E-BULLETIN

THE INCEPTION

Igniting Ideas and Inspiring Innovation

Jan-April 2025

GOKARAJU RANGARAJU COLLEGE OF PHARMACY

Bachupally, Hyderabad-500 090, Telangana, India.
Approved by PCI, New Delhi – Affiliated to Osmania University, Hyderabad.
Tel.: +91-7095271271, 7207344440, 7207714441 Mail: info@grcp.ac.in

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GRCP E-Bulletin
Editorial Board

Prof. M. Ganga Raju
Editor-in-Chief (E-Bulletin)
Principal
GRCP, Hyderabad

Dr.Venna R Surya Anusha
Editor (E-Bulletin)
Assistant Professor
GRCP, Hyderabad

Prof. A. Seetha Devi
Member (E-Bulletin)
Professor
GRCP, Hyderabad

Prof. Monika Nijhawan
Member (E-Bulletin)
Professor,
GRCP, Hyderabad

Designing Team

Mr. J. Rohith
Member (E-Bulletin)
B. Pharmacy 3rd Year
GRCP, Hyderabad

Mr.Charan Kumar Surabhi
Member (E-Bulletin)
B.Pharmacy 2nd Year
GRCP, Hyderabad

Ms. Kaunain Fathema
Member (E-Bulletin)
M. Pharmacy 2rd Year
GRCP, Hyderabad

DEAR READERS

With immense pride and excitement, we present to you the inaugural edition of the Gokaraju Rangaraju College of Pharmacy (GRCP) E-Bulletin. Aptly themed "The Inception: Igniting Ideas, Inspiring Impact," this edition captures the vibrant energy and pioneering spirit illuminating our campus over the past quarter.

From thought-provoking seminars to impactful research, spirited student initiatives to institutional milestones—these three months have been a testament to the collective dedication of our faculty, students, and collaborators. Each article, update, and visual shared here is a window into our journey of excellence, innovation, and community building.

We extend our heartfelt gratitude to the Management and Governing body for their unwavering support, visionary leadership, and dedication to academic excellence. Their commitment to innovation, infrastructure, and student growth continues to be the backbone of GRCP's success. We are truly privileged to be a part of an institution guided by such inspiring stewardship.

We hope this bulletin not only informs but inspires and as well serves as a chronicle of achievement and a compass for the aspirations ahead. Welcome to a tradition of reflection and recognition.

Warm regards,

Dr. M. Ganga Raju

Editor-in-Chief

GRCP E-Bulletin Team

ABOUT GRCP

Gokaraju Rangaraju College of Pharmacy was instituted by Gokaraju Rangaraju Educational Society (GRES) in 2003. GRCP creates an environment that opens up new worlds of opportunities. From the day of its inception, the college is producing highly qualified human resources who are academically superior and ethically strong. GRCP is just 4 km from JNTU, Kukatpally, and is far from hustle, bustle of the city life and yet close enough for easy approach. The college is approved by PCI, New Delhi - affiliated to the Osmania University, Hyderabad.

Accredited by NBA for its B. Pharm program, GRCP consistently ranks among the top pharmacy institutions in India. In the NIRF 2024 rankings by the Ministry of Education, Government of India, GRCP was placed in the 101–125 band, reflecting its growing academic and research impact. The college fosters innovation, industry collaboration, and holistic development, preparing students to meet global healthcare challenges with competence and integrity.

VISION & MISSION

"To be one among the best pharmacy colleges that promotes knowledge, skill development and responsive to the changes towards the healthcare needs of the society."

- Competency in knowledge and skills, (M1): To produce qualified and competent pharmacists through the education, practice and service.
- Professional and research activities, (M2): To promote problem-based learning and innovation-oriented research in the young pharmacists for the progress of the profession.
- Self-learning and leadership qualities, (M3): To provide professional environment that promotes the Pharmacist's self-learning, development and growth.
- Ethics and values, (M4): To allow the young pharmacists to imbibe professional and social values.

ALUMNI LECTURE SERIES ON EMERGING TRENDS AND OPPORTUNITIES FOR PHARMA START UP

GRCP hosted the Alumni Lecture Series on Emerging Trends and Opportunities for Pharma Startups on January 4, 2025. The keynote speaker, Mr. Manikanth Reddy Yarala, Chief Operating Officer, Energon Labs Private Limited, Hyderabad, provided valuable insights into the dynamic landscape of pharmaceutical entrepreneurship. He focused on emerging opportunities in dosage form development, contract research, and digital health solutions, regulatory challenges, funding and investment. He instilled entrepreneurial mindset in the students by sharing the essential skills and industry knowledge required to build a successful venture. The session offered students and faculty an in-depth understanding of the startup ecosystem in the pharmaceutical industry, inspiring young innovators to explore entrepreneurial avenues.

GREEN INITIATIVE TO IMPROVE ENVIRONMENTAL SUSTAINABILITY'

The GRCP Entrepreneurship Cell (E-Cell), in collaboration with the Institution's Innovation Council (IIC), successfully organized IDEATHON-2025 on January 24-25, 2025, in celebration of International Education Day. The event was organized under the coordination of Dr. Mounika and Mrs. K. Mamatha. This event aimed to inspire and nurture student startups by fostering an entrepreneurial and innovative mindset among budding pharmacists.

With the theme, "Green Initiative to Improve Environmental Sustainability," students showcased ground breaking ideas to address global climate challenges through sustainable solutions. The event saw active participation from both B.Pharm and M.Pharm students, who impressed the jury with their creativity, problem-solving abilities, and technical knowledge. Through this initiative, GRCP continues to encourage students to think beyond academics and transform ideas into impactful ventures.

GRCP LAUNCHES UPSKILLING & CERTIFICATION PROGRAM FOR REGISTERED PHARMACISTS

GRCP proudly inaugurated the Upskilling and Certification Program for registered pharmacists in collaboration with the Life Sciences Sector Skill Development Council (LSSSDC) under Pradhan Mantri Kaushal Vikas Yojana 4.0. The first batch underwent training in pharmacovigilance case processing (incidents /adverse event reporting using specialized software, including AI tools) from January 22–25, 2025.

LSSSDC plays a pivotal role in strengthening India's skilled workforce in pharmaceuticals, biotechnology, medical devices, and research sectors. The inaugural event was graced by esteemed dignitaries, including Sri B. Yogganandam, Registrar, Telangana Pharmacy Council; Sri P. Amarendra Babu, Cluster Head (South Zone), LSSSDC; Dr. G. Dharma Data, Director (FAC) Rtd, Drugs Control Administration, Government of Andhra Pradesh; Dr. M. Ganga Raju, Principal, GRCP; and Programme Coordinator & Trainer, Dr. A. Seetha Devi, LSSSDC.

Experts at the event emphasized the importance of continuous learning and industry-aligned training for pharmacists to stay competitive in the evolving pharmaceutical landscape. Sri B. Yogganandam, Registrar, Telangana Pharmacy Council, highlighted the initiative as a milestone in upskilling pharmacists to meet global competency standards.

Sri P. Amarendra Babu, Cluster Head (South Zone), LSSSDC, stressed the need for a sustainable ecosystem of skilled professionals, ensuring pharmacists excel in pharmacovigilance and patient safety. Dr. G. Dharma Data, Director (FAC) Rtd, Drugs Control Administration, Andhra Pradesh, underscored the critical role of pharmacists in drug safety and public health, while Dr. M. Ganga Raju, Principal, GRCP, reaffirmed GRCP's commitment to industry-oriented training, preparing pharmacists to meet future challenges in the pharmaceutical sector.

The completion of the first batch with successful certification marks a significant step towards empowering the pharmacists with cutting-edge knowledge and industry expertise.

The key objectives of the Program include skill Development & Industry Readiness to bridge the academia-industry gap, ensuring alignment with globally recognized job roles in the life sciences sector, certification & career Growth, industry-academia collaboration for workforce development.

5 Ranga Reddy INDIAN CHRONICLE FRIDAY 24 JANUARY 2025

Gokaraju Rangaraju College of Pharmacy Launches Free Upskilling Program for Pharmacists to Enhance Industry Standards

EMPOWERING STUDENTS FOR CAREER READINESS: THREE-DAY TRAINING ON MEDICAL CODING & BILLING BY TASK

Gokaraju Rangaraju College of Pharmacy (GRCP) successfully organized a three-day Training Program on Medical Coding & Billing from January 27–29, 2025, in collaboration with the Telangana Academy for Skill and Knowledge (TASK), Department of IT, E&C, Government of Telangana. The program, designed exclusively for B.Pharmacy students, was led by Mr. C. Nikhil Chandra, Trainer, TASK, under the coordination of Dr. Anumolu Durga Panikumar, TASK In-Charge. The training provided students with a strong foundation in medical coding and billing, a critical domain bridging healthcare and data management. This program highlighted how proficiency in medical coding can open vast career opportunities in healthcare IT, insurance, and hospital management. It also equipped students with industry-relevant skills that enhance their employability, enabling them to explore alternative career paths beyond traditional pharmaceutical roles.

INSPIRING INNOVATION: WORKSHOP ON ENTREPRENEURSHIP AND INNOVATION AS A CAREER OPPORTUNITY

THE IIC AT GRCP ORGANIZED A WORKSHOP ON "ENTREPRENEURSHIP AND INNOVATION AS A CAREER OPPORTUNITY" ON JANUARY 30, 2025, LED BY MR. SAILESH GANDURI, FOUNDER, M.D, AND CEO OF FAMNUTRA (BLISSBODY)

Mr. Sailesh Ganduri shared his entrepreneurial journey, highlighting the hurdles he overcame and the importance of perseverance in building a startup. His talk, titled "Igniting Ideas: Building the Future in Entrepreneurship and Innovation," provided students with valuable insights for transforming ideas into successful ventures.

Mr. Ganduri emphasized the key steps in startup development, including idea generation, research and analysis, prototyping, testing, refinement, and final production. He also shed light on the importance of government funding and support systems, sharing his experience of securing BIRAC government funding for his startup. The workshop motivated students to explore entrepreneurship as a career path, encouraging them to think beyond conventional job roles and embrace innovation-driven enterprises. The event, convened and coordinated by Dr. Monika Nijhawan, successfully instilled an entrepreneurial mindset among students, reinforcing the significance of resilience, strategic planning, and continuous learning in the startup ecosystem.

GRCP ALUMNI MEET 2025: A NOSTALGIC REUNION OF MEMORIES AND MENTORSHIP

The GRCP Alumni Meet 2025 was a heartwarming and memorable event, organized by the Alumni Association on February 1, 2025, under the coordination of Ms. B. Karuna Devi. With the theme "Let's go back in time, carve out memories, reunite, relive those stories," the gathering brought together alumni from various batches, rekindling their cherished college moments. The event was a grand success, filled with nostalgia, camaraderie, and an overwhelming sense of belonging to GRCP.

Each alumnus expressed their deep emotional connection with the institution, reminiscing about their student life while also offering valuable guidance to the budding GRCPians. Their enthusiasm and willingness to mentor the current students highlighted their continued commitment towards the growth of their alma mater.

A special highlight of the event was the inauguration of a book on GRCP alumni, a tribute to the journey and achievements of past students. The alumni meet served as a powerful reminder of the long lasting bonds formed at GRCP, reinforcing the spirit of unity and lifelong association with the institution.

As a token of appreciation, Mr. Manikanth Reddy Yarala, Chief Operating Officer, Energon Labs Private Limited, Hyderabad, was honored with the Best Alumni Award by Principal Dr. M. Ganga Raju for his unwavering support to GRCP and for providing placement opportunities to students.

GRCP FACULTY LECTURE SERIES-14: ADVANCING KNOWLEDGE IN PHARMACEUTICAL ANALYSIS

The GRCP Faculty Lecture Series-14, held on February 11, 2025, featured an insightful session by Dr. Ashok G, Associate Professor, Department of Pharmaceutical Analysis, on the topic "Strategies, Development, and Validation of Stability-Indicating Methods for Estimation of Few Anti-Viral and Anti-Cancer Drugs in their Pharmaceutical Dosage Forms Using Liquid Chromatography." This lecture provided an in-depth understanding of method development and validation in pharmaceutical analysis, emphasizing the critical role of stability-indicating methods in drug formulation and regulatory compliance. The Faculty Lecture Series is one of the GRCP's best academic practices, fostering a culture of knowledge-sharing and interdisciplinary learning among faculty members. By engaging in discussions beyond their specific areas of expertise, faculty members stay updated on emerging trends and research advancements.

GUEST LECTURE ON THE ROLE OF PHARMACOVIGILANCE: INDUSTRY INSIGHTS

GRCP, in association with CII-Telangana, organized a guest lecture on Pharmacovigilance on February 20, 2025, featuring Dr. Surya Kiran Kadali, Head, Global Pharmacovigilance, MSN Laboratories Pvt. Ltd. Delivering a talk on "The Role of Pharmacovigilance in High-Quality Drug Production – An Industry Perspective," he provided valuable insights into the real-world challenges of monitoring and reporting adverse drug reactions. He emphasized that while pharmacovigilance is crucial for ensuring drug safety, India still lags in active patient reporting compared to other countries.

Encouraging students to strengthen their pharmacy and pharmacological knowledge, he highlighted how expertise in these areas enhances employability in the pharmacovigilance industry. The session provided a bridge between academic learning and industry expectations, preparing students for rewarding careers in drug safety and regulatory affairs. The event was coordinated by Dr. N.V.L. Suvarchala Reddy, Professor, Department of Pharmacology and served as a crucial step in equipping future pharmacists with industry-ready skills and awareness.

NATIONAL SCIENCE DAY CELEBRATION: INSPIRING INNOVATION FOR VIKSIT BHARAT

GRCP celebrated National Science Day on 28th February 2025 to honor the discovery of the Raman Effect by Sir C.V. Raman, fostering scientific curiosity and innovation among students. The Institution's Innovation Council (IIC) in collaboration with the Entrepreneurship Cell (E-Cell) organized a Slogan Writing Competition under the theme "Empowering Indian Youth for Global Leadership in Science and Innovation for Viksit Bharat." Coordinated by Dr. Mounika N and Mrs. K. Mamatha, this competition aimed to ignite creativity and scientific enthusiasm, encouraging students to express their vision for India's leadership in science and technology. Through thought-provoking slogans, B. Pharm 1st year and M. Pharm students highlighted the role of innovation in shaping a self-reliant India. The event successfully instilled awareness, critical thinking, and a spirit of scientific inquiry, inspiring young minds to contribute to India's progress as a global leader in research and development.

PHARMA ANVESHAN 2025 IN GRCP

GRCP organized PHARMA ANVESHAN 2025, a quiz competition on **National Pharmacy Day** (March 6, 2025), commemorating the birth anniversary of Professor Mahadev Lal Shroff, a pioneer in pharmacy education in India. Held in coordination with the Institution's Innovation Council (IIC) and E-Cell, the event focused on the theme "Entrepreneurship and Startups in Pharma and Pharmacy Practice", highlighting the role of innovation, incubation centers, and pharmaceutical startups in shaping the industry's future. Students actively participated, showcasing their knowledge in pharmaceutical sciences, drug development, and regulatory advancements.

The event successfully fostered entrepreneurial thinking, encouraging young pharmacists to explore new opportunities in the pharmaceutical sector while strengthening their scientific acumen.

EMPOWERING WOMEN'S HEALTH: INTERNATIONAL WOMEN'S DAY 2025 CELEBRATIONS

GRCP's Women's Development Cell marked the International Women's Day 2025 celebrations on March 7, 2025, under the coordination of Dr. Gyati Shilakari, with an insightful health awareness program titled "Puberty to Menopause: Understanding Hormonal Changes in Women." The session, conducted by Dr. K. Krishna Veni (MBBS, DGO, DNB - OBG), focused on educating female students about the various hormonal changes women experience throughout different life stages and the importance of proactive health management.

The session was highly interactive, with students actively engaging in discussions and clarifying their doubts regarding menstrual health, reproductive well-being, and self-care practices.

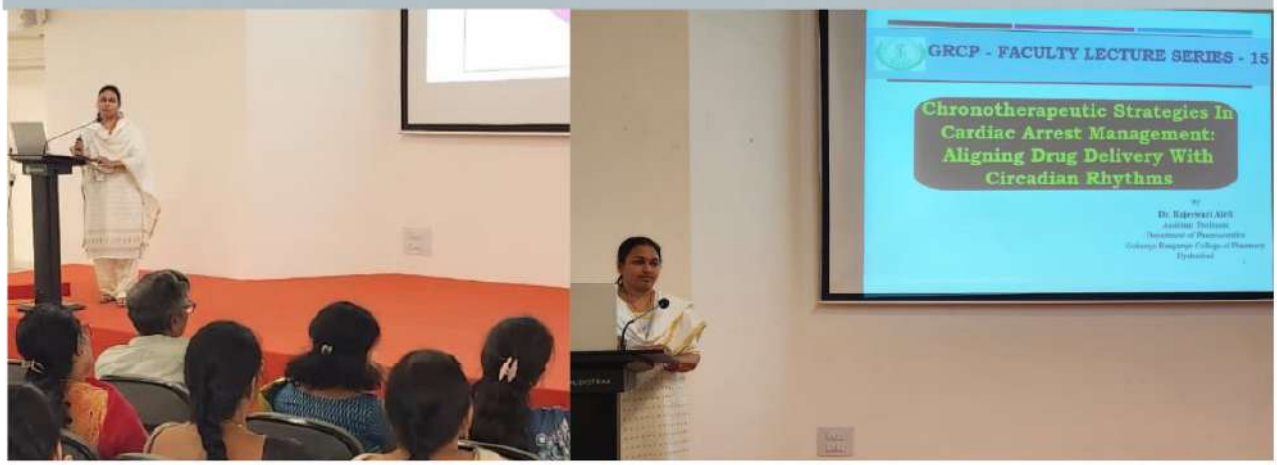
The speaker also highlighted the importance of early diagnosis and medical consultation for persistent health concerns and encouraged young women to prioritize self-care and body awareness. The event successfully fostered a supportive and informative environment, empowering female students with the knowledge and confidence to manage their health effectively while promoting awareness on women's wellness and hormonal health.

Dr. Krishna Veni provided an in-depth explanation of common gynecological issues such as irregular periods, PCOS, menopause-related concerns, and their preventive measures. She emphasized the need for a disciplined lifestyle, proper nutrition, regular exercise, and stress management to combat common gynecological disorders.

The speaker also highlighted the importance of early diagnosis and medical consultation for persistent health concerns and encouraged young women to prioritize self-care and body awareness

GRCP FACULTY LECTURE SERIES–15: EXPLORING CHRONOTHERAPEUTIC DRUG DELIVERY SYSTEMS

As a part of the GRCP Faculty Lecture Series, the 15th session held on March 3, 2025, featured an enlightening talk by Dr. Rajeswari Aleti, Assistant Professor, Department of Pharmaceutics. The lecture, titled "Chronotherapeutic Strategies in Cardiac Arrest Management: Aligning Drug Delivery with Circadian Rhythms," delved into the significance of synchronizing drug release profiles with the body's biological clock. Dr. Aleti elaborated on the formulation design considerations essential for achieving targeted therapeutic outcomes in cardiac arrest management through chronotherapy. The session provided faculty and students with valuable insights into this emerging approach that emphasizes the timing of drug administration to enhance efficacy and minimize side effects, reaffirming GRCP's commitment to advancing pharmaceutical education through innovative learning platforms.



CAREER INSIGHTS SEMINAR: GUIDING PATHS TO GPAT & PREMIER INSTITUTES

GRCP in collaboration with EsPharma Education, organized a career awareness seminar titled "Pharmacy Career Blueprint: Cracking GPAT & Unlocking Top Institutes" on 2nd April 2025. The session was specially curated for VI and VIII Semester B. Pharmacy students, aiming to offer strategic guidance for higher education and competitive exams. The seminar featured insightful talks by esteemed dignitaries including Mr. T.V.R. Upendra (Academic Consultant), Mr. Ch. Uma Shankar (Managing Director), and Dr. S. Jyothi Sri (Academic Director, EsPharma Education). The program was efficiently coordinated by Dr. N.V.L. Suvarchala Reddy, Professor, Department of Pharmacology, and proved instrumental in motivating students to plan their future with clarity and confidence.

LSSSDC SKILL DEVELOPMENT PROGRAM – SECOND BATCH SUCCESSFULLY CONDUCTED AT GRCP

Following the remarkable success of the first batch, Gokaraju Rangaraju College of Pharmacy (GRCP) successfully conducted the second batch of LSSSDC training from 26th to 30th March 2025. The inaugural ceremony was graced by esteemed dignitaries including Dr. Prabhakar Reddy K, Assistant Director, Drugs Control Administration, Telangana; Sri D. Hanumantha Rao, Former Director, Drugs Control Administration, Andhra Pradesh; and Sri P. Amarendra Babu, Cluster Head, South Zone, LSSSDC. The event was presided over by Dr. M. Ganga Raju, Principal, GRCP, and Dr. A. Seetha Devi, Professor and Coordinator & Trainer, LSSSDC, who hosted the program. During the ceremony, students from the first batch were felicitated with certificates, marking their successful completion of training. The event reaffirmed GRCP's commitment towards enhancing industry-aligned skill development through national-level collaborations.

EMPOWERING FUTURE PHARMACISTS WITH 21ST CENTURY SKILLS

GRCP TASK, organized a three-day training program on 21st Century Transferable Skills from 2nd to 4th April 2025, led by Mrs. Hima Bindu J, TASK Trainer. The session aimed at enhancing essential skills among B. Pharmacy students, focusing on communication, teamwork, adaptability, and problem-solving—key attributes required in today's dynamic professional environment. The program was made lively with interactive activities and fun-filled games that not only broke the ice but also encouraged active student participation, helping them overcome hesitation and build confidence in group settings.

EXPLORING ZEBRAFISH MODELS IN PHYTOMEDICINE: FACULTY LECTURE SERIES – 16

As a part of the Faculty Lecture Series – 16, **Dr. Namburu Sree Lakshmi**, Assistant Professor, Department of Pharmacology, GRCP, delivered an enlightening talk on "Unveiling Phytomedicinal Approaches for Integumentary Disorders: Insights from Zebrafish and Rodent Models" on 7th April 2025. The session captivated the audience with its innovative perspective on employing zebrafish as an evolving *in vivo* model for studying various integumentary (skin-related) conditions. Dr. Sree Lakshmi provided a step-by-step explanation of the zebrafish model, beginning with acclimatization of adult zebrafish, collection of fertilized embryos, and their maintenance under controlled laboratory conditions. She highlighted the model's genetic similarity to humans, transparent embryonic development, and rapid life cycle, making it a powerful alternative to conventional models. The talk also included a comparative analysis with rodent models and showcased how phytomedicinal compounds can be effectively screened.

HERBOPRENEUR 2025: NURTURING GREEN INNOVATIONS FOR A HEALTHIER TOMORROW

GRCP Institution's Innovation Council (IIC) successfully organized an Inter-institutional Herbal Innovation Competition – Herbopreneur 2025 on 15th & 16th April 2025, under the able coordination of Dr. Monika N. The event was themed "Future of Herbal Medicine Innovation & Entrepreneurship" and served as a vibrant platform for budding innovators to explore the entrepreneurial potential of herbal and nature-based solutions. A notable highlight was the enthusiastic participation of students from **Ganges Valley School**, Bachupally, Hyderabad, whose creativity stood shoulder to shoulder with college-level innovators.

The event showcased an impressive array of prototypes and innovative concepts, all rooted in natural ingredients and supported by both scientific validation and traditional wisdom. Students presented well-thought-out ideas that extended beyond the laboratory, reflecting strong business acumen and commercialization potential. The synergy between modern research and age-old herbal practices was evident in the projects, affirming the students' deep understanding of pharmacognosy, formulation design, and sustainable healthcare approaches.

Herbopreneur 2025 not only celebrated youthful innovation but also highlighted the commitment of GRCP in fostering a culture of ideation, innovation, and entrepreneurship, ensuring that tomorrow's herbal healers and green-tech entrepreneurs are mentored today.

Intellect & Innovation

Gokaraju Rangaraju College of Pharmacy continues to advance pharmaceutical research with an impressive 51 publications—including review and research articles, along with 4 book chapters and 2 published patent—between January and April 2025. A few of the top contributions from this prolific quarter are highlighted below.

Formulation and Evaluation of Chronotherapeutic Delivery of Sacubitril Valsartan for Management of Hypertension.

Rajeswari Aleti , Monika Nijhawan, Sailaja Gunnam. Indian Journal of Pharmaceutical Education and Research. 2025 Feb 13;59(2s):s473-81.

This study focuses on the development and evaluation of chronomodulated Compression Coated Tablets (CCT) for the bedtime administration of sacubitril-valsartan, aiming to prevent early morning cardiac events. The formulation includes a fast-disintegrating core coated with varying ratios of HPMC K100M and lactose to achieve a programmed lag time of 5 hours. This research findings suggest that compression-coated sacubitril-valsartan tablets can effectively align drug release with circadian rhythms, offering therapeutic advantage.

Synthesis and Characterization of MIP Ghost Approach for Selective Extraction of Empagliflozin and Quantification by Liquid Chromatography.

Anumolu Durga Pani, Ramatulasi J, Ashok G, Afreen SS, Mathew C, Shakar PV. Journal of Chromatographic Science. 2025 Feb;63(2):bmaf008.

The method was developed for analyzing empagliflozin in serum/plasma/urine using a molecularly imprinted ghost polymer–solid-phase extraction approach (MISPE) with liquid chromatographic methodology. Methacrylic acid was used as the monomer, 2,2 azobis isobutyronitrile as the initiator and ethylene glycol dimethacrylate as the cross-linker in the free radical polymerization procedure. Empagliflozin was loaded onto the polymer and eluted with 1 mL of a 9:1 MeOH:acetic acid solution.

Cucumis Melo's Bioactives for Treatment of Epilepsy: A Systematic Investigation of Network Pharmacology and Molecular Docking

N. V. L. Suvarchala Reddy , M. Ganga Raju , Keerthana Edunoori , M. Mamatha, M. Lakshmi Madhuri , Shabnam Kumari Thakur & Nisha Shri Chengamaraju. Palestinian Medical and Pharmaceutical Journal. 2025 Apr 13;9999(9999)

Cucumis melo is a member of the Cucurbitaceae family, which is used traditionally for variety of illnesses. The ultimate goal of this study was to examine the active constituents and mechanisms of CM against epilepsy using network pharmacology along with molecular docking. The chemicals in CM were determined by a review of the literature as well as the IMPPAT database and the compounds were analysed using the ADMET method and STRING database. Out of 145 active components in CM, only 11 compounds shown outstanding potential biological activity during ADMET screening.

Synthetic Strategies for the Development of Ibuprofen Derivatives: A Classified Study.

Kuchana Madhavi , B Karuna Devi. Current Topics in Medicinal Chemistry. 2025 Jan.

Ibuprofen, on prolonged use leads to GIT, hepatic, and renal toxicities. The present review highlights the different modifications done to the carboxylic group in Ibuprofen, by various researchers such as estersgramma, amides, hydroxamic acids, and N-substituted hydrazides, along with the integration of heterocyclic moieties like triazoles, tetrazoles, and oxadiazoles. Additionally, Ibuprofen has been hybridized with other drugs and complexed with metals to enhance therapeutic effects. These modifications have resulted in derivatives with antimicrobial, antifungal, anticancer, and other biological activities, aiming to reduce side effects while retaining or enhancing anti-inflammatory, analgesic, and antipyretic properties.

Review on novel pharmaceutical applications of hupu gum: A versatile natural polymer

Rajeswari Aleti, Monika Nijhawan, Pavan Kumar Thota, Bhavana Jidige In Annales Pharmaceutiques Françaises 2024 Sep 19. Elsevier Masson.

Hupu gum is a tree exudate from Cochlospermum religiosum (L.) Alston with unique physicochemical properties. The highlights of the review provide a snapshot of the key aspects on hupu gum, emphasizing its natural origin, geographical distribution, novel pharmaceutical applications, recent research findings and patents, biocompatibility and non-toxic nature.

A Comprehensive Review on Multi-Drug Cocrystals

Monika Nijhawan[a], Bhavana Jidige[a] , Pavan Kumar Thota[a] , Rajeswari Aleti[a] and Neelima Rambakka[a]*

Multi-drug cocrystals (MDCs) have gained increasing interest in recent times. MDCs offer a promising approach in pharmaceutical development, where two or more active pharmaceutical ingredients (APIs) are cocrystallized with a neutral coformer to create a new solid phase with unique physicochemical properties. This method provides a safe, cost-effective and highly rewarding pathway for the development of enhanced medications. The success of formulations such as Entresto® and Depakote® has sparked renewed interest in these multi-component systems. This article reviews recent reports and patents related to MDC, highlighting their progress and future prospects.

Book chapters

Lipid Nanoparticles Mediated mRNA delivery in Cancer Immunotherapy. In Advances in Immunology.

Gyati Shilakari Asthana, Saptashree Bhattacharjee, itendra Kumar, Soyal Sayyed, Amulya Chinchane, Atreyee Bhattacharyya, Roshani Jaiswal, Sagar Kulkarni, Shubham Gajdhane, Jitender Madan, Abhay Asthana Elsevier, March 2025. ISBN No. 0065-2776

Breast Cancer: Biomarker Landscape in Cancer Research

Ruchi Tiwari, Venkata Suresh Jilakara, T. Naga Aparna, Suvarchala Reddy, Namdhev Dhas, Gaurav Tiwari. Elsevier 22.03.2025 March 2025 ISBN: 9780443339028

Patents

Synthesis and Characterization of MIP template for spectrofluorometric Quantification of Irbesartan

Applicants: Dr Durga Panikumar Anumolu, Syed Sara Afreen, Madhuri G, Veera Shakar Pulusu

Patent Application Number: 202541010616

Formulation and Evaluation of Secnidazole Solid Lipid Nanoparticles for Treating Vaginal Infections

Applicants: Dr A. Seetha Devi, Mrs. M. Sri Rekha, Pallerla Priyanka

Patent Application Number: 202541028510 A

Review Corner

Kumbh Mela: A Scientific Perspective on Holistic Wellness

- Dr. Jagadeesh Induru[1]

[1]Associate Professor, Gokaraju Rangaraju College of Pharmacy, Bachupally, Hyderabad, Telangana, India-500090.

Abstract:

The Kumbh Mela, acknowledged by UNESCO as the world's largest peaceful gathering, is a unique blend of spirituality, science, and cultural unity. Held every four years in rotation across four Indian cities—Prayagraj, Haridwar, Ujjain, and Nashik—the event is guided by precise astronomical and astrological calculations, especially the 12-year cycle of Jupiter. Scientific studies suggest that the chosen locations and timing harness geomagnetic and biomagnetic forces, contributing to participants' well-being. The ritual bath, central to the Mela, aligns with the concept of Bhuta Shuddhi—cleansing of the five elements—which is fundamental in yogic traditions. Water, a major component of the human body, is believed to interact with flowing sacred rivers, potentially influencing physical and mental states. Beyond religious significance, Kumbh Mela offers a transformative experience rooted in inner balance and ancient knowledge. It stands as a global symbol of India's spiritual legacy and holistic approach to human development.

Introduction

Kumbh Mela is the largest peaceful union of pilgrims on earth at one place (as per UNESCO, the festival of the sacred Pitcher[1]). The Devotees take a dip with belief that they freed from sins and getting liberated from the cycle of birth and death. It is held in four different cities in India, (Allahabad, Haridwar, Ujjain and Nasik) every four years by rotation. It involves different social and cultural activities, and is attended by millions of people irrespective of caste, creed or gender. The event based on the science of astronomy, astrology and anatomy, and involves the ritualistic practices for spiritual progress, making it extremely unique in organising human endeavours for healthy balanced life[1].

Findings of Scientific studies[2,3]

There is scientific back up and foresight of ancestors with respect to schedule and locations of Kumbh for tapping the benefits of bio magnetism.

The festival's schedule

Research indicates that the timing of the Kumbh Mela is deeply rooted in celestial phenomena, particularly involving the planet Jupiter's 12-year orbit around the Sun playing a central role.

Electromagnetic forces

Studies on the feelings of peace and wellness during the Kumbh suggest that human bodies emit electromagnetic forces and respond to charged fields of environment that is called as bio-magnetism.

The Kumbh's locations

Kumbh Mela sites reveal profound understanding of geomagnetic forces by ancients in India. The Kumbh's locations are influenced by unique geomagnetic forces in the solar cycle acting at specific periods.

Hence extended stay at the Kumbh Mela and take daily dips in the holy waters embodies significant physiological changes could be linked to the interaction between the body's biomagnetic fields and Geomagnetic fields creates the charged positive environment at Kumbh making it a centre for study of ancient scientific knowledge and its impact on human well-being, but not just a religious event.

Influences of celestial bodies on human bodies[2,3]

The close look at celestial bodies influence during recent Maha Kumbh, it was held in a time when Jupiter aligns with the Sun and the Moon in specific zodiac signs. At Prayagraj, the Kumbh begins when Jupiter is in Aries and the Sun and Moon are in Capricorn during Amavasya (new moon). The most significant event, the Maha Kumbh, occurs every 144 years when Jupiter, the Sun, and the Moon align in a particularly auspicious configuration. The previous Maha Kumbh was in 1881, and recently it was held in 2025.

As per Sadhguru views[2], the planet is spinning and creating a centrifugal force. From 0 to 33 degrees latitude, this force is largely working in a vertical manner and particularly at 11 degrees the energies are shooting straight up. So, the ancients calculated and marked out points on the planet where there is a supportive influence on humans.

The Kumbh Mela is meant for Bhuta Shuddhi, the fundamental dimension of yoga, which means to cleanse the five elements in our anatomical system used in physiological processes. Everything, including human bodies, this planet, this solar system and this universe, is a play of the five elements: earth, water, fire, air and space. The trillions of forms of life in entire universe is just a blend of these five elements. In the yogic system, it is understood that if anyone gains some mastery over these five elements, the health, wellbeing, prosperity and access to the universe are taken care of.

The importance of water element in Maha Kumbh

The water is the prime component in human body. According to Mitchell[3] et al 1945, Newborns have 80% of water in their body. Whereas adult male has 60% of their weight and in females it ranges in 47–67% with an average of 56%. The amount of water in different parts of the body varies as given below:

Brain and kidneys: 80–85% water
Heart and lungs: 75–80% water
Muscles: 70–75% water
Liver and skin: 70–75% water
Blood: 50% water
Bones: 20–25% water
Teeth: 8–10% water

The water within the body responds to the water outside of it. Water is life-making material and has memory and intelligence. Wherever two water bodies meet with a certain force, it creates a churning of water. The dip at flowing waters at Kumbh, one can transform their physical body, psychological framework and energy framework.

Hence the people belongs to different cultures and languages go to this mela with their own way of dressing (ranging from completely covered to naked), music and dance. Many of these people want to be there for mukti or liberation. Nowhere else on the planet does an entire population long for liberation with such intensity. Hence this land, Bharat has always been known as spiritual capital of world. Here, the mukti has been the highest goal, and even God is considered just a stepping stone towards that liberation. Many could find enormous growth within them by this event. Above all, the way the people looked at this event, it reciprocated in the similar line to them.

Conclusion

The Kumbh Mela should not become just a ritual. The visit is not for telling stories of the different people seen there or saying about spreading of infections. This should be a transformative process in one's progress. A nation does not become great with just economic growth but the gaining of the innerbalance is important

in the making of the nation. This is something that India can offer to the world. No other culture has explored the physical and inward dimension of the human being with this foresight than Indian culture.

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Dr. Jagadeesh Induru,
Associate Professor,
Gokaraju Rangaraju College of Pharmacy

3D Printing For Personalized Medicine

- Venkata Siva Sai Karthik T[1]

[1]B.Pharmacy VIII semester student, Gokaraju Rangaraju College of Pharmacy, Bachupally, Hyderabad, Telangana-500090.

Abstract:

This article explains the development and potential of 3D printing in the pharmaceutical industry, focusing on how it has evolved, how it works, and its uses for personalized medicine. 3D printing began with key inventions that paved the way for different methods of creating objects layer by layer. This technology also allows doctors to design personalized treatment plans based on a patient's medical and genetic information, leading to more effective and tailored medications, which is especially helpful for children, where the right dose depends on their age and weight. With 3D printing, doses can be precisely adjusted, and the shape and size of medications can be customized to suit individual needs. The article also discusses several 3D printing techniques, such as inkjet printing, binder jetting, FDM (fused deposition modeling), selective laser sintering, and stereo lithography. The future of 3D printing in healthcare is very promising. It can offer faster, more cost- effective, and personalized solutions for creating medicines. As the technology improves, it will continue to change the way we create and deliver medications, making treatments more accurate.

Introduction

3D printing is a rapidly developing technology with significant potential in the pharmaceutical industry. It can transform how medicines are made, moving from traditional mass production to on-demand, personalized medicines tailored to each patient's specific needs. This could make treatments safer and more effective, especially for individuals like children whose medication doses depend on their age and weight. 3D printing also allows for flexibility in creating medicines with complex shapes and release patterns.

While this technology offers many benefits, it is still in its early stages when it comes to pharmaceutical use. There are challenges to overcome, such as technical limitations, quality control issues, and the need for clear regulatory guidelines. However, as research and technology improve, 3D printing has the potential to revolutionize the way medicines are produced, offering faster, more cost-effective, and highly customizable treatment options. Once these challenges are addressed, 3D printing could become a key part of healthcare, allowing for personalized medicine on a much larger scale.

History of 3D printing

The first research on 3D printing began in the late 1970s, with several patents related to computer-assisted manufacturing techniques using different platforms[1]. In the mid-1980s, Charles (Chuck) Hull, who is known as the founder of this technology, created and patented stereo lithography (SLA), a major 3D printing method. This process used resins that hardened when exposed to UV light to form the object. Hull then started 3D Systems, a company that sold these SLA printers[2]. In 1986, Carl Deckard developed Selective Laser Sintering, using a laser to fuse powder. In 1989, Scott and Lisa Crump patented Fused Deposition Modeling, which extruded heated plastic or metal through a nozzle. That same year, Emanuel Sachs and his team at MIT introduced "binder jetting," a method that used a binding solution on a powder bed.

Also in 1989, Hans Langer focused on direct metal laser sintering, using a laser to create 3D objects from computer models[3].

3D Dose personalization

3D printing has the potential to provide flexible dosing based on individual patient needs. One group that benefits greatly from dose flexibility is children, as their therapeutic doses depend on their age and body weight. The different dosage forms mentioned earlier can be effectively adjusted using 3D printers to provide the right dose for each patient. In ODF formulations, this can be easily achieved by adjusting the amount of liquid API applied to the film. Additionally, the shape and size of ODFs can be altered to tailor treatments to individual patients[4].

3D printing in clinical setting

Studies show that patients accept 3D printed medicines well, and this technology could be very useful in hospitals and pharmacies for making personalized treatments. In the future, patients could go through tests to create a profile with details like age, weight, health history, and genetic information. Based on this, doctors could create a treatment plan and prescription just for them. The right medicine could then be printed using 3D printers in the hospital, made to fit the patient's needs. With improvements in technology, this process could become faster and more effective, offering great benefits in healthcare[5].

3D printing technologies

Ink jet technology

In general, inkjet printing refers to systems that use devices to digitally control and place small liquid drops on a surface. In pharmaceuticals, the right mix of the drug and excipients (called ink) is deposited as tiny drops in layers on a suitable surface. The two main types of inkjet printing used are continuous inkjet printing (CIJ) and drop-on-demand (DoD) printing[6,7].

Binder jet technology

Binder jet printing, also known as the drop-on-powder method, is a type of inkjet printing technology. The printer's print head can be either thermal or piezoelectric and works with a powder bed, which is built up layer by layer. The print head jets a liquid, which contains the binder and possibly the drug, onto the loose powder bed, moving along the x-y axis. The liquid drops moisten the powder, causing it to harden and solidify. This process can solidify the powder either by creating binder bridges or by dissolving and re-crystallizing the particles. The fabrication platform moves down along the z-axis, and the powder delivery platform moves up. A roller then spreads a new layer of powder onto the top of the solidified layer. This process repeats, building the 3D object layer by layer. Once the object is finished, it is removed from the powder bed, and any remaining loose powder is cleared. Thermal sintering is often used to remove any leftover solvent. FDA-approved Spritam was developed using Zip Dose technology, which is based on binder jetting[8]. Another method using binder jetting is the Their-Form process, a novel technique that builds dosage forms layer by layer[9].

Fused deposition modeling

Fused Deposition Modeling (FDM), also called fused filament fabrication, is the most widely used 3D printing method. In this process, drug-loaded plastic filaments are fed into the printer. The filaments are heated to a specific temperature and melted, then pushed through a nozzle. The print head moves across the platform, and the melted filament is laid down to form the first layer of the object. The platform is lowered after each layer, making space for the next one. As the plastic cools, each layer sticks to the one below it. This process continues until the final 3D object is complete. Most printers allow you to adjust the temperature, which makes it possible to use different types of plastic and plastic mixes [10].

Selective laser sintering

Selective Laser Sintering (SLS) uses a laser to heat and melt powder particles, which then harden to form a 3D object. The

main parts of the SLS machine are the spreading platform, the powder bed, and the laser.

First, the machine spreads the powder evenly on the platform, and a roller tries to smooth it out. The laser moves in a planned pattern to melt the powder just enough to fuse it together.

The platform is lowered a little after each layer, and new powder is added on top to form the next layer. This process repeats until the full object is made. Once the object cools down, it is taken out from the powder, either by hand or using a sieve[11].

Stereo lithography

Stereo lithography uses ultraviolet (UV) light to harden liquid resin and create 3D objects. The printer can be set up in two ways: bottom-up, where the UV light is below the platform, or top-down, where the UV light is above the platform. The first layer is drawn by a laser and hardened with UV light, sticking to the platform. Then, the platform moves up or down to make space for the next layer. Liquid resin is spread over the hard layer and hardened again. This process repeats to build the 3D object. After finishing, the object is cleaned with alcohol to remove extra resin. Finally, it can be placed in a UV oven to become stronger[12].

Pressure assisted micro syringe

Pressure-assisted micro syringe uses a syringe to push out a semi-solid material in layers to build a 3D object. The material can be pushed out using different types of pistons, like mechanical, pneumatic, or solenoid. The mixture includes polymer, solvent, and other ingredients that are good for printing. After printing, drying is important because the solvent can make the object shrink or change shape. If the layers aren't strong enough, the object might collapse. The main advantage of this method is that it doesn't need high temperatures[13].

Challenges in adopting 3d printing in pharmaceutical field

Technology

The nozzle-based systems might suffer from clogging of the nozzle whereas thermal and laser-based systems might suffer from degradation of the API employed. A major challenge is the drug- excipient incompatibility which has to be addressed. Also, structural and surface imperfections may arise in the final product which has to be addressed by optimizing various manufacturing parameters.

Materials

Each type of 3D printer has its own limitations. Nozzle-based systems can get clogged, while thermal and laser systems might cause the medicine to break down. One big problem is when the drug doesn't mix well with the other ingredients, which needs to be fixed. Also, the final product might have some shape or surface issues that can be improved by adjusting the manufacturing process.

Safety

Safety considerations must also be addressed. There is a possibility of emission of toxic airborne matter resulting from the heating, extrusion or fusion of certain materials which can act as respiratory or skin irritants. Hence, adequate safety measures must be taken and standard operating guidelines must be followed to minimize the hazardous exposure [14].

Market adoption potential

3D printing technologies in medicine offer significant marketing potential by enabling personalized healthcare solutions. Fused Deposition Modeling (FDM) provides a cost-effective way for hospitals and clinics to produce durable prosthetics, surgical tools, and custom models, appealing to budget-conscious providers. Stereo lithography (SLA) is ideal for the dental and orthopedic markets, offering precise custom implants and models. Selective Laser Sintering (SLS) targets the demand for personalized prosthetics and implants with durable, high-quality products.

Binder Jetting offers quick, mass customization of medical devices like implants and surgical guides, making it attractive to healthcare providers and manufacturers. Inkjet printing enables pharmacies to offer personalized medications with precise control over doses and release profiles. Pressure-Assisted Micro syringe printing offers a niche market for semi-solid, customizable drug formulations. Laser Melting and Direct Metal Laser Sintering (DMLS) provide custom metal implants, especially in orthopedics and dentistry. These technologies allow healthcare companies to market faster, more cost-effective, and personalized medical solutions, addressing the growing demand for individualized treatments and improving patient outcomes.

Despite its potential, several challenges hinder the widespread adoption of 3D printing in personalized medicine. These include technical limitations related to printer resolution and material compatibility, as well as economic factors such as production costs and the need for specialized equipment. Addressing these challenges is crucial for the successful commercialization and integration of 3D-printed pharmaceuticals into the healthcare market[15].

Other applications of 3D printing

Customized Drug Dosage Forms

3D printing enables the creation of personalized drug delivery systems, allowing for precise control over dosage, drug combinations, and release profiles. This customization enhances therapeutic efficacy and patient compliance. For instance, the development of "polypills," which combine multiple medications into a single tablet tailored to an individual's treatment regimen[16].

Surgical Planning and Simulation

3D-printed anatomical models derived from patient imaging data assist surgeons in preoperative planning. These models provide a tangible reference for complex procedures, enhancing precision and reducing operative risks[17].

Development of Personalized Vaccines

3D printing technology has been explored for designing personalized vaccines. By creating 3D-printed structures that mimic pathogen surfaces, it is possible to enhance immune responses tailored to individual genetic profiles.

Conclusion

3D printing technology is growing quickly and could change how medicines are made, moving from mass production to custom-made medicines for each patient. This would help make treatments safer and more effective. It could also change the way pharmacies work and improve healthcare overall. Besides healthcare, 3D printing can be used in industries to create medicines with special shapes and release patterns. The FDA approval of Spritam is a big step forward in this field, and since then, a lot of research has been done. The main benefits of using 3D printing in pharmaceuticals are faster production, lower costs, and the ability to make personalized medicines. However, it's important to look at the strengths and weaknesses of different 3D printing methods to find the best one for hospitals.

Even though 3D printing has many advantages and has made progress, it's still in the early stages when it comes to making medicines. The main challenges are technical issues, quality control, and regulations. New rules are needed for using 3D printing in healthcare. Once these problems are solved, 3D printing can fully transform the pharmaceutical industry and make personalized medicine a reality, changing healthcare for the better.

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Venkata Siva Sai karthik T,
B.Pharmacy VIII semester student,
Gokaraju Rangaraju College of Pharmacy

STUDENT SPOTLIGHT

Celebrating the young changemakers of GRCP! This section features academic and extracurricular achievements

Eleven GRCP students participated in Two day International conference on "Global Challenges in Drug Development" in oral presentation category, hosted by Vishnu Institute of Pharmaceutical Sciences, Hyderabad on 28th and 29th March 2025.

Seven of GRCP B.Pharmacy students completed a course on "Computational Tools in Drug Design and Development" held at RBVRR Womens College of Pharmacy from 24th March to 29th March 2025.

Kaunain Fathema, a GRCP student from M. Pharmacy 2nd year of Pharmaceutics department, secured 2nd place in the Oral Presentation Competition at the "National Conference on Role of AI in Drug Discovery & Manufacturing", held at RBVRR Women's College of Pharmacy, Hyderabad on 22nd February, 2025. Her presentation, titled "Hydrogels in Cancer therapy: Innovative solutions for targeted treatment", was highly appreciated for its scientific relevance, clarity of content and impactful presentation skills.

Twelve enthusiastic students from GRCP showcased their research talent at the 9th CTPS Conference on "Next-Gen Therapeutics in Healthcare", held on April 4th, 2025, at BITS-Pilani, Hyderabad. Participating in both poster and oral presentations, the students explored diverse and impactful themes ranging from drug repurposing strategies and microbial engineering to the innovative development of self-assembling hydrogels for advanced drug delivery systems. Their active participation reflects the college's commitment to nurturing research aptitude and encouraging interdisciplinary scientific dialogue.

We are proud to share the remarkable achievements of our students at the International conference on "Revolutionizing Healthcare Through Innovation and Technology" organized by Marri Laxman Reddy Institute of Pharmacy, Hyderabad, in association with APTI, Telangana Branch on April 11th–12th, 2025. T. Venkata Shiva Sai Karthik of VIII Sem B. Pharmacy clinched the 1st Prize in Oral Presentation for his outstanding Practice School project titled "Evaluating the Mosquito Larvicidal Potential

of *Asparagus racemosus* – An *In Vitro* and *In Silico* Approach", standing out among 140 participants and earning a cash award of ₹2000. In the same event, B. Pawan Kiran, also of VIII Sem B. Pharmacy, secured the 3rd Prize in Poster Presentation for his insightful work on "Types of Nanosensors Used for Detection of Cancer Cells", receiving a cash prize of ₹1000. Their accomplishments highlight the research excellence and innovative spirit nurtured at GRCP.

GRCP students added another feather to the cap with their stellar performance at SAMYOGA PHARMA FEST – 2025, held on April 16–17th 2025, by the Centre for Pharmaceutical Sciences, UCESTH, JNTUH, Hyderabad. T. Venkata Shiva Sai Karthik, K. Samyuktha Reddy from VIII Sem, and R. Shiva Ram from VI Sem B. Pharmacy secured the 1st prize in Oral Presentation, while R. Binduja bagged the 2nd Prize in Oral Presentation, showcasing academic brilliance. Our students also shone in extracurricular events, B. Swathi claimed the 1st Prize in Singing, and the team comprising R. Sai Yavitha, T. Neha, T. Rohith, and R. Binduja won the 1st Prize in Quiz. Further adding to the excitement, T. Neha emerged victorious in Carroms, and T. Rohith, VI Sem B. Pharmacy claimed the 1st Prize in Chess.

Ch. Sai Preethika has won 2nd prize for oral presentation (pharmacology) on her practice school work entitled Blending biology and technology: A study on ajwain using *in vitro* and *in silico* approaches, and G. Manisha Reddy also won 2nd Prize for oral presentation (analysis) category on her work "Green Analytical Method of Lamivudine by UV Spectroscopy Using Hydrotropy" at the one day national conference "Advances in Drug Discovery, Development & Parenting: Challenges & Opportunities" held on 22nd April 2025, at MNR College of Pharmacy, Sangareddy.

R. Sai Yasvitha, VIII Sem B. Pharmacy GRCP student won **2nd prize** for her poster on Deep learning in nanomedicine for targeted drug delivery in the national conference on "Artificial Intelligence in Drug Delivery & Design: From Innovation to Implementation" held on 15th April 2025 by Amity Institute of Pharmacy, Amity University, Madhya Pradesh, Gwalior. In the same competition, the 3rd position was also bagged by GRCP VIII Sem B. Pharmacy student, Gogireddy Tejashree, for her poster presentation on Integration of artificial intelligence with 3D printing of customized drug forms.

PLACEMENTS

NURTURING CAREERS, CREATING FUTURES

The academic year 2024–2025 (Jan-April) has seen yet another successful chapter in our placement journey.

From the **B. Pharmacy** graduated batch (2020-2024), **15 students** secured placements in reputed organizations. Eight students were placed with Softify Technologies Pvt Ltd., and others with renowed companies such as Augustus Healthcare Solutions (1 Student), ChirokHealth India Pvt Ltd. (1 Student), Dr. Reddy's Laboratories (1 Student), Eugia Pharma Specialities (1 Student), MASUU Global Solutions (2 students), and ShakyaHR Solutions Pvt. Ltd. (1 Student).

At Gokaraju Rangaraju College of Pharmacy, our commitment to academic excellence is matched by our dedication to student career development.

CONGRATULATIONS

Twenty three (23) students from the **M. Pharmacy** program have been placed with industry leaders: 15 at Aurobindo Pharma, along with others at Tech Mahindra (2 students), Lauras Labs (2 students), Dr. Reddy's (2 students), Randstad India (1 student), and JSD Medical Services (1 student). These accomplishments are a testament to the professional readiness of our graduates and the strength of our industry collaborations.

We congratulate all our placed students and look forward to their future contributions to the pharmaceutical and healthcare sectors.

Topical Immunotherapy Shows Long-Term Protection Against Skin Cancer

A Mass General Brigham study shows a novel topical immunotherapy can prevent squamous cell carcinoma (SCC) with effects lasting up to five years. The treatment, combining calcipotriol (vitamin D analog) and 5-FU (chemotherapy), activates CD4+ T cells, eliminating up to 95% of precancerous skin lesions in trials. Lead investigator Dr. Shawn Demehri is now expanding research to immunocompromised patients and broader cancer prevention. Published in the Journal of Clinical Investigation, the study highlights immunotherapy's potential in preventing cancers like oral, breast, and anal.

CRISPR Therapy Shows Promise for Muscular Dystrophy Treatment

Researchers at the Experimental and Clinical Research Center (ECRC) in Berlin have developed a CRISPR-Cas9 gene-editing therapy to restore dysferlin, a key muscle repair protein. Led by Professor Simone Spuler and Dr. Helena Escobar, the study—published in Nature Communications—successfully corrected mutations in muscle stem cells from limb-girdle muscular dystrophy patients, restoring protein function and improving muscle regeneration in mouse models. With contributions from Professor Oliver Daumke and Dr. Ralf Kühn, the team is now seeking funding for first-in-human clinical trials.

Breast Cancer Drug Shows Promise for Blood Cancers

Researchers at Washington University School of Medicine discovered that PMD-026, a breast cancer drug, may treat blood cancers like MPNs and AML by inhibiting RSK1. Led by Dr. Stephen Oh and Tim Kong, the studies—published in Nature Communications and Blood Cancer Journal—show the drug reduces inflammation, halts disease progression, and reverses bone marrow fibrosis. Since PMD-026 is already in clinical trials for breast cancer, its approval for blood cancers may be expedited. In collaboration with Phoenix Molecular Designs, Oh's team plans trials for patients beyond standard therapies, potentially offering a breakthrough treatment for those ineligible for stem cell transplants.

Harnessing Generative AI to Treat Undruggable Diseases

Duke University researchers have developed PepPrCLIP, an AI-driven platform that designs peptides to target and degrade previously undruggable proteins. Inspired by OpenAI's CLIP model, it generates and screens peptides without requiring a protein's 3D structure. In tests, PepPrCLIP successfully bound and degraded beta-catenin (linked to cancer) and a highly disordered protein in synovial sarcoma. This approach could lead to new treatments for aggressive cancers and diseases caused by unstable proteins, including Alexander's disease. The team aims to refine the platform and collaborate with industry partners to develop peptide-based therapies.

Gene Therapy May Be "One Shot Stop" for Rare Bone Disease

Researchers at Sanford Burnham Prebys, led by Dr. José Luis Millán, have developed a potential one-time gene therapy for hypophosphatasia (HPP), a rare bone disease currently treated with frequent enzyme injections. Their study in the Journal of Bone and Mineral Research shows that AAV8-TNAP-D10, a viral vector delivering the TNAP gene, safely restores bone and teeth formation in preclinical models. In collaboration with Drs. Takashi Shimada and Koichi Miyake of Nippon Medical School, the team is now seeking industry partners to advance the therapy into clinical trials for lifelong HPP treatment.

FDA Approves Roche's Evrysdi Tablet as First and Only Tablet for Spinal Muscular Atrophy (SMA)

The FDA has approved Roche's Evrysdi® (risdiplam) tablet, the first and only oral treatment for spinal muscular atrophy (SMA). The 5 mg tablet, suitable for patients aged 2+ and over 20 kg, offers non-invasive disease modification with the same efficacy as the oral solution. Levi Garraway, M.D., Ph.D., Roche's CMO, highlighted its convenience and impact. Kenneth Hobby, Cure SMA President, emphasized its benefits for daily life. Roche collaborates with PTC Therapeutics and the SMA Foundation. Evrysdi, already in 100+ countries, has been tested in multiple global trials, including FIREFISH, SUNFISH, and RAINBOWFISH.

New Cancer Vaccine Method Boosts Potency and Scope

Researchers at Tufts University, led by Prof. Qiaobing Xu, have developed a cancer vaccine that enhances immune recognition of tumor antigens, creating lasting immunological memory. Unlike traditional vaccines targeting specific antigens, this method uses tumor lysates combined with AHPC-modified proteins to improve antigen presentation. Packaged in lipid nanoparticles, the vaccine efficiently delivers antigens to lymph nodes, triggering strong T-cell responses. Tested in animal models of melanoma, breast, lung, and ovarian cancer, it suppressed tumor growth and metastasis. This approach could complement existing cancer treatments, offering a broader, more adaptable therapeutic vaccine for solid tumors.

NHS Urged to Offer Single Pill to All Over-50s to Prevent Heart Attacks and Strokes

Researchers at Sanford Burnham Prebys, led by Dr. José Luis Millán, have developed a potential one-time gene therapy for hypophosphatasia (HPP), a rare bone disease currently treated with frequent enzyme injections. Their study in the Journal of Bone and Mineral Research shows that AAV8-TNAP-D10, a viral vector delivering the TNAP gene, safely restores bone and teeth formation in preclinical models. In collaboration with Drs. Takashi Shimada and Koichi Miyake of Nippon Medical School, the team is now seeking industry partners to advance the therapy into clinical trials for lifelong HPP treatment.

Reviving the Immune System: A New Hope Against Sepsis

Researchers at Radboud University Medical Center have discovered that interferon beta, a drug used for multiple sclerosis, can restore the function of paralyzed immune cells in sepsis. By studying healthy volunteers and simulating immune responses, scientists observed that monocytes—key infection-fighting cells—fail to mature properly during immune paralysis. Lab tests showed that interferon beta helps these monocytes regain function. This breakthrough offers a promising pathway to reduce sepsis-related deaths, especially in ICU patients. Further clinical trials are planned to validate its effectiveness in real-world settings.

European Commission Expands Approval for Pfizer's RSV Vaccine ABRYSVO®

The European Commission has approved Pfizer's ABRYSVO® for adults aged 18–59 at risk of RSV-related lower respiratory tract disease, expanding its previous indication for those 60+ and maternal use. Based on Phase 3 MONeT trial data, the bivalent vaccine targets RSV-A and RSV-B subgroups. ABRYSVO now holds the broadest RSV indication in the EU, aiming to reduce the burden of RSV, which causes approximately 158,000 adult hospitalizations annually across the region.

Potential Treatment For Parkinson's Using Investigational Cell Therapy Shows Early Promise

A phase 1 clinical trial led by Memorial Sloan Kettering has shown early success for a stem cell-based therapy in advanced Parkinson's disease. Researchers transplanted dopamine-producing neurons, derived from embryonic stem cells, into the brains of 12 patients. The cells integrated safely, with some patients showing symptom improvement. The therapy, called bemdaneprocel, led to no serious side effects and has been cleared by the FDA for a larger phase 3 trial starting in 2025. This marks a major step toward regenerative treatments for neurodegenerative diseases.

Study Finds Pinworm Medication Has Potential To Treat Aggressive Skin Cancer

Researchers at the University of Arizona Cancer Center found that pyrvinium pamoate, a 1955 FDA-approved pinworm medication, may stop and reverse growth in Merkel cell carcinoma (MCC), a rare and aggressive skin cancer. The drug inhibited cancer cell growth and reduced tumors in lab and mouse models by targeting the Wnt signaling pathway, which drives MCC progression. MCC is highly deadly with limited treatment options. While promising, further research is needed to develop pyrvinium pamoate into a clinically effective therapy for MCC.

Highlights

- Major breakthrough for 'smart cell' design
- AI-designed proteins neutralize snake toxins
- Three drug cocktail shows potential to boost CAR-T cancer therapy
- New study paves way for immunotherapies tailored for childhood cancers
- Microbial therapy offers new hope for vitiligo patients
- AI tool helps find life-saving medicine for rare disease
- PanK4 identified as a regulator of glucose and lipid metabolism
- New treatment offers quick cure for common cause of high blood pressure
- Antidepressants linked to faster cognitive decline in dementia
- Common malaria drug repurposed to fight cancer
- Preclinical study: after heart attack, a boost in anti-inflammatory cells promoted healing
- Scientists identify potential new genetic target for sickle cell disease treatment

Voices of GRCP

The four years I've spent pursuing my B. Pharmacy degree in this college have been far more than academic milestones—they've been a journey of personal growth, discovery, and meaningful connections.

From the first day of orientation to the final project submission, each challenge and achievement in the campus has played a part in shaping who I am today. I've been fortunate to learn from inspiring mentors, collaborate with talented peers, and be part of a community that nurtured curiosity and resilience.

I'm truly grateful for this chapter and excited for the opportunities that lie ahead.

-Kasha Vaishnavi
170221881073, B. Pharmacy VIII Semester (2021-2025)

Gokaraju Rangaraju College of Pharmacy has given me a great blend of academic excellence and personal growth. The faculty is supportive, labs are well-equipped, and the campus environment is vibrant and student-friendly. Proud to be part of such a professional and inspiring institution.

-Kypa Samyuktha Reddy,
170221881055, B. Pharmacy VIII semester (2021-2025)

This college has been a place of growth, learning, and lasting memories. The dedicated faculty, excellent facilities, and strong academic environment helped shape my career, while the active campus life enriched my personality and gifted me lifelong friendships.

~ Routhu Srineha,
170221881064, B. Pharmacy VIII semester (2021-2025)

Innovation starts when we dare to question. At GRCP, we encourage questioning — and that's where true learning begins.

-Venna R Surya Anusha
Assistant Professor, Pharmaceutics, GRCP