

Souvenir & Abstract Book

*International Conference
on
Biotechnology, Pharmacology and Artificial Intelligence
Innovation for Sustainable Development
(ICBPAIISD-2024)*



*organised by
R R Institute of Modern Technology, Lucknow
in collaboration with
Bioverse Technologies Pvt. Ltd., Lucknow*

*Date - December 20-21, 2024
Time - 10.00 AM - 05.00PM IST
Venue - Institutional Campus, RRGI, Lucknow*



**RR GROUP OF
INSTITUTIONS**
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Innovating Today, for a Sustainable Tomorrow...

CONFERENCE SOUVENIR & PROCEEDINGS

**International Conference on "Biotechnology, Pharmacology
and Artificial Intelligence Innovation for Sustainable
Development-ICBPAIISD-2024"**

Prof.(Dr.) Bharat Mishra

Prof.(Dr.) Abhinav Srivastava

Dr. Udai Pratap Singh



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CONFERENCE SOUVENIR & PROCEEDINGS



**International Conference on
"Biotechnology, Pharmacology and Artificial
Intelligence Innovation for Sustainable Development-
ICBPAIISD-2024"**

Organized by

RR Institute of Modern Technology, Lucknow

in association with

Bioverse Technologies Pvt. Ltd., Lucknow

December 20-21, 2024

10.00 am – 05.00 pm

Venue: Institutional Campus of RRGI, Lucknow

Preface

It is with immense pride and pleasure that we present the **Souvenir** of the **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovations for Sustainable Development (ICBPAIISD-2024)**. This conference, organized by joint initiative of **RR Group of Institutions, Lucknow & Bioverse Technologies Pvt. Ltd., Lucknow**, serves as a vibrant platform for leading academicians, researchers, industry experts, and students to engage in knowledge exchange, collaborative discussions, and innovative breakthroughs in the fields of biotechnology, pharmacology, and artificial intelligence (AI).

The intersection of life sciences and AI-driven technologies is shaping the future of healthcare, agriculture, and environmental sustainability. As global challenges become more complex, interdisciplinary approaches are essential in finding solutions that drive progress while ensuring a sustainable future. **ICBPAIISD-2024** aims to explore these cutting-edge developments by bringing together experts from renowned academic institutions, research organizations, and industry leaders worldwide.

This souvenir encapsulates the essence of the conference, highlighting the distinguished **International Advisory Committee, Core Committee, Review Committee, Panelists, and Organizing Committee**, all of whom have played an instrumental role in shaping this event. Their dedication, expertise, and support have ensured the academic rigor and success of this conference.

A special note of appreciation goes to the **Chief Patron, Prof. (Dr.) J. P. Pandey (Vice Chancellor, AKTU)**, whose unwavering support and encouragement have been pivotal in organizing this event. We also extend our heartfelt gratitude to **Patrons Shri Anil Kumar Agrawal(Chairman)** and **Co-Patrons Shri Chitranshu Agrawal(Secretary) & Prof. S P Tripathi(Director, RRG I)**, and **Convener Mr. Durgesh Verma(Dean-Academics) & Dr. Dheerendra Kumar(Head, Department of Biotechnology, RRIMT & Controller of Examinations, RRG I)**, for their exceptional leadership and commitment. The **Organizing Secretary, Dr. Akash Singh(General Manager, Bioverse Technologies Pvt. Ltd.)**, and the entire Core Committee have worked tirelessly to make this conference a reality.

This souvenir is a tribute to the collective efforts of **scientists, researchers, academicians, and industry professionals** who have contributed their valuable insights to this event. It also **acknowledges the participation of students**, whose enthusiasm and curiosity drive the future of scientific discovery.

We hope that this souvenir serves as a valuable reference for all attendees and inspires continued research and innovation in the fields of biotechnology, pharmacology, and artificial intelligence. Let us continue to work together to build a future where science and technology drive sustainable development for the betterment of society.

Reflections on ICBPAIISD-2024: A Landmark Gathering of Innovation and Collaboration

The **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)** was a landmark gathering that brought together leading experts, researchers, academics, and industry professionals from around the world. Successfully held on **December 20-21, 2024**, at the **Institutional Campus of RRGI, Lucknow**, the conference highlighted the transformative impact of **biotechnology, pharmacology, and artificial intelligence (AI)** on sustainable development.

Dedicated to addressing pressing global challenges, **ICBPAIISD-2024** advanced scientific knowledge, fostered interdisciplinary collaboration, and explored cutting-edge innovations with immense potential to shape a sustainable future. With the theme “Innovation for Sustainable Development,” the conference featured an engaging blend of keynote presentations, research paper sessions, technical workshops, and panel discussions.

Participants gained valuable insights into the latest advancements in biotechnology, including sustainable agricultural practices, environmental solutions, and bioengineering breakthroughs. The pharmacology sessions emphasized emerging trends in drug discovery, personalized medicine, and the role of pharmacological research in public health and environmental conservation. Additionally, AI was showcased as a transformative tool, demonstrating its applications in enhancing predictive analytics, optimizing clinical and environmental solutions, and driving efficiency across multiple sectors.

ICBPAIISD-2024 provided an invaluable platform for both young researchers and seasoned professionals to exchange ideas, present their findings, and forge meaningful connections with peers from diverse disciplines. The conference also underscored India’s pivotal role in advancing sustainable innovations in biotechnology, pharmacology, and AI, fostering a global dialogue on addressing climate change, food security, healthcare advancements, and more.

The success of **ICBPAIISD-2024** was marked by the enthusiastic participation of academics, researchers, industry professionals, and policymakers. The event served as a hub of knowledge-sharing, networking, and collaborative opportunities, contributing to a more sustainable and technologically advanced future.

As we reflect on the achievements of **ICBPAIISD-2024**, we extend our gratitude to all participants, speakers, and organizers who made this conference a resounding success. The insights and collaborations fostered during this event will undoubtedly continue to inspire innovation and progress in the years to come.

Date: December 20-21, 2024

Venue: Institutional Campus of RRGI, Lucknow

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Foreword & Messages

From Vice Chancellor's Desk....



Prof. (Dr.) JP Pandey

Chief Patron

ICBPAIISD-2024

It is a matter of great pride and honor to witness the successful organization of the **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)** at **RRGI, Lucknow**. This conference has served as an exceptional platform for scholars, researchers, industry leaders, and policymakers to converge, deliberate, and contribute towards innovative solutions for sustainable development.

The theme “**Innovation for Sustainable Development**” is highly relevant in today’s rapidly evolving world, where **biotechnology, pharmacology, and artificial intelligence** play a crucial role in shaping a more sustainable future. The discussions, research presentations, and technical sessions held during this conference have significantly contributed to advancing knowledge and fostering interdisciplinary collaborations.

As the **Chief Patron**, I extend my heartfelt congratulations to the organizing committee, distinguished speakers, participants, and all stakeholders who have worked tirelessly to make this event a grand success. I am confident that the insights shared and the partnerships forged during **ICBPAIISD-2024** will lead to groundbreaking advancements with long-term benefits for society.

I wish all participants continued success in their research and endeavors, and I look forward to witnessing the impact of this knowledge exchange in the years ahead.

Prof. (Dr.) JP Pandey

Hon'ble Vice Chancellor,

Dr. A.P.J. Abdul Kalam Technical University,

Lucknow, Uttar Pradesh.

From the Chairman's Desk....



Shri Anil Kumar Agrawal

Patron

ICBPAIISD-2024

It is with immense pride and joy that I extend my heartfelt congratulations on the successful organization of the **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)** at **RR Group of Institutions, Lucknow**. This prestigious event has brought together some of the brightest minds from academia, industry, and research, fostering an enriching exchange of knowledge and ideas.

The theme, “**Innovation for Sustainable Development,**” resonates deeply with the evolving needs of society. The convergence of **biotechnology, pharmacology, and artificial intelligence** holds immense promise in addressing global challenges related to **healthcare, environmental sustainability, and technological advancements**. The research deliberations and discussions at this conference have paved the way for transformative innovations that will undoubtedly contribute to a better future.

As the **Patron** of this esteemed event, I express my sincere gratitude to all the distinguished **speakers, delegates, researchers, and organizing committee members** for their relentless dedication and efforts in making **ICBPAIISD-2024** a grand success. I firmly believe that the collaborations and insights gained through this platform will lead to meaningful advancements in science and technology.

Wishing all participants continued success in their academic and professional pursuits.

Shri Anil Kumar Agrawal
Chairman,
RR Group of Institutions,
Lucknow, Uttar Pradesh.

From Secretary's Desk



Shri Chitranshu Agrawal

Co-Patron

ICBPAIISD-2024

It is a moment of great pride and fulfillment to witness the successful completion of the **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)** at **RR Group of Institutions, Lucknow**. This conference has provided a dynamic platform for intellectual exchange, fostering collaboration among researchers, academicians, and industry professionals from diverse domains.

The theme, “**Innovation for Sustainable Development,**” reflects the growing need for scientific advancements to be aligned with sustainable goals. **Biotechnology, pharmacology, and artificial intelligence** are key drivers of transformation in **healthcare, environmental conservation, and technological evolution**. The thought-provoking discussions, research presentations, and workshops held during the conference have not only enriched knowledge but also paved the way for future innovations with a lasting impact on society.

As the **Co-Patron**, I extend my sincere appreciation to all the **distinguished speakers, participants, and organizers** who contributed to making this conference a remarkable success. The dedication and enthusiasm displayed by all involved have truly elevated the significance of this event.

I am confident that the ideas exchanged and the collaborations formed at **ICBPAIISD-2024** will lead to meaningful progress in science and technology, shaping a more sustainable future for generations to come.

Shri Chitranshu Agrawal
Secretary,
RR Group of Institutions,
Lucknow, Uttar Pradesh.

From Director's Desk



Prof. (Dr.) S.P. Tripathi

Co-Patron

ICBPAIISD-2024

It is with immense pleasure and pride that I reflect on the grand success of the **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)**, hosted at **RR Group of Institutions, Lucknow**. This esteemed conference has served as a vital forum for scholars, researchers, and industry experts to exchange ideas and explore the latest advancements shaping the future of science and technology.

The theme, **“Innovation for Sustainable Development,”** is of paramount importance in today’s rapidly evolving world. The integration of **biotechnology, pharmacology, and artificial intelligence** has the potential to **address critical global challenges**, from **healthcare and environmental sustainability to technological innovation**. The research discussions, **keynote addresses**, and **technical sessions** during the conference have been instrumental in fostering new perspectives and collaborative opportunities.

As the **Co-Patron** of this distinguished event, I extend my heartfelt gratitude to the **organizing committee, keynote speakers, participants**, and all those who contributed to making **ICBPAIISD-2024** a resounding success. I am confident that the knowledge shared and the networks built during this conference will drive meaningful advancements, inspiring future research and innovation.

Wishing all participants continued success in their academic and professional endeavors.

Prof. (Dr.) S.P. Tripathi

Director,

RR Institute of Modern Technology,

Lucknow, Uttar Pradesh.

From Dean(Academic)'s Desk



Shri Durgesh Verma

Convener

ICBPAIISD-2024

It gives me immense satisfaction and pride to witness the remarkable success of the **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)**, held at **RR Group of Institutions, Lucknow**. This conference has been a landmark event, bringing together distinguished **academicians, researchers, industry professionals, and students** to engage in meaningful discussions on cutting-edge innovations and their role in sustainable development.

The theme, **“Innovation for Sustainable Development,”** has never been more relevant. The integration of **biotechnology, pharmacology, and artificial intelligence** offers transformative **solutions** to pressing **global challenges** in **healthcare, agriculture, environmental conservation, and technological advancement**. The exchange of ideas through **keynote speeches, technical sessions, and research presentations** has fostered collaboration and knowledge-sharing, laying the foundation for future breakthroughs.

As the **Convener** of this prestigious event, I extend my heartfelt appreciation to our esteemed **speakers, dedicated participants, and the organizing committee** for their relentless efforts in making **ICBPAIISD-2024** a resounding success. I am confident that the insights gained and the networks built during this conference will continue to inspire innovation and drive impactful research in the years to come.

Wishing all participants continued success in their academic and professional endeavors.

Shri Durgesh Verma

Dean-Academics,

RR Group of Institutions,

Lucknow, Uttar Pradesh.

From Convener's Desk...



Dr. Dheerendra Kumar

Convener

ICBPAIISD-2024

It is with immense pride and gratitude that I reflect on the resounding success of the **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)**, hosted at **RR Group of Institutions, Lucknow**. This prestigious conference has provided an invaluable platform for **researchers, academicians, industry experts, and young scholars** to exchange groundbreaking ideas and explore the intersection of **biotechnology, pharmacology, and artificial intelligence** in driving sustainable development.

The theme, **“Innovation for Sustainable Development,”** highlights the critical need for scientific and technological advancements that align with **global sustainability goals**. The **insightful discussions, research presentations, and technical sessions** have shed light on emerging trends in **biotechnology-driven environmental solutions, pharmacological advancements in healthcare, and AI-powered innovations for efficiency and precision**. These deliberations have fostered meaningful collaborations that will undoubtedly shape the future of scientific research and industrial applications.

As the **Convener** of **ICBPAIISD-2024**, I extend my sincere appreciation to all the **esteemed speakers, participants, and the organizing committee** for their dedication and efforts in making this conference a grand success. May the knowledge shared and partnerships formed during this event continue to inspire innovative solutions for a sustainable future.

Dr. Dheerendra Kumar

Head,

Department of Biotechnology,

& Examination Controller,

RR Group of Institutions,

Lucknow, Uttar Pradesh.

From Organizing Secretary's Desk



Dr. Akash Singh

Organizing Secretary

ICBPAIISD-2024

It is a moment of immense pride to witness the successful completion of the **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)** at **RR Group of Institutions, Lucknow**. This conference has brought together **leading experts, researchers, and industry professionals** to engage in **insightful discussions and collaborations** aimed at **addressing global challenges** through **innovation**.

The theme, **“Innovation for Sustainable Development,”** underscores the need for interdisciplinary approaches in tackling critical issues related to **healthcare, agriculture, environmental sustainability, and industrial advancements**. The role of **biotechnology, pharmacology, and artificial intelligence** in shaping a sustainable future has been profoundly explored through **expert keynote sessions, technical workshops, and research presentations**.

As the **Organizing Secretary**, I would like to extend my deepest gratitude to **RR Group of Institutions, Lucknow**, for their unwavering support and their active involvement which played a pivotal role in **making this conference a grand success**. I also sincerely thank the **distinguished speakers, participants, and the organizing team** for their **dedication and contributions**. I am confident that the knowledge shared and connections forged during **ICBPAIISD-2024** will inspire future research and industry-driven innovations for a sustainable world.

Dr. Akash Singh

General Manager,

Bioverse Technologies Pvt. Ltd.

Lucknow, Uttar Pradesh.

Conference Overview

ICBPAIISD-2024: A Milestone in Scientific Innovation and Collaboration

The **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)**, held on **December 20-21, 2024**, at the **Institutional Campus of RRGI, Lucknow**, was a landmark gathering that successfully brought together **leading experts, researchers, academicians, and industry professionals** from across the globe. The conference served as a platform to explore the transformative impact of **biotechnology, pharmacology, and artificial intelligence (AI) on sustainable development, fostering scientific advancements, interdisciplinary collaboration, and cutting-edge innovations to address global challenges**. With the theme **“Innovation for Sustainable Development,”** ICBPAIISD-2024 featured an enriching array of **keynote presentations, research paper sessions, technical workshops, and panel discussions**. Participants gained valuable **insights into sustainable agricultural practices, environmental biotechnology, bioengineering breakthroughs, emerging trends in pharmacological research, personalized medicine, and AI-driven predictive analytics**. The conference also highlighted AI’s role in enhancing clinical and environmental solutions and optimizing efficiency across multiple sectors.

ICBPAIISD-2024 proved to be an invaluable platform for **knowledge-sharing, networking, and collaboration**, strengthening India's role in **advancing sustainable biotechnology, pharmacology, and AI innovations**. The insights shared and connections forged during this event will continue to inspire future research and technological advancements toward a sustainable and progressive future.

Objective of ICBPAIISD-2024

The **International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)** was conceived with the core objective of fostering a collaborative platform for scientists, researchers, academicians, industry professionals, and policymakers to exchange ideas, share groundbreaking research, and discuss innovative strategies that contribute to sustainable global development. The conference aimed to address pressing challenges in biotechnology, pharmacology, and artificial intelligence (AI) by encouraging interdisciplinary research and industry-academia partnerships.

Key objectives of ICBPAIISD-2024 include:

1. **Promoting Scientific Research and Innovation** – Encouraging research in biotechnology, pharmacology, and AI to develop sustainable solutions for healthcare, agriculture, and environmental conservation.
2. **Enhancing Industry-Academia Collaboration** – Strengthening ties between academic institutions and the industry to facilitate technology transfer and real-world applications of scientific innovations.
3. **Addressing Global Challenges** – Exploring how biotechnology, AI, and pharmacology can be leveraged to combat climate change, enhance food security, develop personalized medicine, and ensure public health sustainability.

4. Facilitating Knowledge Exchange – Creating a dynamic platform for young researchers and seasoned professionals to present their work, receive expert feedback, and foster mentorship.
5. Exploring AI's Role in Scientific Advancements – Showcasing how AI-driven technologies are transforming biotechnology and pharmacological research, optimizing clinical solutions, and driving efficiency across multiple domains.
6. Encouraging Sustainable Development Initiatives – Aligning scientific discussions with the United Nations' Sustainable Development Goals (SDGs) to promote responsible innovation for a greener and healthier planet.

Through these objectives, **ICBPAIISD-2024** aimed to catalyze new collaborations, policy formulations, and technological breakthroughs that would contribute significantly to a sustainable and technologically advanced future.

Vision of ICBPAIISD-2024

The vision of **ICBPAIISD-2024** was to establish itself as a premier global platform where cutting-edge research, emerging technologies, and interdisciplinary collaborations drive impactful advancements in biotechnology, pharmacology, and artificial intelligence. The conference sought to pave the way for transformative innovations that would shape the future of scientific research, industrial applications, and sustainable development.

Key aspects of the conference's vision include:

1. A Future of Sustainable Scientific Innovations – **ICBPAIISD-2024** envisioned a world where biotechnology, pharmacology, and AI seamlessly integrate to create sustainable solutions for healthcare, agriculture, and industrial advancements.
2. Bridging the Gap Between Research and Application – The conference aimed to ensure that academic research translates into real-world applications, benefiting society, industries, and global ecosystems.
3. Empowering Young Researchers and Entrepreneurs – **ICBPAIISD-2024** sought to inspire and nurture the next generation of scientists, technologists, and entrepreneurs, encouraging start-ups and innovations in these fields.
4. Global Collaboration for a Better Tomorrow – By bringing together experts from different domains, the conference aspired to foster global partnerships and set the foundation for future international projects dedicated to sustainable development.
5. A Holistic Approach to AI Integration – Recognizing AI as a transformative force, **ICBPAIISD-2024** promoted the responsible use of AI-driven technologies in solving critical challenges in biotechnology, pharmacology, and beyond.

With this vision, **ICBPAIISD-2024** has set a new benchmark for fostering interdisciplinary innovation and knowledge exchange, ensuring that the research and ideas shared during the conference continue to drive impactful progress toward a sustainable and technologically advanced world.

Theme

The conference successfully brought together experts to explore interdisciplinary advancements in **biotechnology, pharmacology, and AI**. Key themes included **Sustainable Agriculture**, addressing GMOs, biopesticides, and eco-friendly farming to enhance crop resilience, and **Environmental Biotechnology**, focusing on bioremediation, bioenergy, and carbon capture for pollution control. **Biotechnology's role in Climate Change Mitigation** and **AI-driven Resource Management** were also discussed, highlighting innovative solutions for sustainability.

The conference emphasized **Drug Discovery and Development**, integrating **Pharmacogenomics** for personalized medicine and AI-driven drug design. **Biomanufacturing and Bioprocessing** explored bio-based production methods like enzyme applications, bioplastics, and biofuels. **Nutraceuticals and Functional Foods** discussions centered on enhancing public health through biotech innovations in food.

AI's transformative role was a focal point in **Healthcare, Drug Development, Predictive Analytics for Public Health, and Biosensors & Diagnostics**, examining its impact on treatment planning, outbreak prediction, and real-time disease monitoring. **Ethical concerns in Biotech, AI, and Pharmacology** were addressed under **Ethics & Regulation in Innovation** to ensure responsible progress.

Global Collaborations and **Education & Capacity Building** were key themes, stressing interdisciplinary research, skill development, and knowledge sharing for sustainable innovation. The conference underscored the need for stronger **Academia-Industry-Government partnerships**, fostering a collaborative ecosystem to tackle global challenges.

Committees constituted for Successful Organization of the Conference

International Advisory Board

The International Advisory Committee (IAC) played a crucial role in ensuring the success of the conference at RR Institute of Modern Technology. Their involvement began with offering strategic guidance, helping to align the conference themes with global trends, and ensuring the participation of renowned experts from various fields. By leveraging their vast network of academic and industry connections, the IAC facilitated the inclusion of distinguished speakers, enhancing the conference's credibility and reach.

The committee's expertise was pivotal in the design of the conference agenda, ensuring a balance between cutting-edge research presentations and practical industry applications. They also contributed to shaping the sessions, offering insightful recommendations that kept the discussions focused, relevant, and engaging for attendees. Additionally, the IAC provided support in promoting the event to a global audience, helping to draw participants from diverse geographical locations and backgrounds.

Through their dedicated efforts and invaluable advice, the IAC ensured that the conference was not only well-organized but also intellectually enriching, making it a resounding success. Their contributions were integral to the seamless execution of the event and to fostering collaboration among participants from various sectors of academia and industry.

Name	Designation	Role
1. Prof. D. S. Chauhan	Former Vice Chancellor, AKTU, Lucknow	Member
2. Prof. R. C. Mishra	Vice Chancellor, Mahakaushal University, Jabalpur, Madhya Pradesh, India.	Member
3. Prof. B. A. Chopade	Vice Chancellor, AKS University, Satna, Madhya Pradesh, India	Member
4. Dr. Rohitash Jamwal	Scientist, Agios Pharmaceuticals, Cambridge, Massachusetts, USA.	Member
5. Prof. Gobardhan Das	Director, IISER, Bhopal, Madhya Pradesh, India	Member
6. Prof. Amit Awasthi	Senior Professor & Head, Department of Immunology, THSTI, Faridabad, Haryana, India	Member
7. Prof.(Dr.) Vineet K. Singh	A.T. Still University, Kirksville City, Missouri, USA.	Member
8. Dr. Reeta Singhania	Research Professor, National Kaohsiung University of Science and Technology, Taiwan	Member
9. Prof. Sharad Kumar Mishra	Director, Institute of Agriculture & Natural Sciences, Former Head, Department of Biotechnology, DDU Gorakhpur University, Gorakhpur, U.P., India	Member
10. Dr. Shailesh Kumar Ghatuary	Director, SRLT Group, Etawah, Uttar Pradesh, India.	Member
11. Prof.(Dr.) Pawan Maurya	Head, Department of Biochemistry, Central University of Haryana, Mahendergarh, Haryana, India.	Member
12. Prof.(Dr.) Pushpendra Tripathi	Director, IOP, Lucknow University, Uttar Pradesh India.	Member
13. Prof.(Dr.) Janmejai K. Srivastava	Director, Amity Institute of Biotechnology, Amity University, Lucknow, Uttar Pradesh, India	Member

14. Prof. (Dr.) Bharat Mishra	Director (IOP), DSMNRU, Lucknow, Uttar Pradesh, India	Member
15. Dr. Udai Pratap Singh	Manager - Quality Assurance & Production, Medsource Ozone Biomedicals Pvt. Ltd., Faridabad, Haryana, India	Member
16. Dr. Abhinav Kumar Srivastava	Director General, F S University, Shikohabad, Uttar Pradesh, India	Member
17. Dr. Neeraj Shukla	Proctor, Khwaja Moinuddin Chishti Language University, Lucknow, Uttar Pradesh, India.	Member
18. Dr. Arun Kumar Singh	Dean Academics, RRSIMT, Amethi, Uttar Pradesh, India.	Member
19. Dr. Vaibhav Tiwari	Associate Professor, Downers Grove, Illinois, USA	Member
20. Dr. Kedar Nath Natarajan	Assistant Professor, University of Southern Denmark, Denmark.	Member
21. Dr. Sanjay Yadav	Assistant Professor, IOP, DSMNRU, Lucknow, Uttar Pradesh, India	Member
22. Mr. Gurudev Anil Tiwari	Principal, D. El. Ed., RR Group of Institutions, Lucknow, Uttar Pradesh, India	Member
23. Dr. Narendra Pratap Tripathi	Department of Applied Sciences, RR Group of Institutions, Lucknow	Member
24. Dr. Ram Prasad	Associate Professor, Mahatma Gandhi Central University, Motihari, East Champaran, Bihar, India	Member
25. Dr. Vivek Srivastava	Associate Professor, Department of Pharmacology, AIP, Amity University, Lucknow, Uttar Pradesh, India	Member
26. Dr. Rajeev Kumar	Assistant Professor, Amity University Uttar Pradesh, Noida, Uttar Pradesh, India	Member
27. Prof. (Dr.) Surya Prakash Tripathi	Director, RR Group of Institutions, Lucknow, Uttar Pradesh, India	Member
28. Dr. Rohit Krishna	Ex-Managing Director, Codon3, Muzaffarpur, Bihar, India.	Member
29. Dr. Nar Singh Chauhan	Assistant Professor, Department of Biochemistry, MDU, Rohtak, Haryana, India	Member
30. Dr. Ajay Amit	Assistant Professor, Department of Forensic Science, GGCU, Bilaspur, Chhattisgarh, India	Member
31. Mr. Vijay Bahadur Singh	Chief Proctor, RR Group of Institutions, Lucknow, Uttar Pradesh, India	Member
32. Mr. Vikas Singh	Dean Students Welfare, RR Group of Institutions, Lucknow, Uttar Pradesh, India	Member
33. Prof. (Dr.) Anchal Srivastava	Assistant Professor, Department of Biochemistry, Banaras Hindu University(BHU), Varanasi, Uttar Pradesh, India.	Member
34. Dr. Ashutosh Yadav	Associate Professor & Head, Institute of Pharmacy, DSMNRU, Lucknow, Uttar Pradesh, India	Member
35. Dr. Saurabh Jain	Head, Department of Biotechnology, MGIMT, Lucknow, Uttar Pradesh, India	Member
36. Dr. Rehan Sultan Khan	Head, Department of Biotechnology, AIET, Lucknow, Uttar Pradesh, India	Member

Core Committee

The Core Committee of the International Conference played a pivotal role in the seamless execution and overall success of the event. Tasked with overseeing the strategic planning and execution, the committee ensured that every aspect of the conference was meticulously organized. From conceptualizing the theme to curating a diverse range of high-quality sessions, the committee members demonstrated remarkable leadership and collaboration.

Their efforts were crucial in selecting the esteemed speakers and experts, ensuring that each session aligned with the conference's objectives and fostered valuable knowledge exchange. The committee worked diligently to coordinate logistics, manage timelines, and liaise with key stakeholders, creating an environment conducive to both learning and networking.

Their dedication to creating a platform that bridged academic research with industry practices was evident in the conference's content and impact. The successful organization of the event reflects the Core Committee's vision, commitment, and collective expertise, which played a significant role in making the conference a remarkable experience for all participants. Their contribution was invaluable in ensuring the event met its objectives and left a lasting impact on all involved.

Name	Designation	Title
1. Prof. (Dr.) J. P. Pandey	Vice Chancellor, AKTU, Lucknow	Chief Patron
2. Shri Anil Kumar Agrawal	Chairman, RR Group of Institutions, Lucknow	Patron
3. Shri Chitranshu Agrawal	Secretary, RR Group of Institutions, Lucknow	Co-Patron
4. Prof. (Dr.) S. P. Tripathi	Director, RR Group of Institutions, Lucknow	Co-Patron
5. Mr. Durgesh Verma	Dean (Academics), RR Group of Institutions, Lucknow	Convener
6. Dr. Dheerendra Kumar	Head, Dept. of Biotechnology & Controller of Examination, RR Group of Institutions, Lucknow	Convener
7. Dr. Akash Singh	CEO, Bioverse Technologies Pvt. Ltd.	Organizing Secretary
8. Dr. Sanjay Yadav	Assistant Professor, IOP, DSMNRU, Lucknow	Co-Organizing Secretary
9. Er. Vikas Chaubey	Assistant Professor (ME), IET, DSMNRU, Lucknow	Co-Organizing Secretary
10. Er. Puneet Kumar Chaturvedi	Research Associate, Bioverse Technologies Pvt. Ltd.	Co-Organizing Secretary

Review Committee

The Review Committee of the International Conference at RR Institute of Modern Technology played a pivotal role in ensuring the event's success. Chaired by Prof. Bharat Mishra, the committee was responsible for overseeing the quality and integrity of the conference proceedings. Their meticulous work began with reviewing and selecting research papers, ensuring that only the most innovative and relevant studies were presented. The committee worked closely with speakers, guiding them in refining their presentations to meet the highest academic standards.

Beyond paper selection, the Review Committee also played a key role in curating the conference's agenda, identifying key themes and topics that aligned with the event's objectives. Their expertise was instrumental in facilitating meaningful discussions, fostering collaboration, and ensuring that the conference addressed the latest trends and advancements in the field.

Moreover, the Review Committee's involvement extended to the event's logistical aspects, where they ensured seamless coordination between presenters, participants, and attendees. Their dedication, professionalism, and attention to detail were central to the conference's smooth execution, making it a successful platform for knowledge exchange and networking in the academic and professional communities.

Name	Designation	Title
1. Prof. (Dr.) Bharat Mishra	Director (IOP), DSMNRU, Lucknow	Head
2. Dr. Rajeev Kumar	Assistant Professor, Amity University, Noida	Member
3. Dr. Devendra Singh	Assistant Professor, Institute of Biosciences & Technology, SRMU, Lucknow	Member
4. Dr. Anand Mishra	Assistant Professor, Department of Biotechnology, RRIMT, Lucknow	Member
5. Prof. (Dr.) Sanjay Mishra	Professor, Department of Biotechnology, SRIMT, Lucknow	Member
6. Prof. (Dr.) Malik Rafi	Professor, Department of Electrical Engineering, RRIMT, Lucknow	Member

Panelists

The Panelists of the International Conference held at RR Institute of Modern Technology played an integral role in ensuring the success of the event. Their expertise, insights, and active participation in the discussions helped set the tone for the high-quality sessions that took place. By bringing diverse perspectives to the table, the panelists fostered thought-provoking debates and shared valuable knowledge with the attendees. Their commitment to advancing the fields of biotechnology, life sciences, and research was evident in every interaction, as they contributed significantly to the thematic depth of the conference.

In addition to their intellectual contributions, the panelists served as key advisors and thought leaders, guiding the conference's direction and helping shape the overall experience. They were instrumental in facilitating constructive dialogues, addressing questions from participants, and offering solutions to some of the most pressing challenges faced by the industry. Their active engagement not only enriched the conference proceedings but also ensured that the event was not only a platform for sharing knowledge but also for forging lasting collaborations and partnerships. The conference's success owes much to their dedication and passion for advancing science and fostering innovation.

Name	Designation	Title
1. Prof.(Dr.) Avinash C. Tripathi	Director, RGS College of Pharmacy, Itaunja	Member
2. Prof.(Dr.) Arpita Singh	Director, SVNIP, Barabanki	Member
3. Prof.(Dr.) Dharamveer	Director, Ambekeshwar Institute of Pharmaceutical Sciences, Lucknow	Member
4. Prof.(Dr.) Ramesh Kumar Singh	Director, B. N. College of Pharmacy, Lucknow	Member
5. Dr. O. P. Verma	Director, GIPS, Lucknow	Member
6. Dr. Avneesh Kumar	Director, Nova College of Pharmacy, Lucknow	Member
7. Dr. Neeraj Kumar	Principal, Samarpan College of Pharmacy, Lucknow	Member
8. Dr. Alokik Dixit	HOD-MBA, RR Group of Institutions, Lucknow	Member
9. Dr. Pankaj Kumar Sonar	Assistant Professor, Government Pharmacy College, BRD Medical College, Gorakhpur	Member
10. Dr. Anju Verma	Assistant Professor, Department of Pharmaceutical Science and Technology, MMMUT, GORAKHPUR	Member
11. Dr. Vimal Kumar Yadav	Assistant Professor, IOP, Dr. Ram Manohar Lohia, Avadh University, Ayodhya	Member
12. Dr. Prakash Chandra Gupta	Assistant Professor, School of Pharmaceutical Sciences, CSJMU, Kanpur	Member
13. Mr. Sunil Kumar Verma	Assistant Professor, FoB, SRMU, Lucknow	Member
14. Mr. Mahendra Kumar Savita	Head, Department of Biotechnology, NVEMI, Kanpur	Member
15. Mr. Naveen Sharma	Assistant Professor, Department of Biotechnology, AIMT, Lucknow	Member
16. Mr. Shiv Pratap Singh	Assistant Professor, Department of Applied Sciences, RRIMT	Member
17. Mr. Pankaj Gupta	Assistant Professor, Department of Biotechnology, SRIMT, Lucknow	Member

Conference Highlights

Conference Highlights – Day 1 at RR Institute of Modern Technology,

Venue: Seminar Hall, Architecture Building, RRG I Campus

1. A total of **300 students & faculties** participated in the conference from the University and collaborating institutions such as **Amity University Lucknow & Noida Campuses, Ankerite College, Aryakul College, Azad Group of Educational Institutions, B. N. College of Pharmacy, BBD University, CSJMU Kanpur, AKTU, M. C. Saxena College of Engineering & Technology, Dr. Shakuntala Mishra National Rehabilitation University, GCRG College of Pharmacy, Gautam Buddha College of Pharmacy, Goel Institute of Pharmacy & Sciences, IIM Lucknow, IPSR College Unnao, SRMU, Lucknow, JIT Jahangeerabad, Lord’s University Rajasthan, Lucknow Institute of Pharmacy, Lucknow University, Maa Sharda College of Pharmacy, NIMS University, Rajasthan, PK University, RR Institute of Modern Technology, Rameshwaram Institute of Technology & Management, Samarpan College of Pharmacy, SMS, Lucknow, Seth Vishambharnath Group of Educational Institutions Barabanki, & many more...**
2. Inaugural Session: December 20, 2024 (11.00 am – 11.59 am)
 - Lamp Lightening was done by **Prof. (Dr.) R. K. Dixit, Prof. (Dr.) Dharmendra Singh, Prof. (Dr.) Mansaf Alam, Prof. (Dr.) Surya P. Tripathi, Mr. Durgesh Verma, Dr. Dheerendra Kumar & Dr. Akash Singh** followed by Maa Saraswati Vandana to initiate a successful beginning of the day
 - Welcome address by **Mr. Durgesh Verma, Dean-Academics, RRG I, Lucknow (Convener-ICBPAIISD-2024)** included heartfelt warm welcome of a diverse and talented group of scholars, researchers, industry professionals, and students gathered. He emphasized on constantly evolving field of biotechnology and importance of events like International Conferences, Seminars, Workshops & Symposium as these provide a crucial platform to exchange ideas, share knowledge, and discuss the future of industry. He stated that **ICBPAIISD-2024** is designed to foster collaboration, encourage interdisciplinary dialogue, and showcase the latest advancements in biotechnology, molecular biology, and related fields.
 - **Dr. Dheerendra Kumar, Head of the Department of Biotechnology & Controller of Examinations**, who also served as the Convener of the conference, warmly welcomed all attendees. During his address, Dr. Kumar emphasized the significance of the conference in advancing knowledge and fostering collaboration within the biotechnology and pharmaceutical sciences sectors. The event was recognized as an important platform for leading experts, researchers, academicians, and professionals to come together, exchange ideas, and discuss the latest trends, challenges, and innovations in these fields. Dr. Kumar expressed his gratitude to all panelists, speakers, and participants for their invaluable contributions to the success of the conference. His words set the tone for an engaging and

productive two-day event, which promised to offer inspiring discussions and collaborative opportunities for all involved.

- The gracious address of **Prof. (Dr.) Surya P. Tripathi, Director of RR Institute of Modern Technology, Lucknow (Co-Patron- ICBPAIISD-2024)** highlighted conferences as a platform for distinguished experts, researchers, and professionals to gather, share knowledge, and explore advancements in biotechnology and pharmaceutical sciences. Prof. Tripathi expressed hope that meaningful discussions and collaborations would emerge, fostering innovation. He extended heartfelt gratitude to all speakers, panelists, and participants for their contributions to the success of the event.
- Next in line, **ICBPAIISD-2024** was graced by **Guest of Honour, Prof. (Dr.) R. K. Dixit, Professor in the Department of Pharmacology, KGMC, Lucknow**, who delivered a highly insightful address. He acknowledged the conference as a valuable platform for experts and professionals to share knowledge, discuss challenges, and explore opportunities in biotechnology and pharmaceuticals. Prof. Dixit expressed hope that the discussions and collaborations would lead to new ideas and innovations, wishing all participants a productive and enriching experience.
- **Prof. (Dr.) Dharmendra Singh, Associate Director of the School of Management Sciences, Lucknow, Special Guest**, addressed the gathering at the commencement of the International Conference on Biotechnology, Pharmacology & Artificial **Intelligence Innovations for Sustainable Development (ICBPAIISD-2024)**. He emphasized the importance of the conference as a platform for fostering knowledge exchange and collaboration among experts from academia, industry, and research sectors. He highlighted the transformative role of biotechnology in revolutionizing various fields, including healthcare, agriculture, and environmental sustainability. He further acknowledged the growing influence of artificial intelligence in enhancing research methodologies, particularly in drug discovery and medical diagnostics. Stressing the need for interdisciplinary cooperation, he encouraged participants to engage in meaningful discussions and explore innovative solutions to pressing global challenges. Prof. Singh expressed his optimism that the conference would serve as a convergence of ideas, leading to impactful contributions in the scientific domain. He urged attendees to actively participate, collaborate, and harness the opportunities provided by the event. Concluding his address, he extended his best wishes to all delegates and expressed confidence in the conference's success in advancing scientific knowledge and sustainable development.
- Next all the Guests, Speakers & Panelists were facilitated by **Co-Patron, Prof. (Dr.) Surya P. Tripathi & Conveners, Shri Durgesh Verma & Dr. Dheerendra Kumar**, with necessary certifications & Momentos, along with Tulsi planted pots.

Ending of Inaugural session was marked by a breakfast of the dignitaries and the attendees at 11.59 am.

3. The scheduled Keynote Session I of **Dr. Vivek Morya** (Senior Scientist, Kangnam Sacred Heart Hospital, Hallym University, Seoul, South Korea) started at 12:00 pm sharp. The topic of deliberation, **Stem Cell-Based Research: The Future of Medicine & Opportunities**, gripped the audience from the onset. Dr. Morya delivered an insightful and highly engaging half-hour lecture, outlining the immense potential of stem cell research in revolutionizing modern medicine. His clear explanations, backed by cutting-edge research and real-world applications, sparked enthusiasm and deep interest among the attendees. The audience was captivated by his in-depth analysis of the opportunities stem cells present for regenerative medicine, personalized treatment, and disease modeling. The session not only enlightened the participants but also inspired new avenues for future research and collaboration in the field. The audience was highly engaged during the interactive session following Dr. Morya's lecture. Several thought-provoking questions were posed, particularly on the ethical implications and future challenges of stem cell research. Dr. Morya responded with detailed insights, fostering a dynamic exchange that further enriched the learning experience for all attendees.
4. Next, The **Guest Session I** started with **Dr. R. K. Dixit**, Professor in the Department of Pharmacology at King George Medical University, Lucknow, who gave an insightful 35-minute lecture on "**Biotechnology: Mother of Innovation in Life Sciences Domain**". He highlighted how biotechnology has revolutionized the life sciences sector, driving innovations in medical research, drug development, agriculture, and environmental sustainability. Dr. Dixit discussed key advancements such as genetic engineering, gene therapy, and biopharmaceuticals, illustrating their transformative impacts on healthcare and industry. His lecture emphasized the critical role biotechnology plays in addressing global challenges like disease management and food security. The lecture was followed by an engaging question-answer session, where the audience posed insightful queries regarding the future scope of biotechnology, ethical concerns in genetic modifications, and the role of AI in biotech research. Dr. Dixit provided detailed, thought-provoking responses, enriching the session and encouraging further exploration of biotechnology's potential to drive future innovations in life sciences.
5. **Lunch break** of 59 minutes duration followed Dr. Dixit's talk. Students were guided to the Boys Hostel Ground for Lunch in well organized buffet with a tokenized system. The **Guests, Speakers, Panelists & Faculties** had their lunch in the **Dining hall at the Architecture Building**.
6. The **Guest Session II** commenced promptly at 02:40 pm, following lunch, with **Dr. Mansaf Alam**, Professor and Young Faculty Research Fellow, DietY, Govt. of India, and Department of Computer Science, Jamia Millia Islamia, New Delhi, delivering an enlightening 40-minute lecture on "**Artificial Intelligence and Recent Technologies: Applications in Real Life.**" Dr. Alam provided a comprehensive overview of the transformative impact of artificial intelligence (AI) and emerging technologies across various sectors, including healthcare, education, finance, and industry. He emphasized how AI is shaping the future through advancements in machine learning, natural language processing, and data analytics, making systems smarter and more efficient. Dr. Alam highlighted real-life applications such as AI-

driven diagnostics in healthcare, autonomous vehicles, and smart cities, showcasing the vast potential of these technologies to solve complex challenges. He also discussed the ethical considerations surrounding AI and the importance of responsible innovation. The lecture was followed by a stimulating question-and-answer session, where the audience actively engaged with Dr. Alam on topics such as the future of AI in biotechnology, its role in decision-making, and the challenges of integrating AI with existing technologies. Dr. Alam's responses were both insightful and thought-provoking, leaving the audience with a deeper understanding of the profound implications of AI in today's rapidly evolving world.

7. The **Keynote Session II** began at 03:30 pm with **Dr. Himanshu Narayan Singh**, Senior Research Scientist at Memorial Sloan Kettering Cancer Centre, New York, USA, delivering an insightful 40-minute lecture on **“Exploring Minor Groove Binders as a Therapeutic Approach for Friedreich Ataxia”**. Dr. Singh provided a detailed examination of Friedreich Ataxia (FA), a rare neurodegenerative disorder, and the challenges associated with finding effective therapies. He introduced the concept of minor groove binders (MGBs) as promising compounds capable of modulating gene expression and potentially alleviating the symptoms of FA. Dr. Singh explained the molecular mechanisms underlying FA and how MGBs, which interact with DNA's minor groove, could influence the expression of the frataxin gene, which is typically silenced in FA patients. His presentation highlighted the experimental approaches being used to test MGB efficacy and their potential to provide a novel therapeutic strategy. Following the lecture, the audience engaged in a lively question-and-answer session. Attendees asked insightful questions regarding the potential side effects of MGB therapy, its scalability, and how this approach could be translated into clinical practice. Dr. Singh provided detailed responses, offering hope for the future of FA treatment and emphasizing the importance of continued research and innovation in this field.
8. **Day 1 ended with Dr. Singh's Lecture** after which candidates were dispersed to the **Boy's Hostel Ground for High Tea and Guests, Speakers, Panelists & Faculties** had their High Tea in the **Dining hall at the Architecture Building**.

Conference Highlights – Day 2 at RR Institute of Modern Technology,

Venue: Seminar Hall, Architecture Building, RRG Campus

1. Day 2 started at 10:30 AM with **Guest Session III**, delivered by **Prof. (Dr.) J. K. Srivastava**, Director, Amity Institute of Biotechnology, Amity University, Lucknow Campus, on the topic “**AI Applications in Biotechnology and Pharma.**” In his 40-minute session, Dr. Srivastava elaborated on how artificial intelligence is revolutionizing the biotechnology and pharmaceutical industries. He highlighted AI-driven advancements in drug discovery, personalized medicine, and genomic analysis. Case studies demonstrating AI’s role in accelerating clinical trials and enhancing precision medicine were discussed, emphasizing its potential to transform healthcare. Dr. Srivastava also shed light on AI-powered diagnostic tools and automation in laboratory research, significantly reducing human errors and increasing efficiency. He stressed the importance of interdisciplinary collaboration between biotechnologists and data scientists to harness AI’s full potential. The session captivated the audience, sparking an engaging Q&A discussion. Participants raised thought-provoking questions about ethical considerations, AI’s limitations in biotech, and its long-term impact on the pharmaceutical industry. Dr. Srivastava patiently addressed each query, providing deeper insights and practical perspectives on AI integration in biotechnology.
2. His session proved to be an enlightening experience, equipping attendees with valuable knowledge on the future of AI in life sciences. The audience expressed great enthusiasm, making the session a highly interactive and intellectually stimulating experience. **Guest Session IV** was presided by **Mr. Dharendra Kumar Singh**, Delivery Manager, Accenture, India, and former ATT Cricket Wireless-Analytical & Business Intelligence, USA, on the thought-provoking topic “**Artificial Intelligence: Bliss or Menace.**” During his 40-minute lecture, Mr. Singh explored the dual impact of artificial intelligence (AI) on various industries and society at large. He discussed AI’s transformative role in enhancing efficiency, automation, and decision-making across sectors such as healthcare, finance, and customer analytics. Real-life examples demonstrated how AI-driven innovations have led to smarter healthcare diagnostics, personalized marketing strategies, and predictive analytics, driving business growth and convenience. However, Mr. Singh also addressed the concerns surrounding AI, including job displacement, data privacy issues, ethical dilemmas, and the potential misuse of AI in deepfake technology and cybersecurity threats. He emphasized the importance of responsible AI development, governance policies, and the need for human oversight to mitigate risks. The session concluded with an engaging Q&A, where participants raised questions about AI’s long-term impact on employment, regulatory challenges, and future career prospects in AI-driven industries. Mr. Singh

provided insightful responses, leaving the audience with a balanced perspective on harnessing AI's potential while addressing its challenges responsibly.

3. The Interactive lecture was further followed by **Poster and Oral Presentations (12.00 pm – 01.00 pm)** of participants for upcoming one hour during which students from varied educational background of Biotechnology & Pharmacy & Artificial Intelligence presented their works online & in-person at the provided medium. The presentation was headed by the esteemed **Panelists & Review Committee Members** who assessed Candidate's oral & poster presentation on standard norms.
4. By 01.00 pm **Lunch break** of 59 minutes duration was announced. Students were guided to the Boys Hostel Ground for Lunch. The **Guests, Speakers, Panelists, Review Committee Members & Faculties** had their lunch in the Dining hall at the Architecture Building.
5. At 02:00 pm, after the lunch break, **Guest Session V** was delivered by **Prof. (Dr.) Vinay Dwivedi**, Director, Amity Institute of Biotechnology, Amity University, Gwalior, Madhya Pradesh, on "**Application of AI in Agriculture & Food Sectors.**" In his 40-minute lecture, Prof. Dwivedi elaborated on how artificial intelligence (AI) is revolutionizing modern agriculture and food production. He discussed AI-driven advancements in precision farming, automated irrigation systems, and real-time crop monitoring using machine learning and computer vision. The role of AI in predicting weather patterns, optimizing pesticide use, and improving soil health assessment was highlighted as a game-changer in sustainable agriculture. Additionally, he emphasized AI's impact on the food sector, including quality control, supply chain optimization, and food safety monitoring through predictive analytics. Prof. Dwivedi also addressed challenges such as the digital divide in rural areas, AI implementation costs, and ethical considerations regarding data privacy in smart farming. The session concluded with a lively Q&A discussion, where participants inquired about AI's feasibility for small-scale farmers, its role in combating food security issues, and career opportunities in agri-tech. Prof. Dwivedi provided valuable insights, encouraging future research and technological advancements in AI-driven agriculture and food systems.
6. **02.50 pm** marked starting of **Chief Guest Address** by **Dr. Abhinav Kumar Srivastava**, Director General, FS University, Shikohabad, Uttar Pradesh & **Guest of Honour addressal** by **Dr. Rajeev Kumar**, Associate Professor, Amity Institute of Biotechnology, Amity University, Noida.
7. **Dr. Abhinav Kumar Srivastava**, in his 30-minute speech, expressed his gratitude and appreciation for the organizers, panelists, and participants for their collective efforts in making the event a grand success. He highlighted the significance of collaborative research, knowledge sharing, and innovation in advancing biotechnology and related fields.
8. Dr. Srivastava emphasized the importance of interdisciplinary approaches in scientific research and encouraged young researchers to embrace emerging technologies. He shared insights on the evolving industry trends and how academia and industry partnerships can

drive meaningful progress. His speech also underscored the role of education in shaping the future of scientific advancements.

9. Following this, **Dr. Rajeev Kumar**, in his 20-minute address, he commended the dedication and enthusiasm of all participants. He elaborated on the impact of such conferences in fostering academic excellence and research collaborations.
10. Dr. Rajeev stressed the importance of continuous learning and the role of emerging biotechnological innovations in addressing global challenges. He encouraged students and researchers to actively engage in discussions, publish their findings, and contribute to the scientific community. He concluded his speech by thanking the organizers for their meticulous planning and execution, making the conference a resounding success.
11. Amidst **03.40 pm – 04.00 pm, Awards and Certificate Distribution** was initiated to ensure timely conclusion of the Program.
 - For Oral Presentation (Pharma domain), **College of Pharmacy, BRD Medical College, Gorakhpur (Mr. Md. Aman)** was awarded **Winner**, and **Rameshwaram Group of Institutions, Lucknow (Ms. Nancy Srivastava)** claimed **1st Runner-up Position**.
 - In Biotechnology domain, **Amity University, Gurugram (Mrs. Shubhra Sharma)** bagged **Winner** tag for Oral Presentation.
 - For Poster Presentation (Pharma Domain), **RGS College of Pharmacy, Lucknow (Mr. Sushil Prajapati & Ms. Kripa Chaudhary)** bagged **Winner** tag followed by **BN College of Pharmacy, Lucknow (Mr. Priyam Dixit, Mr. Shaurya Singh & Mr. Utkarsh Yadav)** for **1st Runner-up position** and **Goel Institute of Pharmaceutical Sciences, Lucknow (Km. Kajal Singh)** for **2nd Runner up position** respectively.
 - In Biotechnology Domain, **RR Institute of Modern Technology, RRGI, Lucknow (Mr. Ashu Tiwari & Mr. Md. Adnan)** bagged **Winner** tag for Poster Presentation.
 - After award distribution, All the participants and oral/poster presenters were provided with Certificate of Participation & Certificates of Appreciation respectively by the Guests.
 - In last 10 minutes, valuable responses of students were invited over Conduction of Conference, and all the facilities provided at the venue to which all the participants had a positive response.
1. From **04.00 pm – 04.30 pm, Validictory & Felicitation of the Guests, Speakers, Review Committee Members & Panelists** was done. Each dignitary had a positive review of the overall organization and all praised RRGI & Bioverse Technologies Pvt. Ltd. associationship for successful organization of the International Conference.
2. **Co-Patron, Prof. (Dr.) SP Tripathi** thanked the gathering and stated-
“**International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)**” has been a resounding success, and this achievement would not have been possible without the

invaluable contributions of our esteemed panelists, distinguished speakers, and enthusiastic participants.

We extend our deepest gratitude to the **Panelists**, whose expertise and insightful discussions provided a strong intellectual foundation for the conference. Their critical evaluations, thought-provoking perspectives, and active engagement enriched the sessions and helped in shaping meaningful academic discourse. Their commitment to excellence played a pivotal role in ensuring the high quality of deliberations throughout the event.

Our heartfelt appreciation goes to the **Keynote and Guest Speakers**, who shared their profound knowledge and cutting-edge research in various domains. Their enlightening lectures on biotechnology, pharmaceuticals, artificial intelligence, environmental sustainability, and agricultural advancements not only expanded our understanding but also inspired future research and innovation. Their ability to bridge the gap between theory and real-world applications made each session highly impactful and engaging.

We sincerely thank all the **participants, including researchers, academicians, students, and industry professionals**, for their active involvement and enthusiasm. Their thought-provoking questions, insightful discussions, and eagerness to learn added immense value to the conference. The vibrant exchange of ideas and collaborative spirit displayed throughout the sessions truly exemplified the essence of academic growth and interdisciplinary learning.

Lastly, we express our appreciation to the **organizing committee, technical staff, and volunteers**, whose tireless efforts ensured the seamless execution of this event. The success of **ICBPAIISD-2024** stands as a testament to the collective dedication and passion of everyone involved. We look forward to continued collaboration and future endeavors in advancing research and knowledge.”

3. **Convener, Dr. Dheerendra Kumar, Head, Department of Biotechnology & Controller of Examination, RRGI**, thanked the gathering saying, -

“On behalf of the organizing committee, I, **Dr. Dheerendra Kumar, Convener** of the **ICBPAIISD-2024**, extend my heartfelt appreciation to all the panelists, speakers, and participants for their invaluable contributions to the success of this conference.

A special thank you goes to our esteemed panelists and keynote speakers for sharing their expertise and innovative insights, which have enriched the discussions and broadened our understanding of the latest trends in biotechnology, artificial intelligence, and other related fields. Their engaging deliberations have set the stage for productive conversations that will inspire future research and collaboration.

I would also like to express my sincere gratitude to all the participants for their active involvement and enthusiasm. Your participation has made this conference a memorable and meaningful event. We hope this conference has provided you with new knowledge, perspectives, and connections that will prove beneficial in your academic and professional journeys.

Thank you all for your continued support and dedication.”

Dr. Dheerendra’s humble note marked the end of 2 days “**International Conference on Biotechnology, Pharmacology, and Artificial Intelligence Innovation for Sustainable Development (ICBPAIISD-2024)**” after which candidates were dispersed to the Boy’s Hostel Ground for High Tea and Guests, Speakers, Panelists & Faculties had their High Tea in the Dining hall at the Architecture Building

Profiles of Speakers



1. **Dr. Vivek Kumar Morya** is a **Senior Researcher** at **Hallym University Dongtan Sacred Heart Hospital** in **Hwaseong, Republic of Korea**. He earned his **PhD in Biotechnology** from **Deen Dayal Upadhyay Gorakhpur University, India**, and completed **postdoctoral research in Biological Engineering** at **Inha University, South Korea**. **Dr. Morya** has held academic positions, including **Assistant Professor** in the **Department of Biological Engineering** at **Inha University** and **faculty roles** at **Sam Higginbottom Institute of Agriculture, Technology and Sciences in India**. His research interests **encompass regenerative medicine, bioinformatics, big data, and artificial intelligence, with a focus on molecular biology, antibiotic resistance, and applied AI**. He has published extensively, contributing to over **67 publications with 799 citations**, and serves on the editorial boards of several scientific journals. **Dr. Morya** is also affiliated with professional societies such as the **Korean Society of Biotechnology and Bioengineering** and the **Biotech Research Society of India**.



2. **Prof. (Dr.) Rakesh Kumar Dixit** is a **distinguished Professor** in the **Department of Pharmacology and Therapeutics** at **King George's Medical University (KGMU), Lucknow, India**. He earned his **M.D. in Pharmacology** from **G.S.V.M. Medical College, Kanpur**, and completed his **Senior Residency** at the **Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh**. With a robust academic and research background, **Prof. Dixit** has supervised over **10 M.D. theses and projects**, contributing significantly to the field of clinical pharmacology. He is a **Fellow of the Foundation for Advancement of International Medical Education and Research (FAIMER)** and has an extensive publication record, including **59 research papers** and **37 review articles**. Additionally, he has **authored a book on Multiple Choice Questions in Pharmacology**. His research interests focus on **rational therapeutics across various medical and surgical disciplines**. Beyond his role at KGMU, **Prof. Dixit** has served as the **Founding Principal** of the **Autonomous State Medical College in Ghazipur**. He is also the **President of the National Pharmacology Teachers (NPT)** association and has been involved in organizing **national conferences** such as **NAPTICON 2024**. His dedication to research and teaching has made him a respected figure in the pharmacology community.



3. **Dr. Mansaf Alam** is a **Professor** in the **Department of Computer Science** at **Jamia Millia Islamia, New Delhi, India**. He earned his **Ph.D. in Computer Science** from **Jamia Millia Islamia** in 2009 and holds an **MCA** from **Aligarh Muslim University**, obtained in 2002. In recognition of his contributions, he was awarded the **Young Faculty Research Fellowship** by the **Ministry of Electronics and Information Technology (MeitY), Government of India**. **Dr. Alam's** research interests include **Artificial Intelligence, Big Data Analytics, Machine Learning, Deep Learning, Cloud Computing, and Data Mining**. He has published extensively in reputable international journals and conferences, with his work appearing in outlets such as **IEEE, Springer, Elsevier, and ACM**. Additionally, he has authored several books, including **"Digital Logic Design" (PHI), "Concepts of Multimedia" (Arihant), "Internet of Things: Concepts and Applications" (Springer), and "Big Data Analytics: Applications in Business and Marketing" (Taylor and Francis)**. **Dr. Alam** also holds an **international patent** for an **Artificial Intelligence-based Smart Dustbin**. He serves as the **Editor-in-Chief** of the **Journal of Applied Information Science** and is a **reviewer** for various esteemed journals, including **Elsevier's Information Sciences**.



4. **Dr. Himanshu Narayan Singh** is currently serving as a **Senior Research Scientist** at **Memorial Sloan Kettering Cancer Center, New York, USA**. His research interests lie in **"epigenetics and transcriptional regulation"**. In 2021-22, he worked as a **Postdoctoral Research Scientist** at **Columbia University, New York**, where his research aimed to explore differences between the regulatory networks involved in cancer and normal tissues through bioinformatics and computational biology. Prior to this, he worked as a **Post-Doctoral Fellow** at **TAGC, INSERM, Aix Marseille University, Marseille, France**, from 2018-21, where his research focused on **identifying Epromoters, promoters exhibiting enhancer activity under various stress conditions**. He developed a pipeline to identify **Epromoter-like clusters**. Between 2016-18, **Dr. Singh** worked as a **Research Associate** at **CSIR-Institute of Genomics & Integrative Biology, New Delhi, India**, where he focused on the identification and validation of genetic and epigenetic biomarkers for **high-altitude phenotypes using bioinformatics approaches**. He completed his **Ph.D.** at the **Department of Biochemistry, AIIMS, New Delhi**, and earned his degree from **NIU, India, in 2016**. Throughout his career, **Dr. Singh** has published around **fifty articles** and received an **Independent Research Project grant** from the **Indian Council of Medical Research, India**. He has also been an **Invited Researcher** twice at the **Department of Medical Chemistry, Medical University of Vienna, Austria**. His research work has been supported by various travel grants from both Indian and overseas funding agencies.



5. **Prof. (Dr.) Janmejai Kumar Srivastava** serves as the **Director of the Amity Institute of Biotechnology at Amity University Uttar Pradesh, Lucknow Campus**. He holds an **MSc in Zoology and a PhD in Parasitology**, with a **postdoctoral fellowship in Prostate Cancer research** from the USA. With over 38 years of experience in research and teaching, Prof. Srivastava has significantly contributed to the fields of drug diagnostics and vaccine development during his tenure at the **Central Drug Research Institute (CDRI)** in Lucknow. He also conducted **postdoctoral research focusing on prostate cancer chemoprevention** at **Case Western Reserve University** in Cleveland, Ohio. His areas of expertise include **Western Blot Analysis, ELISA, Immunohistochemistry, SDS-PAGE, Immunoblotting, Protein Purification, Flow Cytometry, Antioxidants, Zoology, and Microbiology**. Currently, he is involved in teaching subjects such as **Animal Biotechnology and Animal Cell and Tissue Culture**. Throughout his career, Prof. Srivastava has been dedicated to advancing research and education in biotechnology.



6. **Mr. Dharendra Kumar Singh** is a seasoned professional with extensive experience in the field of **Analytical and Business Intelligence**. He currently serves as a **Delivery Manager at Accenture, India**, where he leads and manages various projects, ensuring the delivery of high-quality solutions to clients. Prior to his tenure at Accenture, Mr. Singh was associated with **ATT Cricket Wireless in the United States**, specializing in **Analytical and Business Intelligence**. In this role, he was responsible for analyzing complex data sets to derive actionable insights, thereby contributing to strategic decision-making processes. His expertise in data analysis and business intelligence has been instrumental in driving business growth and operational efficiency. Throughout his career, Mr. Singh has demonstrated a strong commitment to excellence and innovation, consistently delivering results that exceed expectations. His leadership and analytical skills have earned him recognition and respect in the industry. Mr. Singh's professional journey reflects a dedication to leveraging data-driven strategies to achieve business objectives and a passion for continuous learning and development.



7. **Prof. (Dr.) Vinay Dwivedi** is the **Director of the Amity Institute of Biotechnology at Amity University, Gwalior, Madhya Pradesh, India**. He holds a **Ph.D. in Biotechnology** from **Uttar Pradesh Technical University, India**. With over **21 years** of experience in the field, **Dr. Dwivedi** has made significant contributions to biotechnology research and education. His research interests encompass **bioremediation, plant biotechnology, nanobiotechnology, and cancer biology**. Dr. Dwivedi has published more than **45 research articles** and has been **cited over 360 times**, reflecting the impact of his work in the scientific community. He is also an **editorial board member** for the **Online Journal of Microbiological Research**, where he contributes his expertise to the advancement of microbiological studies. In addition to his academic roles, Dr. Dwivedi has been involved in various research projects and has received recognition for his contributions to biotechnology. His dedication to research and education continues to inspire students and professionals in the field of biotechnology.



8. **Dr. Abhinav Kumar Srivastava** serves as the **Director General of FS University in Shikohabad, Uttar Pradesh, India**. In this capacity, he plays a pivotal role in steering the university's strategic initiatives and academic programs. His leadership is instrumental in fostering an environment that emphasizes academic excellence and holistic development. FS University offers a diverse range of undergraduate and postgraduate programs across various disciplines, including science, arts, commerce, and professional studies. The institution is committed to providing quality education and equipping students with the skills necessary to excel in their respective fields. Under Dr. Srivastava's guidance, the university has organized numerous workshops and seminars aimed at enhancing the educational experience. For instance, a five-day workshop was recently conducted by the university's Pharmacy department, reflecting the institution's dedication to practical learning and industry engagement. Dr. Srivastava's leadership is characterized by a focus on academic rigor and the overall development of students. His efforts have been central to the university's mission of nurturing well-rounded individuals prepared to meet the challenges of the modern world.

Abstracts

Opportunities And Challenges In Drug Discovery And Development By Using AI

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Abstract

Artificial intelligence (AI) is revolutionizing the drug discovery and development landscape by offering innovative tools and methodologies that streamline processes, reduce costs, and enhance precision. Traditional drug discovery is a time-intensive and expensive endeavour, often hindered by high failure rates. AI addresses these challenges by leveraging advanced algorithms, machine learning, and data analytics to accelerate target identification, optimize drug design, and predict clinical outcomes. AI-driven technologies, such as deep learning and natural language processing, facilitate the analysis of vast datasets, enabling the identification of novel drug candidates and biomarkers with unprecedented speed and accuracy.

Despite these advancements, the integration of AI into drug development faces significant challenges. Limited availability of high-quality, annotated datasets, biases in training data, and the complexity of biological systems pose hurdles to achieving reliable and reproducible results. Regulatory and ethical concerns further complicate the adoption of AI, particularly regarding transparency and interpretability of AI models. Addressing these challenges requires interdisciplinary collaboration, improved data-sharing frameworks, and advancements in explainable AI to build trust and ensure compliance with regulatory standards.

This abstract explores the transformative potential of AI in drug discovery and development, highlighting key opportunities and challenges. AI's potential in delivering safer, more effective therapies to patients while navigating the complexities of its integration into the pharmaceutical landscape.

Keywords: Artificial intelligence (AI), Drug discovery, Drug development, Clinical trials.

Targeted Therapeutic Options and Future Perspectives for HER2-Positive Breast Cancer

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Abstract

The most common disease in women and the leading cause of death is breast cancer, with HER2 overexpression found in 20% of cases, which is associated with a poor prognosis and a shorter life expectancy. Breast cancer develops when breast cells start to grow and divide abnormally, creating a tumour that may expand to other body parts by encroaching on adjacent tissues through the lymphatic system or bloodstream. Trastuzumab, a monoclonal antibody, is the treatment of choice which targets the HER2 receptor. But one-third of the patients don't get better with treatment. The monoclonal antibody pertuzumab, the antibody-drug conjugate (ADC), and trastuzumab-emtansine (T-DM1) are additional medications authorized for early HER2+ BC in addition to trastuzumab. The increased resistance rate has led to the development of further HER2-targeted tactics. This review reveals several investigations involving CAR-M and CAR-NK treatments, vaccinations, monoclonal antibodies like pertuzumab, tyrosine kinase inhibitors like lapatinib and tucatinib, and antibody-drug conjugates like trastuzumab-emtansine (T-DM1) and trastuzumab-deruxtecan have demonstrated the extraordinary clinical efficacy.

Keywords: Prognosis, HER2 positive, resistance, efficacy, investigations

Formulation And Evaluation Of Herbal Laxative Suspension Using Senna Plant

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Abstract

Several species of Senna are renowned for their therapeutic properties, particularly in traditional medicine where they are utilized to treat throat inflammation and constipation. Notably, various extracts of Senna have demonstrated significant anti-inflammatory, laxative, and intestinal motility effects. Research has shown that methanolic extracts of Senna exhibit a laxative effect comparable to that of standard drugs. In a recent study, a suspension was formulated using Senna extract and subsequently evaluated through various *in vivo* and *in vitro* parameters.

Senna belongs to a large genus of tropical flowering plants and has a long history of use in herbal medicine. The plant's leaves and fruit (pods) of *Senna Alexandrina*, commonly known as Senna, are particularly valued for their medicinal properties. Commercially, Senna is available under trade names such as Fletcher's Castoria, Ex-Lax, and Senokot, emphasizing its widespread use and acceptance. Traditionally, Senna has been employed as a laxative and stimulant, aiding in the relief of constipation and promoting bowel movements. Its efficacy in these areas has led to its inclusion in many herbal teas marketed for weight loss and digestive health. The study of Senna's extracts continues to highlight its potential as a natural remedy, offering a promising alternative to synthetic medications for gastrointestinal issues and inflammatory conditions. Further research into its bioactive components and mechanisms of action will enhance our understanding and application of this valuable medicinal plant.

Keywords: *Senna, therapeutic properties, anti-inflammatory, laxative effect, herbal medicine, gastrointestinal health, bioactive components, medicinal plant.*

A Review on Hepatoprotective Treatment by Using Medicinal herbs

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ABSTRACT

Liver is the important organ play a major role in metabolism and excretion from the body. Liver injury or liver dysfunction is a major health problem that challenges not only health care professionals but also the pharmaceutical industry and drug regulatory agencies. Liver cell injury caused though various toxic chemicals (certain anti-biotic, chemotherapeutic agents, carbon tetrachloride (CCL₄), thioacetamide (TAA) etc.), excessive alcohol consumption and microbes is well studied. The available synthetic drugs to treat liver disorders in this condition also cause further damage to the liver. Hence, Herbal drugshave become increasingly popular and their use is wide- spread. Herbal medicines have been used in the treatment of liver diseases for along time for maintain of the healthy liver. The various type of herbal preparations are available in the market. The present review is aimed at compiling data on promising phytochemicals from medicinal plants that have been tested in hepatotoxicity models using modern scientific system

Keywords: Hepatoprotective, Medicinalherbs, Liverdisease, Herbaldrugs, Hepatoxicity

Artificial Intelligence (AI): Empowerment in the Pharmaceutical Modernization and Global Healthcare

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ABSTRACT

Artificial Intelligence (AI) is transforming the Pharmaceutical and healthcare sector and addressing inadequacies in research, diagnosis, and patient care. Its role extends from improving education to revolutionizing global healthcare systems. It makes innovation in Pharmacy education and industry's growth, bridging the gap between technological advancements and access to healthcare. AI has made over Pharmacy education through simulations and personalized learning tools. Industry evolution includes advancements like telepharmacy, personalized medicine, drug repurposing and Clinical Decision Support Systems (CDSS) that enhance decision-making and patient care. Tools such as IBM Watson revolutionized oncology research by analysing complex datasets for optimal treatment strategies. AI accelerates drug discovery, optimizes R&D, and streamline clinical trials. Smart wearable devices and the Internet of Medical Things (IoMT) enable real-time health monitoring, enhancing chronic disease management. During the COVID-19 pandemic, AI facilitated global disease surveillance, outbreak prediction, and telemedicine, highlighting its role in pandemic preparedness and response. It also advances diagnostic capabilities in radiology, pathology, and electronic health records (EHRs), improving healthcare delivery systems. Thus AI is a catalyst for innovation in pharmaceuticals and healthcare, revolutionized education, research, diagnostics, and care delivery. Its applications ensured a more efficient, accessible, and patient-centric global health system, paving the way for transformative advancements.

Keywords- Artificial Intelligence, CDSS, Global Healthcare, Pharmaceutical Education, Pharmaceutical Industry, COVID-19

AI-Driven Innovations for Sustainable Waste Management and Resource Optimization

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Abstract

The increasing volume of waste generated globally has escalated challenges related to pollution, waste management, and recycling. Addressing these critical issues demands innovative strategies to transform the waste management ecosystem, with Artificial Intelligence (AI) emerging as a powerful solution. AI technologies offer advanced capabilities to optimize and streamline various aspects of resource management. This paper explores the applications of AI in enhancing waste-to-energy processes, implementing smart bins for real-time waste monitoring and tracking, and improving recycling techniques such as plastic pyrolysis. AI also plays a pivotal role in distinguishing between fossil and modern materials, optimizing logistics for waste disposal, and detecting illegal dumping activities. Furthermore, AI-driven solutions facilitate resource recovery, boost process efficiency, and drive cost savings, contributing to sustainable waste management. In the context of smart cities, AI enables data-driven decision-making to create cleaner and more efficient urban environments. By leveraging machine learning, sensor networks, and predictive analytics, AI not only enhances operational efficiency but also mitigates the environmental impact of waste while improving public health outcomes. This review underscores the transformative potential of AI in modernizing waste management practices and promoting a sustainable future through intelligent resource management systems.

Keywords: AI, Waste management, Pollution, Resource optimization.

Role of transcription factors in the regulation of secondary metabolites production in plants

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Abstract

Plants produce two categories of metabolites throughout their life cycle. The first category consists of primary metabolites, which are crucial for essential life processes, while the second category encompasses secondary metabolites that serve as defense mechanisms against pathogens and environmental stresses. Secondary metabolites can be classified into three primary groups: terpenes, alkaloids, and phenolic compounds. Many of these secondary metabolites are recognized for their pharmaceutical benefits. Due to their positive health effects, the biosynthesis of secondary metabolites has become a significant area of research. Numerous transcription factors have been identified for their roles in regulating biosynthetic pathways at the transcriptional level. Current understanding of the transcriptional regulation of secondary metabolite biosynthesis indicates that the expression of both activators and repressors is involved. These transcription factors respond to both internal (often developmental) and external signals, binding to specific cis-elements—typically located in promoter regions—to modulate the expression of genes encoding enzymes. Some transcription factors also interact with one another to form complexes. They may engage with the jasmonic acid signaling pathway, form complexes with structural genes, or regulate the metabolism of secondary metabolites. Six primary families of transcription factors—AP2/ERF, WRKY, bHLH, bZIP, MYB, and NAC—are primarily involved in the production of secondary metabolites and in enhancing stress tolerance. This review aims to summarize recent findings in these domains, focusing on newly discovered transcription factors and their roles in the regulation of metabolic processes.

Keywords

Terpene biosynthesis, alkaloid, rutin, paxicitaxl, withanolide, anthocyanin, phenolic compounds, MYB, WRKY, bZIP, bHLH, NAC, ERF1, HY5,

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**In-silico study – molecular docking of phytochemicals
against Parkinson’s disease**

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ABSTRACT

Parkinson’s disease is a type of neurodegenerative disorder, which develops and progresses, as a result of the loss of dopaminergic neurons in our brain. It is characterized by impaired motor functions, with slow movements, tremor and gait and balance disturbances. Like other neurodegenerative diseases, Parkinson’s disease also demands more and more research. Thus, this research is one of the steps taken to meet this demand. This research is an in-silico approach to discover novel therapeutics against Parkinson’s disease. To achieve this purpose, so far, different target proteins have been identified and studied, metabolic pathway of this disease has also been studied with the help of KEGG database, and, different ligands have also been analysed. The present research covers, molecular docking and ADMET analysis of Beta-Bisabolene, Isophytol, Mahanimbine, Friedelin and Malvalic acid as phytochemicals, against Monoamine Oxidase enzymes as therapeutic target. PDB structure of these enzymes were downloaded and were converted into .pdb format using ‘GEMMI’ tool. After that, these above-mentioned ligands were downloaded from PubChem, which were converted to .pdb format using ‘Online SMILES translator’. Then, these ligands were docked against MAO enzymes. ADMET analysis of these ligands, mainly using ‘pkCSM tool’, showed that they were following the rules of Lipinski’s rule of 5.

Keywords: *Parkinson’s disease, molecular docking, ligands.*

Enhancing Drug Development by Integrating Artificial Intelligence with Chemistry

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Abstract

The integration of Artificial Intelligence (AI) with chemistry is revolutionizing drug development by overcoming the limitations of traditional approaches, which are often expensive, time-intensive, and reliant on extensive trial and error. AI enables the efficient analysis of large chemical datasets, accurate prediction of molecular interactions, and optimization of drug candidate properties. Techniques such as machine learning and deep learning improve the prediction of drug efficacy, safety, and pharmacokinetics, reducing the chances of failure in clinical trials.

Furthermore, AI-powered molecular simulations enhance the understanding of chemical behavior, aiding in the design and synthesis of innovative compounds tailored to specific therapeutic needs. This synergy between AI and chemistry is driving advancements in precision medicine, enabling the creation of personalized treatments. By streamlining and accelerating the drug discovery process, this interdisciplinary approach offers a faster, more cost-effective pathway to addressing global healthcare challenges and fostering significant advancements in pharmaceutical innovation.

Keywords: Chemistry, AI, Drug, Medicine, Interdisciplinary.

Exploring the Ethical Implications of Advancing AI Frontiers

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Abstract

This paper explores the ethical considerations associated with the rapid advancement of artificial intelligence (AI) technologies. As AI becomes increasingly integrated into various sectors, such as healthcare and finance, it is crucial to examine its ethical implications. We investigate the ethical dilemmas stemming from AI's potential effects on privacy, bias, job displacement, and inequality. Additionally, we analyze the ethical frameworks and regulatory measures required to address these challenges effectively. By highlighting these critical issues, this paper seeks to encourage dialogue and promote a more thoughtful approach to the development and implementation of AI.

Keywords: AI, Ethics, Advancement & Technology.

Emerging Technique for Topical Gel-Based Formulation: Emulgel

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ABSTRACT

As we know that the topical product which is generally applied to the skin with different formulations like from liquids to powders, with semisolid forms these are most widely used. the medication or route of administration of topical drug delivery system is from any part of body through skin, vaginal, ophthalmic, and rectal routes. Medication may be administered for systemic or localized effects. Gels are now widely used in both dermatology and cosmetology when compared to other semisolid preparation methods. Emulgels have a long shelf life, are clear, easily removed, spreadable, thixotropic, greaseless, and emollient. Gels having the advantage of delivering hydrophobic agents. Emulgel is a low interfacial tension material that combines a co-surfactant and a surfactant. Its benefits include improved permeability and good thermodynamic stability. This formulation is a novel approach to drug delivery because it combines gel and emulsion. Emulgel has a sustained release pattern with dual control. Emulgel increases patient compliance and bioavailability.

An emulsion that has been gelled with a gelling agent is referred to as emulgel. They can be produced in w/o or o/w type. Poor water-soluble drugs are incorporated into Emulgel, a stable and superior system. Because Emulgel contains both aqueous and non-aqueous phases, it can deliver drugs that are both hydrophilic and lipophilic. They have been utilized as a control release formulation in recent years. These biphasic systems are more stable and have a greater capacity for drug loading. Emulgel technology is useful in resolving various issues, including phase separation, creaming and increased stability.

Keywords: *Emisolid preparations, topical drug delivery system, gels, emulgels, hydrophobic agents, sustained release, patient compliance, emulgel*

QSAR Modeling, Docking & Simulation Studies to Explore Potential Anti- Alzheimer Compounds

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ABSTRACT

Alzheimer's disease (AD) is a progressive neurodegenerative disorder characterized by cognitive decline, memory loss, and behavioral changes. It is the most common cause of dementia, and as the global population ages, the need for effective treatments has become increasingly urgent. This ongoing research employs an in-silico approach to identify potential therapeutics for Alzheimer's disease. The primary focus is to explore various ligands that may exhibit inhibitory activity against key target proteins implicated in AD, with the aim of discovering novel drug candidates.

The research includes a comprehensive analysis of different molecular targets and their involvement in the metabolic pathways associated with Alzheimer's, using databases such as KEGG for pathway mapping. In this specific study, the latest work focuses on molecular docking simulations of several bioactive compounds, including Beta-Bisabolene, Isophytol, Mahanimbine, Friedelin, and Malvalic acid, against critical enzymes known to play a role in AD, such as acetylcholinesterase (AChE) and butyrylcholinesterase (BuChE). The PDB structures of these target enzymes were retrieved in .cif format, which was then converted into .pdb format using the 'GEMMI' tool for compatibility with docking simulations.

In addition to docking studies, ADMET (Absorption, Distribution, Metabolism, Excretion, and Toxicity) analysis was carried out for the ligands using the 'pkCSM' tool, revealing that these compounds largely comply with Lipinski's Rule of Five, suggesting their potential as orally bioavailable drugs. The search for new ligands and further validation through QSAR (Quantitative Structure-Activity Relationship) modeling and molecular dynamics simulations is ongoing. The goal of this research is to identify promising anti-Alzheimer compounds that could serve as the basis for the development of new therapeutics for Alzheimer's disease.

Keywords: Alzheimer's disease, QSAR modeling, molecular docking, anti-Alzheimer compounds, ligand screening, ADMET analysis

Design, Development And Characterization Of Herbal Hair Serum

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ABSTRACT

A belief that natural medicines are safer and have fewer adverse effects than synthetic ones make them more acceptable. There is an increasing demand for herbal formulations nationwide. The design and characterization of herbal hair styling preparations are the focus of this review article. The potential advantages of certain plant-based compounds, essential oils, and herbal extracts that are frequently present in these serums in aiding hair health and development are examined. For those looking for natural solutions for their hair care requirements, this review delivers useful details about the usage of herbal hair serums as a possible alternative. The most important organ in the mammalian system that affects appearance, gender differentiation, provides and contributes to tone-

defence is the hair follicle. Rosemary oil aids in the strengthening of hair structure by promoting the health of the scalp and strengthening the tensile bond and elasticity of hair. Eclipta alba (Asteraceae), sometimes referred to as false daisy and Bhringraj and is primarily used to improve hair strength, growth, and blackening. It effectively addresses hair-related issues such as baldness, premature greying, dandruff, and hair loss. Clitoria ternatea, or butterfly pea flower,

provides anti-dandruff remedy, slows down the onset of grey hair, increases hair growth, decreases hair loss, and nourishes hair follicles. Rose water is recognized for its ability to condition and moisturize hair. Hibiscus hydrates the scalp and is also helpful in curing dry and damaged hair.

Keywords: Hair serum, Formulation, Bhringraj, Clitoria ternatea, Rosemary

Assessing the Combined Impact of Glycopeptides and β -Lactamson NTMs

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ABSTRACT

Non-tuberculous mycobacteria (NTMs) are a diverse group of environmental pathogens known to cause various infections in humans. Prominent species responsible for most NTM diseases include *Mycobacterium fortuitum*, *Mycobacterium avium*, *Mycobacterium abscessus*, and *Mycobacterium chelonae*. While NTMs belong to the same genus as *Mycobacterium tuberculosis* (Mtb), they differ significantly in many respects. A key difference affecting clinical management is NTMs' inherent resistance to nearly all classes of clinically used drugs, including first-line treatments for Mtb (e.g., Isoniazid, Rifampicin, and Pyrazinamide). This resistance in NTMs to β -lactams and glycopeptides is primarily intrinsic, linked to cell wall permeability. Mycobacterial lactamase expression is cryptic, and there is no evidence of Van A or Van B-mediated resistance to vancomycin (a glycopeptide). This suggests the potential to overcome this resistance. Literature supports the idea that glycopeptides and β -lactams exhibit synergistic effects, but this strategy has not been explored against NTMs. This study investigates repurposing glycopeptides in combination with β -lactams for NTM treatment. We conducted in-vitro assays to determine the minimum inhibitory concentration (MIC) of various glycopeptides and β -lactams against different NTM strains. We then calculated the fractional inhibitory concentration index (FICI) to evaluate the synergism between glycopeptide and β -lactam combinations. The FICI measures the interaction between two compounds in an in-vitro setting. Our results were promising, as none of the combinations were antagonistic. All glycopeptide and β -lactam combinations demonstrated synergy, significantly reducing the MIC value. In conclusion, repurposing glycopeptides with β -lactams could be an effective therapeutic approach against NTM infections.

Keywords: *Non-tuberculous mycobacteria, NTMs, Mycobacterium fortuitum, Mycobacterium avium, Mycobacterium abscessus, Mycobacterium chelonae*

Formulation And Characterization Of Sustained Release Nanoparticles Drug Delivery System Using Natural Polymers For Treating Hepatotoxicity In Rat Models

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Abstract

This research focuses on the formulation and characterization of sustained release nanoparticles utilizing natural polymers for the treatment of hepatotoxicity in rat models. The study aims to explore the efficacy of sustained release nanoparticles containing a poly herbal formulation derived from Glycyrrhiza glabra (roots) and Schisandra chinensis (stems) in alleviating hepatotoxicity.

The objectives of the study include formulating and characterizing the sustained release nanoparticles, assessing their in vitro release profile, evaluating their hepatoprotective effects in rats with carbon tetrachloride-induced hepatotoxicity, and elucidating potential mechanisms of action. The methodology involves a comprehensive literature review to establish a scientific foundation, followed by the formulation of sustained release nanoparticles using natural polymers and the polyherbal extracts. Characterization techniques such as scanning electron microscopy, Fourier-transform infrared spectroscopy, and differential scanning calorimetry will be employed to analyze the nanoparticles' physicochemical properties.

In vitro release studies will be conducted to determine the release kinetics of the polyherbal formulation from the nanoparticles. Animal experiments will involve inducing hepatotoxicity in rats and administering the formulations orally to evaluate liver function markers, histopathological changes, and oxidative stress parameters. Mechanistic insights will be gained through biochemical and molecular biology techniques to understand then an particles' antioxidant and anti-inflammatory effects.

Expected outcomes include the successful formulation of sustained release nanoparticles with controlled release capabilities, demonstrating enhanced therapeutic efficacy and reduced side effects compared to the polyherbal formulation alone. The study aims to contribute valuable insights into the development of natural polymer-based nanoparticles systems for targeted drug delivery in hepatotoxicity treatment, potentially paving the way for new therapeutic strategies in liver disorders.

Keywords: *sustained release nanoparticles, hepatotoxicity treatment, polyherbal formulation, natural polymers, drug delivery, liver disorders, in vitro release profile, antioxidant activity*

Formulation & Evaluation of nanoemulgelusing Neomycin

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Abstract

The study focuses on the formulation and evaluation of a nanoemulgel containing Neomycin, a broad-spectrum aminoglycoside antibiotic commonly used for oral and topical applications. Neomycin, known for its efficacy against a wide range of bacterial infections, has minimal oral absorption and is not typically associated with acute liver damage. The development of a nanoemulgel aims to enhance the drug's topical delivery, stability, and therapeutic effectiveness.

Nanoemulgels, which combine the properties of nanoemulsions and gels, offer several advantages, including improved drug solubility, controlled release, and enhanced penetration through the skin. In this study, Neomycin was incorporated into a nanoemulsion, which was subsequently transformed into a gel. The nanoemulsion was prepared using a high-energy emulsification method, ensuring the formation of stable, uniformly dispersed nanodroplets.

The formulation was evaluated for various parameters, including particle size, zeta potential, pH, viscosity, and drug content. The nanoemulsion displayed an average particle size within the nanometer range, indicating successful nanoemulsification. The zeta potential analysis confirmed the stability of the formulation. The nanoemulgel exhibited suitable pH and viscosity for topical application, ensuring patient comfort and adherence.

In vitro drug release studies demonstrated a sustained release profile of Neomycin from the nanoemulgel, suggesting prolonged therapeutic action. Additionally, ex vivo skin permeation studies showed enhanced penetration of Neomycin through the skin, compared to conventional gel formulations. The nanoemulgel also underwent microbiological testing, confirming its potent antibacterial activity against target pathogens.

In conclusion, the formulated nanoemulgel containing Neomycin presents a promising approach for topical antibacterial therapy, combining the benefits of nanoemulsion technology with the convenience and efficacy of gel-based delivery systems.

Keywords: Nanoemulgel, Neomycin, nanoemulsion, topical delivery, antibacterial, drug release, skin permeation, formulation evaluation

Optimized Resource Management Using AI Technologies

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Abstract

Effective resource management is fundamental to enhancing productivity and sustainability across sectors such as education, industry, and research. Artificial Intelligence (AI) has become a transformative tool in optimizing resource allocation, utilization, and monitoring. This study investigates the application of AI techniques, including machine learning, predictive analytics, and intelligent decision-making algorithms, to streamline resource management processes. By employing AI-driven tools, organizations can enable real-time tracking, dynamic allocation, and improved forecasting, leading to more efficient resource use. L

The paper further explores AI's role in managing financial, human, and material resources, highlighting its capacity to minimize wastage, enhance efficiency, and promote sustainable practices. Key challenges, such as data privacy, ethical considerations, and the adaptability of AI systems, are also examined alongside emerging trends and future opportunities. The findings aim to offer a strategic framework for integrating AI into resource management, empowering organizations to achieve operational excellence and drive sustainable growth.

Keywords: AI, Resource management, Predictive analysis, Sustainable Practices.

Development And Evaluation Of Poly-Herbal Topical Nanoparticles For The Skin Treatment

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ABSTRACT

This research focuses on the development and evaluation of poly-herbal topical nanoparticles aimed at improving skin treatment outcomes. Utilizing nanoparticles, which are sub-100 nanometer particles known for their enhanced stability, mechanical strength, and drug delivery capabilities, the study aims to leverage the therapeutic properties of medicinal plant extracts in a nanoparticle gel formulation. Various types of nanoparticles—polymeric, lipid-based, metal, protein, and carbon-based are considered for their unique advantages in encapsulating herbal extracts, thus enhancing solubility, stability, and bioavailability.

The study's objectives include formulating and optimizing poly-herbal nanoparticle gels using extracts from *Helianthus annuus*, *Vitis vinifera*, *Symphytum officinale*, and *Curcuma longa*, known for their pharmacological activities. Comprehensive physicochemical characterization, *in vitro* skin permeation, cytotoxicity, and *in vivo* efficacy studies will be conducted to assess the nanoparticle gels' potential as superior topical delivery systems. The research also plans to compare these formulations against conventional treatments, focusing on parameters such as stability, release profiles, antimicrobial, anti-inflammatory, and wound healing activities.

Expected outcomes include the successful formulation of stable, efficient poly-herbal nanoparticle gels with sustained release properties, offering a novel, effective alternative for inflammation and wound healing treatments. This study aims to contribute significantly to the field of dermatological therapeutics, enhancing patient care and therapeutic outcomes.

Keywords : *Poly-herbal nanoparticles, skin treatment, nanoparticle gel, drug delivery, medicinal plant extracts, physicochemical characterization, in vitro skin permeation, wound healing, anti-inflammatory, topical delivery systems.*

Emerging Trends In AI For Biotechnology And New Drug Development

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Abstract

The integration of artificial intelligence (AI) into biotechnology and drug development is reshaping the landscape of biomedical research. Emerging trends in AI, such as machine learning, deep learning, and natural language processing, are enabling researchers to accelerate drug discovery, optimize experimental design, and predict outcomes with greater precision. AI-powered platforms are being increasingly utilized for analyzing complex biological data, identifying potential drug candidates, and repurposing existing medications. These technologies significantly reduce time and cost associated with traditional methods, allowing for faster transitions from lab to clinical trials.

In particular advancements in computational biology and AI-driven systems biology are unlocking insights into disease mechanisms, facilitating personalized medicine approaches. Techniques like generative AI are being deployed to design novel molecules with desired properties, streamlining the drug development pipeline. Moreover, AI-based tools are enhancing clinical trial management by improving patient recruitment strategies and monitoring real-time data for adaptive trials.

Despite these advancements, challenges such as data integration, algorithm transparency, and regulatory hurdles remain. However, interdisciplinary collaboration between AI experts, biotechnologists, and policymakers is fostering innovative solutions to address these limitations. With continued progress, AI is poised to transform biotechnology and pharmaceutical industries, paving the way for groundbreaking therapies and more effective disease management strategies.

This abstract highlight the pivotal role of AI in revolutionizing drug development processes and emphasizes the need for ongoing research to harness its full potential.

Keywords: Artificial intelligence (AI), Drug discovery, Drug development, Biotechnology.

Chickenpox: Cause & Effects

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Abstract

Chickenpox is also known as Varicella. Chickenpox is an air borne disease. It may be spread from 1 to 2 days before the rash appears until all lesions have crusted over. The first use of term Chickenpox was in 1658. Chickenpox occurs in all parts of the world. As of 2013, 140 million cases of chickenpox occurred. The virus can also be transmitted through the air by coughing and sneezing. And symptoms of chickenpox is fever, feeling tired, red blisters, headache. Chickenpox is most common in children under the age of 10 years and also in adult in age of 25 years. The best ways to prevent Chickenpox is to get the chickenpox vaccine. Everyone including children, adolescent and adults. Should get 2 doses of chickenpox. Calamine lotion and a cool bath with added baking soda. If you do scratch a blisters by accident wash your hands with soap and water for at least 20 second. And patient can isolate for a week in one another and safe room.

Keyword:-Chicken pox and calamine.

Gardenia florida: Preliminary Phytochemical Screening and In-Silico Toxicity Profiling

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Abstract

Gardenia florida (*G. florida* or *G. jasminoides*) is a medicinal plant, belongs to the family Rubiaceae. Commonly it is known as Gardenia and Cape Jasmine. It is an evergreen flowering plant and is widely distributed in Bangladesh, Cambodia, China, East Himalaya, Japan, Thailand, Laos, etc. *G. florida* root is used as traditional medicine and is an important source of many bioactive compounds with a variety of biological activities anti-inflammatory, antipyretic, hepatoprotective, etc. In the present study, the aqueous extract of the roots of *G. florida* was prepared by cold maceration method. Preliminary phytochemical screening of the prepared extract was performed, and *in-silico* toxicity profiling of major chemical constituents of the plant was predicted. *In silico* toxicity profiling of the major chemical constituents *viz-* geniposide, crocin-1, jasminoside, quercetin, rutin, etc. was done using “LAZAR” property explorer programme. The preliminary phytochemical screening showed positive tests for flavonoids, glycosides, phenolic compounds, terpenoids, etc. Major chemical constituents of the plant showed non-mutagenic non-carcinogenic, non-tumorigenic, and drug like characters, in the results of *in silico* toxicity profiling. On the basis of above findings, it is concluded that the plant may be safe for pre-clinical studies and can be used for the herbal formulations with the support of *in-vitro* and *in-vivo* experiments.

Keywords: *Gardenia*, *Geniposide*, *Jasminoides*, *Jasminoside*, *LAZAR*

Revolution Healthcare with AI: Advancement in Diagnostics, Treatments, and Patient care

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Abstract

Artificial Intelligence (AI) is transforming the healthcare sector by offering data-driven solutions that improve diagnosis, treatment planning, and patient care. This paper delves into AI's profound impact on healthcare, exploring its role in predicting disease outbreaks, developing personalized treatment plans using machine learning (ML) algorithms, and enhancing service delivery across the industry.

By harnessing the power of AI, particularly ML models, the healthcare industry can process vast volumes of data, enabling quicker disease detection, optimized treatment strategies, and better overall disease management. AI tools analyze historical and real-time data from various sources to identify patterns, facilitating timely interventions and efficient resource allocation during potential health crises. Additionally, the study emphasizes AI's significant contribution to personalized medicine. Advanced algorithms assess a person's genetic profile, environmental factors, and lifestyle to create tailored treatment regimens. This approach has been proven to improve treatment precision and efficacy while reducing side effects and unnecessary procedures, ultimately delivering superior patient outcomes.

Keywords: AI, Patient care, ML, Healthcare industry.

Revolutionary Trends in 3D Printing: Unlocking New Opportunities in Design and Manufacturing

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Abstract

3D printing, or additive manufacturing, is reshaping the design and production landscape by offering unmatched flexibility, efficiency, and customization. This presentation explores the latest advancements and trends in the field, with a focus on innovations in materials, processes, and applications that are driving the transformation of manufacturing.

Recent developments in sustainable materials, such as bio-based polymers and recycled composites, are addressing environmental concerns while improving performance. Breakthroughs in multi-material printing, large-scale production, and high-speed manufacturing are expanding the possibilities for intricate designs and large-volume production. Additionally, the use of artificial intelligence and machine learning is enhancing process optimization, improving precision, and cutting down production time.

The presentation also highlights the rise of 4D printing, where materials can respond to external stimuli, opening up new opportunities in industries like aerospace, healthcare, and construction. Through case studies and a look at future trends, this session will demonstrate how 3D printing is driving innovation, reducing waste, and creating new pathways for manufacturing.

Attendees will gain insights into how these emerging trends are revolutionizing industries and shaping the future of design and production.

Keywords: 3D Printing, Manufacturing, Composites, Design, etc.

Shaping the Future of Resource Management with Artificial Intelligence: Impacts and Innovations

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Abstract

Artificial intelligence (AI) is revolutionizing resource management by enhancing production, sustainability, and decision-making across various industries. This study investigates how AI fosters innovation and boosts efficiency through technologies like predictive analytics, intelligent automation, and optimization algorithms, which enable dynamic resource allocation. These advancements address key challenges, such as operational inefficiencies, environmental sustainability, and resource shortages, laying the groundwork for more intelligent and sustainable practices.

The research highlights AI's influence on resource management, showcasing innovations such as real-time resource monitoring, automated demand forecasting, and smart supply chain management. Through case studies and emerging trends, the study demonstrates AI's ability to provide data-driven insights, drive adaptation, and strengthen resilience in resource management systems. It also emphasizes the importance of responsible AI implementation by exploring potential risks and ethical concerns.

This paper offers valuable insights for researchers, business leaders, and policymakers looking to optimize AI's potential in resource management. The findings provide actionable strategies to help organizations overcome challenges like resource scarcity and inefficiency, positioning AI as a powerful driver of sustainable, innovative resource management practices with long-term benefits.

Keywords: AI, Resource management, Innovation, Optimize.

Transforming Healthcare: The Impact of AI on Diagnosis, Treatment, and Patient Management

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Abstract

The incorporation of Artificial Intelligence (AI) in healthcare has transformed medical diagnosis, treatment, and patient care. This paper investigates the immense potential of AI technologies- such as machine learning, deep learning, and natural language processing- in enhancing healthcare accuracy and efficiency. It delves into key applications, including predictive analytics for early disease detection, AI-driven diagnostic imaging, personalized medicine, and advanced patient monitoring systems. The study also highlights notable advancements, such as virtual health assistants and AI algorithms capable of uncovering patterns within complex medical data.

Additionally, the paper addresses the challenges of AI implementation in healthcare, such as ethical concerns, data privacy issues, and the necessity for robust regulatory frameworks. By analyzing case studies and recent developments, this research underscores AI's pivotal role in overcoming existing healthcare challenges and envisions its potential to create a more accessible, cost-effective, and efficient healthcare system. The proposed approach is illustrated with a numerical example from existing published work.

Keywords: AI, Medical Diagnosis, Machine Learning, Health Data Privacy.

Transforming Mechanical Engineering through Eco-Friendly Technologies: A Pathway to a Sustainable Future

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Abstract

The escalating environmental challenges have spurred a shift in mechanical engineering, pushing for the incorporation of eco-friendly technologies to foster sustainable development. This paper explores key innovations within the field, focusing on the integration of renewable energy, energy-efficient manufacturing methods, and the use of sustainable materials. Technologies such as additive manufacturing for resource conservation, bio-based composites, and waste-to-energy processes are examined for their ecological and economic advantages.

The role of advanced computational techniques and artificial intelligence in optimizing mechanical systems for reduced environmental impact is also discussed. Through case studies, the paper illustrates the successful application of these green technologies and their potential for large-scale adoption. Furthermore, the research highlights the challenges of transitioning from traditional to sustainable practices, addressing issues such as technological barriers, policy needs, and societal acceptance.

This work emphasizes the significant role of eco-friendly solutions in transforming mechanical engineering and contributing to environmental sustainability. It offers insights for researchers, engineers, and policymakers to guide the advancement of green technologies in the field, highlighting the potential to reduce ecological footprints while promoting innovation and efficiency in engineering solutions.

Keywords: Mechanical, Environmental, AI, Manufacturing etc.

Formulation And Evaluation Of Herbal Stretch Marks Reduction Cream By Using Shata Dhauta Ghrit As An API

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ABSTRACT

The aim of this research was to develop a safe and effective herbal solution for diminishing stretch marks by leveraging the potential of Shata Dhauta Ghrit. This formulation seeks to provide a natural alternative to conventional treatments, addressing the increasing demand for holistic skincare options. Shata Dhauta Ghrit was employed as the active pharmaceutical ingredient (API) in the creation of a herbal cream designed to reduce stretch marks, combined with complementary base ingredients. The cream was prepared following standardized procedures, ensuring the optimal concentration of Shata Dhauta Ghrit and its effective blending with other constituents to maximize efficacy and safety.

The formulated herbal stretch marks reduction cream demonstrated promising results, significantly reducing the appearance of stretch marks. These findings suggest that the cream could serve as a viable natural remedy for this prevalent dermatological issue. The conclusion drawn from this study indicates that using Shata Dhauta Ghrit as an API in the herbal cream formulation is both effective and safe in reducing the visibility of stretch marks. The results support the feasibility and potential of this herbal formulation as a natural treatment for managing stretch marks, offering a promising direction for future research and development in the field of herbal skincare products.

Keywords:

Shata Dhauta Ghrit, Active pharmaceutical ingredient (API)

Formulation And Evaluation Of Herbal Solid Stick Perfume By Using Tobacco Oil And Citrus Oil

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ABSTRACT

Solid perfumes are gaining popularity due to their convenient portability. This study focuses on crafting a solid perfume using natural ingredients, specifically tobacco oil and citrus oil. The distinctive aroma of tobacco oil offers a deep, earthy scent, while citrus oil contributes a refreshing, uplifting fragrance, creating a harmonious blend.

The aim of this research is to formulate a solid perfume utilizing tobacco oil and citrus oil, evaluating its olfactory appeal and longevity. Tobacco oil and citrus oil were combined with almond oil, jasmine oil, and beeswax to create the perfume. Various proportions were tested to achieve the desired scent and consistency. Subsequently, sensory evaluations were conducted to gather feedback on the fragrance, and the stability of the perfume over time was assessed.

The results indicate that the crafted perfume exhibits a pleasant aroma characterized by a balanced combination of earthy and fresh notes. Participants appreciated the intensity and longevity of the scent. Furthermore, the perfume demonstrated stability over time, retaining its initial qualities effectively.

In conclusion, the creation of a solid perfume incorporating tobacco oil and citrus oil proves promising. Its appealing scent profile, enduring fragrance, and stable composition suggest its suitability as a natural perfume option. Future exploration may involve incorporating additional natural ingredients to diversify perfume offerings.

Keywords:

Solid perfume, Tobacco oil, Citrus oil, Natural ingredients

Exploring Hiv: History, Virology, Epidemiology, Socio-Behavioral Dynamics, Challenges, Covid-19 Impact, Novel Treatments, And Research Trends.

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ABSTRACT

Human Immunodeficiency Virus (HIV) presents a significant global health challenge, characterized by its complex history, virology, and socio-behavioral dynamics. Understanding HIV's origins, transmission, and genetic variability is crucial for effective treatment and prevention strategies. Epidemiologically, HIV exhibits diverse spread patterns across regions and populations, necessitating tailored interventions. Socio-behavioral factors like stigma and access to healthcare profoundly influence HIV transmission and mitigation efforts. COVID-19's emergence has further impacted HIV care delivery and research priorities, highlighting the need for innovative solutions to maintain service continuity. Promising developments in treatment include long-acting antiretrovirals and gene editing technologies, offering new avenues for management and transmission reduction. Despite challenges, ongoing research focuses on HIV cure strategies, implementation science, and integration of biomedical and behavioral interventions. The COVID-19 pandemic has disrupted HIV services, necessitating innovative solutions to maintain continuity. Nevertheless, advancements such as long-acting antiretrovirals offer promise for improved management. Emerging research trends focus on HIV cure strategies and integration of biomedical and behavioral interventions. Despite challenges, ongoing efforts aim to address HIV/AIDS through multidisciplinary approaches and innovative research endeavors, emphasizing the importance of adaptation and collaboration in combating this persistent global health threat.

Keywords: *HIV, antiretrovirals, COVID-19*

Role Of Artificial Intelligence In Revolutionizing The Healthcare System

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ABSTRACT

Artificial Intelligence (AI) is transforming the field of pharmacy by making drug discovery, development, and personalized medicine more efficient and effective. AI acts like a smart assistant, helping scientists find new medicines faster by analyzing huge amounts of data to identify potential drug candidates and predict their effectiveness and safety. This saves time and money compared to traditional methods. Additionally, AI enables "drug repurposing," finding new uses for existing drugs, which speeds up the process of bringing treatments to patients. In clinical trials, AI streamlines processes by selecting suitable candidates and predicting how well drugs might work for different people, leading to faster and more successful trials. This means new treatments can reach patients sooner. AI also plays a crucial role in personalized medicine by analyzing individual genetic and clinical data to tailor treatments specifically to each patient, maximizing effectiveness and minimizing side effects. However, challenges such as ensuring data privacy and navigating regulations need to be addressed to fully integrate AI into pharmacy practices. Once these challenges are overcome, AI has the potential to revolutionize the field, making it easier to find new cures and improve patient care. Overall, AI is like a game-changer in pharmacy, helping researchers and healthcare providers work smarter and faster to develop better treatments for patients.

Advancements And Interventions In Down's Syndrome

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ABSTRACT

Down syndrome (DS) is a prevalent chromosomal condition affecting intellectual and physical development. Recent research has delved into understanding DS's molecular mechanisms, particularly the influence of the extra chromosome 21 and its epigenetic factors on neurodevelopment. Clinical interventions have increasingly emphasized early detection and intervention strategies, including developmental screening, cognitive stimulation, and tailored therapies targeting language and motor skills. Additionally, assistive technologies and personalized medicine show promise in improving independence and functionality for individuals with DS. Collaborative efforts among healthcare providers, educators, and families play a crucial role in optimizing care across the lifespan. However, challenges persist in accessing specialized services and addressing the diverse needs of individuals with DS. Nonetheless, ongoing research and clinical endeavors are continuously refining our understanding and management of DS, aiming to enhance outcomes and overall well-being.

Formulation And Evaluation Of Herbal Acne Care Cream

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ABSTRACT

Acne vulgaris, a prevalent skin condition, has spurred interest in herbal treatments due to their perceived efficacy and minimal side effects. This study aims to formulate and evaluate an herbal acne care cream incorporating sandalwood powder, nutmeg powder, and aloe vera, which are renowned for their anti-inflammatory, antimicrobial, and skin-soothing properties. The cream was developed using these natural ingredients, combined with emulsifying wax and preservatives, to ensure stability and usability.

To determine the effectiveness of the cream in treating acne, a series of evaluations were conducted, focusing on its physicochemical properties, including pH, viscosity, spreadability, and stability. These parameters are crucial for ensuring that the cream is not only effective in reducing acne lesions but also pleasant and practical for regular use.

The results of the study were promising. The formulated herbal acne care cream exhibited suitable physicochemical properties, indicating that it is well-formulated and stable. Moreover, users of the cream reported an overall improvement in skin condition, suggesting that the active ingredients effectively alleviate acne symptoms.

In conclusion, the herbal acne care cream containing sandalwood powder, nutmeg powder, and aloe vera shows potential as a safe and effective treatment for acne vulgaris. However, while the initial findings are encouraging, further research is necessary to explore the long-term efficacy and safety of this herbal formulation for broader clinical application. Continued investigation will help solidify its place as a viable option in the arsenal of acne treatments.

KEYWORDS: *Acne vulgaris, herbal treatment, sandalwood powder, nutmeg powder, aloe vera, anti-inflammatory, antimicrobial, skin care cream.*

Formulation And Evaluation Of Anti- Hyperpigmentation Lotion

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ABSTRACT

Hyperpigmentation presents a common concern in dermatology, characterized by excessive melanin production leading to dark patches on the skin. Despite available treatments, effective and safe topical formulations for managing hyperpigmentation are still sought after. This study aimed to develop and evaluate an anti-hyperpigmentation lotion using natural ingredients renowned for their skin-lightening properties.

The objective was to formulate a topical lotion targeting hyperpigmentation, incorporating Turmeric and Orange Peel extracts, and assesses its efficacy through comprehensive evaluations. The lotion was meticulously prepared using optimized concentrations of Turmeric and orange peel extracts, chosen for their melanin-inhibiting properties. Physicochemical properties, stability, skin irritation potential, and in vitro melanin production inhibition were evaluated to optimize the formulation. Additionally, the lotion's efficacy was assessed through a clinical study involving volunteers with hyperpigmentation.

Results indicated that the formulated lotion exhibited desirable physicochemical properties and stability, demonstrating its potential as an effective anti-hyperpigmentation solution. Conclusion: The formulated anti-hyperpigmentation lotion utilizing natural ingredients yielded promising results upon evaluation. Further investigations are warranted to assess its long-term efficacy and safety for widespread application in dermatological practice.

Key words:

Hyperpigmentation, Dermatology, Topical lotion, Natural ingredients, Clinical study

Formulation And Evaluation Of Organic Shower Gel

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ABSTRACT

Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones. Herbal formulation has shown growing demand in the world market. The present work deals with the formulation and evaluation of herbal shower gel containing coconut Charcoal, Neem (*Azadirachta Indica*), Tulsi (*Ocimum Sanctum Linn.*), Aloe vera (*Alo Barbedensis*), Rose Water. Although various topical herbal formulations are available in the market, the aim of the present work was to make pure herbal formulation with very limited synthetic products. Prepared formulation was evaluated for various parameters like colour, appearance, consistency, foamability, stability, loss of drying, pH and spreadability. The formulated polyherbal shower gel was found to be a better alternative for synthetic products which has lesser adverse effect.

Keyword:-

Organic Shower Gel, Tulsi, Neem, Aloevera, Coconut charcoal

Formulation and Evaluation Herbal Fat-Burning Cream

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Abstract

The A.P.I of herbal fat-burning cream is orange peel extract, green tea extract, Cucumber peel extract, Cardamom extract, Vitamin E oil, and Olive oil.

The cream was prepared by using the W/O emulsion method in which the water phase is Rosewater, Distilled water, and the oil phase is Cetyl alcohol, stearic acid, and Glycerol. They were evaluated for different parameters like organoleptic, pH, Spreadability, homogeneity, etc. The formulation showed a good appearance, and adequate pH, Spreadability, homogeneity, and compatibility were observed. Also, the formulation showed no redness, erythema, or irritation during the irritancy study and they were easily washable. The formulation was stable at room temperature. All herbal ingredients showed significantly different activities. Based on the results, I can suggest the formulation was stable and can be safely used on the skin.

Keywords:

Cellulite, Caffeine, vitamin E, Cardamom, Olive Oil, Green Tea, etc.

Formulation And Evaluation Of Herbal Hair Mask

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ABSTRACT

Herbal hair mask which can give multipurpose effect, like softness of hair, reduce hair loss and itching, reduce dandruff, diseases like Alopecia, Hirsutism, Hair shaft disorder etc. and also adding glow to the face. For the preparation of herbal hair mask we use a method of drying by which all ingredients. All ingredients are grind properly, seaving and prepare in powder form. Herbal hair mask were evaluated for different parameters like appearance, PH, stability test, spread ability & irritancy test, homogeneity. From evaluation study it was concluded that it is a very good attempt to formulate the herbal hair mask. All the ingredients used to Formulate Herbal hair mask are safe and their use can greatly reduce dryness and itchiness. It was also concluded that the prepared formulation was physico-chemically and microbiologically stable, and possessed characteristics of a standards cosmeceutical's formulation for using herbal hair mask has many benefits beyond just hair health. It can help to reduce dandruff, dryness, maintain scalp health, improve hair health, strengthening hair follicles, provide shine and promote overall well-being.

Keywords: - Cosmetic, herbal hair mask, Antidandruff

Formulation and Evaluation Make up Removal Oil

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Abstract

Cosmetic ingredients and dust that remain on facials are difficult to remove with normal cleansers or water because they consist of high waterproof elements. Therefore, producing of natural makeup remover products is needed for the proper removal of cosmetics without irritation to the skin. Current commercial makeup removers are developed from mineral oil and water with surfactants sometimes cause skin physiology disorders and allergies, in this study makeup removers were formulated based on natural products and it is evaluation of makeup remover solution composed of quality control tests including ocular assessment and physiochemical controls such as pH, density, viscosity, Cleaning action, dirt dispersion, surface tension, Sensitivity test, microbial growth test and stability. No change on the physical properties was observed, the PH was in a proper range (5.1-5.6), The formulation showed color less slightly foaming with good dispersions, the formula was found to be stable during stability study in (45°C and 75% relative humidity) for 3 months. It was found that the stability of the formulation is best and a high cleansing efficiency was attributed to the higher olive oil.

Keywords- *Strawberry, Olive Oil, Castor Oil, Almond Oil etc.*

Formulation And Evaluation Of Natural Makeup Fixer

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ABSTRACT

A makeup fixer is a lightweight setting spray that deflects surface shine for a matte finish and durable makeup fix. It uses advanced technology and superior ingredients to keep foundation and eye makeup in place without smudging or fading. The product is designed to extend makeup wear time and is everlasting, making it a popular choice for beauty. These liquid preparations are safe to use by the public and society. A makeup fixer spray is a crucial step in a makeup routine, especially during sweaty or oily environments. It helps keep makeup on place during the day, preventing smudging, creasing, or fading. The process involves a careful balance of ingredients that work together to create a protective barrier over your makeup. This formulation delves into the secrets of makeup fixer sprays and their effectiveness in preventing makeup from fading or smudging. The main aim of the present research work is to prepare the natural makeup fixer spray by using Rice water, Aloe vera gel, Rose water without adverse effect to the skin. Researcher used rice water as Active Pharmaceutical Ingredient because it gives shiny effect to the skin along with adherence of makeup. The prepared natural makeup fixer sprays are evaluated for the various irritancy, pH, spreadability test, irritation, foaming, and homogeneity. The results showed that all formulations gave satisfied result.

Keywords :-

Natural Makeup Fixer Spray, Makeup fixing, Rice water, Rose water,

Formulation And Evaluation Of Herbal Massage Cream

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ABSTRACT

The study is all about making a herbal massage cream by using herbal ingredients like dragon fruit, cucumber, black grape strawberry, papaya a newest herbal remedy, to see if it can actually help get rid of those different type skin problem and which is free from side effects and give multipurpose effect, like moisturizer, reduce acne and skin irritation, reduce skin diseases like eczema, psoriasis, dry skin, wrinkles, rashes etc. and also adding glow to the face. Dragon fruit, Cucumber, Black grapes, Strawberry, Papaya, was utilized as the active pharmaceutical ingredient (API) in the formulation of an herbal massage cream, alongside complementary base ingredients. The cream formulation was prepared using standardized procedures, incorporating various fruit powder at optimized concentrations and blending it with other constituents to ensure efficacy and safety. The formulated herbal massage cream was shown effective result as a moisturize the skin, hydrate the skin, reduce the sign of aging, and also give a beneficial effects on human skin. The cream was passed through the various evaluation parameters as an effective herbal product. This study support the feasibility and potential of this herbal formulation as a safe and natural remedy for managing different skin conditions, providing a promising avenue for further research and development in the field of herbal skincare products.

Keyword: Herbal cream, Massage cream, Anti-oxidant, Mix fruit cream

Formulation And Evaluation Of Herbal Anti-Ageing Cream By Using Honey And Rice Water

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ABSTRACT

Wrinkles, thinning, and roughening of skin are some of the symptoms that affect the skin as it ages. Extrinsic factors that affect skin ageing such as UV radiation can also cause malignant melanoma. Here we selected some herbal ingredients, namely leaves of aloe vera, honey, rice water etc. and investigated their anti-ageing properties. The preparation method is O/W emulsion method in which the Stearic acid, Cetyl Alcohol, Olive Oil is Oil Phase and Honey, Tulsi extract, Aloe vera gel, Rose water, and Rice water is Water phase. The formulation showed a good appearance, and adequate pH, Spreadability, homogeneity, and compatibility were observed. Also, the formulation showed no redness, erythema, and irritation during the irritancy study and they were easily washable. The formulations were stable at room. As artificial creams give many side effects it's better to use cream prepared with natural ingredients as it does not show any side effects but rather is beneficial to the skin. The results demonstrated that the formulated anti-aging creams are safe and usable for the skin. The results showed that the formulation of poly herbal antiageing cream contains all the good characteristics of an ideal cream it was found to be harmless, more effective, easy to manufacture, and more economical compared to synthetic antiaging cream.

Keywords: *Anti-ageing, Malignant Melanoma, Herbal cream, Poly herbal, Wrinkle.*

Formulation And Evaluation Of Herbal Under Eye Cream For Dark Circle Reduction

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Abstract

Under the eyelids or around the eyes, People of all ages are frequently affected by the condition known as "dark circles." Factors that cause excessive pigmentation, tear troughs, thin skin above the orbicularis oculi muscle, and vein running are all signs of dark circles. The concentrated form of Tea extract, a protected and effective de-pigmenting agent, has fantastic potential. The plant-based ingredients like Tea extract, aloe vera gel, and Coffee powder have been reported to possess beneficial properties such as anti-tanning, anti-aging, skin whitening, anti-puffiness, antioxidant, and moisturizing activities. The inherent properties of these herbal ingredients contribute to maintaining smooth, moisturized, anti-puffiness, and pigmentation-free skin around the eyes. Propylparaben was added after the emulsifying agent stearic acid had been dissolved in cetyl alcohol, and the mixture had been heated to 75°C. When the cream between the two slides was uniformly compressed to create a thin layer after applying weight or another predetermined load to the upper slide. Semi-solid cream formulations, including semi-solid topical preparations, are preferred because they have better release characteristics and a longer residence time on the skin.

Keywords: Dark circles, Tea extract, Hyperpigmentation, Coffee extract

Formulation And Evaluation Of Perfume Lotion

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ABSTRACT

The lotion is a semisolid liquid dosage form that contains one or more active ingredients in an appropriate vehicle. Perfume lotions are liquids for an external application that are intended to be applied to the unbroken skin without friction. They are aqueous, alcohol, or polyols-based solutions or suspensions containing topically active therapeutic agents. A lotion is a low viscosity topical preparation intended for application to the skin. By contrast, creams and gels have a higher viscosity, typically due to lower water content. Perfume lotion is applied to external skin with bare hands, a brush, a clean cloth, or cotton wool. Lotions may contain antimicrobial preservatives and another appropriate excipient such as stabilizers etc. Perfume lotions are used for their cooling, soothing, protective, and moisturizing effect and also therapeutic effect depending on ingredients used. They are applied directly to skin with the help of some absorbent material, such as, cotton wool or gauze soaked in it. The herbal cosmetics are those when natural herbs and their products used for their aromatic value in cosmetic preparation among consumers for herbal products triggered the demand for natural products and natural extracts in cosmetics preparations. Aloe vera is oldest medicinal plant ever known and the most applied medicinal plant worldwide. Perfume lotion was prepared by using some ingredient like triethanolamine, stearic acid, methyl paraben, glycerine etc.

KEYWORDS: Lotion, moisturizer, skincare, aloe vera, herbal lotion, herbal cosmetic, pH, skin.

Formulation And Evaluation Of Skin Infection Care Cream

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Abstract

Skin health is influenced by factors such as origin, lifestyle, age, and health status. The cosmetic and pharmaceutical industry offers various skin care products to maintain skin health. These products include cleansing, soothing, restoring, reinforcing, and protecting. As we age, the emphasis on skin care shifts from cosmetic objectives to therapeutic and preventive goals. The primary areas in need of care and protection change, with younger years focusing on environmental factors and older years on age-related factors. Ageing also changes skin structure and function, increasing susceptibility to various skin problems and diseases. Skin care products are widely available in daily life and play a significant role in health and nursing care. Even in places where access to modern medicine is available, there has been a substantial increase in interest in and usage of herbal remedies in recent years. Plant-derived substances and herbal medicines have been attracting a lot of attention because medicinal plants are the primary source of the bioactive molecules utilized in modern as well as traditional medicine. The current task is to create a cream that contains Tulsi powder, Turmeric powder and Neem powder, Salicylic acid, etc. The basis for the cream was made, and then the water and oil phases were combined to make the cream. It was assessed for its physical properties, including colour, odor, pH, texture, and stability, after formulation. Consequently, it might use the medical property in the media.

Keywords: Skin Cream, Salicylic acid, Neem, Tulsi, Turmeric, Coconut Oil, Oil and Water phase

Importance of Reducing and Non Reducing Sugars from Diatoms

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Abstract

Diatoms, a broad class of microalgae are well-known for their capacity to generate a variety of carbohydrates, including both reducing and non-reducing sugars. As energy sources, building blocks, and signaling molecules, these sugars are essential to the physiology of diatoms. Diatoms can easily break down reducing sugars like fructose and glucose to power their cells and produce biomass and offer carbon skeletons for biosynthesis pathway. Reducing sugars have important functions in cell wall production, stress responses, and osmoregulation, which support the development, survival, and environmental adaptation of diatoms, including trehalose and sucrose. Development of bioproducts and diatom biotechnology are impacted by both reducing and non-reducing sugars. Through metabolic engineering and fermentation procedures, diatom-derived sugars can be used as renewable feedstocks for the synthesis of biofuels, bioplastics, and high-value chemicals and provide methods for improving biomass production and sequestering carbon maximizing the potential for bioremediation in diatom-based systems can be developed.

These sugars are essential components of diatom metabolism, physiology, and ecological interactions and play vital roles in energy metabolism, stress responses, and cellular communication, influencing diatom growth, survival, and ecosystem functioning. Thus, this study helps in understanding sugar metabolism in diatoms having implications for biotechnological applications, offering opportunities for sustainable bioproduction and environmental remediation.

Keywords – Reducing and Non Reducing sugars, Diatoms, Bioremediation, cellular function

Effects of Remuneration on the Performance of Employees in Automobile Sector

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ABSTRACT

This study explores the relationship between remuneration and employee performance within the Indian automobile industry. It examines how various forms of compensation, including wages, benefits, and incentives, influence employee motivation, engagement, and ultimately, their contribution to company goals. The paper acknowledges the existing body of research highlighting the positive correlation between employee satisfaction derived from remuneration and their performance. It delves specifically into the Indian context, considering factors like job market dynamics and cultural aspects that might influence this relationship.

The abstract emphasizes the importance of understanding how effective remuneration strategies can be leveraged to achieve a competitive edge in the Indian automobile industry. This is particularly relevant in today's scenario, where a skilled workforce is crucial for innovation and productivity.

By analyzing the impact of remuneration on employee performance, the study aims to provide valuable insights for human resource professionals in Indian automobile companies. It can help them design effective compensation packages that not only attract and retain talent but also motivate employees to excel in their roles, ultimately propelling the company's success.

Keywords:

Remuneration, Compensation, Employee motivation, Employee Performance, Employee productivity.

Synthesis and Characterization of Novel 1,3,4-Thiadiazole derivatives

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Abstract

A series of novel 1,3,4-thiadiazole derivatives (Ab1-Ab8) were synthesized through a reaction between aromatic acid and thiosemicarbazide in the presence of ethanol and concentrated sulfuric acid. This reaction produced a recrystallized intermediate compound, which was subsequently reacted with an aromatic substituted aldehyde in an alcohol medium containing glacial acetic acid. This second reaction step successfully yielded the desired 1,3,4-thiadiazole derivatives.

To ensure the correct formation and purity of these compounds, they were characterized using several advanced spectroscopic techniques. Infrared (IR) spectroscopy was employed to identify functional groups, while ¹H Nuclear Magnetic Resonance (¹H NMR) spectroscopy provided detailed information about the hydrogen atoms within the molecules. Additionally, mass spectroscopy was utilized to determine the molecular weights and structural features of the synthesized compounds.

The results from these characterization studies confirmed that compounds Ab4 and Ab8 were pure and possessed the expected chemical structures. These findings were significant because they validated the synthetic approach and the successful formation of the desired derivatives.

Notably, compounds Ab4 and Ab8 demonstrated potential as valuable lead compounds for the development of novel pharmaceutical drugs. Preliminary evaluations indicated that these compounds might exhibit significant anti-inflammatory and antioxidant activities. Consequently, they could serve as a foundation for further drug development and research, potentially leading to new therapeutic agents for treating inflammation-related conditions and oxidative stress.

Keywords: *Thiadiazole, heterocycle, pharmaceutical, scaffold, thiosemicarbazide*

Assessment of PTEN levels at gene and protein level in breast cancer patients: A hospital based study

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Abstract

The tumor suppressor gene PTEN plays a critical role in breast tumorigenesis and tumor progression. PTEN gene expression is regulated by its processed pseudogene PTENP1, small noncoding RNAs such as microRNAs (miRNAs), and sense and antisense transcripts of the PTENP1 long noncoding RNA. Additionally, various transcription factors bind directly to the PTEN gene promoter to modulate its transcription. This study aimed to evaluate the role of PTEN in breast cancer.

Eligible participants were recruited according to AOCG inclusion criteria. Pre-operative blood samples were collected, and serum was isolated. Cancerous and non-cancerous tissue specimens were also obtained from the same participants. Serum and tissue levels of PTEN were measured using the ELISA method. DNA was isolated, and PTEN gene expression was assessed in cancerous and non-cancerous tissues, with non-cancerous tissues serving as healthy controls.

Among the 24 eligible participants, the mean age was 34.91 ± 3.11 years. PTEN levels were abnormally expressed in breast carcinoma tissues compared to non-carcinoma tissues, with statistically significant differences. Moreover, there were significant $2\Delta\Delta CT$ differences in PTEN gene expression among the study participants.

These results indicate that PTEN is crucial for the tumorigenesis, development, and prognosis of breast cancer. The findings suggest that PTEN's role in breast cancer involves complex regulatory mechanisms including interactions with PTENP1, miRNAs, and various transcription factors, highlighting its potential as a therapeutic target.

Keywords:

PTEN Gene, PTENP1 Pseudogene, sncRNAs, miRNAs, lncRNAs, Sense and Antisense transcript, Ubiquitination, Epigenetic regulation, Chromatin Remodelling Complexes, Histone Modifying Enzymes.

IDENTIFYING THE nsSNPs (NON-SYNONYMOUS SNPs) OF GENE (SLC11A1) INVOLVED IN SPINAL TUBERCULOSIS

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ABSTRACT

Single Nucleotide Polymorphisms (SNPs) play a vital role in understanding the genetic basis for several complicated human diseases and human trait diversity. Identifying functional SNPs in a disease-related gene remains a major challenge. Herein, we performed extensive computational approaches to examine the genetic variation that can affect the SLC11A1 gene expression and functionality, which encodes NRAMP1 protein involves Spinal tuberculosis (STB). SLC11A1 consists of 7243 SNPs, out of which 536 SNPs were missense/non-synonymous SNPs (nsSNPs). Results of PolyPhen-2 shows 235 nsSNPs as probably damaging. PROVEAN shows 171 as deleterious nsSNPs. SIFT defines 163 nsSNPs as deleterious. I-Mutant has predicted 182 nsSNPs having decrease/increase stability. PANTHER found 262 nsSNPs as probably damaging whereas PhD-SNP and Meta-SNP showed 214 and 243 as disease-associated mutations. A consensus results in the selection of 11 nsSNPs as deleterious effects: rs139480250(Ala173Thr), rs14932707(Ile40Thr), rs145536242(Leu174Pro), rs150192588(Phe188Leu), rs151164925(Ser46Leu), rs182057473(Tyr395Cys), rs182057473(Tyr364Cys), rs201910426(Arg16Cys), rs367630718(Tyr94Cys), rs73775521(Gly271Ser), rs377166486(Asn362Ser). Homology modeling and structural analysis of NRAMP1 results in the prediction predicted one nsSNP, rs150192588(Phe188Leu) at the active site region of protein. Thus, the current computational analyses anticipated that nsSNPs of SLC11A1 may be explored as pharmacological targets contributing for experimental designing, retreatment and understanding of spinal tuberculosis.

Keywords: *SLC11A1; NRAMP1; Spinal Tuberculosis; SNPs; Homology modeling; FT-Site*

**Public Photographs
&
Media Coverage**



















आरआर ग्रुप ऑफ इंस्टीट्यूशंस में दो दिवसीय इंटरनेशनल कांफ्रेंस का हुआ समापन

विचार प्रदीपन | बीकेटी, लखनऊ

बीकेटी लखनऊ ने दिवसीय इंटरनेशनल कांफ्रेंस का समापन आरआर ग्रुप ऑफ इंस्टीट्यूशंस, बीकेटी, लखनऊ में बायोवर्स टेक्नोलॉजीज के सहयोग से सम्पन्न हुआ। समापन के अवसर पर मुख्य अतिथि प्रो. डा. अभिनव श्रीवास्तव (डायरेक्टर जनरल) ने कहा कि आर्टिफिशियल इंटेलिजेंस से 64% ग्रोथ हुआ है। कारपोरेट में और वे आंकड़ा और बढ़ेगा। विशेष अतिथि प्रो. डॉ. मनसफ आलम ने आर्टिफिशियल इंटेलिजेंस के बढ़ते प्रभाव और भविष्य में आर्टिफिशियल इंटेलिजेंस जीव विज्ञान को कॉम्प्लेक्स प्रॉब्लम सॉल्व करने की क्षमता पर विशेष प्रकाश डालते हुए कहा कि यह भारतीय इकोनॉमी को मजबूती प्रदान कर रहा है। प्रोफेसर भरत मिश्रा (डायरेक्टर फार्मेसी, डॉ. शकुंतला मिश्रा विद्यार्थिवालय, लखनऊ) प्रोफेसर अश्विना शिवादी (डायरेक्टर, आर जी एस कॉलेज,



लखनऊ), डॉ. आशुतोष यादव, अतिरिक्त प्रोफेसर, डॉ. शकुंतला मिश्रा विद्यार्थिवालय, लखनऊ), डॉ. संजय यादव (अतिरिक्त प्रोफेसर, फार्मेसी, डॉ. शकुंतला मिश्रा विद्यार्थिवालय, लखनऊ), डॉ. अरविश कुमार, डायरेक्टर, नोवा फार्मा कॉलेज, डॉ. पंकज कुमार सोनार (असिस्टेंट प्रोफेसर, नवमिडि फार्मा कॉलेज, गोरखपुर) एवं अन्य सभी ने लाइफ साईंस एंड टेक्नोलॉजीज से संबंधित रिसर्च पेपर के प्रेजेंटेशन में फार्मेसी एवं जैव प्रौद्योगिकी के विभिन्न पेपर प्रस्तुत अवसरों द्वारा प्रस्तुत किए गए और विजेता को सम्मानित किया गया।

आरआर ग्रुप ऑफ इंस्टीट्यूशंस में दो दिवसीय इंटरनेशनल कांफ्रेंस का समापन



आरआर ग्रुप ऑफ इंस्टीट्यूशंस में दो दिवसीय इंटरनेशनल कांफ्रेंस का समापन आरआर ग्रुप ऑफ इंस्टीट्यूशंस, बीकेटी, लखनऊ में बायोवर्स टेक्नोलॉजीज के सहयोग से सम्पन्न हुआ। समापन के अवसर पर मुख्य अतिथि प्रो. डा. अभिनव श्रीवास्तव (डायरेक्टर जनरल) ने कहा कि आर्टिफिशियल इंटेलिजेंस से 64% ग्रोथ हुआ है। कारपोरेट में और वे आंकड़ा और बढ़ेगा। विशेष अतिथि प्रो. डॉ. मनसफ आलम ने आर्टिफिशियल इंटेलिजेंस के बढ़ते प्रभाव और भविष्य में आर्टिफिशियल इंटेलिजेंस जीव विज्ञान को कॉम्प्लेक्स प्रॉब्लम सॉल्व करने की क्षमता पर विशेष प्रकाश डालते हुए कहा कि यह भारतीय इकोनॉमी को मजबूती प्रदान कर रहा है। प्रोफेसर भरत मिश्रा (डायरेक्टर फार्मेसी, डॉ. शकुंतला मिश्रा विद्यार्थिवालय, लखनऊ) प्रोफेसर अश्विना शिवादी (डायरेक्टर, आर जी एस कॉलेज,

इंटरनेशनल कांफ्रेंस का समापन

अमृत विचार, बख्शी का तालाब : बख्शी का तालाब स्थित आरआर ग्रुप ऑफ इंस्टीट्यूशंस में दो दिवसीय इंटरनेशनल कांफ्रेंस का समापन बायोवर्स टेक्नोलॉजीज के सहयोग से सम्पन्न हुआ। कार्यक्रम के समापन पर मुख्य अतिथि डायरेक्टर जनरल प्रो. अभिनव श्रीवास्तव ने कहा की आर्टिफिशियल इंटेलिजेंस से 64% ग्रोथ हुआ है। कारपोरेट में और ये आंकड़ा और बढ़ेगा।

आरआर. इंस्टीट्यूट में दो दिवसीय इंटरनेशनल कांफ्रेंस का हुआ समापन

बख्शी का तालाब। क्षेत्र के आर.आर. ग्रुप ऑफ इंस्टीट्यूशंस में आयोजित हुए दो दिवसीय इंटरनेशनल कांफ्रेंस का समापन शनिवार को बायोवर्स टेक्नोलॉजीज के सहयोग से सम्पन्न किया गया। जिस अवसर पर कार्यक्रम के मुख्य अतिथि प्रो.डा. अभिनव श्रीवास्तव (डायरेक्टर जनरल) ने कहा की आर्टिफिशियल इंटेलिजेंस से 64 प्रतिशत ग्रोथ हुआ है। कारपोरेट में अभी वे आंकड़ा और बढ़ेगा। विशेष अतिथि प्रो. डॉ. मनसफ आलम ने आर्टिफिशियल इंटेलिजेंस के बढ़ते प्रभाव और भविष्य में आर्टिफिशियल इंटेलिजेंस जीव विज्ञान को कॉम्प्लेक्स प्रॉब्लम सॉल्व करने की क्षमता पर विशेष प्रकाश डालते हुए कहा कि यह भारतीय इकोनॉमी को मजबूती प्रदान कर रहा है। वही कार्यक्रम में मौजूद कमेटी के सभी सदस्यों ने लाइफ साईंस एंड टेक्नोलॉजीज को फार्मा और मेनेजमेंट के साथ मिल के आर्टिफिशियल इंटेलिजेंस से काम करने पर जोर दिया। संस्थान के निदेशक डा. एस पी त्रिपाठी ने कहा की जब सभी विभाग मिल कर काम करेंगे तभी कुछ प्रोडक्टिव होगा उन्होंने इस मल्टी डिस्प्लिनरी इंटरनेशनल कांफ्रेंस में आए सभी वक्ताओं का स्वागत किया और आभार व्यक्त किया। वहीं डा. आकाश सिंह ने बताया कि आज जीव विज्ञान के विभिन्न क्षेत्रों से संबंधित रिसर्च पेपर के प्रेजेंटेशन में फार्मेसी एवं जैव प्रौद्योगिकी के विभिन्न पेपर अर्थात् विधियों द्वारा प्रस्तुत किए गए और विजेता को सम्मानित भी किया गया। वहीं डा सिंह ने बताया कि भविष्य में जैव प्रौद्योगिकी एवं फार्मेसी में बढ़ती रचि कैसे देना की प्रगति पर सकारात्मक असर डाल सकती है। प्रोफेसर डॉ. आर के दीक्षित, (फार्मेकोलॉजी विभाग, केजीएमयू, लखनऊ) ने विशेष तौर पर जैव प्रौद्योगिकी को फार्मा रिसर्च में उपयोगिता पर विशेष प्रकाश डाला। डॉ धीरेंद्र कुमार (विभागाध्यक्ष, जैव प्रौद्योगिकी विभाग, आर आर जी आई, लखनऊ) ने संस्थान के शिक्षा जगत में जैव प्रौद्योगिकी को बढ़ावा देने के प्रयासों पर विशेष प्रकाश डालते हुए सभी अतिथियों, विशेष अतिथियों, मुख्य अतिथि एवं पुरो कोर्नरिस को मेनेजमेंट कमेटी को कॉन्फ्रेंस के सफलतापूर्वक क्रियान्वयन के लिए धन्यवाद दिया।

कार्यालय खण्ड

पत्रांक- 3784/श्लेष/निविदा-निर्धारण / निविदा
इस कार्यालय के पत्र संख्या

दो दिवसीय इंटरनेशनल कांफ्रेंस का समापन

विचार प्रदीपन

बीकेटी लखनऊ आर.आर. ग्रुप ऑफ इंस्टीट्यूशंस, बीकेटी, लखनऊ में बायोवर्स टेक्नोलॉजीज के सहयोग से सम्पन्न हुआ इस अवसर पर मुख्य अतिथि प्रो.डा. अभिनव श्रीवास्तव (डायरेक्टर जनरल) ने कहा कि आर्टिफिशियल इंटेलिजेंस से 64% ग्रोथ हुआ है। कारपोरेट में और वे आंकड़ा और बढ़ेगा। विशेष अतिथि प्रो. डॉ. मनसफ आलम ने आर्टिफिशियल इंटेलिजेंस के बढ़ते प्रभाव और भविष्य में आर्टिफिशियल इंटेलिजेंस जीव विज्ञान को कॉम्प्लेक्स प्रॉब्लम सॉल्व करने की क्षमता पर विशेष प्रकाश डालते हुए कहा कि यह भारतीय इकोनॉमी को मजबूती प्रदान कर रहा है। प्रोफेसर भरत मिश्रा (डायरेक्टर फार्मेसी, डॉ. शकुंतला मिश्रा विद्यार्थिवालय, लखनऊ) प्रोफेसर अश्विना शिवादी (डायरेक्टर, आर जी एस कॉलेज,



लखनऊ), डॉ. आशुतोष यादव, अतिरिक्त प्रोफेसर, डॉ. शकुंतला मिश्रा विद्यार्थिवालय, लखनऊ), डॉ. संजय यादव (अतिरिक्त प्रोफेसर, फार्मेसी, डॉ. शकुंतला मिश्रा विद्यार्थिवालय, लखनऊ), डॉ. अरविश कुमार, डायरेक्टर, नोवा फार्मा कॉलेज, डॉ. पंकज कुमार सोनार (असिस्टेंट प्रोफेसर, नवमिडि फार्मा कॉलेज, गोरखपुर) एवं अन्य सभी ने लाइफ साईंस एंड टेक्नोलॉजीज से संबंधित रिसर्च पेपर के प्रेजेंटेशन में फार्मेसी एवं जैव प्रौद्योगिकी के विभिन्न पेपर प्रस्तुत अवसरों द्वारा प्रस्तुत किए गए और विजेता को सम्मानित किया गया।

मोहाली में पांच मजिला इमारत गिरी...
मोहाली में शनिवार रात चला लाइवा हुआ है। मोहाली के मोहाली में एक पांच मजिला इमारत गिरी गई है। इमारत के गिरने की वजह अज्ञात है। इस घटना में पांच महिलाओं की मौत हो गई है। घटना की जांच के लिए पुलिस ने जांच शुरू की है।
03

दो दिवसीय इंटरनेशनल कांफ्रेंस का आर ग्रुप ऑफ इंस्टीट्यूशंस में हुआ समापन



लखनऊ जिले के बीकेटी क्षेत्र में आयोजित हुए दो दिवसीय इंटरनेशनल कांफ्रेंस का समापन शनिवार को बायोवर्स टेक्नोलॉजीज के सहयोग से सम्पन्न हुआ है। समापन के अवसर पर मुख्य अतिथि प्रो. डा. अभिनव श्रीवास्तव (डायरेक्टर जनरल) ने कहा कि आर्टिफिशियल इंटेलिजेंस से 64% ग्रोथ हुआ है। कारपोरेट में और वे आंकड़ा और बढ़ेगा। विशेष अतिथि प्रो. डॉ. मनसफ आलम ने आर्टिफिशियल इंटेलिजेंस के बढ़ते प्रभाव और भविष्य में आर्टिफिशियल इंटेलिजेंस जीव विज्ञान को कॉम्प्लेक्स प्रॉब्लम सॉल्व करने की क्षमता पर विशेष प्रकाश डालते हुए कहा कि यह भारतीय इकोनॉमी को मजबूती प्रदान कर रहा है। वही कार्यक्रम में मौजूद कमेटी के सभी सदस्यों ने लाइफ साईंस एंड टेक्नोलॉजीज को फार्मा और मेनेजमेंट के साथ मिल के आर्टिफिशियल इंटेलिजेंस से काम करने पर जोर दिया। संस्थान के निदेशक डा. एस पी त्रिपाठी ने कहा की जब सभी विभाग मिल कर काम करेंगे तभी कुछ प्रोडक्टिव होगा उन्होंने इस मल्टी डिस्प्लिनरी इंटरनेशनल कांफ्रेंस में आए सभी वक्ताओं का स्वागत किया और आभार व्यक्त किया। वहीं डा. आकाश सिंह ने बताया कि आज जीव विज्ञान के विभिन्न क्षेत्रों से संबंधित रिसर्च पेपर के प्रेजेंटेशन में फार्मेसी एवं जैव प्रौद्योगिकी के विभिन्न पेपर अर्थात् विधियों द्वारा प्रस्तुत किए गए और विजेता को सम्मानित भी किया गया। वहीं डा सिंह ने बताया कि भविष्य में जैव प्रौद्योगिकी एवं फार्मेसी में बढ़ती रचि कैसे देना की प्रगति पर सकारात्मक असर डाल सकती है। प्रोफेसर डॉ. आर के दीक्षित, (फार्मेकोलॉजी विभाग, केजीएमयू, लखनऊ) ने विशेष तौर पर जैव प्रौद्योगिकी को फार्मा रिसर्च में उपयोगिता पर विशेष प्रकाश डाला। डॉ धीरेंद्र कुमार (विभागाध्यक्ष, जैव प्रौद्योगिकी विभाग, आर आर जी आई, लखनऊ) ने संस्थान के शिक्षा जगत में जैव प्रौद्योगिकी को बढ़ावा देने के प्रयासों पर विशेष प्रकाश डालते हुए सभी अतिथियों, विशेष अतिथियों, मुख्य अतिथि एवं पुरो कोर्नरिस को मेनेजमेंट कमेटी को कॉन्फ्रेंस के सफलतापूर्वक क्रियान्वयन के लिए धन्यवाद दिया।

Acknowledgments & Appreciation

(From the Editorial Board)



Prof. Bharat Mishra
Chief Editor, Editorial Board,
ICBPAIISD-2024

On behalf of the **Editorial Board of ICBPAIISD-2024**, I extend my heartfelt gratitude to all individuals and organizations whose dedication and efforts have made this conference a grand success. This event stands as a testament to the power of collaboration, innovation, and academic excellence, bringing together distinguished scholars, researchers, and professionals from across the globe to deliberate on the advancements in Biotechnology, Pharmacology, and Artificial Intelligence for Sustainable Development.

First and foremost, we express our deepest appreciation to **Prof. (Dr.) J. P. Pandey, Vice Chancellor, AKTU**, for his unwavering support and guidance as the **Chief Patron** of the conference. We are equally grateful to our **Patrons, Shri Anil Kumar Agrawal and Shri Chitranshu Agrawal**, for providing the necessary resources and encouragement to host this prestigious event at **RR Group of Institutions, Lucknow**.

A special note of thanks to **Prof. (Dr.) S. P. Tripathi, Convener Mr. Durgesh Verma, and Dr. Dheerendra Kumar** for their leadership in steering the conference towards excellence. Our sincere gratitude goes to **Dr. Akash Singh, Organizing Secretary**, and the **Core Committee Members**, whose tireless efforts ensured seamless execution.

We acknowledge the invaluable contributions of the **International Advisory Committee, the Review Committee** and **Panelists** deserve special recognition for their meticulous evaluation of research submissions, ensuring the highest academic standards.

The **Organizing Committee, Technical Teams, and Volunteers** have worked tirelessly behind the scenes to make this event a resounding success. Their commitment to excellence, attention to detail, and relentless dedication are truly commendable.

We extend our gratitude to **Bioverse Technologies Pvt. Ltd.**, our key industry collaborator, for their instrumental role in supporting and co-organizing this event.

Lastly, we express our **deepest appreciation** to all **speakers, session chairs, participants, and sponsors** for their enthusiastic engagement and contributions.

It is through the collective efforts of each and every one of you that **ICBPAIISD-2024** has emerged as a landmark event in scientific discourse. Thank you for being a part of this journey.

Prof. Bharat Mishra
Director, IOP,
Dr. Shakuntala Mishra National Rehabilitation University
Lucknow, Uttar Pradesh



Dr. Udai Pratap Singh
Editorial Board Member
ICBPAIISD-2024

It is with immense pride and gratitude that I extend my heartfelt appreciation to everyone who contributed to the success of **ICBPAIISD-2024**. This prestigious conference has provided an invaluable platform for intellectual exchange, bringing together leading experts, researchers, and industry professionals to discuss groundbreaking advancements in **Biotechnology, Pharmacology, and Artificial Intelligence Innovations for Sustainable Development**.

I would like to express my sincere gratitude to **Prof. (Dr.) J. P. Pandey, Vice Chancellor, AKTU**, for his visionary leadership as the **Chief Patron**, and to our **Patrons, Shri Anil Kumar Agrawal and Co-Patron Shri Chitranshu Agrawal**, for their unwavering support in making this event a reality. My appreciation extends to **Co-Patron Prof. (Dr.) S. P. Tripathi, Conveners Mr. Durgesh Verma, and Dr. Dheerendra Kumar**, whose dedication and meticulous planning ensured the seamless execution of this event.

A special note of thanks to **Dr. Akash Singh, Organizing Secretary (General Manager, Bioverse Technologies Pvt. Ltd., Lucknow)**, and the **Core Committee Members**, whose relentless efforts were instrumental in the success of the conference. I also extend my deepest appreciation to the **International Advisory Committee, Review Committee, and Panelists** for their contributions in maintaining the highest academic standards.

None of this would have been possible without the dedicated efforts of the **Organizing Committee, Technical Teams, and Volunteers**, whose hard work and coordination ensured a smooth and impactful conference experience.

We are also grateful to **Bioverse Technologies Pvt. Ltd.**, the industry collaborator, for their generous support and involvement in the event. Lastly, my sincere thanks to all **eminent speakers, session chairs, paper presenters, participants, and sponsors** for their invaluable contributions.

This conference stands as a remarkable milestone in fostering scientific dialogue and interdisciplinary collaboration. May the insights and discussions here inspire future innovations for a sustainable tomorrow.

Dr. Udai Pratap Singh
Manager (QA & P),
Medsorce Ozone Biomedicals Pvt. Ltd.,
Faridabad, Haryana



Dr. Abhinav Kumar Srivastava

Editorial Board Member

ICBPAIISD-2024

On behalf of the **Editorial Board of ICBPAIISD-2024**, I extend my sincere gratitude to all individuals and organizations whose collective efforts have led to the resounding success of this esteemed conference. This event has served as a global platform for fostering interdisciplinary discussions, exchanging knowledge, and exploring innovative solutions in Biotechnology, Pharmacology, and Artificial Intelligence for Sustainable Development.

I wish to extend my heartfelt appreciation to **Prof. (Dr.) J. P. Pandey, Vice Chancellor, AKTU**, for his inspiring leadership as the **Chief Patron**, and to **Shri Anil Kumar Agrawal and Shri Chitranshu Agrawal**, for their invaluable support in making this conference a landmark event. The guidance of **Prof. (Dr.) S. P. Tripathi, Convener Mr. Durgesh Verma, and Dr. Dheerendra Kumar** was instrumental in ensuring the smooth organization of the conference.

A special acknowledgment to **Dr. Akash Singh, Organizing Secretary, and the Core Committee Members**, whose unwavering commitment played a vital role in the flawless execution of the event. My sincere thanks to the **International Advisory Committee, Review Committee, and Panelists** for their dedication in upholding the academic rigor and excellence of this conference.

The seamless orchestration of this event would not have been possible without the diligence of the **Organizing Committee, Technical Teams, and Volunteers**, whose behind-the-scenes efforts ensured an enriching experience for all.

We are immensely grateful to **Bioverse Technologies Pvt. Ltd.**, the industry collaborator, for their generous support and engagement. Lastly, a profound thank you to all **keynote speakers, session chairs, presenters, attendees, and sponsors** for their enthusiastic participation and valuable contributions.

This conference has set a benchmark in scientific discourse, and I am confident that the knowledge and collaborations fostered here will pave the way for groundbreaking innovations in the future.

Dr. Abhinav Kumar Srivastava

Director General,

FS University,

Shikohabad, Uttar Pradesh

About R.R. Group of Institutions, Lucknow

R.R. Group of Institutions is a private engineering institute that was established in 2008. The institution opens a path for all learners to own their future by offering various undergraduate, postgraduate, and diploma programs. With high learning streams such as management and engineering, it is recognized as one of the Best B.Tech, MBA, and Polytechnic Colleges in Lucknow and the Top Engineering college in Lucknow, Uttar Pradesh. The institute is well-affirmed by AICTE (All India Council for Technical education) and affiliated with eminent national bodies such as AKTU (Dr. APJ Abdul Kalam Technical University) and the Board of Technical Education. R.R. group of Institutions is allocated as ASSOCHAM (Associated Chambers of Commerce and Industry of India) for the best College award and commended with the 'Prakriti Ratna Award' and 'Shiksha Gaurav Samman' for its quality education in the field of management and technical education, which counts RRGI among the best engineering colleges in Lucknow. Vision : To achieve excellence in scientific, technical education, and research to create a dynamic and multidisciplinary system to make our students technically and professionally excellent with incorporation of Indian values, morals, and ethics.

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Bioverse Technologies Private Limited is a pioneering biotechnology company dedicated to driving innovation and delivering sustainable solutions in the life sciences. Founded with a vision to transform the biotechnology landscape, Bioverse Technologies specializes in cutting-edge research, development, and commercialization of advanced biotechnological applications. Our mission is to harness the power of nature and scientific advancements to address some of the world's most pressing challenges in healthcare, agriculture, and environmental sustainability. At Bioverse Technologies, major areas of expertise includes Micorbiology, Molecular biology, Enzymology, Biochemistry, Immunology, Genetic Engineering, Synthetic Biology, Plant Biotechnology, etc. Through these disciplines, we develop groundbreaking solutions that revolutionize medicine, enhance gricultural productivity, and support environmentally responsible industrial applications. Our research-driven approach ensures that we stay at the forefront of innovation, creating bio-based alternatives that reduce environmental impact and promote global well-being. Our team comprises experienced scientists, researchers, and industry professionals who collaborate seamlessly to drive meaningful advancements in biotechnology.



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