



NEWS LETTER



Pharmaessence

Vol. 8 Issue : 1 July 2023



His Excellency
**Rt. Rev. Dr. George
Madathikandathil**
Patron



**Rev. Dr. Msgr. Pius
Malekandathil**
Manager



ADMINISTRATOR'S MESSAGE Rev. Fr. Jose Pulloppillil

Nirmala College of Pharmacy is a leading light for excellence in education and is a reflection of the true dedication and professionalism of Catholic Diocese of Kothamangalam. The institution perpetuates the essence of pharmacy education with highly proficient and dedicated faculty members. The college provides superior infrastructure and highly modernized amenities with a vision to mould the institution into a well accomplished pharma research centre. The mission of the college is to build young minds having intellectual and professional competence coupled with value integration and social commitments. The endeavor of the institution is not only the academic excellence but also fostering moralistic values among the students. The academic year 2022-2023 recognized as a true blessing with exceptional success and achievements for the students in academic and extracurricular works.

It is a matter of delight and immense pride that Nirmala College of Pharmacy is unveiling the Newsletter 'Pharmaessence' to showcase the remarkable institutional activities by the esteemed faculty and students. I extend my heartfelt congratulations to everyone involved in this remarkable endeavor.

Inauguration of First year programs:

Courses for the academic year 2022-2023 commenced on December 12th 2022 with the first year Pharm D and first Semester B.Pharm. Inaugural address given by Mar George Madathikandathil, Bishop of Kothamangalam Diocese, Presidential address was delivered by Rev. Msgr. Dr. Pious



PRINCIPAL'S MESSAGE Prof. Dr. Badmanaban R

We have come a long way since 2004. It is gratifying to record the achievements, Nirmala College of Pharmacy has achieved in every step of it's way. Today, the challenges are formidable and the constraints unceasing, yet, I am confident that we will meet the challenges in the coming years and lead from the front in realizing the unlimited possibilities of the future and fulfill its responsibilities in pharmaceutical education, research and outreach. We have excellent faculty members and quality students from all parts of India. Our faculty colleagues recognize our core vision of empowering our future generation and practice the art of teaching with a student - centered and transformational approach. The excellent infrastructure at our College, both educational and extracurricular, extensively demonstrates, the significance of ambience in promoting focused learning for our students. Students must be taught how to think, not what to think and to facilitate this, our college Newsletter will construct its every issue, and a milestone that marks our growth, unfolds our imaginations and formulate our aspiration. I am sure that it will provide a platform for both, teachers and students to ventilate their novel ideas to make this issue interesting and thought -provoking. I challenge you to dream, work smart and struggle for excellence and solicit you to enjoy the journey around.



Malekandathil. Administrator, Rev. Fr. Jose Pulloppillil welcomed the students as well as parents. Principal Dr. Badmanaban R. gave the keynote address and the Vice Principal Dr. Deepa Jose proposed the vote of thanks.

Nirmala College of Pharmacy, Muvattupuzha

Approved by Govt. Of Kerala, AICTE and PCI, New Delhi
website : www.nirmalacp.org; Email : nip_mvpa@yahoo.co.in



Graduation Day

The graduation ceremony of 2016-2022 Batch, Pharm D students was ceremoniously held on 28th September 2022. The function was formally inaugurated by the Chief Guest, Major Gen.(Dr). Sunny Eapen, Medical Director, Smitha Memorial hospital, Thodupuzha who gave the graduation day speech. Principal Dr. Badmanaban welcomed the gathering and Rev. Fr. Jose Pullopillil delivered the presidential address. The occasion was graced by former Administrator Rev. Fr. Jose Mathai Mailadiath who congratulated the proud graduates. Vice Principal Dr. Deepa Jose led the graduates to pledge the Pharmacist's oath. The college newsletter Pharma Essence-2022 7th Edition was also officially released on this occasion at the hands of the Chief Guest Dr. Sunny Eapen. Dr. Suja Abraham, HOD, Department of Pharmacy Practice proposed the vote of thanks.



Faculty Interaction with the Outside World



Prof. Dr. Badmanaban R
Principal

1. Oral presentation evaluator for 1st Kerala Pharmaceutical Congress (KPC 2023) at St. James College of Pharmaceutical Sciences, Chalakkudy, Thrissur.

Organized by: Kerala Pharmacy Graduate Association (KPGA)

2. E-Poster evaluator for one day national seminar 'Pharma Insight-2023'-Unveiling Innovations for Pharmace-utical Research at TD Medical College, Alappuzha, Kerala
3. Chaired the session at International Conference on Innovation in Antimicrobial Therapeutics 'Amritaphar-macon-2023, organized by Amrita School of Pharmacy, Kochi, Kerala



Dr. Prasanth Francis
Associate Professor, Department of Pharmaceutical Chemistry

Workshops conducted on:

1. CADD molecular docking using Autodock
Organised by Nirmala Institute of Health Sciences, Chalakudy
2. CADD-Molecular Docking using Autodock
Organised by Malik Deenar College of Pharmacy
3. Molecular docking using Autodock Vina
Organised by School of Medical Education, CPAS Puthupally Campus
4. Computec Aided Drug Design using Autodock
Organised by Nirmala College of Pharmacy, Muvattupuzha



Dr. Fels Saju
Associate Professor, Department of Pharmaceutics

1. Topic-Career building through Innovation and Digital tools organised by Holy Grace Academy of Pharmacy, Mala
2. Topic-Entrepreneurs and Innovation as Career opportunity
Organised by Caritas College of Pharmacy, Kottayam
3. Topic-Redefining the Role of Pharmacist in the Modern Era
Organised by Al Azhar College of Pharmacy, Thodupuzha
4. Orientation on Innovation and Entrepreneurship Development Centre
Organised by KMP College of Pharmacy, Perumbavoor
5. Workshop on Optimization Techniques
Organised by Nazareth College of Pharmacy, Othara,



Dr. Suja Abraham
Professor & HOD, Department of Pharmacy Practice

1. Topic- 'Train the Trainers' Program on Patient Counselling
Organised by Indian Pharmaceutical Association, Kerala State Branch.
2. Topic- 'Pharmacy of the world-India'.
Organised by Indian Pharmaceutical Association, Kerala State Branch.



Dr. Prasanth B
Professor, Department of Pharmacognosy

- Topic- Schedule of Drugs
Organised by NVHSS Marampally, Ernakulam, Kerala

VI Sem. B. Pharm



B.Pharm 6th semester students visited Manipal University, along with staff Mr. Prasanth and Ms. Hema.

III Year Pharm D



III Pharm.D: 28 students visited Veterinary Research Institute, Pookode, Wayanad - Accompanied by Mr. Jobin Kunjumon & Ms. Meby Susan

VIII Sem. B.Pharm



VIII Semester B.Pharm - 46 students visited ANG Life Sciences, Himachal Pradesh - Accompanied by Mr. Manu Jose & Ms. Maneesha Peter.

IV VISITS



NATIONAL PHARMACY WEEK CELEBRATION

(20/11/2022 - 26/11/2022)

National Pharmacy Week celebration was conducted by Vth and VIth year Pharm D students in association with Caritas Hospital, Kottayam.

1. Mime: The theme was Thalidomide disaster of 1960s



2. Poster presentation

Various posters on adverse drug reactions (ADR) reporting, importance of medication adherence and medication administration tips were displayed in the administration block of Caritas hospital Kottayam



3. Talk on common diseases

After the poster presentation a small talk on life style diseases namely hypertension, diabetes mellitus and asthma was taken by the students



4. Talk on medication errors for nursing students

A one hour awareness class on 'Medication Safety' was conducted by our 6th year intern students.



CO-CURRICULAR ACTIVITIES

NATIONAL ENERGY CONSERVATION DAY -14/12/2022

A talk on 'Energy Conservation Need Of The Day' was taken by Dr.Sony Kurien, organised by IIC.

TALK ON ENERGY CONSERVATION NEED OF THE DAY

SPEAKER: DR.SONY KURIEN



WORLD ENERGY CONSERVATION DAY

December 14

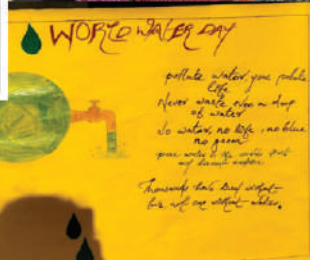
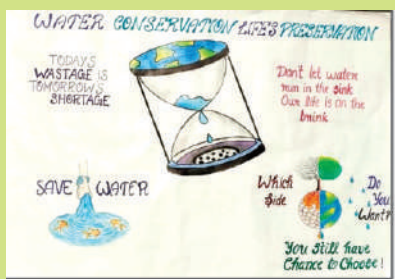
Venue: seminar Hall

Date:14/12/2022



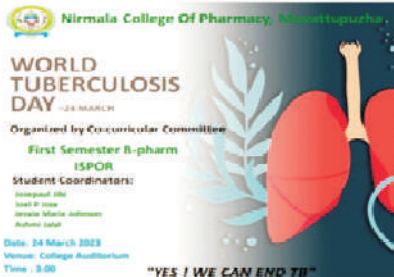
WORLD WATER DAY - 22/03/2023

The Nature club members of Nirmala College of Pharmacy along with Second Year Pharm D and Third Year Pharm D students were involved in outreach program on World Water Day in nearby homes of Avoly Panchayath.



WORLD TUBERCULOSIS DAY CELEBRATION - 24/03/2023

A Tuberculosis awareness program was organized by the first year B.Pharm students with co-curricular committee on 24/03/2023. The programme aimed to enrich the knowledge of TB among students.



WORLD EARTH DAY - 24/04/2023

First Year Pharm D students along with nature club and co-curricular committee celebrated the World Earth Day on 24/04/2023 at the college seminar hall.



IEDC : Boot camp on Leadership & Confidence Building

A workshop on 'Entrepreneurship Development Process' was conducted on 6th December 2022. Dr. Fels Saju led the session and explained the process of entrepreneurship including conception of idea, risks involved in business and its management



Workshop on 'Entrepreneurship Attitude & Behavioral Development'

A workshop on 'Entrepreneurship Attitude & Behavioral Development' was conducted on 9th January 2023 by Business Coach, Mr. Deepak C Joy.



Workshop On 'Idea Pitching'

A workshop on 'Idea Pitching' was conducted on 10th January 2023 by Mr. Arun Jose, Chief Trainer, SeeChange Mantras. The main objective of the workshop was to train students to pitch their innovative and entrepreneurial ideas at any platform with confidence.



Workshop On 'Design Thinking, Critical Thinking And Innovation Design'

A workshop on 'Design Thinking, Critical Thinking and Innovation Design' was conducted on 11th January 2023. Mr. Sudheer Menon, Corporate trainer led the workshop. The main objective of the workshop was to train students to approach a problem and find a solution in a structured and analytical way.



Pharma Hackathon

Pharm Hackathon 2023, a competition on generating solutions for a given problem was conducted on 13th January 2023. 17 student teams participated in the event.



Workshop On Business Model Canvas

A workshop on 'Business Model Canvas' was taken by Mr. Muhammed Salu, Business strategist. He explained how to build a new business from scratch and the major areas of concentration in a business development process.



Patent Awareness Program

A patent awareness program was conducted by IEDC in the seminar hall on 17th January 2023. The resource person was Ms. Asha R, Research Officer, Inter University Centre for IPR Studies, CUSAT.



Seminar On 'Converting Innovation Into A Start Up & Chalo India Startup Drive'

The major objectives of the seminar was to provide an orientation to the students about how their ideas can be converted into startup and the Chalo India Start Up Drive. Mr. Rahul M.R., Area Branch Manager and Career Trainer, Avodha Edutech, Infopark, Cochin explained various aspects of idea creation.



WORLD EYESIGHT DAY 2022



Staff & Student Welfare Committee and NSS unit of Nirmala College of Pharmacy in association with Ahalia Foundation Eye Hospital organized a free eye check-up campaign for the staff and students, on 13/10/22. The inaugural address was given by the Administrator Rev. Fr. Jose

Pulloppilil, and the gathering was welcomed by the principal Dr. Badmanaban. R. Three optometrists from the Ahalia hospital led the campaign. 46 staff and 157 students benefitted from the campaign and, they were provided with a hospital privilege card.

STUDENT ACHIEVEMENTS



Anuvindh Suresh
7th sem B. Pharm

Won third prize in Strings-western in KUHS central zone arts fest organized by KUHS held on 15th September 2022.



Kavya EM
7th sem B. Pharm

Won third prize in Photography in KUHS inter zone arts fest organized by KUHS held on 16th October 2022.



Christy Sojan & Ann mary Bosco
5th Year Pharm.D

Won third prize in poster making organized by IPA in connection with National Pharmacy week celebrations held on 21st January 2023.



Elizabeth Rachal James
4th year Pharm D

Qualified in the IPA-SF article writing contest held on 22nd November 2022 and her article was published in the Pharma Times News Paper.



Ajwin, Aneeta, Maria, Melvin,
7th sem B.Pharm

Won 2nd prize in state level idea presentation competition conducted by Malayala Manorama held on 11th February 2023.



Ajwin Joseph Martin,
7th sem B. Pharm

Won 1st prize in poster presentation in National seminar organized by Sanjo College of Pharmacy, Palakkad on 19th December 2022.



Sr. Swapna Paul
2nd year M. Pharm

Won 3rd prize for scientific poster presentation organized by Devaki Amma College of Pharmacy, Malappuram on 7th January 2023.



Vishak Saji, Ashish Jaison, Harinandan M.S, M.M Amal [2nd sem Bpharm]

Joyal M. Joll, Jofin Sabu, Tinil Tomy [1st year Pharm D]

Akshay P.R, Dawood Khaleel, Jithin, Sahad [7th Sem B pharm],

Abin, Christo [3rd sem B Pharm], **Jeevan, Aboo Backer** [2nd year Pharm D]

Won 2nd prize in All Kerala Inter Collegiate Athletic meet held on 17th December 2022-23 at Govt. Medical College, Kottayam.



Camila A Carlman
5th Year Pharm.D

Won 1st prize at state level and 4th prize at national level elocution competition organized by in IPA and IPC on 21st January 2023



Sreelakshmi Sreekumar
4th Year Pharm D

Selected for District level debate competition from block level at Federal Bank 'Speak for India' – Kerala Edition 2023 held on 19th February.



Janice Jacson
Pharm D intern

Winner of 'Speak for India' Zonal debate competition, on 17th February 2023.



Vishak, Abubaker, Shyamjith, Tinil, Akshay

Bagged 2nd price in all Kerala inter college athletic meet relay on 21st December 2022



Kripamol Joy
Pharm.D Intern,

Consolation prize winner at National level article writing competition 2023 conducted by IPASF in association with Staffingly Inc. USA



Dr. Suja Abraham

Professor & Head, Department of Pharmacy Practice

Quality Publication – Key to Upgrade Researcher Profile

The primary achievement of a researcher is high-quality publication. Through quality articles, the knowledge and experience gained by the researchers are exposed to the scientific community. The skill of an author is to frame the manuscript in a unique and acceptable style that contributes significant information to the existing knowledge. When other authors use our articles as the basis for their research and cite our study as references in reputable journals, the credibility of our work increases. This article outlines the factors to be considered when selecting a journal and the credentials we obtain from a quality publication.

1. Identify quality journals for publication

The 'abstracting and indexing' details, mentioned in the "about the journal" section should be checked before finalizing the journal. This reveals the authenticity of the journal and the genuity of the publisher. Editorial policies and the peer review processes including the timeframe will be clearly indicated in reputed journals. Always, review the papers that were published in previous issues and assess the quality of data presented, to ensure scientific rigor.

Try to choose Scopus or Web of Science journals if your research provides valuable scientific information.

2. Check the journal metrics

Journal metrics are otherwise known as journal rankings and are mainly classified as Web of Science-based indicators and Scopus-based indicators.

a. Web of Science-based indicators.

Web of Science is one of the most widely used and reliable databases of research publications and citations. The citation index was introduced by the Institute for Scientific Information (ISI), that incorporates Science Citation Index (SCI), Social Science Citation Index (SSCI), Arts and Humanities Citation Index (AHCI), and Emerging Sources Citation Index (ESCI). Journals from the SCIE and SSCI are included in the Journal Citation Reports (JCR).

Web of Science Core collections contains publications with high-quality content and the Impact Factor is the indicator that is most frequently used to assess the citation index. The impact factor measures how frequently an article has been cited during a specified period of time.

b. Scopus-based indicators

Scopus-based indicators include Cite Score metrics, Source-Normalised Impact per Paper (SNIP), and SCImago Journal Rank (SJR).

Cite Score is the reliable and accurate indicator, which is calculated based on the number of citations to documents (articles, reviews, conference papers, book chapters, and data papers) received over four years, divided by the total number of published documents in those same four years.

Source-Normalized Impact Per Paper (SNIP) compares journals in various domains by measuring contextual citation effect by considering disciplinary heterogeneity. The number of citations given in the present year to publications in the past three years divided by the total number of publications in the past three years is mentioned as the SNIP score.

SCImago Journal Rank (SJR) considers the total number of citations as well as the quality of the journals from where it is cited. It is calculated by dividing the average number of weighted citations obtained during a specific year by the total no. of articles published in that journal during the previous three years. Each subject category of journals is divided into four quartiles, denoted as Q1, Q2, Q3, and Q4. The top 25% of journals are listed in Q1, followed by Q2 (25–50%), Q3 (50–75%), and Q4 (75–100%).

3. Improve author metrics

The number of citations determines the quality publication of a researcher. Different methods have been used to calculate the author's impact score, out of which 'h-index' is the most widely used method.

The H-index has the advantage of combining production (number of articles written) and impact (number of citations) into a single figure. The value of the h-index may vary depending on the source of information, although the one that is listed in the Scopus and Web of Science databases is thought to be more reliable than the one from Google Scholar.

To organize the research work into a proper article format, critical analysis and appropriate interpretation are required. It should be well-structured and supported by evidence. Always give more emphasis on the quality of publications rather than quantity because they are meant to provide scientific knowledge and support other researchers.

**Dr. Manju Maria Mathews**

Professor & Head, Department of Pharmaceutics

Continuous Manufacturing - Future of the Pharmaceutical Industry?

Pharmaceuticals have been produced for more than 50 years utilising a procedure called "batch manufacturing," which is a multi-step, protracted process involving the use of large-scale equipment. The pharmaceutical sector is now considering switching from batch manufacturing to continuous manufacturing, a quicker and more effective procedure, as a result of recent advancements in manufacturing technology. The switch from batch to continuous manufacturing has not yet gained traction in the pharmaceutical business.

This is due to the fact that batch methods can ensure sufficient revenues in the high value-added pharmaceuticals domain, negating the need to switch, which would necessitate additional capital investment, provided there are no issues with the product's quality or the manufacturing process.

Though new to pharmaceutical manufacturing, continuous manufacturing isn't new. In several industries, continuous processes have really been standard practice for close to a century. In iron manufacturing, where equipment can run continuously for years, continuous production has a long history. In some food and beverage processing as well as the petrochemical industry, it is standard practice. The FDA is adopting proactive measures to support the adoption of cutting-edge technology by the pharmaceutical sector, such as continuous production, in order to enhance product quality and address many of the root causes of medicine shortages and recalls.

There are many distinct phases involved in batch manufacturing. Production usually stops at each stage of the procedure so samples can be examined offline for quality. The material may occasionally be stored in containers or transported to different sites around the world during these "hold times" between phases to finish the manufacturing process. This can extend processing time by weeks or even months. It could also increase the danger of deterioration for some active compounds that are susceptible to environmental factors. Additionally, if demand for a particular drug increases, increased production may require larger equipment. This equipment scaling up demands more space, a larger footprint, more work, and more money.

Contrarily, pharmaceuticals produced through continuous manufacturing are continuously transferred across the same facility, eliminating hold times between steps. An assembly line comprising completely integrated components is fed with material. This process is quicker, less prone to human error, and better able to adapt to changes in the market. Continuous manufacturing can operate for longer periods of time to accommodate increasing demand, potentially lowering the chance of drug shortages.

The same quality control requirements apply to both batch and continuous manufacturing, however continuous manufacturing facilities prefer to automate monitoring, which is done more often than in batch manufacturing. Continuous production equipment can deteriorate with time, just like any other piece of technology, but automated monitoring can spot problems far in advance of a failure. Such monitoring also can help predict the life expectancy of a piece of equipment, leading to better proactive maintenance. Where batch manufacturing requires transporting, testing, and re-feeding materials from one process to the next, continuous processes execute all testing, feeding, and processing, inline. Sophisticated process analytical technologies ensure quality in-process.

Tracing and tracking is easier in continuous process manufacturing. In the event of a production failure, these tracing enable the producer to isolate a smaller amount of damaged material, resulting in less waste and a lower likelihood of a shortage. For instance, in batch manufacturing, the size of the machinery used to generate a given quantity of a drug defines that quantity. While, the amount of drug produced, or the quantity of input raw materials used can all be used to identify a quantity in continuous manufacturing.

In short, the benefits of continuous production include improved product quality and safety due to a continuous automated monitoring of processes, reduced environmental impact by decreasing waste through a high rate of reaction efficiency, and space savings due to the compact size of the units. Unit operations are connected to maximise automation. Even though the capital expenditure will be greater than in batch manufacturing, the decreased operating expenses are anticipated to increase the company's overall economic efficiency. High-tech process analytical technologies guarantee quality as it is being produced.

In 2015, Vertex Pharmaceuticals became the first firm to secure FDA approval for a drug manufactured on a continuous line. In the next three years, Janssen, Eli Lilly, and Pfizer each received approval for continuously manufactured products.

Challenges.

While there are clear manufacturing benefits to continuous manufacturing systems, the economics of the pharmaceutical industry has presented a challenge. Between expenditures for new equipment, abandoning existing capacity, and projections for lifetime profitability of a given therapy, manufacturers are always concerned with the returns on any investment in continuous manufacturing technology.

Manual changeovers are challenging and might take up to a week to complete on continuous manufacturing lines.

Thousands of parts in continuous manufacturing systems require cleaning, replacement, and verification. Even experienced operators often find changeovers to be time-consuming.

Equipment for continuous manufacturing requires substantial training to operate. Everyone engaged needs enough exposure to and understanding of the system to ensure proper usage due to the complexity of the technology and the possibility of mishaps.

Although continuous manufacturing systems have obvious manufacturing advantages, the pharmaceutical industry's finances have provided a barrier. Manufacturers are concerned about costs for new equipment, abandoning existing capacity etc.

Even if adoption rates are low, the benefits of continuous manufacturing for the pharmaceutical industry are clear. As advanced manufacturing becomes the norm in health sciences

STUDENTS' CONTRIBUTION



Elizabeth Rachel James



Jisa Elizabeth Sabu

History, Emergence And Importance of AI in Health Care

Elizabeth Rachal James Fourth Year Pharm.D,
Jisa Elizabeth Sabu Fourth Year Pharm. D,
Nirmala College Of Pharmacy, Muvattupuzha.

Artificial Intelligence (AI) is a stream of science related to intelligent machine learning which provides results in the similar way to human attention process. Reflecting on the past 25 years, pharmacy has done a great job of addressing the growing demand for prescriptions, even when faced with pharmacist shortages, growing operating costs, and lower reimbursements. AI gives more time to engage with a greater volume of patients while also enhancing their health outcomes. The emergent initiative of accepting the applications of AI technology in pharmacy including drug discovery, drug delivery formulation development and other healthcare applications have already been shifted from hype to hope. The uses of AI models also make possible to predict the in vivo responses, pharmacokinetic parameters of the therapeutics, suitable dosing, etc. AI systems are capable of analysing complex algorithms and self-learning, therefore we enter into a new age in medicine where AI can be applied to clinical practice through risk assessment models, improving diagnostic accuracy and workflow efficiency. AI may improve diagnostic accuracy, improve efficiency in provider workflow and clinical operations, facilitate better disease and therapeutic monitoring, and improve procedure accuracy and overall patient outcomes. The progressive growth and development of the AI platform in medicine is chronicled below and organized by specific time periods of seminal transformation.

The 1950s to 1970s

Early AI focused on developing machines capable of making human-like inferences and decisions. In 1961, the first industrial robot arm, Unimate, performing

automated die casting and in 1964, Eliza, a chatterbot, that uses natural language processing to mimic human conversation through pattern matching and substitution. In 1966, Shakey, the first mobile robot capable of interpreting complex instructions, was developed. The Medical Literature Analysis and Retrieval System and PubMed, developed in the 1960s.

The 1970s to 2000s

The CASNET model, developed at Rutgers University, was one of the earliest examples of AI applied to medicine. It utilized a causal-associational network and consisted of three programs: model-building, consultation, and a database.

From 2000 to 2020:

In 2007, IBM developed Watson, an open-domain question-answering system that won the game show Jeopardy! in 2011. Watson used natural language processing and data analysis to generate probable answers. In 2017, IBM Watson was used by Bakkar et al to identify altered RNA-binding proteins in amyotrophic lateral sclerosis. Additionally, chatbot Pharmabot (2015) provided medication education for pediatric patients and their parents, while Mandy (2017) automated patient intake for a primary care practice. In 2017, Arterys developed Cardio AI, that analyze cardiac magnetic resonance images. Deep learning (DL) has a wide range of applications in healthcare, including lesion detection, generating differential diagnoses, and composing automated medical reports. In 2017, Gargeya and Leng utilized DL to screen for diabetic retinopathy, achieving high sensitivity and specificity. Esteva et al. trained a convolutional neural network (CNN) and Weng et al. demonstrated the use of a CNN to

predict cardiovascular risk. DL has also been applied to predict Alzheimer's disease progression and accurately predict drug therapy response.

Some important disadvantages of AI technology are :

Expensive: The launch of AI causes huge money consumption. designing of one AI machine, a long period of time is required by the R&D division.

No replicating humans: Robots with the AI technology are associated with the power of thinking like human and being emotionless as these add some advantages to perform the given task more accurately without any judgement.

No improvement with experience: Human resource can be improved with experiences. In contrast, machines with AI technology cannot be enhanced with experience.

No original creativity: Machines with AI technology have neither sensitivity nor the emotional intelligence. Humans have the ability to hear, see, feel and think.

IMPORTANCE OF AI IN HEALTH SECTOR

By allowing quicker and more accurate diagnoses, enhancing patient outcomes, and cutting costs, digitalization and AI are revolutionizing healthcare. Telemedicine and electronic health records are two instances of digitalization that enhance transparency and interaction among patients and healthcare professionals. Reducing administrative burden on doctors: AI can handle complex paperwork, assist with billing, and provide accurate physician documentation, alleviating the administrative burden on doctors in hospitals and nursing homes in India.

Enhancing treatment with robotic surgery: Robotic surgery improves surgical precision, vision, and convenience for surgeons. Surgeons use a robotic system with interactive arms equipped with cameras and surgical instruments, allowing them to access challenging locations with less harm to nearby tissues. It has been successfully used for treating conditions like uterine fibroids, hernia, appendicitis, and colorectal cancer.

Improving patient experience with chatbots: Chatbots imitate human conversations and can enhance the patient experience. They can provide information, answer queries, and assist patients with common therapeutic responses or unique healthcare demands.

Artificial intelligence and machine learning in precision and genomic medicine: AI has significant potential in pharmacy, impacting medication management, drug discovery, patient care, and operational efficiency. It aids in drug discovery and development, medication safety and adverse event detection, medication adherence, and drug dosage optimization, leveraging genomic medicine and personalized approaches.

Pharmacy Automation and Robotics: AI-powered robots and automation systems streamline medication dispensing, inventory management, and prescription verification, improving accuracy and efficiency.

Clinical Decision Support: AI provides real-time support to pharmacists by integrating patient data and medical knowledge databases, offering recommendations for medication selection, dosage adjustments, and drug interactions.

Predictive Analytics for Drug Supply Chain: AI analyzes data to predict medication shortages, optimize inventory levels, and improve supply chain management in pharmacies, ensuring medication availability and minimizing disruptions.

Telepharmacy and Virtual Consultations: AI-powered telepharmacy platforms enable remote access to pharmacy services, including consultations, prescription refills, and counseling, improving patient access to healthcare.

Pharmacists' Role: AI should support pharmacists rather than replace them, as they play a crucial role in patient care. AI serves as a tool to enhance their work and improve patient outcomes.

REFERENCE

<https://www.ijper.org/article/2008>

[https://www.giejournal.org/article/S0016-5107\(20\)34466-7/fulltext](https://www.giejournal.org/article/S0016-5107(20)34466-7/fulltext)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9198206/>



ALUMNI NEWS

Farhath Sherin, M.Pharm Pharmaceutics 2015-2017 Batch of Nirmala College of Pharmacy, successfully completed her Ph. D in Pharmaceutical sciences from JSS Academy of Higher Education and Research, Ooty TN. Her work involved the '*CNS targeting of some novel 4-thiazolidinones derivatives as SIRT3 activators for the treatment of Parkinson's Disease*' which was funded by ICMR.

GRANTS



HONOURING THE INNOVATORS IDEA FEST 2022



1. Dr Fels Saju, Associate Professor, Department of Pharmaceutics, has received grant approval for the following projects.
 - A. Team consisting of Rakhy Jolly, Nimmy Thomas, P. A Thanseeha Thasneem, Kavya E M and Anitta Vinobi guided by Dr Fels Saju has been approved for research grant on "Mediles" funded by Kerala Start Up Mission.
 - B. IEDC grant to conduct innovation and entrepreneurship activities.
 - C. Idea grant by Kerala startup mission for research work on 3D printed Anti epileptic tablet.
 - D. ED cell activity grant funded by District Industries Department, Government of Kerala.
2. Dr. Manju Maria Mathews, Professor and HOD, Dept of Pharmaceutics with Ms. Maria C George, Melvin Sunny, Rany Baby. Ajwin Joseph, Rimna Pareekutty have received a) Idea grant on project "Metered granule sprinkler" and b) idea grant approval on "Cotiere Pharma" by Kerala Start Up Mission.
3. Dr. Badmanaban R/ Ms. Elayath Parvathy Murali have received a research grant for the project on "Evaluation of anti diabetic activity of polyherbal formulation" by Santhigiri Scientific and Industrial Research Institute.
4. Ms. Maria C George student VIII Sem BPharm has received a minor grant from Malayala Manorama on topic "Med on wheels/ Digital Change Makers 2023".



PLACEMENT CELL B.PHARM 2017-2021



Aditya.K.V
Pharmacist, Sevana medicals
Palarivattam



Aiswarya.V.S,
Medical Scriptraineee ,
Aquite Solutions, Coimbatore



Alby Manoj,
Pharmacy Aide, Apollo Pharmacy
Palarivattam



Alona Baby, Pharmacist,
Apollo pharmacy,
Ernakulam



Amal Thomas ,
Pharmacist, Pets Trust Veterinary
Hospital ,Kochin



AnittaThomas,
Trainee Pharmacist,
Heal and Care Pharma pvt.ltd



Annamol Nelson ,
Trainee Pharmacist,
Life Pharma ,UAE



Anubha Jose,
St.Mary's Hospital,
Thodupuzha



Arya Babu,
Pharmacist
English Company, Alleppey



Aswathy Surendran
Pharmacy Aide Apollo Pharmacy,
Choondy, Alwaye



Celu Mariya Francis ,
Pharmacist ,
Nirmala Medical Centre, Muvattupuzha



Elza Baby,
Medical Scribe Trainee,
Aqity Solutions, Coimbatore.



Farsana
Pharmacy Aide,
Aster Pharmacy, Perumbavoor.



Fathima .K.N
Executive : Product Innovation,
Ojas To Aura Life Science Pvt.Ltd



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