

NEWS LETTER

JANUARY- MARCH 2023



CMR COLLEGE OF PHARMACY

Kandlakoya (V), Medchal Road, Hyderabad - 501401

CHIEF EDITOR

Dr. T. Rama Rao

ASSOCIATE EDITOR

Dr. G. S. Sharma

EDITORIAL TEAM

**Dr. J. Lavanya
Mrs. CM. Shalina**

VISION

- To be the most preferred institution for education in pharmacy in this state.

MISSION

- To foster professional graduates with consistent quality education, training and research to serve the needs of industry, environment and society.
- To inculcate leadership qualities, team work and professional ethics.
- To make the students globally competitive.

CONTENTS IN THE ISSUE

1. International Updates
2. Faculty Corner
3. Student Corner
4. Academic/Co-Curricular Activities

LATEST INTERNATIONAL UPDATES

Global – Pharma 4.0 and Resilience Trends

A comprehensive report released early in the year highlighted 2023 as the era of “Pharma 4.0,” stressing the integration of digital manufacturing, sustainability, and resilience. It emphasized AI, advanced analytics, and collaborative R&D as pivotal trends driving industry evolution in a post-pandemic landscape.

Global – Global R&D Reaches \$138 Billion

By January 2023, global pharmaceutical R&D investments had reached \$138 billion, reflecting a 43% rise since 2017. Over 21,300 active pipeline programs were underway, with oncology constituting 38% of efforts—underscoring sustained commitment to innovation.

National Medical Devices Policy & Digital Health Push

Grant Thornton reported major progress in India’s health-tech ecosystem with the launch of the National Medical Devices Policy 2023, aimed at regulatory streamlining, investment-friendly reforms, and infrastructure upgrades [nsf.org+2grantthornton.in+2jsalaw.com+2](https://www.nsf.org+2grantthornton.in+2jsalaw.com+2). Concurrently, India advanced its digital health agenda through the Ayushman Bharat Digital Mission, which aims to create interoperable electronic health records nationwide.

Global – U.S. Call to Cap Insulin Prices

March brought renewed pressure in the U.S. for insulin price reform, with President Biden urging manufacturers to cap monthly costs—following Eli Lilly’s decision to temporarily limit insulin prices—prompting a broader policy debate on drug affordability.

Organ Donation Policy & Medical Device Amendments

India took big strides in healthcare governance by drafting a national “One Nation, One Policy” framework for organ transplantation. Additional amendments were proposed for the Medical Devices Rules, alongside rules governing clinical trials and surrogacy.

To address the growing diabetes burden in low-resource settings, the World Health Organization (WHO), in collaboration with global health partners and biosimilar manufacturers, launched a multi-country program to improve insulin access. The initiative focuses on scaling up local production of low-cost biosimilar insulin in regions like Africa and Southeast Asia. With technology transfer, regulatory support, and funding from global agencies, the goal is to reduce insulin costs by 70–80% and close the treatment gap for millions of patients who currently lack access to essential diabetes care.

MHRA Finalizes Batch Testing Protocols

In January 2023, the UK’s Medicines and Healthcare products Regulatory Agency (MHRA) issued definitive guidance on batch testing for imported medicines, opting to maintain a graded system. Products from approved countries will continue to bypass mandatory testing, while others remain subject to scrutiny [economictimes.indiatimes.com+9nsf.org+9jsalaw.com+9](https://www.economictimes.indiatimes.com+9nsf.org+9jsalaw.com+9). This regulatory approach aims to uphold safety while mitigating redundant testing procedures.

ICH Q13 Guidance Released

The International Council for Harmonisation (ICH) advanced global pharmaceutical manufacturing by formally publishing Q13 guidance on continuous manufacturing of drug substances and products. This finalized framework promotes process innovation and quality control in manufacturing pipelines.

Assisted Reproductive and Clinical Trials Rules Updated

India’s Ministry of Health and Family Welfare introduced key amendments to the Assisted Reproductive Technology (ART) and Surrogacy Regulations in February and March 2023. These updated rules enforce prior registration, consent for gamete use, and stricter donor protocols. Parallel amendments to the New Drugs and Clinical Trials Rules (NDCT) recognized advanced non-clinical models like organ-on-chip systems, signaling India’s regulatory modernization.



FACULTY CORNER

SMART IMPLANTS AND BIODEGRADABLE DRUG DELIVERY SYSTEMS

In 2023, smart and biodegradable implants emerged as a breakthrough in targeted and controlled drug delivery. These next-gen systems combine materials science, bioelectronics, and nanotechnology to release drugs precisely where and when needed—without systemic exposure.

Biodegradable implants are especially useful in cancer therapy, eye diseases, pain management, and chronic inflammatory conditions. For example, bioresorbable wafers loaded with chemotherapy agents can be implanted near tumors post-surgery, slowly dissolving while delivering localized treatment. No need for removal surgeries.

Smart implants go further: they include microchips or biosensors that can detect biomarkers and release medication on-demand. For instance, glucose-sensitive insulin implants or temperature-activated anti-inflammatory devices. Some even sync with smartphones for real-time monitoring and remote control.

Companies like Intarcia, Medtronic, and research hubs like MIT and Stanford are pushing boundaries. Smart stents that release anti-clotting agents or biodegradable cardiac patches are already in clinical evaluation. Challenges include biocompatibility, precision engineering, and regulatory validation. However, the convergence of drug delivery with smart tech promises a future where medicine is not just taken it responds dynamically to the body.

Submitted by: **P.Narendra, Assistant Professor**

AI-DESIGNED DRUGS: ACCELERATING DISCOVERY THROUGH ALGORITHMS

Artificial Intelligence (AI) is fundamentally transforming the landscape of drug discovery. By 2023, AI models had progressed beyond basic data screening and began designing entirely new drug molecules from scratch. Advanced platforms such as AlphaFold, Insilico Medicine, and Exscientia are now capable of generating novel molecular structures, optimizing pharmacokinetic properties, and predicting toxicity profiles before any laboratory synthesis occurs. AlphaFold, developed by DeepMind, has revolutionized structural biology by accurately predicting 3D protein structures from amino acid sequences, significantly accelerating target identification and drug-binding simulations. Notably, Insilico Medicine leveraged AI to develop a novel fibrosis drug that reached human clinical trials in under 18 months—a timeline that traditionally spans several years. AI is also playing a crucial role in drug repurposing, particularly during public health emergencies and for rare diseases, by rapidly analyzing vast biomedical databases and genetic data to identify potential new uses for existing drugs. Today, pharmaceutical companies are integrating AI across all phases of drug development, including lead discovery, preclinical testing, clinical trial design, and post-marketing pharmacovigilance. This integration helps reduce costs, enhance success rates, and speed up decision-making processes. With cloud computing and federated learning addressing concerns around data privacy and collaboration, the adoption of AI in pharma is accelerating. Regulatory bodies such as the FDA are also evolving, with initiatives like the Digital Health Center of Excellence supporting AI-based innovations while ensuring compliance and safety. The future of pharmaceutical development lies in AI-human hybrid models, enabling more personalized, predictive, and efficient approaches to drug discovery and development.

Submitted by: **T.Srilakshmi, Assistant Professor**

STUDENTS CORNER

ANTIBODY-ENABLED SMALL-MOLECULE DRUG DISCOVERY

Antibody-enabled small-molecule drug discovery is a cutting-edge strategy that integrates the high specificity of antibodies with the versatility of small molecules to overcome limitations in traditional drug development. In this approach, antibodies are used not just as therapeutic agents but as molecular tools to identify and validate novel druggable sites on target proteins, including cryptic or transient pockets often missed by standard screening methods. By binding to specific conformations or protein-protein interaction interfaces, antibodies can stabilize or reveal structural features that guide the rational design of small molecules. This enables the development of therapeutics against previously "undruggable" targets such as intrinsically disordered proteins or complex signaling molecules. Additionally, antibodies can aid in structure-based drug design, facilitate fragment screening, and serve as affinity probes for proteomic profiling. The synergy of antibody technology with small-molecule discovery has also led to innovative therapeutic formats like antibody-drug conjugates (ADCs) and PROTACs, expanding the range and precision of treatment options. As advancements in antibody engineering, structural biology, and computational tools continue, antibody-enabled drug discovery holds great promise for accelerating the development of highly targeted, effective, and safe therapies across a broad spectrum of diseases.

Submitted by: **D. Snehitha, Pharm D 2nd Year**

NOVEL LIPID LOWERING AGENTS FOR HYPERLIPOPROTEINEMIA

Hyperlipoproteinemia is a medical condition which is characterised by increase in plasma lipids, cholesterol, triglycerides and phospholipid. Patients with Hyperlipoproteinemia are at high risk of developing cardiovascular diseases. Statins are the keystone treatment for hyperlipidaemia. However, the limitations of statins include drug resistance, lack of adherence and adverse effects which cause the poor outcomes of therapy. In order to ease out these effects new, novel lipid lowering agents are developed. Inclisiran, a small interfering RNA that targets proprotein convertase subtilisin / kexin type 9, shows effects to that of PCSK9 monoclonal antibodies. Evinacumab is a monoclonal antibody targeted against angiopoietin like protein 3 used as an adjunct with other lipid lowering therapies. It reduces plasma LDL-C levels in patients with refractory hypercholesterolemia. Bempedoic acid acts by inhibiting adenosine triphosphate -citrate lyase (ACL) and consequently cholesterol biosynthesis and low-density lipoproteins (LDL-C) plasma clearance. Apolipoprotein A1 has beneficial effects in protecting the high-density lipoproteins. The goal of these new drugs is to reduce the risk of cardiovascular diseases.

Submitted by: **R.Vasavi , B.Pharm 4th Year**

AI ENABLED RETINAL VASCULOMETRY AND CHEST RADIOGRAPHY IN PREDICTING CIRCULATORY MORTALITY

Predicting circulatory mortality [stroke, MI, Heart attack using artificial intelligence enabled retinal vasculometry. [DEEP LEARNING ALGORITHM]AI-enabled Vasculometry risk prediction is fully automated, low cost, non-invasive and can reach a high proportion of population. Researchers[LONDON KINGSTON UNIVERSITY] developed a fully automated tool named QUARTZ [Quantitative analysis of retinal vessel topology and size], to assess the potential of the retinal vasculature imaging-plus known risk factors-to predict cardiovascular risks and deaths. They used the tool to scan images from 88,052 UK Biobank participants' aged 40-69. The researchers specifically at the width, vessel area and tortuosity of arteries and veins in the retina to develop prediction models for stroke, heart attack and death from cardiovascular diseases. Everyone's health was tracked for an average of 7-9 years which resulted-In men, The width and tortuosity, width variation of veins and arteries in their retina's were found to be important predictors of death from circulatory disease. In women, Artery area and width, vein tortuosity, width variation contributed to risk prediction.AI system can finally analyze eye scans taken during a routine visit to an optician and made easier to identify patients at a high risk of a cardiovascular diseases By enabling-AI Doctors have recognized that changes to the tiny blood vessels in the retina are indicators of broader cardiovascular disease, including problems with the heart. AI system is an excellent tool for unravelling the complex patterns that exist in nature, and that is what we found here- the intricate pattern of changes in the retina linked to changes in the heart.

Submitted by: **P.Neerajakshi, Pharm D 3rd Year**

TRADITIONAL DAY & FRESHERS DAY 2023



CMR College of Pharmacy celebrates traditional day and fresher's day on 12th January, 2023. Faculty and students participated in the event with enthusiasm in traditional attire. Various traditional dances were also performed by faculty and students. Afternoon session was for fresher's day celebration for Pharm. D and B. Pharm 1st year students.

GUEST LECTURE



A guest lecture was delivered by Prof. M. L. Sai Kumar, Motivational speaker and HRD trainer, on 2nd Feb-23 on the topic "Personality Development"

PLACEMENT DRIVES

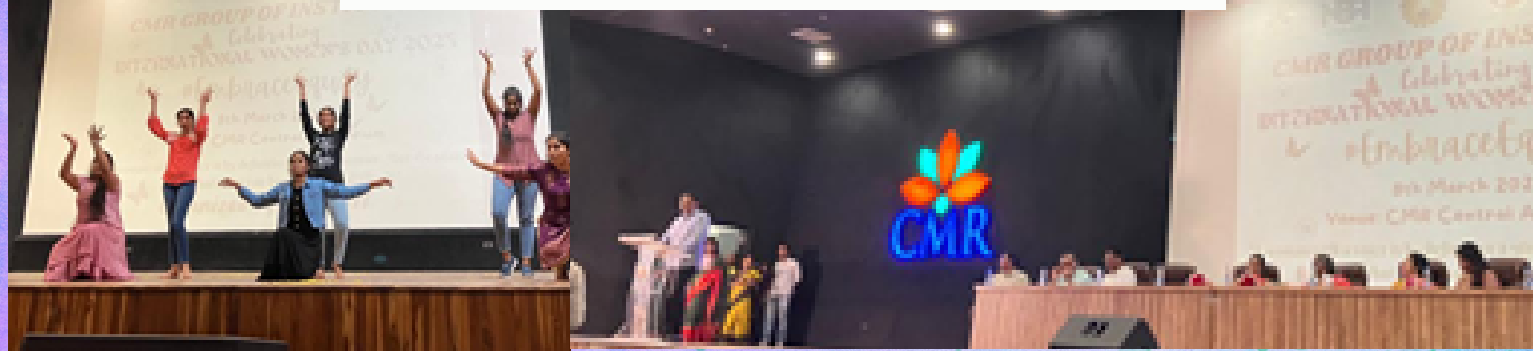


Mu sigma online Placement drive 2023



Medi Assist Placement drive for B.Pharm, M.Pharm and Pharm. D Students

International Womens Day



International Womens Day, 8th March-2023

CMR College of Pharmacy celebrated International Women's Day on 8th march 2023 in the campus. Chief Guests are Dr. Mangalam (ISRO scientist), Vasanthalakshmi mam, Madhavi Reddy, Lavanya Reddy film actor. The female faculty expressed their views about various aspects of life and challenges encountered by women and elaborated how to overcome them to lead a successful professional life.



CMR COLLEGE OF PHARMACY

(Approved by PCI, New Delhi and Affiliated to JNTUH, Hyderabad)

B.Pharm-NBA Accredited

Recognized under section 2(f)& 12(B) of the UGC Act, 1956

Sponsored by MGR Educational Society

Kandlakoya(V), Medchal Road, Hyderabad-501401

Website: www.cmrcp.ac.in E-mail: principal@cmrcp.ac.in