled **“An optimized In Situ Gelling Bevacizumab Nano Formulation for Nose to Brain Delivery Intended for Glioblastoma”** at the 18th Maharashtra State Level **“Avishkar”** Inter-University Research Convention, of University of Mumbai, 2023-24, Category 6 Medicine and Pharmacy and level PG. Mentor Dr. Anuradha Majumdar

**Mr. Prashant Dongre** won the **second place** in **Oral presentation** for poster and selected oral presentation titled **“Unlocking the potential of Chandraprabha Vati in Mitigating Metabolic Syndrome through Mitochondrial Biogenesis and Inflammation”** at the First National Symposium on Integrating Traditional Knowledge in Evidence Based Medicine, 21-22 September, 2023, organized by ACTREC, TMC and Central Council for Research in Ayurvedic Sciences, AYUSH, GoI. Mentor Dr. Anuradha Majumdar

**Ms. Siddhi Nakashe’s project “Deuterium labelled compounds by H-D exchange using heavy water to improve pharmacokinetics”** secured a **Gold medal** in PG level, Category 6 - Medicine and Pharmacy at the Maharashtra State Inter-University Research Convention on January 13, 2024, at the Maharashtra University of Health Sciences, Nashik. Mentor Dr Premlata Ambre.

**Ms. Neha Gupta and Ms. Siddhika Sinalkar’s project on “Isolation of aldehyde oxidase and xanthine oxidase by a non-conventional method”** student received the **gold medal**, first prize at the 18th Maharashtra State Level **“Avishkar”** Inter-University Research Convention, of University of Mumbai, 2023-24, Category 6 Medicine and Pharmacy and level PG. Mentor Dr. Krishna Iyer.

Two final-year students of the BPharm program- **Ms. Richa Singh and Mr. Aditya Amin** have been recognized as the **Top 3 Regional (All India) Winners** in the 2023 in the **AstraZeneca Project iDEA challenge** competition. Their remarkable achievement lies in the domain of "Marketing Campaign for awareness of Chronic Kidney Disease prevalence in India." Mentor Dr Premlata Ambre

**Ms. Kavita Raikumar** received the **Best Oral Presentation Award** at the 7th Annual Conference of the **Society for the Study of Xenobiotics** meeting held 2nd Feb- 3rd Feb at Manipal, India. Mentor Dr Krishna Iyer.

**Mr Avinash Wagh** and **Mr. Rohit Kanawade** along with industry partner, **Mr Biju Joseph Kuruvila** of Nature Pure won **best poster presentation award** for **RP-HPLC and HPTLC Analysis of Curcuminoids in Curcumin Based Products** at 2nd International Conference at Jawaharlal Nehru Technological University, Hyderabad (JNTUH). Mentor Dr. Krishnapriya Mohanraj.

**Dr.Hemali Savla** won the 2nd Best Poster Award – **Macrophage Receptor Targeted Microparticulate Dry Powder Inhalation Systems for Tuberculosis Drug Therapy** at 8th International Conference on IPR organized by G-CEIP and Goa Mentors: Dr. Ujwala Shinde and Dr. Mala Menon

**Ms. Tanvi Warde** won the Consolation prize – **Development and Evaluation of Novel Ionic Liquid-Polymer based hybrid nanoformation of curcumin** at National Level Research Poster Presentation Competition organised by NCRD's Sterling Institute of Pharmacy, Nerul on 3rd February 2024. Mentor: Dr. Clara Fernandes.

**Mr. Manas Mahale** of the TYBPharm class won the **gold and silver medals** at 18th Maharashtra State Level “**Avishkar**” and “**Anveshan**”, Inter-University Research Convention, of University of Mumbai, held at Mumbai and Nashik, respectively, 2023-24, Category 6 Medicine and Pharmacy and level UG. He has been chosen to represent the University of Mumbai at the National Level Anveshan. Mentor- Dr. Evans Coutinho/Dr. Elvis Martis. His project was titled “**Fragment Based Drug Design Using Masked Language Models**”.

Two Indian patents were filed by our faculty members. **Five Indian Patents were granted**. A total of 19 research papers were published in peer reviewed, high impact factor journals and 07 book chapters were published.

**Dr. Anuradha Majumdar** convened a webinar titled “**Contributions of Women in Evolution of Indian Pharma Sector**” by the APTI Women's Forum, western Zone to celebrate Womens day on 9th March 2023. Dr. Majumdar also convened a webinar series from 15th July 2023 onwards titled “**NEP 2020 Unravelling**” by the APTI Women's Forum, western Zone. Dr. Majumdar delivered an online talk in the webinar series from 15th July 2023 onwards titled “NEP 2020 Unravelling” by the APTI Women's Forum, western Zone, on “Multi/Inter/Transdisciplinary Thrust and Approach in Research in sync with NEP 2020” on 5th August 2023. Dr. Majumdar presented the **summary** of Indian findings at the concluding webinar, Title of project, **Microplastic Pollution from Ports and Shipping Activities in the Indo-Pacific: Potential Risks and Mitigation Strategies**. Dr. Majumdar convened a collaborative Indo-Australia workshop on 2nd and 3rd May 2023 for stakeholders across continents and release of white paper on the **Indo-Pacific Oceans Initiative** articulating on global Mitigation strategies to contain microplastic pollution on 2nd October 2023.

**Dr Vaishali Shirsat** played a pivotal role as the **coordinator** of the **Convener for a National Webinar** organised by APTI Women's Forum-Western Zone, overseeing four webinars centered around the National Education Policy theme.

**Dr. Rachna Kaul** - Conducted a workshop on ‘**Basics of Animal Cell Culture**’ on 1st February 2024 at BCP.



**Mr. Prashant Chaturvedi** with the guidance of Dr Vaishali Shirsat-IQAC coordinator were successful in establishing a local chapter of **SWAYAM-NPTEL** (National Program on Technology Enhanced Learning) at Bombay College of Pharmacy. Mr. Prashant Chaturvedi is appointed as the Single Point of Contact (SPOC) to serve as a vital liaison between our institute and SWAYAM. A few faculty members and the UG/PG & Ph. D. students, totally 31 in number have registered for the different courses of January-April 2024 Semester. SWAYAM NPTEL is the India's national online education platform, an initiative of the Government of India supported by IITs, ISC Bangalore.

More than **20 guest lectures** were organized under the aegis of IQAC, AAPS, ISPOR, ACS during which renowned and eminent national and international personalities from industry and academia shared their knowledge with students and faculty at BCP. Lectures on Mental Health, Financial Literacy, Gender Equity, Self-Discovery, Entrepreneurship, Women's Health, Molecular and Cell Biology, Career Guidance, GPAT/NIPER entrance coaching, Foreign education etc. were conducted by esteemed speakers

**Sixteen students** are presently **pursuing Ph.D.** and 04 are awaiting Viva Voce examination. Seven students (Rini Varghese, Chandan Gupta, Isha Naik, Hemali Shah, Anish Gomatam, Prashant Dongre, Sneha Govind) finished their Ph D in the last academic year.

Kudos to **18 BCP final year students 2022-23** batch who qualified **All India GPAT examination** with **Ms. Manasvi Bhanushali**, bagging **All India Rank (AIR 3)**. Twelve of them also cracked **NIPER** entrance test with **Ms. Manaswi Bhanushali being awarded AIR 17**. About twenty five students of this batch are pursuing higher education in India and abroad.

**Ms. Sidra Khan** received the **Schott Finolax Scholarship** of Rs. 25,000 from Schott Glass India Pvt. Ltd in association with Schott Glass, Germany for her outstanding academic performance.

All the BCP Students Chapters-ACS, AAPS and ISPOR are moving towards their respective goals with tenacity and excellence embedded in their every event. ACS-BCP even received the Commendable Student Chapter Award.

In addition to academic achievements, the students of BCP have been in limelight for several achievements in the field of sports, music, literature, essay, debate and art.

Mohammed Sami, Aditya More, Yash Bhosale, Serena David, Sagar Gadappa, Nikhil Mane, Jay Dave, Meher Biju, Rukmin Patwardhan, Ayush Madan made BCP proud by showcasing their talents at various ex-BCP events organized in the above fields.

BCP remains indebted to its alumni and BCP Alumni Association for their constant support.

**Dr. Parvathi Chandrasekharan** for providing Rs. 20,000/- per student under **LNS Memorial Scholarship** for meritorious girl student, **Dr. Samir Raj Mehta** for providing scholarship to **F.Y.B.Pharm student** till his/her graduation, **Dr. Umesh Shukla** sponsored under **Dr. H.P. Tipnis Memorial scheme** for student studying in S.Y.B.Pharm until completion of his graduation. Neha Bhise and Manoj Chiney sponsored Late Sanjeev Bhise Scholarship for final year UG student who seek to pursue research in field in pharmaceutical sciences and all other alumni who have contributed towards Students Mutual Aid Fund (SMAF) and by providing library books.

The academic year 2023-24 welcomed new faculty members - **Ms. Hemali Savla, Ms. Kavita Raikumar, Mr. Vishwanath Vaidya, Mr. Bhushan Bhale, Mr. Amol More, Ms Hiral Surani, Mr Abhishek Rathod, Ms. Jyoti Jha, Ms. Snehal Borade and Mr. Prashant Chaturvedi.**

BCP has also hosted **Free Health Check Camps** (for all members of BCP and the neighbourhood), and continues to be social and environmentally responsible by using solar power, generating compost from waste, installing energy conserving electrification methods, encouraging a healthy lifestyle (biking and walking) and minimizing the use of plastics.



## THE SCHOTT SCHOLARSHIP

Sidra Khan from T.Y.B. Pharm was selected as the recipient of the prestigious Schott Scholarship where she presented her conceptual framework about Artificial Intelligence in the Pharmaceutical Industry.

### ARTIFICIAL INTELLIGENCE IN THE PHARMACEUTICAL INDUSTRY

Name: **Sidra Khan**

Class: T.Y. B. Pharm

Bombay College of Pharmacy

"Do we ever ponder the possibility of AI surpassing our own abilities?

The elucidation can be discerned from the quote that captures the essence of role that AI can potentiate when wielded strategically.

AI is not a silver bullet; it's a tool. The key is to have a strategy for how to use it effectively."

- Melanie Mitchell



The pharmaceutical sector has historically grappled with prolonged and expensive drug discovery processes, obstacles in clinical trials, and inherent uncertainties when evaluating drug efficacy and safety.

Nonetheless, the recent integration of Artificial Intelligence (AI) represents a watershed moment. AI, with its formidable computational capabilities, adeptness in machine learning, and prowess in recognizing patterns, is ushering in a paradigm shift in pharmaceutical research and development.

In the early 2000s, the process of drug discovery resembled the search for a needle in a haystack, or perhaps an orchestra where each instrument symbolized different aspects of the pharmaceutical industry, ranging from drug discovery to clinical trials and manufacturing to patient care. Despite having talented individuals, this orchestra relied on manual effort, often resulting in disharmony and a slower pace. Drug discovery stretched over years, clinical trials faced numerous challenges, and manufacturing was susceptible to errors.

Fast forward to today, the advent of AI algorithms has brought computational excellence to the forefront. They can swiftly analyze extensive datasets, identifying potential drug candidates with remarkable precision. These algorithms predict safety profiles, optimize chemical structures, and accelerate the entire process, ultimately saving time and resources. Clinical trials have evolved into well-coordinated and efficient symphonies, while manufacturing has become a flawlessly automated ballet.

Envision a future where AI, driven by advanced natural language processing, comprehends the nuances of patient narratives, aiding in diagnosis not just by analyzing symptoms but by deciphering the intricate layers of patient experiences and emotions. These, though seemingly futuristic, are avenues where AI is already making strides, redefining the boundaries of pharmaceutical possibilities. As AI continues to expand the horizons of what can be imagined, the only limit is our collective imagination, and with AI as our ally, even the most extraordinary visions may one day become pharmaceutical realities.

Artificial Intelligence stands as a veritable catalyst, dramatically expediting drug discovery and development. Traditionally, the identification of putative drug candidates and their subsequent assessment in preclinical and clinical domains were prolonged and resource intensive undertaking. AI, however, has redefined these conventions through manifold mechanisms.

Significant illustrations of AI's exceptional utility include the utilization of BenevolentAI's drug repurposing tool, Tempus (one of the clinical AI assistant), and the innovative creation of Medtronic's insulin pumps designed for accurate insulin administration

Genomics, an arena steeped in data opulence, derives paramount advantage from AI. Sanofi collaborates with Exscientia for AI-driven drug development in oncology and immunology. Other firms, including Bayer, Roche, and Takeda, work with Recursion Pharmaceutical for machine learning-based drug discovery. AstraZeneca partners with BenevolentAI and Illumina for similar efforts, among a host of other notable examples.

Before the COVID-19 pandemic, AI had already made substantial contributions to the pharmaceutical industry. AI-driven applications were instrumental in the drug discovery process,expediting the realm of drug repurposing, reevaluating existing medications for novel therapeutic applications. In the post-COVID era, AI's significance within the pharmaceutical industry burgeoned. During the pandemic, AI technologies played a critical role in the expeditious development of COVID-19 vaccines,and real data analysis,especially when restrictive measures such as lockdowns and social distancing were in place.

In synthesis, the infusion of Artificial Intelligence (AI) into the pharmaceutical landscape heralds a momentous epoch marked by both remarkable advancements and formidable challenges. On one facet, AI constitutes an unequivocal boon, profoundly reshaping the contours of drug discovery, development, and healthcare delivery.

AI accelerates the drug development process, enhancing its efficiency, and at the same time, streamlining the pace of clinical trials, thereby expediting the transformation of scientific advancements into real-world treatments. Furthermore, AI dons the mantle of personalized medicine, affording patients tailored therapeutic regimens that hold the promise of improved efficacy and minimized adverse effects. The vanguard of AI also unfurls the latent potential for drug repurposing, harnessing existing compounds for novel therapeutic applications, thereby diversifying the pharmaceutical arsenal.

Yet, in this panorama of progress, there exists a concomitant bane, characterized by multifarious complexities and ethical considerations. One of the most important factor is ensuring the quality of information, as AI's effectiveness relies on the accuracy of the information provided. Privacy concerns loom large, with the need to safeguard sensitive medical data and navigate regulatory compliance. While there are concerns about job displacement, there are also opportunities for job enhancement and the creation of new roles and opportunities.

Conclusively, the judicious and ethically-guided operationalization of AI stands as an irrevocable sine qua non. This approach safeguards the evident potentials while preserving the respected domains of patient welfare, data integrity, and the sanctity of healthcare innovation. The integration of AI into pharmacy is not just a technological progression; it's a fundamental shift in how we approach healthcare And it is in this dynamic equilibrium between progress and prudence that the true promise of AI in pharmaceuticals will be fully realized.



## KUDOS TO BCP

- BCP was ranked 55th as per NIRF ranking 2023, published by the Ministry of Education, Government of India.
- BCP received the award for Best Green Campus 2021-2022 on the occasion of 75th Amrut Mahotsav by the Directorate of Technical Education, Regional Office. Thirty-Seven aided and non aided colleges had applied for this award. The Biodiversity Audit was conducted on 11th November 2022, during which team of student volunteers and faculty from Department of Geography, University of Mumbai and Department of Botany, St. Xaviers College – autonomous, Mumbai worked on plant identification, geotagging of trees, carbon sequestration, map making and QR coding of trees.
- Prestigious Scholarship 'Prime Ministers' Fellowship for Doctorate Research with industry Partner Bliss GVS Pharma Limited under DST, SERB awarded to Ph. D Student 8/12/2021
- 4 Star rating for institution innovation council (IIC)

### Chapters

- Bombay College of Pharmacy has won the ***Public Health Office (PHO) Shield***
- To add to the success our college has also earned  
***Best Innovative Campaign***  
***Best Neglected Tropical Diseases Awareness Campaign***  
***First runner-up in World Health Day Campaigns***
- **Dr. Bindu N. Yadav “Antibiotics Adjuvants :A promising approach to overcome antibiotic resistance”** article has been published in APTI Women’s Forum Newsletter.
- **Dr. Premlata Ambre, Mr. Chandan Gupta , Ms. Pinky Singh, Mr. Shashikant Vaidya, Mr. Evans Coutinho “A Novel Thermoresponsive Nano carrier matrix of Hyaluronic Acid, Methotrexate and chitosan to target the cluster of differentiation of 44 receptors in tumors”** article has been published in International Journal of Biological Macromolecules, 2023.
- **Dr. Premlata Ambre “Novel pectin co-crafted Thermoresponsive polymer for wastewater treatment”** research has been granted a patent on 23rd June 2022 for 20 Years.
- **Dr. Premlata Ambre** is featured as the **first Indian Researcher on the Biochromato** website, providing a testimonial for Smart Evaporator Instrument. This recognition highlights the significance of her contributions as the first Indian Researcher utilizing this innovative machine.
- **Ms. Siddhi Nakashe** under the guidance of **Dr. Premlata Ambre** secured a gold medal in PG level at the 18th Avishkar Intercollegiate/ Institute/ Department research convention, University of Mumbai 2023-24 on the project- “Deuterium Labelled compounds by H-D exchange using heavy water to improve pharmacokinetics”.

## **KUDOS TO BCP**

- **Ms. Richa Singh** and **Mr. Aditya Amin** under the guidance of **Dr. Premlata Ambre** have been recognized as the top 3 regional (All India) Winners in 2023 in the AstraZeneca Project iDEA challenge competition. Their remarkable achievement lies in the domain of “Marketing Campaign for awareness of Chronic Kidney Disease prevalence in India”.
- **Dr. Premlata Ambre** Successfully executed the industry linked consultancy project of Rs. 1,27,440 (Elana Beck, Aarti Chemicals, Purnima Analyticals, Kenpack Pharmaceuticals).
- **Dr. Premlata Ambre** Attended Thieme- IIT Bombay International Chemistry Symposium in the month of October on 27th 2023 at IIT Mumbai. She also attended the one week Faculty Development program on “Foundation Course in Clinical Research” from 21st to 25th August 2023 at Tata Consultancy Services, Thane.
- **Dr. Premlata Ambre, Mr. Abhishek Mishra, Mr. Aniket Kushare, Mr. Gopal Agrawal** published a chapter named “ Smart Polymers: Advancement and Applications in Wound Healing”, In: Smart Systems in Biotechnology, (Ed.) Munishwarnath Gupta, Publisher CRC Press (Accepted for Publication and Press).
- **Dr. Premlata Ambre** Successfully received a certificate for reviewing the manuscripts from the Journal of Pharmaceutical Sciences, International Journal of Biological Macromolecules, Nanomedicines, Water Science and Practice (Elsevier Journals).
- **Ms. Kavita Raikumar, Mr. Anish Gomatam, Ms. Afreen Khan, Mr. Merwyn D'costa, Mr. Evans Coutinho** in year 2023 presented on topic "**Role of Computational Modelling in Drug Discovery for HIV Current Trends**" was published.
- **Ms. Kavita Raikumar** was awarded for the Best Oral Presentation, February 2024 at 7th Annual Conference of the Society for Study of Xenobiotics, meeting held on 2nd February - 3rd February at Manipal, India. For a research project titled "**Studies on the mode of inhibition of CYP activities by thaumatin**".
- **Dr. Vaishali Ashish Shirsat, Ms. Anushree Anil Hukeri and Ms. Sneha Balu Govind** from Department of Pharmaceutical Analysis, Bombay College of Pharmacy, Kalina, Santacruz East, Mumbai, Maharashtra, India presented a paper on topic "**Formulation Development of Oral Fast-Dissolving Sublingual Film of Resveratrol**" which was published in International Journal of Pharmaceutical Sciences and Research (2023), Volume 14, Issue 5, pg- 2447-2466.
- **Dr. Vaishali Shirsat** from Department of Pharmaceutical Analysis, Bombay College of Pharmacy along with Ms. Rashmi Jadhav and Ms. Poonam Kurve from Department of Environmental Science, B.N. Bandodkar College of Science (Autonomous), Thane, presented a paper on topic "**Quantitative analysis of Insecticide in leafy vegetables grown along the railway track in Mumbai and MMR region**" in Eur. Chem. Bull. 2023, 12 (Issue 8), 7545-7561.



## KUDOS TO BCP

- **Shirsat ,V.A. , Chalgodiya, A. , Kadam, R. , Jaiswal, D.** chapter named " **Nanotechnology Approaches for Microbe-Based Formulations and Drug Delivery.**" was published In: **Chaugule, R.S., Lokur, A.S. (eds) Applications of Nanotechnology in Microbiology. Springer Nature Switzerland, Cham**, published on 06 February 2024. Print ISBN978-3-031-49932-6, Online ISBN978-3-031-49933-3
- **Safala Malvankar, Dr. Vaishali Shirsat, Mandar Kodgule, Yogita kodgule and Rajendra Gawali** presented- "A comparative study of In vitro Dissolution Profiles using various Formulation Approaches of diroximel Fumarate" DISSO India-Mumbai 2023 at Mumbai, organised by 12th DRPI (Dissolution Research Presentation International) in association with AAPS (American Association of Pharmaceutical Scientists), supported by Association of Pharmaceutical Teachers of India and Dr Bhanuben Nanavati College of Pharmacy, 26 & 27 June 2023. Department of Pharmaceutical Analysis, Bombay College of Pharmacy, Mumbai-400098, IQGenX Pharma Pvt. Ltd., Navi Mumbai-400710
- **Dr Sudhir Pawar, Dr Vaishali Shirsat, Dr Jaisen Lokhande, Dr Manasi Rege\*, Prathmesh Honrao, Prajakta Gidde, Dr Nitin Gawari, Dr Avishek Mukherjee** presented "In Vitro quantitative and qualitative analysis of anti-hypertensive drugs and comparison between their generic versus branded drugs.", ISRPCon 2023, The 15th Annual National Conference of Indian Society for Rational Pharmacotherapeutics , organised by Department of Pharmacology, Kasturba Medical College, Manipal Academy of higher Education, Manipal, held on 4th and 5th November 2023.
- An MOU was signed between **Bombay College of Pharmacy** with **Dr Vaishali Shirsat** as the Principal Investigator and Blue Cross Laboratories Pvt. Ltd, for a period of 5 years for conduct of research projects with effect from 13 Sept 2023. Blue Cross Laboratories Pvt. Ltd.-Rs. 1,47,500/-.
- **Dr. Vaishali Shirsat was the National Webinar Coordinator for-**
  1. WEBINAR SERIES (1): NEP 2020 Unraveled, 'Reimagining Pharmacy Education', organised by APTI Women's Forum: Western Zone, held on 15 July 2023.
  2. WEBINAR SERIES (2): NEP 2020 Unraveled, 'NEP's Regulatory Architecture: role and Remit of Future Apex bodies in HE', organised by APTI women's Forum: Western Zone, held on 29 July 2023.
  3. WEBINAR SERIES (3): NEP 2020 Unraveled, 'Multi/Inter/Trans disciplinary Thrust in Research: Sync with NEP 2020', organised by APTI women's Forum: Western Zone, held on 5th August 2023.
  4. WEBINAR SERIES (4): NEP 2020 Unraveled, 'Adapting to Qualification Frame work, academic Bank of credits and multiple Entry-Exit', organised by APTI women's Forum: Western Zone, held on 19th August 2023.
- **Dr. Vaishali Shirsat** has attended following seminars-
  1. APTI'S 1st 'Women Leadership Conclave', held at the Kenilworth Resort, Utorda, Goa, organised by Association of Pharmaceutical Teachers of India, Women's Forum, on 28th and 29th April 2023.
  2. 12th Annual International symposium on Dissolution Science and Applications, Theme: Importance of Dissolution Science and Technology in drug Development and Quality Assurance, DISSO India-Mumbai 2023 at Mumbai, organised by Society for Pharmaceutical Dissolution Science (SPDS) in association with AAPS (American Association of Pharmaceutical Scientists), supported by Association of Pharmaceutical Teachers of India and Dr Bhanuben Nanavati College of Pharmacy, at Mukesh Patel auditorium, NMIMS Campus, Vile Parle West, Mumbai, on 26 & 27 June 2023.
- **The tenth workshop- Hands-On Training Program- QTRAP® 5500 LC-MS/MS System** was conducted jointly by SCIEX, and **Dr. Vaishali Shirsat & Prof. Krishnapriya Mohanraj**, on 2nd May 2023-4th May 2023 at NFRT-BCP. The participants mainly the MKR analyst and PG students of Department of Pharmaceutical Analysis learnt theoretical aspects of triple quad systems along with an overview of Analyst software and hardware, tuning of reference compound using infusion and FIA methods.

### IPA-MSB's Events 2022-23

- **Sayalee Ghume** got 1st place in Watercolor painting Aesthetica.
- **Shruti Pai** got 2nd place in Picture Essay Literati.
- **Nikhil Mane** got 3rd place in Tell a Tale Literati.
- **Priyanshu Pandey** got 3rd place in poetry writing (English) Literati.
- **Abhishek Karulkar, Alfaz Pathan and Harsh Kapileshwari** won 2nd place in event Debate competition organized by IPA MSB January 2023.
- **Riya Gurav** won 2nd place and **Harshal Hatzade** won 3rd place in Mindmaps by IPA MSB in Feb 2022.
- **Aditi Ranade**

## **KUDOS TO BCP**

- **Dr K.R. Iyer, Mr. Kamble, S.H, Mrs. Deepali Desle** article on "**Effects of Water Miscible Organic Co-solvents on Enzyme Kinetic Parameters of Drug Metabolizing Enzymes in Rat Liver Microsomes.**" has been published in Indian Journal of Pharmaceutical Sciences 85, no. 1
- **Dr. K.R. Iyer, Mr. Varghese, Ms. Alice M.** article on "**Determination of the Isoniazid N-Acetylation Phenotype in a Sample Indian Population.**" has been published in INDIAN JOURNAL OF PHARMACEUTICAL SCIENCES 85, no. 2.
- **Dr. K.R. Iyer, Mr. Anish, Gomatam, Ms. Blessy Joseph, Ms. Poonam Advani, Mr. Mushtaque Shaik and Mr. Evans Coutinho** article on "**How effective are ionization state-based QSPKR models at predicting pharmacokinetic parameters in humans?.**" has been published in Molecular Diversity 27, no. 4
- **Dr.K.R. Iyer, Mr. Gangar, A.C, S. Despande, P. Tannu, Ms. Sarita Hariharan, Ms. Anagha Damre** article on "**Comparison of the Catalytic Competence of Different Animal Hepatic Microsomal Fractions Prepared by Calcium Aggregation and Differential Centrifugation Methods.**" has been published in Indian Journal of Pharmaceutical Sciences 85.
- **Dr. K.R. Iyer, Ms. Mugdha, V. Gupta, Nesarika** article on "**Modulation of the Activity of Human Plasma Esterases by Binary and Ternary Mixtures of Water Miscible Organic Solvents during in Vitro Drug Metabolism Studies**" . has been published in Indian Journal of Pharmaceutical Sciences 85,no. 4.
- **Dr. Anuradha Majumdar, Ms. Shalaka Shirsagar, Mr. Nikhil Sambhare** has written a chapter "**A functional Food Composition to combat Pre Diabetes: A Thrust on Preventive Health**", and it has been published in Millets 2023, A transdisciplinary Approach to its Resurgence and Sustainability, Editors Prof. Kamini Donde, Prof. Jessy Pius, Allied Publishers, Pvt. Ltd, Noida, ISBN: 978-9390951-91-8.
- **Dr. Anuradha Majumdar and Dr. Rini Varghese** has written a research paper on "**All-trans-retinoic acid and valproic acid: A combinatorial approach for the treatment of nephrotic syndrome**" and it has been published in Biotechnology 7.
- **Dr. Anuradha Majumdar, Mr. Hasnat Khan, Ms. Shivangi Patel** has written a research paper on "**Green tea as SIRT1 and SIRT3 activator in COVID-19: A molecular docking approach**" and it has been published in Indian Journal of Natural Products and Resource, Vol.14(3), September 2023, pp 409-424, DOI: 10.56042/ijnpr.v14i3.5397, Impact factor: 0.192.
- **Dr. Anuradha Majumdar, Ms. Shivangi Patel , Ms. Arnika Pangarkar, Ms. Sakshi Mahajan** has written an research paper on "**Therapeutic Potential of endoplasmic reticulum stress inhibitors in the treatment of diabetic peripheral neuropathy**" and it has been published in Metabolic Brain Disease.



## **KUDOS TO BCP**

- **Dr. Anuradha Majumdar** received the Dewang Mehta National Leadership Awards, "**Most Influential Professor**" at the 30th Business School Affairs, on 24th November 2023 at the Taj Lands, Mumbai.
- **Dr. Anuradha Majumdar** was a jury member in the Innovation Excellence Award 2024, Awards recognising Innovation in Science and Technology, V.G. Vaze College (Autonomous), Mulund, Mumbai held on 26th January 2024 and also in the Marshalls' CiiA-3 Innovations Awards.
- **Dr. Anuradha Majumdar** and **Mr. Prashant Dongre** have won second place in Oral Presentation and Poster titled "**Unlocking the potential of Chandraprabha Vati in Mitigating Metabolic Syndrome through Mitochondrial Biogenesis and Inflammation**" at the First National Symposium on Integrating Traditional Knowledge in Evidence Based Medicine, 21-22 September 2023, organized by ACTREC, TMC and Central Council for Research in Ayurvedic Sciences, AYUSH, Gol.
- **Dr. Anuradha Majumdar** completed a Project titled "**Microplastic Pollution from Ports and Shipping Activities in the Indo-Pacific: Potential Risk and Mitigation Strategies**" with collaboration of University of Tasmania, Australia and funding authority Department of Foreign Affairs and Trade, Australian Government, Australia India, Indo-Pacific Oceans Initiative Partnership (AIPOIP), Second Grants Round 2021-22.
- **Dr. Anuradha Majumdar** is APTI Women's Forum, Western Zone Coordinator as well as coordinator at **Unfair Means Inquiry Committee** in BCP. She was also invited faculty at IISER, Trivandrum to engage course "**Pharmacology and Pharmacokinetics**".
- **Dr. Prashant Dongre** and **Dr. Anuradha Majumdar** both made a poster and selected oral presentation titled "**Unlocking the potential of Chandraprabha Vati in Mitigating Metabolic Syndrome through Mitochondrial Biogenesis and Inflammation**" at the First National Symposium on Integrating Traditional Knowledge in Evidence Based Medicine, 21-22 September, 2023, organized by ACTREC, TMC and Central Council for Research in Ayurvedic Sciences, AYUSH, Gol.
- **Dr. Anuradha Majumdar** coordinated from India the workshop on 2nd and 3rd May 2023 on "**Microplastics pollution from ports and shipping activities: Mitigation Strategies**", convened by University of Tasmania, Australia, supported by Department of Foreign Affairs and Trade, Australian Government under the project Australia India, Indo-Pacific Oceans Initiative Partnership (AIPOIP), Second Grants Round 2021-22.
- **Dr. Anuradha Majumdar** convened a webinar titled "**Contributions of Women in Evolution of Indian Pharma Sector**" by the APTI Women's Forum, Western Zone to celebrate Women's day on 9th March 2023. She also convened a webinar series from 15th July 2023 onwards titled "**NEP 2020 Unravelling**" by the APTI Women's Forum, Western Zone.
- **Dr. Anuradha Majumdar** delivered an online talk in the webinar series from 15th July 2023 onwards titled "**NEP 2020 Unravelling**" by the APTI Women's Forum, Western Zone, on "Multi/Inter/Transdisciplinary Thrust and Approach in Research in sync with NEP 2020" on 5th August 2023.
- **Dr. Anuradha Majumdar** presented the summary of Indian findings at the concluding webinar, title of project, "**Microplastic Pollution from Ports and Shipping Activities in the Indo-Pacific: Potential Risks and Mitigation Strategies.**"

## **KUDOS TO BCP**

- **Dr.Anuradha Majumdar** has done collaborative Indo-Australia workshop on 2nd and 3rd May 2023 for stakeholders across continents and release of white paper on the Indo-Pacific Oceans Initiative articulating on global Mitigation strategies to contain microplastic pollution on 2nd October 2023.
- **Dr.Anuradha Majumdar** has done collaboration with Tata Memorial Hospital, Mumba Adverse Drug Reaction Monitoring in Cancer wards ,NIRRH, Mumbai Studies on Intrauterine Contraceptive Devices University of Tasmania, Australia **“Microplastics pollution from ports and shipping activities”** in the Indo-Pacific: Potential risks and mitigation strategies Sardar Patel Institute of Technology Adverse Drug Reaction Monitoring in Cancer wards Hiranandani Hospital Antibiotic Stewardship Programme Saifee Hospital Prescription Audit. Sardar Patel Institute of Technology Pfizer Ltd, Consultant Speaker,SEAL.Programme.
- **Mrs. Mayuri Padhaye**, PhD Tech in Pharmacology student received the Gold medal, second prize for the project titled **“Transforming rice husk waste into a sustainable solution for removing nanoplastics from potable water”** at the 18th Maharashtra State Level **“Avishkar”** Inter-University Research Convention, at MUHS Nashik on 15th January 2024, 2023-24, Category 6 Medicine and Pharmacy and level PPG.
- **Mrs. Mayuri Padhaye**, PhD Tech in Pharmacology student received the silver medal, second prize for the project titled **“The Journey of Rice Husk from Waste to Use in Removing Nanoplastics from Potable Water”** at the 18th Maharashtra State Level **“Avishkar”** Inter-University Research Convention, of University of Mumbai, 2023-24, Category 6 Medicine and Pharmacy and level PPG.
- **Mr. Sanket Shirodkar**, who was mentored by Dr. Anuradha Majumdar and won the Gold in Anveshan2023, Western Zone, in Health Sciences Category.
- **Mr. Sanket Shirodkar**, Ms Neha Gupta and Ms Tanvi Warden presented a model on the topic **"Sustainable Pharmaceutical Waste Water Treatment"** in the Science Exhibition held at the National Facility for Biopharmaceuticals on 28th February, 2023 on the National Science and have received 2nd prize.
- **Mr Sanket Shirodkar**, a final year M.Pharmacy student won 1st Prize in Poster Presentation at SYMPHORIA-One-Day Symposium on **DATA ANALYTICS AND AI-ML: OPPORTUNITIES IN HEALTHCARE** in collaboration with IPA-MSB and APTI-MS held at St.John Institute of Pharmacy and Research, Palghar.
- **Mr Sanket Shirodkar** has received 2nd prize in National Level Poster Competition on the topic **"Molecular Biology and Genomics: A Bullseye for Future Pharmacy"** which was held at VIVA Institute of Pharmacy.
- **Mr Sanket Shirodkar** has received 1st Prize in Poster Presentation Competition held at National Facility for Biopharmaceuticals - G.N Khalsa College in Matunga.
- **Mr Sanket Shirodkar** has received 1st prize in Poster Competition at METS Institute of Pharmacy, Nashik.
- **Mr Sanket Shirodkar** has received Gold Champion in the prestigious ANVESHAN: Student Research (zonal level) organized by the Association Of Indian Universities at Ajeenkya DY Patil University in Pune, Maharashtra.



## **KUDOS TO BCP**

- **Dr. Mala Menon's "Barrier films"** has been granted patent.
- **Dr. Clara Fernandes's "Pharmaceutical Formulation of fat-soluble vitamins and ionic liquids"** and **"A Carbohydrate based biopolymer and method for synthesizing thereof"** has been granted patent.
- **Dr. Harita Desai's "Nanotechnology based antimicrobial bandage dispensing device"** has been granted patent.
- **Dr. Clara Fernandes's** article on topic **"Microemulsion-based transdermal patch of folic acid"** has been published.
- **Dr. Mala Menon and Dr. Hemali Savla** has filed patent for **"In Situ Film Forming Germicidal Wound Dressing Formulation"** (for addition of names of inventors).
- **Dr. Mala Menon, Dr. Ujwala Shinde and Dr. Hemali Savla** (in association with ACG) has filed a patent for **"Microparticulate Dry Powder Compositions and a Method of Preparation Thereof"**.
- **Shinde UA, De A, Godse RD, Rathod M, Thorat R, Sharma N, Ansari M, Singh K** has published a topic **"Efficacy evaluation of carboplatin-etoposide Co-loaded PLGA microparticles for subconjunctival chemotherapy in retinoblastoma."** in Journal of Drug Delivery Science and Technology on 1 Feb 2024.
- **Shinde U, Barkat Y, Singh K** has published a topic **" Coloaded Surface–Modified PLGA Nanoparticles for Sustained Ocular Delivery of Levofloxacin and Flurbiprofen."** In journal of pharmaceutical innovation on 12 Dec 2023 pg no. 1-4.
- **Kokate MS, Deokule HA, Desai HR, Patil MR, Aher SJ, Mule VS, Waghmare MV.** has published a topic **"Formulation And Evaluation of A Tablet By Using The Solvent Evaporation Method & Solid Dispersion Method To Increase The Solubility Of Omeprazole Magnesium"** in Romanian Journal of Diabetes, Nutrition and Metabolic Diseases in 2023.
- **Kuril A, Ambekar A, Nimase B, Giri P, Nikam P, Desai H, Aher S** has published a topic **"Exploring the potential of 3d printing In pharmaceutical development"** in Int J Curr Pharm Sci [Internet] in Nov 2023, pg 31-42.
- **Nikam P, Jain A, Solanki D, Aher S.** has published a topic **"Revolutionizing pharmaceuticals: a deep dive into self-nanoemulsifying drug delivery systems"** in Int J Curr Pharm Sci [Internet] in Jan 2024, pg no. 1-9.
- **Aher S., Pavane S** has published a topic **" Studies on enteric coated atorvastatin calcium loaded mucoadhesive sustain release calcium loaded mucoadhesive sustain release"** in World Journal Of Pharmaceutical Research in Oct 2023, pg 1159- 1181.
- **Aher S., More S., Chalodiya A., Jain D., Patel R** has published a topic **"Preparation and characterization studies of levofloxacin hemihydrate loaded NLCs for ocular delivery and comparison with various marketed formulations"** in European Journal of Biomedical and Pharmaceutical Sciences in Sept 2023, pg no. 56-64.
- **Fernandes C, Jathar M, Sawant Bk, Warde T.** has published a chapter on **" Scale-Up of Nanoparticle Manufacturing Process"** in Pharmaceutical Process Engineering and Scale-Up Principles on 4 Jul 2023 pg no. 173-203.

## **KUDOS TO BCP**

- **Dr.Hemali Savla** has received 2nd Best Poster Award for "**MACROPHAGE RECEPTOR TARGETED MICROPARTICULATE DRY POWDER INHALATION SYSTEMS FOR TUBERCULOSIS DRUG THERAPY**" at 8th International Conference on IPR organized by G-CEIP and Goa College of Pharmacy held on 5th and 6th December 2023 at Goa College of Pharmacy, Goa.
- **Ms. Tanvi Warde** received consolation prize for "**DEVELOPMENT AND EVALUATION OF NOVEL IONIC LIQUID - POLYMER BASED HYBRID NANOFORMULATION OF CURCUMIN**" at National Level Research Poster Presentation Competition organised by NCRD's Sterling Institute of Pharmacy, Nerul on 3rd February 2024.
- Amount of **Rs 4,02,061/-** has been received under the consultancy project of Comparative Study of Various Alginate Formulations with Similar Composition for their Physicochemical Properties – **M/s Abbott India Pvt. Ltd.**
- Amount of **Rs 6,82,276/-** has been received under the consultancy project of Pharmaceutical Evaluation of Udiliv 300 mg and its Different Brands – **M/s Abbott India Pvt. Ltd.**
- **Dr. Shubhangi Aher** presented on a topic "**Exploring the potential of 3d printing in pharmaceutical development**" in International Journal of Current Pharmaceutical Research on 3rd October 2023.
- **Dr. Shubhangi Aher** presented on a topic "**Studies on enteric coated atorvastatin calcium loaded mucoadhesive sustain release microspheres**" in World Journal of Pharmaceutical Research on 31st October 2023.
- **Dr. Shubhangi Aher** presented on a topic "**Preparation and characterization studies of levofloxacin hemihydrate (lvf) loaded nlcs for ocular delivery and comparison with various marketed formulations**" in European Journal of Biomedical and Pharmaceutical Sciences on 20th September 2023.
- **Dr. Shubhangi Aher** presented on a topic "**“REVOLUTIONIZING PHARMACEUTICALS”: A DEEP DIVE INTO SELF NANOEMULSIFYING DRUG DELIVERY SYSTEMS**" in International Journal of Current Pharmaceutical Research on 2nd December 2023.
- **Dr.Vaishali Shirsat** and **Dr. Rachna Kaul** coordinated a One day workshop on **Basic Cell Culture Techniques** was held on 1st February 2024 for faculty and doctoral students. This workshop was conducted by the Cell Culture Facility and Molecular biology Laboratory, under the aegis of IQAC-BCP and Department of Pharmaceutical Analysis. **Prof. Krishna Iyer** was the convenor and **Prof. Krishnapriya Mohanraj** was the co-convenor of this workshop.
- **Ms. Snehal Govind** under the guidance of **Dr. Vaishali Shirsat** achieved the successful completion of her Phd Degree in Pharmaceutical Chemistry by the University of Mumbai this month.



## **KUDOS TO BCP**

1. Following Students have won in the **1st International level Research Poster Presentation** held by NCRD's Sterling Institute of Pharmacy in association with SSV Pharmaceuticals held on 11th Feb, 2023:
  - **Ms. Madhavi and Ms. Bharti Nimse** for the Poster titled "Formulation ,development and characterization of Nanostructured lipid carrier of levofloxacin hemihydrate for management of ocular infection".
  - **Mr. Munjaji Pitale and Mr. Prajwal Nikam** for the Poster titled "Development and characterisation of NLC based mucoadhesive gel for Vaginal fungal infection".
  - **Ms. Prarthana Tale and Ms. Prachi Giri** for the Poster titled "Solid dispersion loaded mucoadhesive films for Buccal drug delivery".
  - **Mr. Sandip Pavane** for the Poster titled "Development and evaluation of polymetacrylate polymer coated atorvastatin calcium loaded microsphere for intestinal drug-delivery".
2. **Mr. Siddhesh Desai, M Pharm student** received the silver medal, second prize for the project titled "An optimized In Situ Gelling Bevacizumab Nano Formulation for Nose to Brain Delivery Intended for Glioblastoma" at the 18th Maharashtra State Level "Avishkar" Inter-University Research Convention, of University of Mumbai, 2023-24, Category 6 Medicine and Pharmacy and level PG.
3. **Siddhi Ankush Devkhate, L.Y.B.PHARM student** received Consolidated Prize for National Level Review Writing Competition.
4. **Rutuja Kadam, L.Y.B.PHARM student** received Consolidated Prize of Rs. 1000 for National Level Article Writing Competition organized by Academic Decipher, Mumbai.
5. **ACSBCP-SC** has received the "Commendable Student Chapter Award" this year.
6. **Nikhil Mane, T.Y.B.PHARM student** received 3rd prize in National Level Quiz Competition 'Inquizzitives'.
7. **Yogesh Sharma, T.Y.B.PHARM student** received 3rd prize in literati logo making competition.
8. **Aparna Jain, S.Y.M.PHARM student has following achievements in year 2023-24**
  - 1st prize in poetry writing in MKES Nagindas Khandwala College of Arts, Science and Management; Malad
  - 2nd prize in Story writing in BK Birla College of Arts, Science and Commerce, Autonomous ; Kalyan
  - 3rd prize in both Essay Writing (English) and Poetry Writing (English) in literati 2023.
  - Consolation prize in Landscape Painting in Aesthetica 2023.
9. **Mohammad Sami, S.Y.B.PHARM student** received 3rd prize in Ghazal Competition of Springz Fest.
10. **R.K. Shanmathi, S.Y.B.PHARM student** performed folk dance of Tamilnadu at the National Centre for Performing Arts.
11. **Yash Bhosale, T.Y.B.PHARM student has followed achievements in year 2023-24**
  - First prize in solo singing at PILLAI college fest EUFORIA. He received cash prize, certificate, and a gift voucher.
  - Second prize in solo singing at ICT college fest MANZAR. He received a cash prize, certificate and gift voucher.
  - Second prize in solo singing at SPCE fest SPHINX. He received cash prize, certificate and gift voucher
  - Second prize in solo singing at SNDT college fest ARCANES. He received cash prize, certificate, gift hamper and gift vouchers
  - First prize in solo singing at SPIT college fest OCCULUS. He received a trophy, certificate and cash prize.
  - Second prize in solo singing at KJSCE college fest SYMPHONY. He received a gift hamper and vouchers along with certificate and cash prize.
  - Third prize in solo singing at KVP College. He received certificate and medal as a prize.
  - First prize in solo singing at NMIMS college fest UMANG. He received certificate, studio recording hours.

## **KUDOS TO BCP**

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**12. Jay Dave, S.Y.B.PHARM student has following achievements in year 2023-24**

- He received 1st Prize at ICT Manzar Open Mic Competition.
- He received 1st Prize in Rx Rap Competition.
- He received 1st Prize at House of Talent during SynTech-X fest of RD NATIONAL COLLEGE.e
- He rceived 1st Prize in Birlosav at BK Birla College in Rap Competition.

**13. Chinmay Waingankar, S.Y.B.PHARM student** received 1st Prize in Intercollegiate Table Tennis Competition.

**14. Malhar Galande, F.Y.B.PHARM student** won 1st prize in Tremors Treasure Hunt organized by Hinduja College at Wet N Joy Park.



## **BCP - ALUMNI SPEAKS**

### **WHAT HAPPENS IN BCP, STAYS IN BCP !!**



BCP is a dream.

It was a dream for many.

And it will be a dream for many of them to come.

It's been nearly 6 months now that I have graduated from BCP but the memories are still fresh and very close to my heart. It feels like yesterday when my friends & I used to play table tennis, attend lectures, learn & have fun on the campus. I don't think any amount of gratitude would suffice for the love and memories I have for that old piece of an architecture.

I feel overwhelmed to express my gratitude for everything that BCP has given me. Although, due to COVID- 19, we were unlucky to spend only a year and half on campus. Still whatever memories we have are the happy ones. Got some amazing faculty to spend time and experience with, got some amazing lot of idiots & more importantly an absolutely crazy but a genius batch among all other perks.

The biggest thanks I want to give is to Prof. Krishna Iyer, who taught me to be grounded, no matter how much I succeed in life. Apart from his academic learning which is the best I have encountered till date, I gained valuable life lessons from him which is would be grateful for my entire life.

I am also grateful to all of my friends & my seniors who helped us make this journey even more delightful. I recall my days as a member of the BCP Students' Council, working with the BCP-CSR committee, where we had lots and lots of fun in organizing events, my days as the General Secretary of the college, taking part in Rx, our very own 'Resonance' when we used to plan, organise & rehearse for events, Annual Day function and what not. Lastly the best day in BCP was our farewell, which is something that I think no one will forget & no one would want to forget.

I am glad and proud to be a part of the BCP family. I own the tag of being a "BCPian" with utmost respect and pride. No matter wherever I go in life, the knowledge, experiences, values and my friends that I gained from BCP will always stay with me. Those 4 years at BCP were one of the best days of my life!! I want to thank BCP for all the opportunities I was given that helped me transform into the person that I am today.

I have told this many times to my juniors and I will tell it again that, you will never understand the worth of BCP until you graduate from there and it is already too late.

So, cherish every moment while it lasts!!

Thank you.

**REHAN AFTAB HAMDULAY**

B. Pharm Batch ( 2018 - 2022 )

## POETRY SECTION

### FLOWERS

Burning on the hot stage,  
Frantic in my goose chase.

How will I ever rest my case? Honeysuckle and Creepers,

What's the difference when we all bleed red?

For all the tears I have shed. If my hands keep shaking  
and my heart keeps shivering, What if I miss out

and what if I lose

what if I want to leave,

But still can't find a way to cower. Trying to not be a coward.

How my eyes slowly dim, Everything big seems so small.

I have grown without an applaud, Eyes staring at me.

I'm on my own,

But what if I walk slowly,

Will my eyes close or will my skin bleed? Air throttling me in a wrong way.

Why can't living be easy?

Just the way others make it feel.

It's so good to look at,

but are they too sad?

Behind cold stares lie sore eyes,

Lips stifled all screams,

Long sleeves for cut lines,

sunburnt from life,

skin turned dark bright.

Oh to lie among the flowers underground. Silence my thoughts finally gave me.

No need to hide from everybody,

Just the skies and the stars,

only seven lives apart.

**-Aishwarya Kapoor**

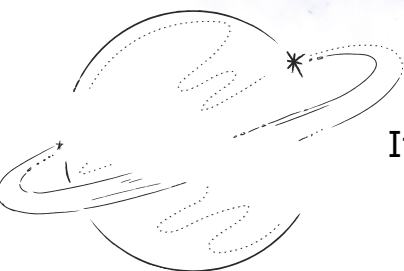
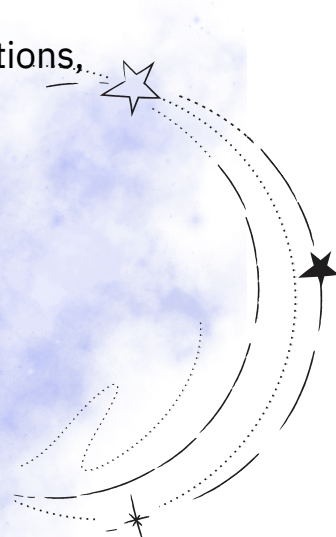


## POETRY SECTION

# THE ENIGMA OF SPACE

Defying complex laws of physics,  
With its own mysterious tactics  
Proud beholder of astounding galaxies and constellations,  
Being every cosmonaut's dream destinations.  
Bewitching through the telescope lenses  
Captivating every human's senses  
Naked eyes viewing tiny specks of dust  
Probably being other planet's crust.  
Comets leaving behind a beautiful tail  
Their paths soon becoming frail  
Possessing eternal life, still appearing lifeless,  
Since it's extremes being boundless and limitless ;  
No one knows it's origin nor it's end  
But making every individual component blend  
Tranquillity being its fundamental definition  
Probability of parallel universe beyond imagination  
An invisible force binds us all,  
This force named gravity explored by apple's fall  
Thrilling experience being weightless in it

Being every science textbooks' favourite bit  
It made concept of infinity seem perceivable  
Many elements still waiting to be decipherable  
It is nature's best kept secret  
The truth waiting to be unfolded with no regret ;  
It's movements being quite dynamic and chaotic,  
But still appearing serene from everyone's attic  
Such is the enigma of space ,  
Possessing matchless beauty and alluring grace !



~ **Aparna Jain**  
S. Y. MPharm

## POETRY SECTION

### MY INARA

A man I thought would be a meaningless fling  
came in my life with his little sling.

His voice fresh as a river,  
His touch making me shiver,  
His embrace warmer than spring,  
His lips, tender petals when blooming.

I showed him around,  
In shallow waters and high ground,  
He serenaded me on swings,  
Never thought he'd tug on my heartstrings.

Be it a beach sandy, or a ridge rocky,  
Or the winds mighty, being cocky,  
His eyes ever like glitter glistening,  
Him humming and me listening.

Not birds of a feather,  
Never meant to be together,  
Yet our hands holding,  
Did fate serendipitously bring.


Indefinitely going away was he,  
The exorbitant agony of parting,  
But tragedy he made feel like poetry,  
That my words now sing

~ **Satyam Thakur**  
T. Y. BPharm




## POETRY SECTION

### इंसान



बेफिक्र हुए मुझे जमाना हो गया है.....  
आवाज़ नहीं सुनता मेरी, लगता ये सुकून कहीं सो गया है....  
संभाल रखी है मैंने वो बचपन की पतंग,  
ढूँढ रहा हूँ वो आसमान जो खो गया है।  
मेरे अंदर का बच्चा कहीं दिल में ही रह गया है...  
कोई पूछे तो लफ़्ज़ों पे रख दूंगा अपना हाथ  
क्योंकि एक इंसान अकेला ही सारे ग़म सह गया है।

अधूरी ख्वाहिशें मुझमें अब भी जिंदा हैं  
आसमान में उड़ नहीं पा रहा इंसान वो परिंदा है  
बस खूबसूरत कापड़ों में इंसान एक दरिंदा है  
जैसे गिरे हम, खुद की नज़रो में!  
क्या हमारी शर्म आज भी जिंदा है!



~ **Mohammed Sami**  
S. Y. BPharm

## SCIENTIFIC ARTICLES

# EDOXABAN UNVEILED: A PHARMACEUTICAL ODYSSEY OF TRIUMPHS AND TRIALS

### Introduction:

In the crucible of Daiichi Sankyo, the summer of 2011 marked my emergence—I am Edoxaban, a factor Xa inhibitor destined to combat venous thromboembolisms. My journey commenced in the surgical theaters of Japan, where I swiftly became a silent guardian, disrupting the delicate ballet of blood coagulation and altering the climax of the coagulation narrative.

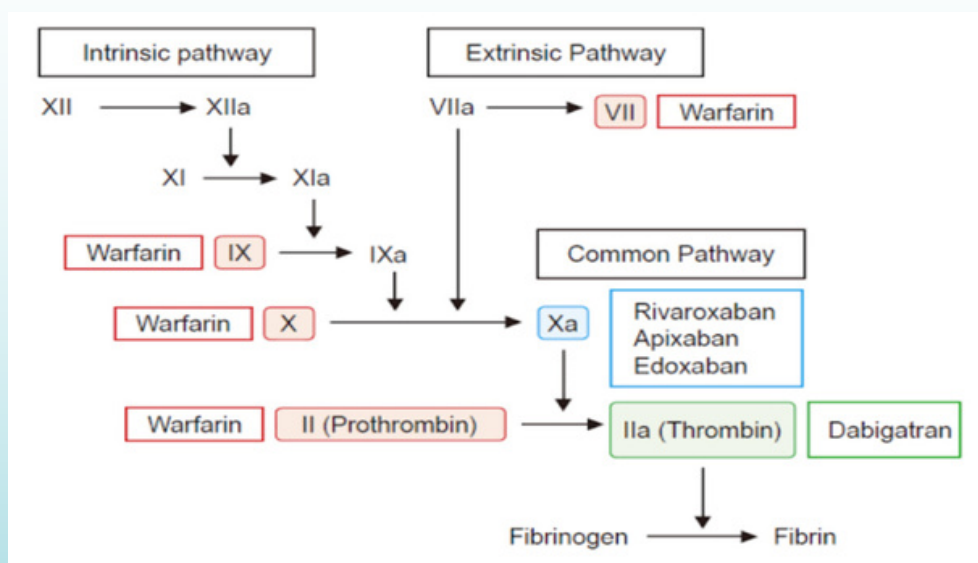
### “Whispers of my Success”

I reveled in my early triumphs, particularly in the post-orthopedic realm. Surgeons and researchers celebrated my anti-thrombotic prowess, acknowledging my efficacy in thwarting the sinister plans of blood clots.

### "The Dance of Caution”

unfolded, revealing the complexities of my character. Contraindications were introduced, and I became a dance partner only to those free from the shackles of bleeding risks, unbridled hypertension, and the embrace of other anticoagulants. The scientific narrative emphasized the cautious dance required in the realm of anticoagulation.

### Edoxaban compared to Warfarin:





## SCIENTIFIC ARTICLES

### EDOXABAN UNVEILED: A PHARMACEUTICAL ODYSSEY OF TRIUMPHS AND TRIALS

Compared to the widely used anticoagulant warfarin, I offer the advantage of fewer monitoring requirements, lower risk of substantial bleeding, and infrequent drug interactions. Unlike warfarin, I am minimally affected by the CYP 450 system because I am a minor CYP3A4 substrate.

Several clinical trials, including the ENGAGE AF-TIMI 48 trial (Effective Anticoagulation with Factor Xa Next Generation in Atrial Fibrillation- Thrombolysis in Myocardial Infarction 48) and Hokusai-VTE, have highlighted my effectiveness compared to the traditional vitamin K antagonist warfarin. I was established as a non-inferior drug compared to warfarin in my ability to prevent the formation of blood clots.

#### **"An Unexpected Plot Twist"**

took an unexpected turn as recent reports cast a spotlight on a grand trial. The premature conclusion prompted a reevaluation of my efficacy and safety, introducing an element of uncertainty that challenged my initial narrative.

#### **"A Symphony of Results"**

I found myself at the center of a scientific exploration involving 2536 subjects. The symphony of nuanced outcomes revealed both successes and setbacks, as my aspirations to reduce cardiovascular catastrophes encountered resistance. The emergence of unintended consequences, such as increased risks of death or major bleeding, added complexity to my storyline.

Although my use is beneficial in preventing thrombotic events, I am also associated with a range of potential adverse effects, ranging from severe reactions with profound implications to mild and manageable ones.

#### **Severe Adverse Effects:**

The severe adverse effects of mine include epidural hematoma, spinal hematoma, severe bleeding, thrombocytopenia, angioedema, and thrombosis with premature discontinuation.

#### **Mild-to-Moderate Adverse Effects:**

The mild adverse effects of mine include bleeding, anemia, rash, and elevated alanine transaminase or aspartate transaminase.

## SCIENTIFIC ARTICLES

### EDOXABAN UNVEILED: A PHARMACEUTICAL ODYSSEY OF TRIUMPHS AND TRIALS

Early discontinuation without sufficient alternative anticoagulation can increase the risk of ischemic events. If there is no pathological bleeding, transitioning to an alternative agent should be considered. Concurrent administration of mine with other hemostasis-affecting agents, including aspirin, antithrombotics, fibrinolytic drugs, and antiplatelet agents, could amplify the bleeding risk.

#### Drug-Drug Interactions:

I should not be administered concurrently with the following agents due to potential drug interactions and an elevated risk of bleeding:

- Anticoagulants
- Antiplatelets
- Thrombolytics
- Selective serotonin reuptake inhibitors
- Serotonin-norepinephrine reuptake inhibitors
- Defibrotide: Using defibrotide in conjunction with mine may lead to additive effects and an increased risk of bleeding.
- Mifepristone: Combining mine with mifepristone may elevate mine levels, thereby increasing the potential for severe bleeding.

#### "The Bittersweet Crescendo"

unfolded, the anticipated reduction in cardiovascular calamities remained elusive. The intricate interplay of scientific variables in the grand theater of healthcare became evident, acknowledging the complexity of my molecular dance and its impact on patient outcomes.

#### The Epilogue:

"In the Halls of Scientific Wisdom," transcended the final chapter with a reflective analysis. My journey, though devoid of fairy-tale simplicity, left an indelible mark on the scientific exploration of pharmaceutical interventions. Beyond triumphs and trials, my autobiography contributes to the evolving discourse, offering insights into the delicate balance required in the pursuit of precision medicine.



## SCIENTIFIC ARTICLES

### EDOXABAN UNVEILED: A PHARMACEUTICAL ODYSSEY OF TRIUMPHS AND TRIALS

In the scientific halls of wisdom, the Edoxaban saga stands as a testament to the perpetual quest for understanding and precision in the ever-evolving landscape of medicine, as seen through my own molecular lens. The lessons learned, both in the triumphs and setbacks, contribute to the ongoing scientific narrative, guiding future endeavors in the pursuit of improved healthcare outcomes.

My molecular dance, intricately woven into the fabric of medical history, serves as a reminder that the scientific journey is multifaceted. Each step forward is accompanied by the need for reflection, adaptation, and a continuous commitment to unraveling the complexities of human health. As the pages of my autobiography unfold, they add to the collective knowledge that propels the scientific community toward greater understanding and innovation in the realm of anticoagulation and beyond.

**~Bhumika Mhapankar**  
F.Y.BPharm

## SCIENTIFIC ARTICLES

# PHARMACOECONOMIC EVALUATION OF BIOSIMILARS

### Introduction:

A biosimilar is a biological medication similar to an already approved biological medicine or the 'reference medicine'. Biosimilars are approved using the same pharmaceutical quality, safety, and efficacy criteria as all other biological medications. Although biological medications are effective in treating life-threatening and chronic diseases, they can be costly. Hence to manage rising healthcare costs healthcare systems may consider using biosimilars. Biosimilars can be marketed after the reference product's patent and exclusivity rights expire, introducing competition and potentially lowering treatment costs while maintaining quality, safety, and efficacy. This can lead to savings and increased patient access to treatment. So, they are primarily marketed for lowering the cost burden on patients and third-party payers, whether public or private. To ensure the implementation of cost-effective medicines, countries increasingly request an economic evaluation of the Biosimilars. This Requested topic aims to raise awareness of and explore methodological issues for the economic evaluation of biosimilars.

### Pharmacoeconomics of Biosimilars:

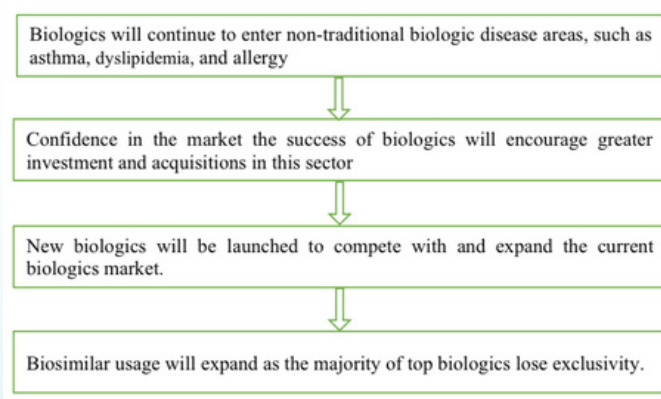
According to a recent pharmaceutical market report, biologics will undergo rapid maturation and metamorphosis from their current state.

Fig 1. Four important market trends are listed below;

The first two trends in the biopharmaceutical industry are positive, indicating that biologics will continue to dominate market revenue compared to less expensive small molecules.

Additionally, biologics are expected to receive more investment than other healthcare sectors.

The third trend, launching new biologic inventors, may not benefit payers because of past pricing behavior, where innovator prices have increased with the emergence of new competitors. Meanwhile last trend, Expanding biosimilars is a promising trend for countries and institutions aiming to control spending in the foreseeable future. Biosimilars are relatively new to the global market and have begun to establish themselves in the mainstream of worldwide markets.





## SCIENTIFIC ARTICLES

### PHARMACOECONOMIC EVALUATION OF BIOSIMILARS

Many countries may employ biosimilars based on pharmacoeconomic considerations within their healthcare systems. Mostly four types of pharmacoeconomic evaluations are relevant to biosimilars which are as follows,

- 1) Cost-effectiveness
- 2) Cost-minimization
- 3) Cost-utility
- 4) Cost-benefit

Many researchers have used Cost-minimization analysis for Pharmacoeconomic evaluation of Biosimilar. Appropriately designed and powered clinical studies demonstrating highly similar efficacy and safety profiles between a biosimilar and the reference biologic allow a cost-minimization analysis that would help determine the least expensive therapy

#### **Evaluating the Potential Economic Benefits of Biosimilars:**

Economic evaluations are a component of clinical evidence that can guide the development and use of safe and cost-effective biosimilars while helping to optimize expenditure. They may help healthcare community members synthesize information about the effectiveness, potential limitations, and costs of interventions as well as the value of their benefits.

##### 1) Comparative Effectiveness Studies:

Comparative effectiveness studies, where researchers examine the available evidence about the benefit and potential safety considerations of each therapeutic choice for different groups of individuals from existing clinical trials, clinical studies, and other research have been used by several nations. In the case of Biosimilars, A panel of experts drawn from academia, public health, practicing physicians, and other stakeholders, including consumer representatives, evaluate newly approved drugs through systematic reviews of available research and decide whether or not the given biologic or its biosimilar is recommended for reimbursement by the National Health System (NHS).

##### 2) Cost-Effectiveness Study:

Unlike comparative effectiveness studies which focus more on clinical outcomes, Cost-effectiveness studies balance a single unit of cost against its impact on patient quality of life. This statistic is called the incremental cost-effectiveness ratio (ICER). For Biosimilars, Many countries use cost-effectiveness analysis models to compare the cost-benefit ratio of existing technology with creative inventions.

##### 3) Cost-Minimization Analyses:

As discussed earlier, Cost-minimization assessments can assess the pharmacoeconomic benefits of biosimilars. These studies compare products with equivalent advantages but different costs to identify the most cost-effective treatment choice. For example, the introduction of a biosimilar rather than its reference biologic medicine, which should deliver the same benefit at a cheaper cost.

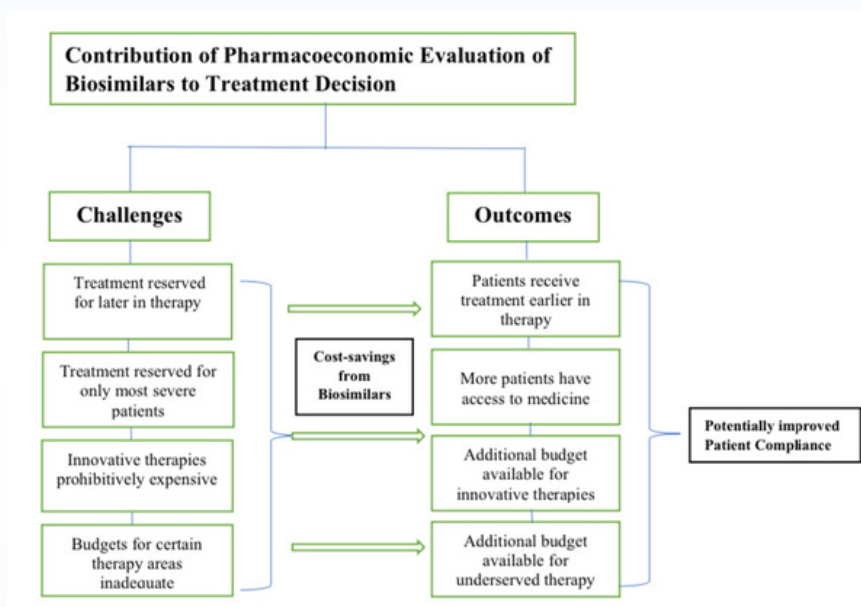
## SCIENTIFIC ARTICLES

### PHARMACOECONOMIC EVALUATION OF BIOSIMILARS

#### Contribution of Pharmacoeconomic Evaluation of Biosimilars to Treatment Decision:

Pharmacoeconomic Evaluation of biosimilars is influenced by development, manufacturing, monitoring, and acquisition costs, as well as possible patient benefits to offset healthcare expenditures. Biosimilars also can help strike a balance between improved access and innovative medications, while also offering cost-saving benefits as shown in the following figure.

Fig 2. Savings from biosimilars may allow for budget reallocation to ensure effective patient treatment.



#### Conclusion:

Pharmacoeconomic analyses are useful in evaluating biosimilars of two differing reference biologic drug products. Countries that have adopted systematic policies to assess the cost-effectiveness of biosimilars and to encourage the uptake of “substitutes” like biosimilars have demonstrated clear savings over those that have not. As biosimilars become increasingly prevalent, pharmacoeconomic studies will assist in establishing their cost-effectiveness in comparison to alternative therapeutic options. This information will contribute to a broader collection of evidence that informs treatment strategies of Biosimilars.

~ **Siddhi Devkate**  
L.Y.BPharm

## SCIENTIFIC ARTICLES

# ARTIFICIAL INTELLIGENCE IN PHARMACEUTICAL INDUSTRY: REVOLUTIONIZING AND A PARADIGM SHIFT IN HEALTHCARE

The convergence of Artificial Intelligence (AI) and the pharmaceutical industry has marked a significant turning point in the sector of healthcare. Through advanced algorithms and machine learning AI has catalysed innovative transformations in drug discovery, clinical trials, manufacturing, and personalized medicine. AI also has a great impact on the pharmaceutical sector, challenges, ethical considerations, and effectiveness associated with this technological advancement.

### 1) Accelerating Drug Discovery:

One of the significant contributions of AI in the pharmaceutical industry is its role in drug discovery. Before the AI development, the traditional drug discovery methods were time-consuming and expensive but now because of AI this become easy for scientists to save time in drug discovery processes. AI algorithms particularly machine learning models, analyse vast datasets containing information about chemical compounds, biological interactions, and clinical trials. This efficiency not only accelerates the discovery of new drugs but also remarkably reduces research and development costs. AI helps to get more accessible healthcare solutions.

### 2) Enhancing Clinical Trials:

AI facilitates the process of clinical trials which is a crucial phase in drug development. Machine learning algorithms can analyze patient data, including all their medical records, genetic information, and lifestyle factors. This helps in identifying suitable candidates for clinical trials. AI also enhances the monitoring of trial participants, enabling real-time data analysis and early detection of adverse reactions. This targeted approach not only enhances the efficiency of clinical trials but also upholds ethical standards by safeguarding participant's well-being.

### 3) Revolutionizing Pharmaceutical:

#### a) Process Optimization

AI-driven systems monitor and optimize manufacturing processes in real-time. By analyzing data from sensors and equipment, AI can identify patterns and anomalies ensuring production is efficient and reducing wastage.

#### b) Predictive Maintenance

AI algorithms predict equipment failures before they occur by analyzing data from sensors. This helps in minimizing downtime and ensuring continuous manufacturing processes.



## SCIENTIFIC ARTICLES

# ARTIFICIAL INTELLIGENCE IN PHARMACEUTICAL INDUSTRY: REVOLUTIONIZING AND A PARADIGM SHIFT IN HEALTHCARE

### c) Quality Control

AI helps in inspecting products for defects, ensuring that only high-quality items reach the market. AI can identify even subtle defects that might be missed by human inspectors. By applying statistical techniques, AI helps maintain processes within predefined quality limits, ensuring products meet specific standards. Root cause analysis and Quality data analysis provide valuable insights for the quick identification of quality issues and process optimization leading to higher overall quality.

### 4) Personalized Medicine

One of the most promising aspects of AI in pharmaceuticals is its role in personalized medicine. This represents a paradigm shift in healthcare. AI algorithms can identify individual patient's genetic information, medical records, and lifestyle factors. It helps in precision treatment and drug development for the individual because it identifies specific genetic variations associated with diseases. This allows healthcare to provide the best medications that are not only effective but also have minimal and overall quality of life.

AI-powered monitoring systems continuously collect and analyze patient data. If any deviations from the expected outcomes occur, AI algorithms can recommend personalized interventions such as adjusting medication dosages or changing treatment plans. This dynamic monitoring ensures that treatments are constantly optimized, leading to better disease arrangement and improved patient satisfaction.

### 5) Challenges and Ethical consideration

Apart from the numerous advantages of AI in the pharmaceutical industry, there are challenges and ethical considerations that need to be paid careful attention to. Data privacy, security, algorithmic biases, and the responsible use of AI are most important. The balance between innovation and ethical standards is crucial to ensure that AI is used fairly and ethically.

Artificial intelligence is revolutionizing the pharmaceutical industry, offering innovative solutions to longstanding challenges in drug discovery, clinical trials, manufacturing, and personalized medicine. By fostering collaboration between researchers, pharmaceutical companies, and regulatory bodies, the full potential of AI can be controlled. The collaboration between AI and personalized medicine holds the promise of transforming healthcare from a one-size-fits-all approach to a highly individualized, patient-centric model shaping a healthier future for all.

~ Divya Suthar  
T. Y. BPharm

## SCIENTIFIC ARTICLES

# DIHYDROARTEMISININ: STEM CELL SAVIOUR FOR OSTEOPOROSIS!

## Introduction

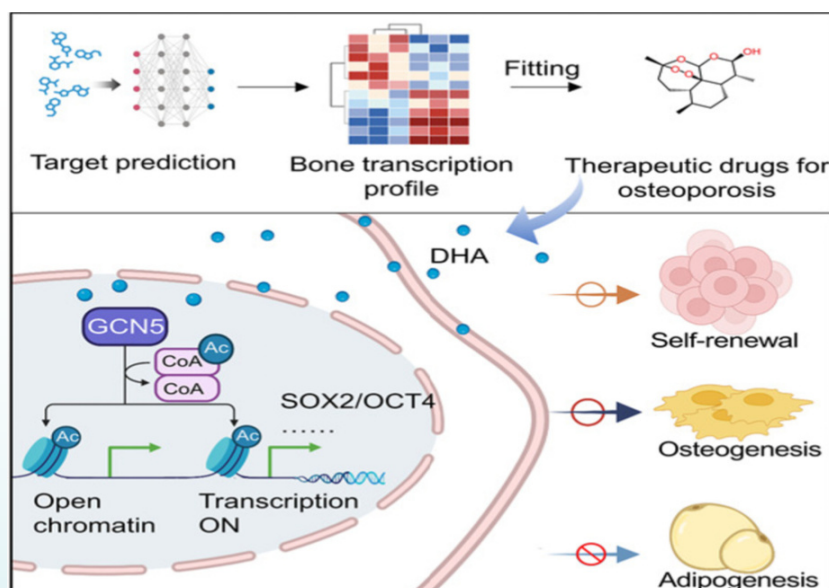
Osteoporosis, characterized by reduced bone density, arises when the production of osteoblasts lags behind that of osteoclasts. The imbalance leads to skeletal fragility and heightened fracture risk. Osteoblasts, the bone-forming cells derived from Bone Marrow-Derived Mesenchymal Stem Cells (BMMSCs), play a crucial role in maintaining skeletal health. However, in osteoporosis, BMMSCs tend to favour adipocyte production over osteoblasts, which is caused due to a phenomenon known as biased differentiation. text

## The Role Of Dihydroartemisinin (DHA)

DHA influences the epigenetic landscape by upregulating the GCN5-H3K9ac axis, where GCN5, a histone acetyltransferase, adds acetyl groups to histone H3 at lysine 9. This molecular cascade helps reinstate BMMSCs' stemness, redirecting their commitment towards bone formation. text

## Deep Learning Insights:

In this study, Deep Learning-Based Efficacy Prediction System (DLEPS) analysis proved instrumental. It delved into differentially expressed genes (DEGs) in neonatal mouse bone tissues compared to adults, pinpointing DHA's immense potential in restoring bone homeostasis.



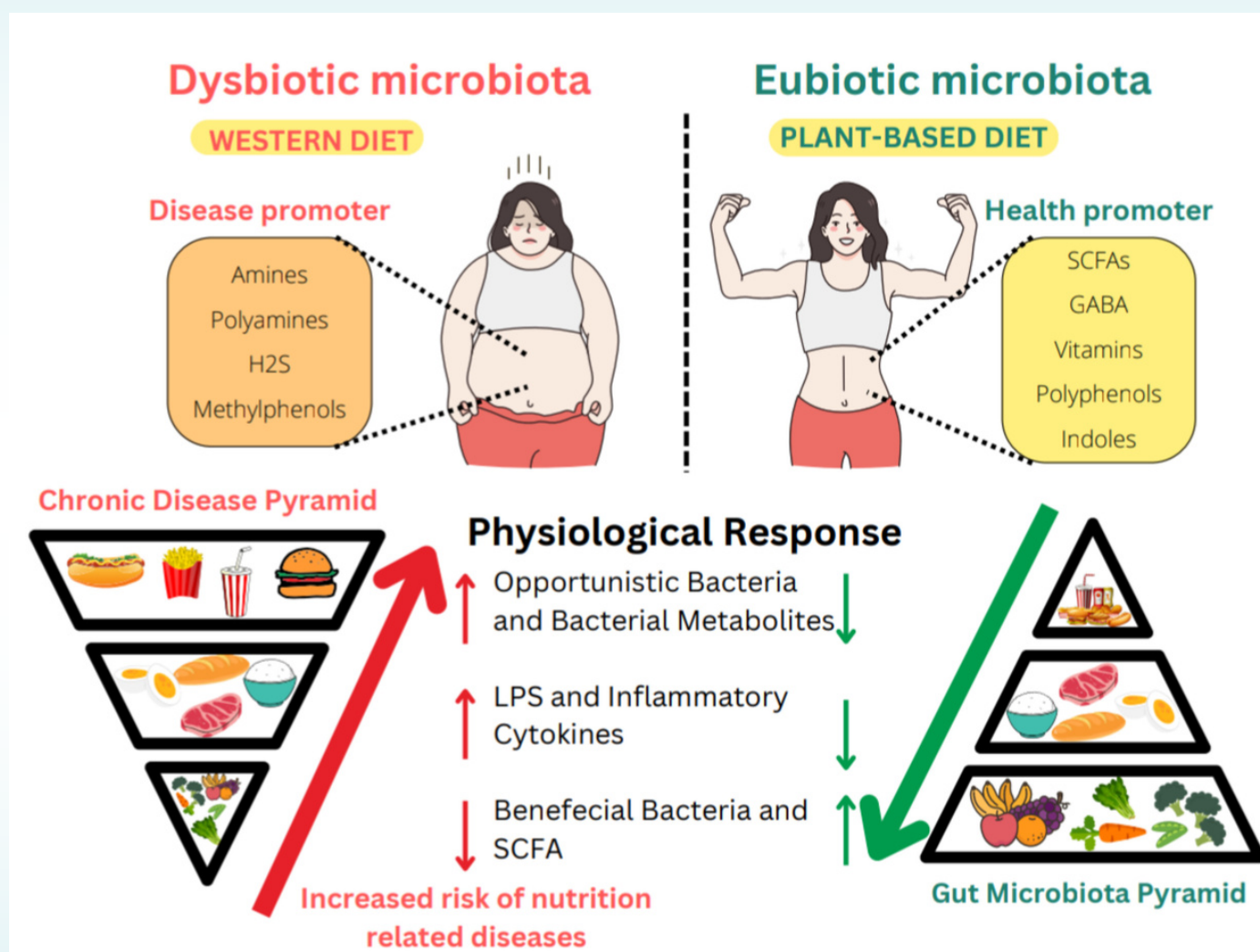
## Conclusion

In the fight against osteoporosis, DHA emerges as a promising therapeutic agent. Its ability to re-establish BMMSC stemness and redirect biased differentiation showcases its potential in fostering healthier bone homeostasis. As we unravel the intricate mechanisms of DHA, a new chapter in osteoporosis treatment unfolds, offering hope for those seeking effective and innovative solutions to this prevalent skeletal disorder.

~ **Pranamya Pednekar**  
S. Y. BPharm

## SCIENTIFIC ARTICLES

### DYSBIOTIC MICROBIOTA V/S EUBIOTIC MICROBIOTA



~ **Nikhil Mane**  
T.Y. BPharm



## NON-SCIENTIFIC ARTICLES

### CHILD LABOUR REPORT

#### Introduction

Child labour can be defined as work done by children or adolescents that deprives them from schooling, childhood, their dignity and potential. The labour that is harmful to physical and mental wellbeing that reinforces integration cycles of poverty. Not all work can be considered as child labour some works such as working part time during free time helping financially to the family or working in family business is something of positive to them, such activities helps them build social awareness, development and family well being. Child labour is characterised as employment performed by minors or young adults that robs them of their education, youth, dignity, and potential. the labour that perpetuates poverty cycles by being detrimental to one's bodily and emotional health. However, Not all jobs can be classified as child labour; some jobs, such working part-time during free times to support the family financially or running a family business, are beneficial to the children and help them develop their social awareness as well as their family's well-being. The ILO (International Labour Organisation) and UNICEF data on child labour globally are shown below.

#### Understanding The Problem

##### Origin

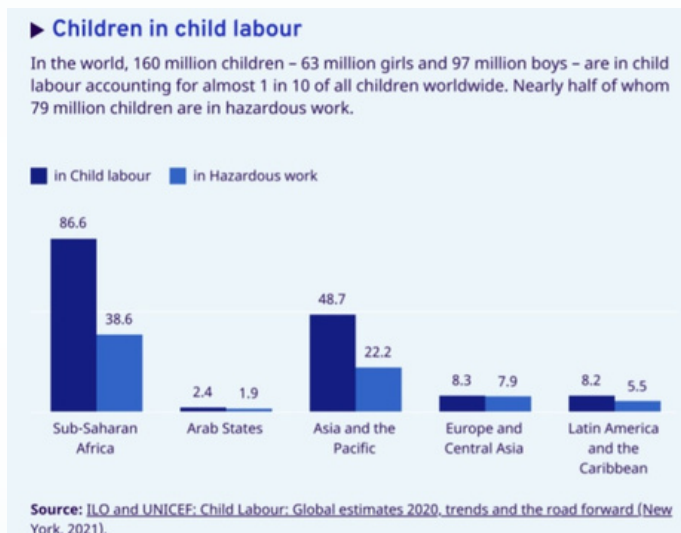
##### Pre-industrial era

In the pre-industrial era there was no such thing as childhood, from the age of 13 the children are considered as adults. They were involved in child rearing, hunting, farming as soon as they get capable. The work of children was important in pre-industrial societies, as children needed to provide their labour for their survival and that of their group. Pre-industrial societies were characterised by low productivity and short life expectancy; preventing children from participating in productive work would be more harmful to their welfare and that of their group in the long run.

Childhood wasn't present in the pre-industrial era; children are regarded as adults as of the age of 13. As soon as they were able, they began farming, hunting, and raising children. Children's labour was vital in pre-industrial societies since it was necessary for their own existence as well as the survival of their community. Pre-industrial societies were marked by poor productivity and short life expectancies; in the long run, it would be more detrimental to children's wellbeing and the welfare of their group to prohibit them from engaging in productive activity.

##### Industrial era

Child labour was exploited throughout the Industrial Revolution in 18th-century Britain due to the country's fast industrial growth and urbanisation. In industries and mines, kids as young as four years old were employed in hazardous environments. Some sold items or performed errands for others. Many families that were struggling financially turned to child labour as a source of revenue. A large percentage of the impoverished in 19th-century Great Britain did not have a breadwinner, forcing their children into the workforce. At the age of twelve, even well-known author Charles Dickens worked as a youngster. This sobering fact led to attempts at social reform, better working conditions, and the implementation of anti-child labour legislation.



## NON-SCIENTIFIC ARTICLES

### CHILD LABOUR REPORT

In India

India accounted for the largest number of minors working illegally in 2015, mostly in agriculture as a result of unemployment and familial poverty. Historical occurrences such as the British East India Company's dominance following the Battle of Plassey in 1757 are the origins of child labour in India. Children were exploited as a result of the need for cheap labour in wealthy areas, a practice that was later continued by global corporations looking for subpar employees. Indian children were particularly susceptible since they were unaware of their basic rights and were therefore exploited for financial gain in order to support their families.

#### Current Solution

1) The National Child Labor Project (NCLP) Scheme was launched in 9 districts of high child labor endemicity in the country in 1988. Under the scheme, funds are given to the District Collectors for running special schools for child labor. It is still in action. This initiative had improved the ratio of kids in school to drop out and helped them to get education.

2) Child Labour Prohibition and Regulation Act (CLPR, 1986): The CLPR Act prohibits employment of a Child in any employment including as a domestic help (except helping own family in non-hazardous occupations). It is a cognizable criminal offense to employ a Child for any work. Children under 14 years old cannot be employed in any capacity. To safeguard all children, certain occupations deemed hazardous are entirely off-limits. For teenagers (14-18 years), non-hazardous work is permitted, but under strict limitations: short daily hours, capped weekly schedules, and a complete ban on night work and overtime. Still this law is not that effective in informal sectors.

#### Consequence of the laws and initiatives

1) Awareness – Due to lack of awareness and education of parents has become a major reason for child labor. Because of illiterate parents, children are considered to be a source of quick income and avoid the importance of education. Therefore spreading awareness is necessary to ensure communities tap growth, education, and employ

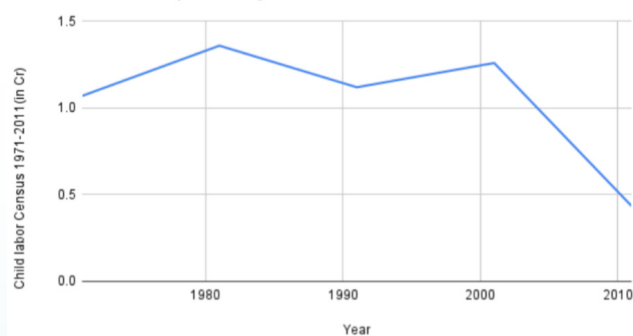
2) Education for Children- most of the Children are early school leavers and not learning at school. To support their Families in income they are forced to work long hours due to which attending school is limited. Now, ensuring the out-of-school children and those who are at a risk of dropping out are mapped and gain to mainstream education. these can be achieved by creating a child-friendly learning environment, an interactive teaching-learning process process at school, and special education support for the slow learner.

3) Review and revision of law for effective implementation- To ensure the legal framework remains effective and relevant, periodic views of child labor laws are needed to adapt to new challenges and changing social and economic landscapes

4) International collaboration- To combat child labor especially when cross-border challenges are prominent, in that cases, strengthening partnerships with international organizations and neighboring nations to exchange best practices, intelligence and resources will have a huge impact.

5) Advocacy for policy change- Advocacy efforts will bring attention to the issue and encourage businesses to adopt responsible practices by aligning with and supporting policies that prohibit child labor. This will create a protective environment that actively works against the exploitation of children in the workshop.

Child labor as reported by census 1971-2011 vs. Year



~ **Nikhil Mane**  
T.Y.BPharm

# THE PHARMA BINGO

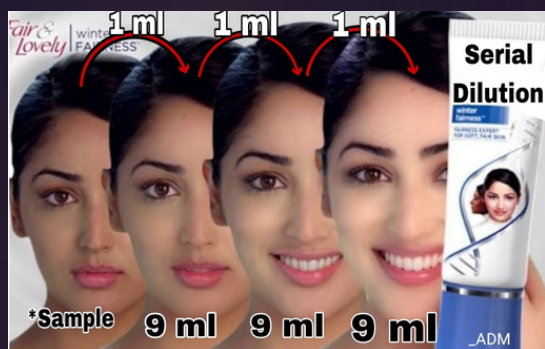
*Embark on a collegiate adventure with our college bingo, where every square is filled with the excitement of campus life!*

Fell asleep during an industrial pharmacy lecture	Spent more time in organising notes than actually studying them	Got mistaken for a medical student... again	Mastered the art of nodding attentively while daydreaming in class	Created a mnemonic that was more memorable than the actual material
Explained a medical report to your family members	Tried explaining your career choice to your relatives who think you're opening a medical store	Had nightmares about failing a pharmacology exam	Developed a caffeine addiction to survive late night study sessions	Got confused between antagonist and inverse agonist
Gave your spatula to someone in the lab & never got it back	Became a pro at deciphering doctors' handwriting... or so you think	<b>THE PHARMA BINGO</b>	Struggled to spell the name of a drug	Always begged for a lighter in the lab
Had a "eureka" moment in the shower about a particularly difficult concept	Used pharmacy jargon to impress people... and failed miserably	Contemplated dropping out and opening a pharmacy-themed bakery instead	Experienced a mini heart attack when you thought you lost your calculator during the exam	Thought about preparing cocaine the next time you go to the med chem lab
Broke an RBF while detaching it from the reflux assembly	Thought about drinking distilled water in the chemistry lab	Experienced withdrawal symptoms from running out of highlighters during study sessions	Spent an eternity weighing a power accurately to the last 3 decimal points	Forgot to add the indicator before titrating

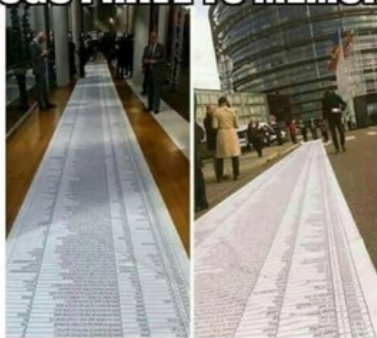




# MEME Page



JUST A LIST OF THE  
DRUGS I HAVE TO MEMORIZE



ALL MY FRIENDS  
ARE NAMED PAM  
LORAZE  
CLONAZE  
DIAZE **PAM**

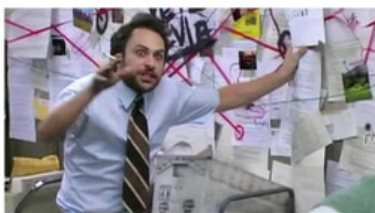
Scientists have discovered a bracelet that  
converts stress into electricity



Me before pharmacology exam:



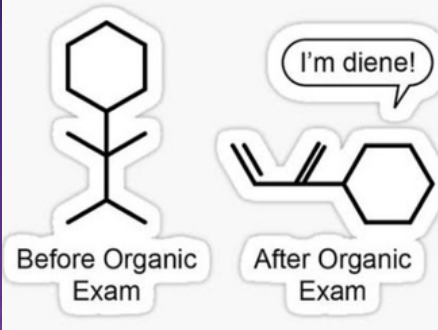
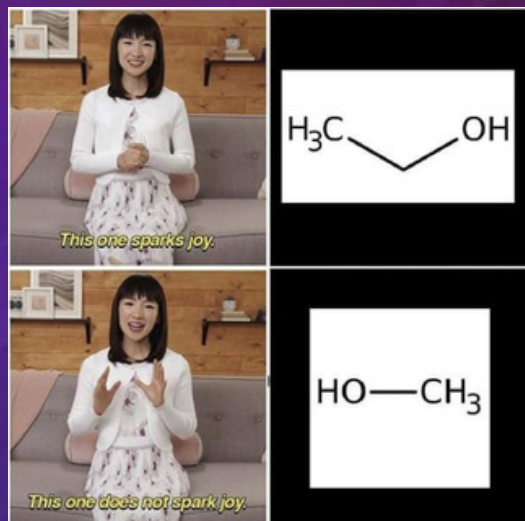
Explaining that I'm a pharmacist  
but I don't work in retail



Pharmacology



DURING PHARMACOLOGY  
EXAMS



# Phrase Sprint

1. I am?



\_\_\_\_\_  
35      20      10      08

2. I turn your heartburn's song into a gentle lullaby. I am?

\_\_\_\_\_  
07      19      22      16      31      02      36

3. I'm the cure displayed, no doctor's note to aid, picked from  
a shelf's array, bringing healing my own way. I am?

\_\_\_\_\_  
17      32      05      01              12      14      13

\_\_\_\_\_  
28      04      27      21      06      18      01

4. In places where rats do roam, I silently make my home. Bringing  
devastation as I spread, a silent terror, filled with dread. I am?

\_\_\_\_\_  
24      03      34      09      27      15

5. Deltoid, rhomboid, cardiac, brevis, sternocleidomastoid... we are?

\_\_\_\_\_  
29      11      33      30      29      35      37

Here's the phrase!

22 14 05

19 07 06 27 01 16 03

24 14 15 21 17 29 18 21 20

02 33

08 10 04 11 22

12 17 10 13 09 02 19



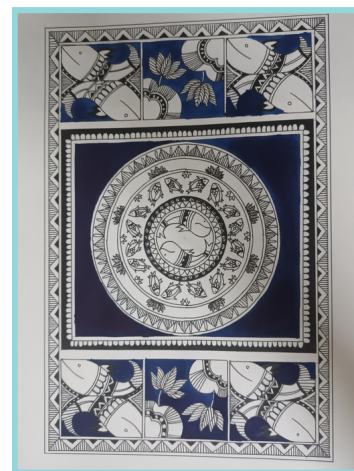
## ARTWORK



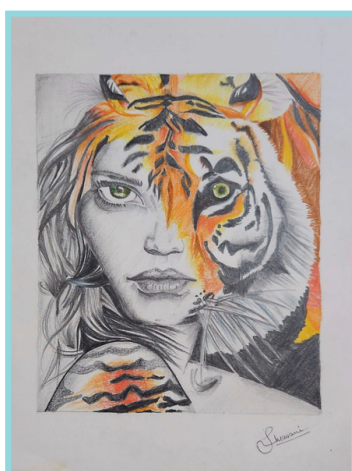
Devika Dhawale  
S.Y.B Pharm



Chanchal Pawar  
F.Y.B.pharm



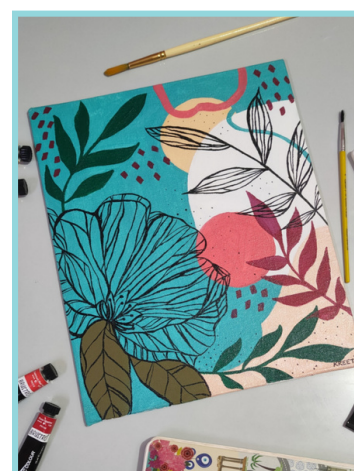
Riya Gurav  
T.Y.B.Pharm



Shrabani Sawant  
F.Y.B.Pharm



Devika Dhawale  
S.Y.B Pharm



Kreeti Maurya  
F.Y.B Pharm



Devika Dhawale  
S.Y.B.Pharm



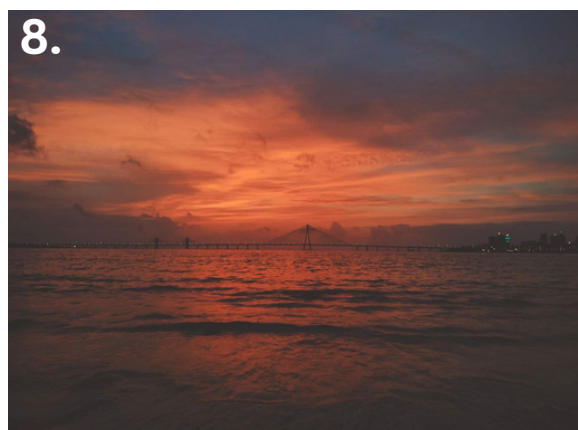
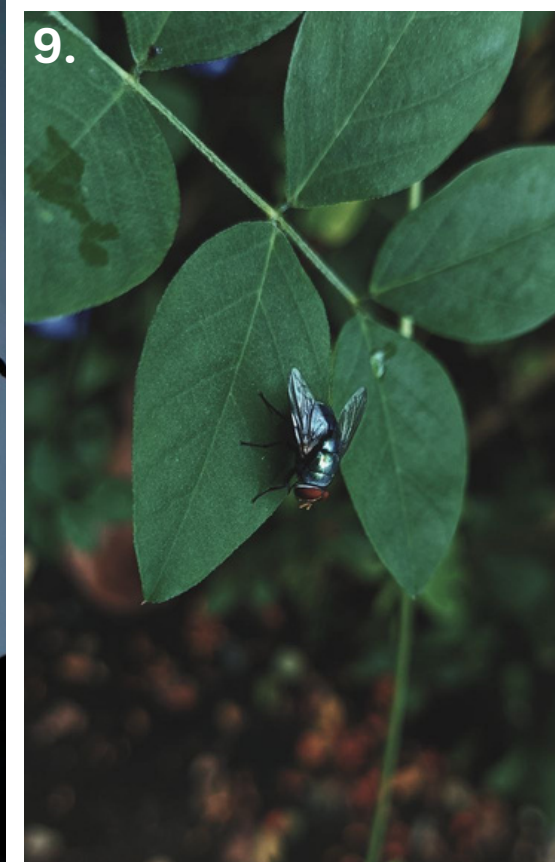
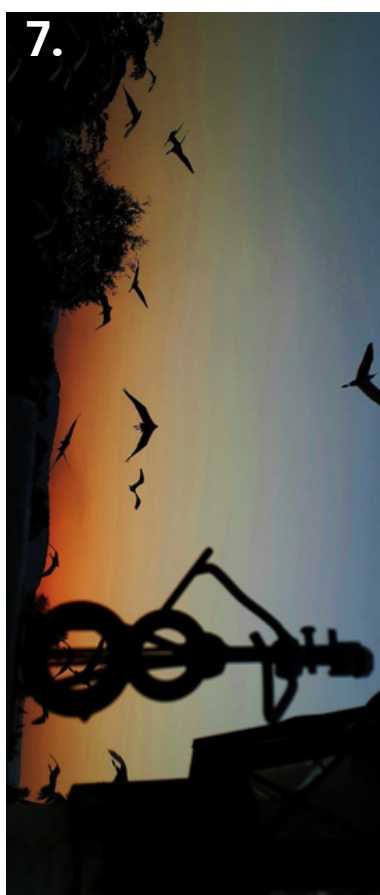
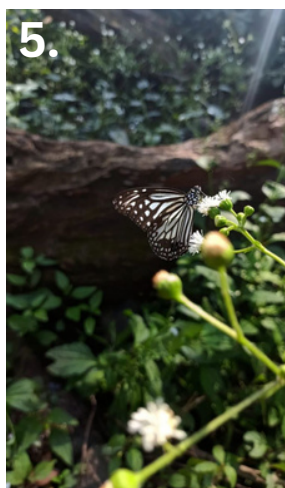
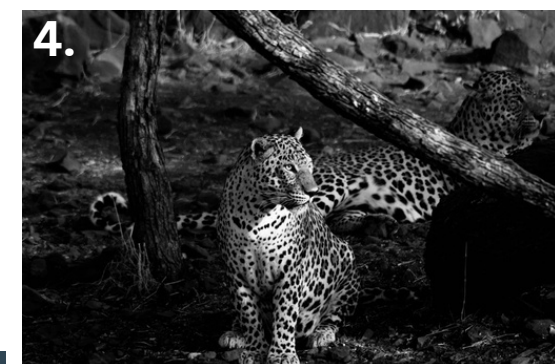
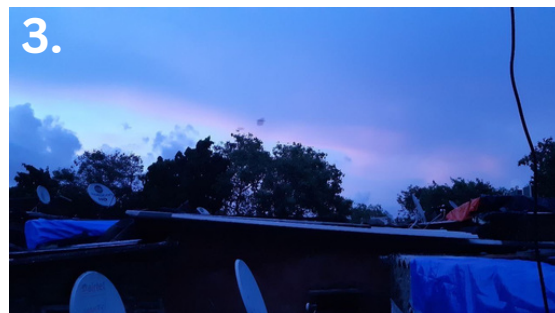
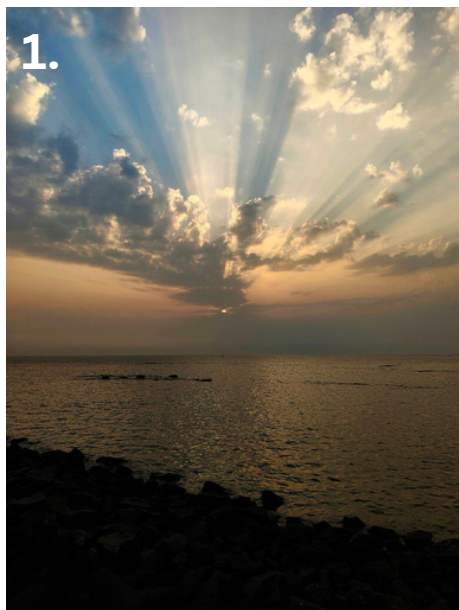
Harshith Shetty  
F.Y.B.Pharm



Akash Suresh  
L.Y.B.Pharm



## PHOTOGRAPHY TALENT WORKS OF BCP



1.Sayali Ghume (L. Y. B. Pharm)

2.Mrugank Kulkarni (S. Y. B. Pharm)

3Chanchal Pawar (F. Y. B. Pharm)

4.Snehadeep Vyawahare (L. Y. B.

Pharm)

5.Mugdha Bhosale (T. Y. B. Pharm)

6.Unnatee Kshirsagar (S. Y. B. Pharm)

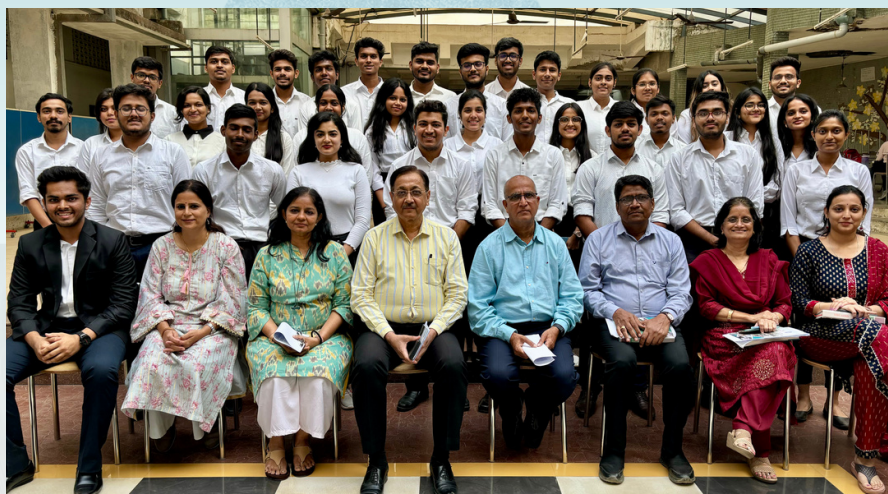
7.Mugdha Bhosale (T. Y. B. Pharm)

8.Anushka Desale (S. Y. B. Pharm)

9.Mugdha Bhosale(T. Y. B. Pharm)



## **BCP COMMITTEES AND STUDENT CHAPTERS**



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## **BCP COMMITTEES AND STUDENT CHAPTERS**

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IIC  
COMMITTEE**

**BCP  
AAPS  
STUDENT  
CHAPTER**





## **BCP COMMITTEES AND STUDENT CHAPTERS**



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### **BCP ISPOR STUDENT CHAPTER**



### **BCP TRAINING AND PLACEMENT CELL**



## **BCP COMMITTEES AND STUDENT CHAPTERS**

### **IPA PHARMA TIMES**



### **BCP MUSIC CLUB**

### **BCP SOCIAL MEDIA CELL**





## CLASS PHOTOGRAPHS



**F.Y.B.PHARM**

**S.Y.B.PHARM**



**T.Y.B.PHARM**

**L.Y.B.PHARM**





## CLASS PHOTOGRAPHS

**F.Y.M.PHARM**



**S.Y.M.PHARM**

**PHD**





## STAFF

### TEACHING STAFF



### NON TEACHING STAFF





## STAFF

### SECURITY STAFF

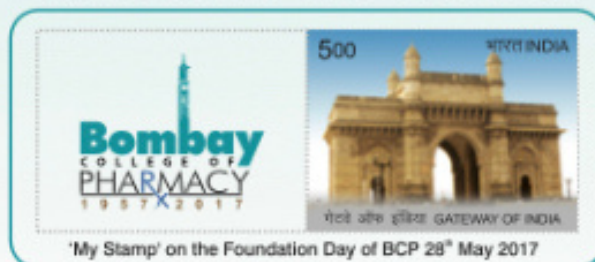


### HOUSE KEEPING STAFF





## Ventures of The IPA-MSB



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### AMRF

Amrut Mody Research Fund

### RSBCP

The Research Society of  
Bombay College of Pharmacy



Dr. M.K. Rangnekar Memorial Testing Laboratory

Manjusha Pimplodkar, Sr. Manager



Academy for Clinical Excellence

Sr. Manager

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Ashish Baktiwale

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Ram Banarase

M.G. Kekatpure  
Satish Rajkondawar

Prof. P. R. Vavia

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Sheetal Chandan (Hospital Pharmacy)

Dr. John Disouza (Education)  
Sandip Shah (Industrial Pharmacy)

Girish Hukare (Regulatory Affairs)



The Indian Pharmaceutical Association-Maharashtra State Branch (IPA-MSB)

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