



Dwaraka Doss Goverdhan Doss Vaishnav College

(Autonomous)

Reaccredited with A⁺⁺ Grade by NAAC | Affiliated to the University of Madras
College with Potential for Excellence | Linguistic Minority Institution
Arumbakkam | Chennai – 600106



MICROSPOT

Post Graduate & Research Department of Microbiology

HIGHLIGHTS OF THE DEPARTMENT

A Word from Editorial Board

We are delighted to present this edition of our department newsletter, showcasing the academic achievements, research initiatives, and vibrant activities of our department. This issue reflects the collective efforts of our students, faculty and staff in fostering a culture of curiosity, innovation, and excellence. We hope this will serve to inform, Inspire and Celebrate our shared journey.

We welcome your feedback and contributions at dgycmicrobiology@gmail.com

Happy reading !



Ideathon Challenge 2026



Best student award - MBSI



Hands-on-workshop



Micromatsuri - The Annual Association Meet

Dr. S. Jagadeeswari; Dr. B. Kirthiga; Dr. M. Abirami, Dr. V. Rajalakshmi;
Dr. S. K. Anusha Shree, Dr. J. Nisha

ACHIEVEMENTS

Together We Achieve More

Celebrating a collective spirit of excellence, our faculty and students continue to achieve remarkable milestones in academics and research. These accomplishments reflect dedication, collaboration and a shared commitment to innovation, inspiring the department to strive for greater success and impact.

Women Academic Excellence Award 2026

Dr. V. Rajalakshmi, Assistant Professor, was honoured with the Women Academic Excellence Award 2026 by the Indian Forum Awards on the occasion of International Women's Day, in recognition of her exemplary contributions to academia, teaching excellence and dedication to student development.

Young Scientist award

Dr. S. K. Anusha Shree, Assistant Professor, was awarded with the Young Scientist Award (ICBEST'26) at the 5th International Conference on Biotechnological Emergence in Science and Technology, organized by SRM Institute of Science and Technology, Chennai, in recognition of her research contribution and scientific presentation in the field of biotechnology.

STUDENT ACHIEVEMENTS – ORAL PRESENTATION



1. **Mr. R. Inbarasan**
RABT 2025, Industry
conclave 2026



1. **Ms. S. S. Renusundari**
RABT 2025
2. **Ms. V. Gopika**
IISNHE2026
3. **Ms. R. Bhagirathi**
IISNHE2026



1. **Ms. S. Malavika**
RABT 2025

Research overview

Doctorate holders



One must work; one must work.
I have done what I could, as Fortune favours the prepared mind.

-Louis Pasteur



Dr. S. K. Anusha Shree



Dr. U. Sharmila



Dr. K. Nithya



Dr. B. Kiran Sharma

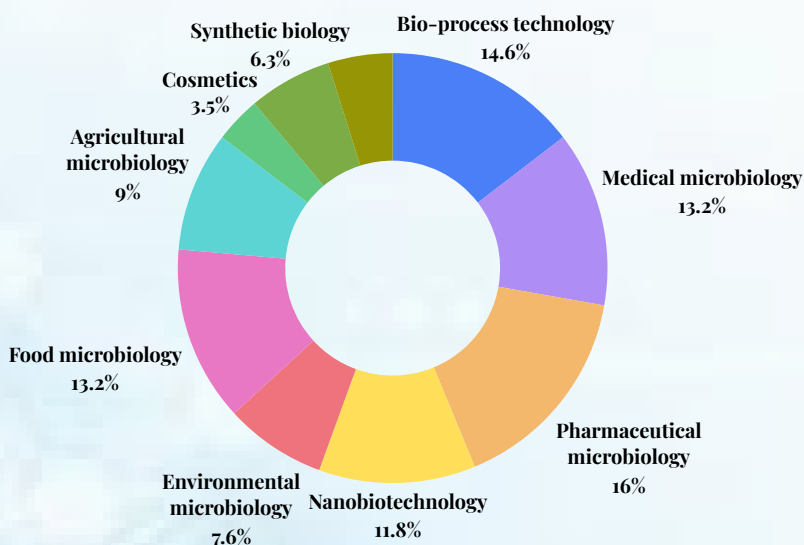
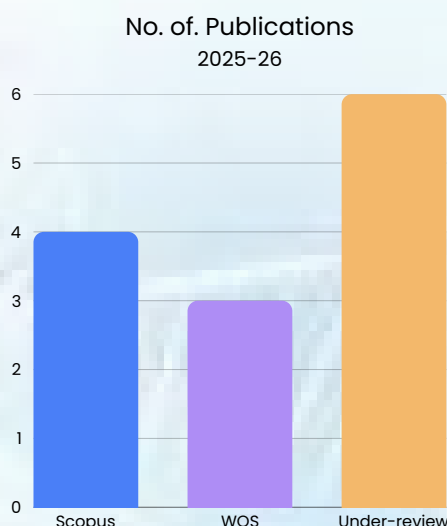


Dr. G. Padmini



Dr. J. Nisha

The department actively engages in innovative and interdisciplinary research addressing key challenges in health, environment, and sustainable development. Research activities focus on



The department is equipped with well-established laboratory facilities that support advanced research techniques, including molecular biology, fermentation technology and bioassays. Students are actively encouraged to participate in research through project work, internships, conferences, and publications.

COMMEMORATIVE EVENTS



World Environment Day

Creative initiatives such as a Nature Photography Contest and Eco-Art Competition were organized in association with the Institution's Innovation Council, fostering environmental awareness, innovation and student participation. The activities highlighted the department's commitment to experiential learning, creativity and academic growth.

World Population Day

A thought-provoking debate on genetically modified organisms engaged students in examining scientific advancements, ethical concerns, environmental impact and food security. The event fostered critical thinking, active participation and intellectual exchange, showcasing students analytical skills and encouraging balanced perspectives on contemporary biotechnological issues.



World Biofuel Day

An insightful lecture highlighted the significance of biofuels in building a sustainable future, covering biodiesel, bioethanol and biogas. It emphasized environmental benefits, challenges and innovations, while encouraging active participation, critical thinking and collaborative efforts toward renewable energy solutions among students, scholars and faculty.



COMMEMORATIVE EVENTS



International Microorganism Day

Scientific competitions such as a Meme Creation Contest and Microscopy Photography Contest encouraged students to explore microbial diversity, scientific accuracy and communication skills. The event enhanced awareness of microorganisms, fostered curiosity and highlighted their significance in everyday life and research through engaging and innovative participation.

Energy Conservation Day

A thought-provoking debate on genetically modified organisms engaged students in examining scientific advancements, ethical concerns, environmental impact and food security. The event fostered critical thinking, active participation and intellectual exchange, showcasing students analytical skills and encouraging balanced perspectives on contemporary biotechnological issues.



OUTREACH PROGRAM

Distribution of H5N1 Awareness Flyer

An awareness program on H5N1 Avian Influenza educated students and the community about its transmission, risks and preventive measures. Informational flyers and interactive explanations helped simplify complex concepts, ensuring better understanding, promoting public health awareness and reaching a wide audience through active student participation and engagement.



Academic events

Microspot #4



17/07/2025

Hands-on Workshop “Basic Microbial Techniques”

The Department of Microbiology organized a two-day hands-on workshop on Basic Microbial Techniques for students from various colleges in and around Chennai. The programme covered microscopy, culturing, identification and antimicrobial testing, enriching participants practical skills and offering meaningful laboratory exposure beyond classroom learning.

Micromatsuri 2025 - Micronova

Micromatsuri 2025, the Annual Association Meet, was organized with the theme of innovation and scientific excellence, aiming to promote creativity and collaborative learning. With the participation of around 280 students, the event reflected strong involvement and coordination. The activities facilitated analytical thinking, communication and problem-solving abilities, providing an effective platform to showcase their talents, enhance interdisciplinary knowledge.



18/09/2025



13/02/2026

Mushroom Farming: A Path to Agri-Entrepreneurship

The session offered an insightful blend of science and enterprise, introducing students to sustainable cultivation practices and emerging agri-business opportunities. Emphasizing innovation, cost-effective methods and real-world application, it inspired participants to view agriculture as a promising and future-ready career pathway.

UPSKILL ACTIVITIES



24/06/2025

Redefining limits: A journey beyond boundaries

A thought-provoking session by Dr. Geetha explored the expanding horizons of microbiology, highlighting diverse career pathways alongside the growing role of AI in life sciences.

Emphasizing multidisciplinary learning, it introduced computational tools and their applications in research and diagnostics, encouraging students to adapt to evolving scientific landscapes and enhance their skill sets.

Personal Branding & Visibility from Campus to Career

Mr. M. Balamuralikrishnan conducted an engaging session on shaping a strong professional identity and career direction. Emphasizing self-presentation, networking skills, and building a credible digital presence, it

helped students understand industry expectations, while interactive discussions and practical insights enhanced clarity, confidence, and overall career preparedness



04/07/2025

The Last line of Defense You & Food Safety

Mr. M. K. Siraj delivered a lively and engaging session on the importance of personal responsibility in food safety. Highlighting clean practices, careful handling, and prevention of contamination.



11/08/2025

It connected everyday actions to health and well-being. Interactive discussions and practical insights fostered a positive learning atmosphere, preparing students for real-world situations and future career paths

UPSKILL ACTIVITIES



19/12/2025

Decode the bands a complete guide to western blotting

A hands-on workshop on Western blotting provided students with valuable exposure to essential molecular techniques and their real-world applications.

Led by Ms. T. Shanthi, the session focused on protein analysis, result interpretation, and common challenges, while interactive learning strengthened practical skills and familiarized participants with industry practices.

Hands-on- Training Restriction Fragment Length Polymorphism

A hands-on training programme on RFLP offered students practical exposure to key molecular techniques in DNA analysis. Covering essential concepts and applications, the session guided participants through

each step with active involvement, strengthening technical skills and bridging the gap between classroom learning and laboratory practice.



31/01/2026



11/02/2026

Bioinformatics for Beginners: A Practical Approach

An engaging lecture cum hands-on workshop introduced students to the fundamentals of bioinformatics and its growing relevance in life sciences. Led by Dr. S. Ranjani, the session provided exposure to essential tools &

techniques, promoting interdisciplinary learning while enhancing analytical abilities, research skills, and confidence among participants.

VALUE ADDED COURSES

Curated to bridge the gap between academics and application, value-added courses offer focused skill development in emerging areas. They empower students to stay competitive, confident, and aligned with evolving industry and research demands.



Professional Development

Industry Certifications

Practical Learning

Employability Skills

COURSES OFFERED DURING 2025-26

These courses are offered in collaboration with leading industry partners through established MoUs - SAS Micro Pvt. Ltd., Sanjeev Biomedical Research Center, ensuring practical exposure and professional relevance



Food packaging & labelling regulations (FSSAI)

Introduces food safety standards and regulatory guidelines. Covers packaging norms, label compliance, and legal requirements to build awareness of quality assurance and consumer safety

"HACCP ISO 22000" Internal auditor & QA/QC professional

Focuses on food safety management systems and quality control. Develops skills in auditing, risk assessment, and global standards for roles in quality assurance and food safety.



Quality control analysis of ASU & herbal drug

Provides practical knowledge of evaluating herbal and traditional medicines. Covers testing methods, quality parameters, and regulatory aspects for pharmaceutical and research applications.

INDUSTRIAL EXPOSURE

LEARNING BEYOND THE CLASSROOM

The academic year witnessed enriching industrial visits that provided students with hands-on exposure to real-world practices. These experiences strengthened their practical knowledge, industry awareness, and professional skills, making them industry-ready.

“

*Unleashing Potential,
Transforming Futures*



05/07/2025

Rado Labs

Students gained exposure to advanced clinical diagnostics, observing real-time laboratory workflows, automated systems, and testing techniques. The experience strengthened understanding of quality control, biosafety, and the practical application of classroom concepts, enhancing their skills and career readiness.



03/01/2026

Spirulina Cultivation & Harvesting

Students received practical training in Spirulina cultivation, harvesting, and quality control. The program included hands-on demonstrations, production models, and entrepreneurship insights, enhancing skills and awareness of sustainable biotechnological practices.

An exposure visit provided students insights into fish harvesting, supply, and sales. They observed fish landing, auction processes, and marine species handling. Interactions with fishermen and vendors enhanced their understanding of post-harvest activities and the seafood supply chain.

Sea, Supply & Sales Exploring the Aquaculture Value Chain



14/02/2026

ALUMNI CORNER



20/12/2025

THE SMARTER ERA: HOW AI & IOT ARE TRANSFORMING FOOD SAFETY

Set against the backdrop of rapid technological advancement, the session explored how AI and IoT are transforming modern food safety practices. Highlighting real-time monitoring, intelligent systems, and data-driven approaches, it reflected evolving industry standards while fostering awareness of emerging trends and encouraging students to engage with technology-driven solutions.

THREADS TO THRIVING BUSINESS: ENTREPRENEURSHIP BEYOND CLASSROOM

The session unfolded as an inspiring exchange of ideas, as Mr. Syed Munvar traced his journey from aspiring student to successful entrepreneur. Blending real-world insights with practical wisdom on branding, innovation, and resilience, it encouraged students to envision bold career paths, reflecting the department's commitment to nurturing future-ready professionals.



22/12/2025

International Highlights

INTERNATIONAL SEMINAR ON

Exploring Emerging and Expanding vistas in life sciences



An International Seminar brought together around 130 enthusiastic participants, including undergraduate and postgraduate students, research scholars, and faculty members from across Tamil Nadu on 05/08/2025. The event created a vibrant academic environment that fostered learning, interaction, and exposure to emerging trends in life sciences. The seminar featured eminent speakers from both international and national platforms.

Dr. Suresh Mickymaray (Majmaah University, Saudi Arabia), Mr. S. Krishna Kumar (Discovery of Land Company, Dubai), and Dr. N. S. Maanoj (Universal Snakebite Education and Research Organisation, Krishnagiri) delivered engaging and insightful sessions. Their presentations covered key areas such as recent advancements in biological sciences, global food safety standards, environmental awareness, and pressing public health concerns, providing students with valuable real-world perspectives.



The programme served as a dynamic platform for knowledge exchange and interdisciplinary learning. It inspired students to explore research opportunities, think innovatively, and develop a scientific outlook toward solving global challenges. Interactive discussions further enriched the experience, highlighting the importance of such initiatives in shaping future-ready professionals in life sciences.



International Highlights

INTERNATIONAL CONFERENCE ON

Exploring Innovative Technologies Towards Sustainable Development



The 3rd International Conference on innovative technologies in biosciences held on 5th and 6th February 2026, served as a vibrant confluence of ideas, bringing together researchers, academicians, industry professionals, and students. The event highlighted the growing importance of biosciences in driving sustainable development and showcased how interdisciplinary approaches can address real-world environmental and health challenges.

The inaugural and keynote sessions set the tone by focusing on emerging trends in microbiology, biotechnology, and translational research. Speakers emphasized the relevance of scientific innovations in public health, environmental management, and industrial applications. The release of the conference proceedings marked the formal initiation of the academic sessions, reflecting the depth and diversity of research contributions.



Technical sessions featured engaging paper and poster presentations across areas such as environmental microbiology, biomedical research, industrial biotechnology, waste management, and advanced molecular techniques. The conference concluded with a valedictory session that reinforced the role of biotechnology in sustainable practices, while recognizing outstanding student contributions and encouraging continued scientific exploration.



DEPARTMENT GALLERY

Infrastructure & Instruments



The department features well-equipped laboratories, modern instrumentation, and a resourceful library that collectively support effective teaching and research. These facilities enable students to gain hands-on experience in microbiological and molecular techniques, fostering practical skills and scientific understanding.

The efficient functioning of the laboratories is ensured by the dedicated support of Ms. Aarthi, Lab Demonstrator, and Mrs. Gomathi, Lab Attender, who play a key role in assisting practical sessions and maintaining the laboratory environment.

Trivia

1. I am neither fully living nor truly inert. I can hijack cellular machinery, integrate silently, or rapidly destroy. My evolution challenges vaccines and therapies continuously. What am I?

2. X is a gene-editing tool derived from a bacterial defense mechanism against viruses. It has revolutionized molecular biology and therapeutic research. Identify X.

3. X refers to the uptake of naked DNA fragments from the environment by competent bacterial cells, leading to genetic recombination. Identify X.

4. X is an obligate intracellular bacterium lacking a typical peptidoglycan layer, making it naturally resistant to β -lactam antibiotics. It is a common cause of atypical pneumonia. Identify X.

5. A pathogen survives inside macrophages by preventing phagosome-lysosome fusion and manipulating host cell signaling. This intracellular survival strategy is characteristic of which organism?

UNSCRAMBLE

DNOESRPESO: Highly resistant dormant structures formed by certain bacteria to survive extreme environmental conditions

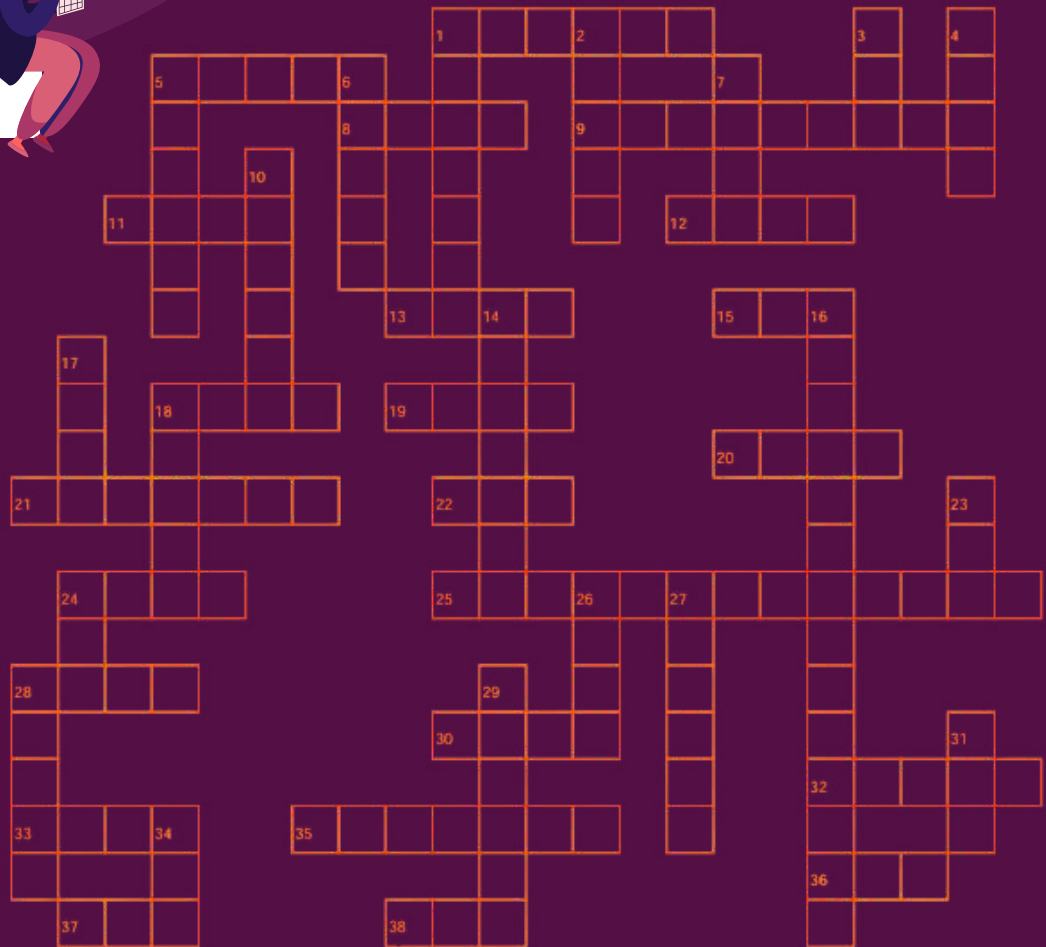
SENEGQINUCNE: A fundamental molecular technique used to determine the precise order of nucleotides in DNA, essential in genomics and diagnostics

NURMOQSEUSNIG: A cell-density-dependent communication system in bacteria that regulates gene expression, including virulence and biofilm formation

1. Virus
2. CRISPR-Cas9
3. Transformation
4. *Mycoplasma pneumoniae*
5. *Mycobacterium tuberculosis*

ANSWERS:

ANSWERS: 1. Endospores; 2. Gene Sequencing; 3. Quorum sensing



ACROSS

- 1 Building block of life (#6 on periodic table)
- 5 Helps some bacteria move
- 8 Coliform: Escherichia _____
- 9 Bacteria which dislike oxygen
- 11 Nucleus/center of apple
- 12 Insect that transmits bubonic plague
- 13 Laboratory worker
- 15 Dermatophyte Medium
- 18 Her cooking made folks ill: Typhoid _____
- 19 Tool used to transfer colonies to new medium
- 20 Type of tube 21 Composed of amino acids
- 22 1.0E+01
- 24 Petri _____
- 25 Bacteria found in yogurt
- 28 Opposite of acid
- 30 _____ eye: conjunctivitis
- 32 Color of some Pseudomonas colonies
- 33 Egg
- 35 Staphylococcus plus hydrogen peroxide
- 36 Center for Disease Control (abbr.)
- 37 "A _____ on your house": Shakespeare
- 38 Thermophiles and Marilyn Monroe like it _____

DOWN

- 1 Bacterial growth/ arts and literature
- 2 Color of some Aspergillus colonies
- 3 Acid fast bacillus (abbr.)
- 4 Dormant Giardia lamblia
- 5 Mass of microorganisms or ants
- 6 Bacteria that's scourge of teens: Propionibacterium _____
- 7 Prison room
- 10 Invented small pox vaccine
- 14 "Love in the Time of _____" by Gabriel Garcia Marquez
- 16 Company which supplies microorganisms
- 17 Saccharomyces cerevisiae is used to make this beverage
- 18 Bacteria which harm teeth: Streptococcus _____
- 23 Colony forming unit (abbr.)
- 24 Stuff of genes
- 26 Insect that transmits Lyme Disease
- 27 Disinfectant which kills bacteria
- 28 Toxin/ wrinkle eraser
- 29 Crystal _____ stain
- 31 Name of sea colored by bacteria
- 34 Vortex

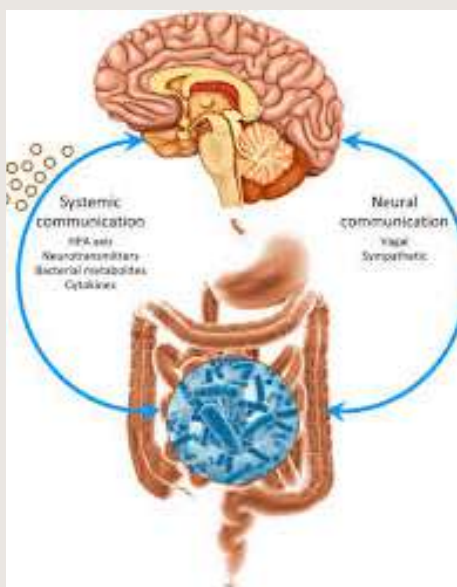
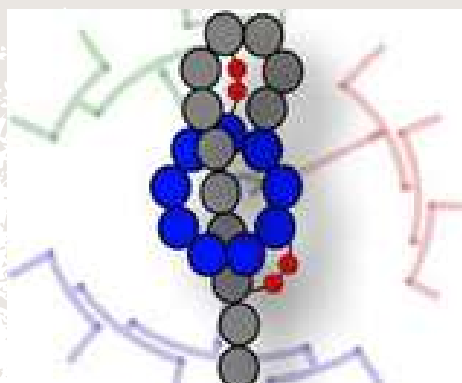
DGVC EDITION

GLOBAL MICROBIAL TRENDS

A concise overview of recent breakthroughs in microbiology, highlighting innovations in health, biotechnology, and sustainability that are shaping the future of science and global well-being.

NEW ANTIBIOTICS TARGET RESISTANT PATHOGENS

Researchers have identified novel antimicrobial compounds through secondary metabolite mining. Lasso peptides demonstrate unique ribosomal inhibition mechanisms, reducing the likelihood of resistance. A newly discovered intermediate, pre-methylenomycin C lactone, shows significantly enhanced activity against multidrug-resistant bacteria (MRSA).

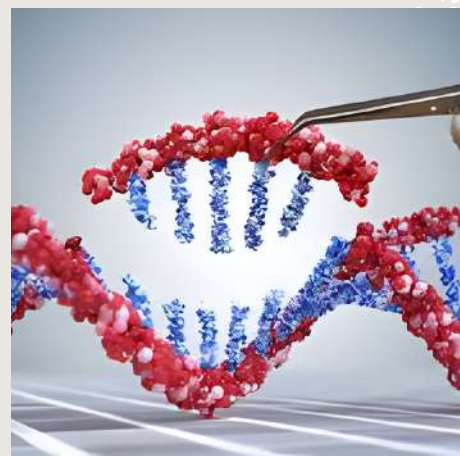


MICROBIOME LINKED TO HORMONES & BRAIN FUNCTION

Recent studies reveal that gut microbes influence host physiology through metabolite signaling, microbial biotransformation, and dynamic host-microbe interactions. Gut bacteria produce bioactive compounds such as short-chain fatty acids (SCFAs) and can enzymatically convert steroids into active hormones like progestins, thereby influencing endocrine function. In addition, the microbiome interacts with the gut-brain axis by modulating neuroendocrine pathways, including oxytocin and serotonin signaling, linking microbial activity to mental health, behavior, and metabolic regulation.

AI EXPANDS ROLE IN GENETIC ENGINEERING

Artificial intelligence is now being used in protein structure prediction and CRISPR-Cas system optimization. AI-designed gene editors are entering trials with improved specificity and reduced off-target effects. Meanwhile, enzymatic DNA synthesis (EDS) is replacing chemical methods, enabling scalable production of complex genetic sequences.



GLOBAL HEALTH WATCH

Rising cases of avian influenza (H5N1) and expansion of vector-borne diseases like dengue highlight the need for continuous surveillance. Climate-driven shifts are influencing pathogen distribution and epidemiology.