

Newsletter



School of Biological Sciences

AIPH University



August 2024



Newsletter

School of Biological Sciences

EDITORIAL DESK

It is with immense pride that I address you through our esteemed Newsletter. The journey of discovery and learning that we embark upon in the realm of biological sciences is not just about understanding life but also about enhancing the quality of life for all. Our school has consistently been at the forefront of research and education, pushing the boundaries of what is known and expanding the horizons of what can be achieved.

Our faculty's dedication to excellence and our students' relentless curiosity have led to groundbreaking research and innovative solutions to complex biological challenges. We have delved into the microscopic intricacies of life, unravelled the complexities of ecosystems, and contributed significantly to the global discourse on biodiversity and sustainability.

I am delighted and proud to announce that AIPH University has launched a monthly Departmental Newsletter under its auspices. The Newsletter is not only a valuable tool for the university's multifaceted growth, but also a great opportunity for the students to enhance their skills and competencies. Through this Newsletter, we can share the latest news and updates on how the University is pursuing its vision and mission. This is a stepping stone for preparing our students to excel in the competitive world of today. I am confident that the publication of the Newsletter will help us gain more recognition and reputation.

As we continue to grow and evolve, the importance of interdisciplinary collaboration becomes ever more apparent. The integration of technology and biology has opened new avenues for exploration, and it is exhilarating to witness the synergy between these fields within our university walls.

I encourage each one of you to remain steadfast in your pursuit of knowledge and to apply your learning for the greater good. The path of science is often a challenging one, but it is through these challenges that we find the opportunity for the greatest growth and contribution.

As we look to the future, let us be guided by the principles of ethical research, community engagement, and a deep respect for the natural world. Together, we can continue to make AIPH University's School of Biological Sciences a beacon of hope and a testament to the transformative power of education..

Best Wishes,

Dr. Usha Agrawal

Vice Chancellor, AIPH University



Editorial Team

1. Prof. Padan Kumar Jena, Dean, Chief Editor
2. Dr. Pradipta Ranjan Rauta, Associate Editor
3. Dr. Dhiraj Kumar Nanda, Associate Editor
4. Ms. Saipranga Prasant Panigrahi, Student Editor
5. Ms. Reetuparna Jena, Student Editor
6. Mr. Rakesh Roshan Mohanty, Student Editor

Message from the Registrar

Dear Students, Faculty, and Staff of the School of Biological Sciences,

I am pleased to address you all through our esteemed newsletter. As we step into another academic year, it's inspiring to see the enthusiasm and dedication with which everyone has embraced the pursuit of knowledge and scientific inquiry. The School of Biological Sciences continues to be a beacon of excellence, fostering an environment where curiosity leads to discovery and learning transcends the boundaries of textbooks.



Our commitment to providing a robust educational framework is unwavering, and we are constantly updating our curriculum to include the latest advancements in biological sciences. We believe in nurturing a culture of research and innovation, where students and faculty collaborate on projects that have the potential to make significant contributions to the scientific community and society at large.

This year, we have introduced new interdisciplinary courses that integrate biology with technology, ethics, and environmental studies, reflecting the interconnected nature of today's global challenges. Our faculty members have been recognized for their groundbreaking research, and we are proud to support their endeavors with state-of-the-art facilities and resources.

We also understand the importance of holistic development, and to that end, we have expanded our extracurricular programs. From seminars and workshops led by distinguished guests to internships and fieldwork opportunities, we aim to provide a well-rounded educational experience.

As the Registrar of AIPH University, I am honored to be part of this vibrant academic community. Your achievements and aspirations are what drive this institution forward. I encourage each one of you to take full advantage of the opportunities available, to engage in the exchange of ideas, and to contribute to the rich tapestry of our university's legacy.

Let us all strive for excellence, not just in academics but in all aspects of our lives, and let the School of Biological Sciences be a testament to the power of education to change the world.

Warm regards,

Dr. P Prasant

Registrar, AIPH University



From the Dean's Desk

Navigating our academic journey together

Dear Students,

As the Dean of the School of Biological Sciences at AIPH University, it is my pleasure to reach out to you through our monthly Departmental Newsletter. I hope this message finds you immersed in the exciting world of biological research and studies, pushing the boundaries of what we know about life and its myriad forms.

Our department has always prided itself on fostering a culture of curiosity and rigorous scientific inquiry. It is heartening to see so many of you engaged in innovative projects and research that have the potential to make significant contributions to the field of biology.

Whether you are just beginning your journey with us or are in the midst of your advanced studies, remember that each discovery, no matter how small, adds a valuable piece to the vast puzzle of biological science.

I want to emphasize the importance of regular attendance in your academic journey. Engaging consistently in classes not only enriches your understanding but also ensures you are up to date with the coursework. Moreover, I urge you to prioritize practical sessions, as they are crucial for gaining hands-on experience in the field of biology. Your active participation is key to your success in our department.

We are pleased to announce the continuation of our weekly seminar series, an initiative that brings together students and faculty for engaging discussions on the latest research and developments in the biological sciences. These seminars are a cornerstone of our department's commitment to academic excellence and provide a platform for scholarly exchange. We encourage all students to attend and take part in these enriching academic experiences.

I would like to take this opportunity to remind you of the importance of collaboration and interdisciplinary learning. Biology is not an isolated discipline; it intersects with chemistry, physics, environmental science, and many other fields of health sciences. I encourage you to take advantage of the diverse courses offered by our university and to collaborate with your peers from different disciplines. This cross-pollination of ideas is where innovation truly flourishes.

Furthermore, I am thrilled to announce that our department will be hosting the Annual Biological Sciences Student Development Program shortly. This will be a wonderful opportunity for you to present your research, attend workshops and trainings, and network with leading experts in your field and other fields as well. I strongly encourage all of you to participate and make the most out of this event.

I am happy to announce the initiation of a specialized NET and GATE oriented teaching and research scholarship program within our department. This initiative is designed to enhance your academic journey and prepare you for prestigious examinations, while also fostering innovative research that can contribute significantly to the field of Biological Sciences. I encourage each one of you to take advantage of this opportunity to excel and make your mark in the scientific community.

In closing, I want to express my admiration for your resilience and dedication, especially in these challenging times. The pursuit of knowledge is a noble one, and your commitment to your studies is commendable. Continue to ask questions, seek answers, and let your passion for biology light the way.

Wishing you all the best in your academic endeavors.

Warm regards,

Prof. Padan Kumar Jena

Dean, School of Biological Sciences
AIPH University



Faculty Profile

School of Biological Sciences



Prof. Padan Kumar Jena

Dean, School of Biological Sciences

Area of Research: Plant Physiology, Microbiology



Dr. Jyoti Ranjan Rout

Assistant Professor

Area of Research: Environmental Biotechnology, Microbiology



Dr. Dhiraj Kumar Nanda

Assistant Professor

Area of Research: Food Microbiology and Nanotechnology



Dr. Umakanta Swain

Assistant Professor

Area of Research: Molecular Biology, Biochemistry and Genetics



Dr. Pradipta Ranjan Rauta

Assistant Professor

Area of Research: Microbiology, Immunology, Nanotechnology



Dr. Soumya Ranjan Dash

Assistant Professor

Area of Research: Algal Taxonomy and Physiology, Bioremediation



Dr. Munmun Panda

Assistant Professor

Area of Research: Cancer Therapeutics



Dr. Arati Ray

Assistant Professor

Area of Research: Environmental Biology, Waste Management



Festive Fusion: Embracing Diversity in Celebration at AIPH University

Independence Day at AIPH University in 2024 was a vibrant tapestry of cultural homage and patriotic fervor. The university grounds blossomed with the colors of the Indian flag, as students and faculty alike gathered to celebrate the nation's freedom. The day was marked by a series of events, including the hoisting of the national flag, cultural performances that showcased India's diverse heritage and speeches that reflected on the country's journey and achievements. It was a day that united everyone in a shared sense of pride and optimism for India's future.



Faculty's Column

The Expansive World of Microbiology: A Look into its Scope and Future

Dr. Pradipta Ranjan Rauta,

Assistant Professor, School of Biological Sciences, AIPH University

Microbiology, the scientific study of microorganisms, is a field that has continually expanded its horizons with advancements in technology and research. As we stand in 2024, the scope of microbiology has broadened to encompass various sectors, making it an integral part of our daily lives and the future of scientific discovery.

Microorganisms, though invisible to the naked eye, play a pivotal role in maintaining life on Earth. They are involved in processes ranging from recycling nutrients in the ecosystem to aiding in the production of food, pharmaceuticals, and even biofuels. The study of these microscopic organisms not only helps us understand the fundamental aspects of life but also equips us with the knowledge to harness their potential for the betterment of humanity.



In the medical field, microbiology has been crucial in the development of antibiotics, vaccines, and diagnostic tools. The ongoing battle against infectious diseases relies heavily on the insights provided by microbiology. With the emergence of antibiotic resistance, the field is now more important than ever, driving the search for new antimicrobial agents and treatment strategies.

The agricultural sector also benefits from microbiological research. The study of soil microbiology helps in enhancing crop production and sustainability. Microorganisms are used to improve soil health, combat plant diseases, and increase nutrient uptake, which is vital for feeding the growing global population.

In the industrial realm, microbiology has paved the way for biotechnology, leading to the production of chemicals, enzymes, and biofuels through microbial fermentation. This not only provides an alternative to traditional chemical synthesis but also contributes to environmental sustainability.

The water industry relies on microbiology for the treatment and purification of water, ensuring safe drinking water and the proper management of wastewater. The role of microorganisms in bioremediation helps in cleaning up contaminated environments, showcasing the field's contribution to ecological conservation.

Furthermore, the scope of microbiology extends to the realms of food science, where it is used to produce fermented foods and beverages, and in the field of immunology, where it aids in understanding the immune system's response to pathogens.

The future of microbiology holds immense promise, with potential advancements in genetic engineering, personalized medicine, and synthetic biology. The integration of microbiology with other scientific disciplines opens up new avenues for research and innovation.

As we look ahead, the demand for microbiologists is on the rise globally. The expertise of these professionals is essential in tackling health crises, improving food security, and addressing environmental challenges. The scope of microbiology is vast, and its importance cannot be overstated, as it holds the key to unlocking many of nature's mysteries and developing solutions for a sustainable future.

Microbiology is not just a field of study; it is a gateway to understanding the intricate balance of life and the potential that lies within the microscopic world. As we continue to explore and appreciate the depth and breadth of microbiology, we can expect to witness remarkable contributions to science and society at large. The scope of microbiology is indeed a testament to the adage that 'big things come in small packages.'



Expanding Horizons: Showcasing Academic Excellence beyond the University Campus

Dr. Dhiraj Kumar Nanda, presented a talk on "Microbial Biotechnology: Soil to Sky" as a resource person in Seminar organized by the Department of Biotechnology, Dhenkanal Autonomous College, Dhenkanal on August 6, 2024. Dr. Nanda is an esteemed academic and researcher with a focus on biotechnology and applied microbiology, particularly in the field of dairy microbiology. His work has been recognized with several awards, including the Senior Scientist Award and the Best Teacher Award for Odisha state by the Microbiologists Society, India. Dr. Nanda has contributed significantly to the field with numerous publications and has held various positions, including Assistant Professor at the AIPH University, Bhubaneswar, and Research Associate at the ICAR-National Dairy Research Institute, Karnal.



Dr. Soumya Ranjan Dash participated as invited Speaker at the National Seminar on "Algal Biodiversity, Biotechnology and Environmental Sustainability" [NSABBES-2024] in memory of Eminent Algologist and Founding Professor of the Department Prof. Harihar Pattnaik in his birth



Centenary at Berhampur University during 20th -21st August-2024. Dr. Dash presented the talk on 'Seasonal variation in phytoplankton diversity of freshwater lakes of Odisha'. Dr. Dash is known for his expertise in exploring algal biodiversity and its potential applications in bioremediation within the diverse ecosystems of Odisha. His work contributes significantly to the understanding of algal species that can be harnessed for environmental management and sustainability efforts in the region.



Exploring Frontiers in Health: Seminar at AIPH University Faculty Journal Club

The Faculty Journal Club at the School of Biological Sciences, AIPH University, serves as a dynamic forum for the exchange of scientific knowledge and research. It brings together faculty members who are engaged in diverse fields such as infectious diseases, environmental health, and chronic diseases, fostering a collaborative environment for scholarly discussion. This club is an integral part of the university's commitment to academic excellence, where ideas are critically examined, and innovative research approaches are explored. Through these sessions, faculty members stay abreast of the latest developments in their fields, contributing to the university's mission of advancing public health education and research.

July 27, 2024

Dr. Dhiraj Kumar Nanda, School of Biological Sciences presented a seminar on “Traditional Food Products with Enhanced Shelf-Life: Chilika Curd a case study.” in the AIPHU Journal Club on July 27, 2024.



August 3, 2024

Dr. Munmun Panda, School of Biological Sciences presented a seminar on “Evodiamine inhibits stemness and metastasis by altering SOX9- β -catenin axis in non-small cell lung cancer” in the AIPHU Journal Club on August 3, 2024.



August 10, 2024

Dr. Arati Ray, School of Biological Sciences presented a seminar on “K-P-S enriched biochar production utilizing banana peduncle waste with phosphogypsum pond wastewater and assessment for nutrients along with pollutants (F, Cd and Cr)” in the AIPHU Journal Club on August 10, 2024.



Students' activity

Enhancing Career Readiness: The Importance of Hands-On Experience in AIPHU Settings

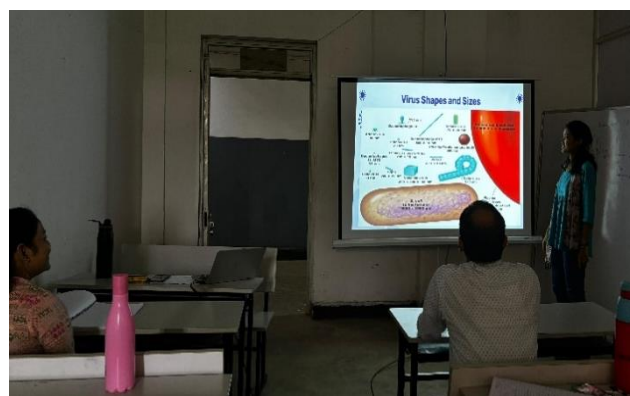
The School of Biological Sciences at AIPH University places a strong emphasis on practical classes, recognizing the importance of hands-on experience in the field of biology. Students are provided with extensive laboratory work that complements their theoretical knowledge, allowing them to apply concepts in real-world scenarios. This approach not only enhances their understanding of biological processes but also equips them with the necessary skills to excel in their future careers, whether in research, academia, or industry.



Weekly Student's Seminar, at SBS, AIPH University

The School of Biological Sciences at AIPH University hosts a dynamic weekly seminar series, providing a platform for students to present their research and engage in scholarly discussions. These seminars foster a vibrant academic environment, encouraging the exchange of ideas and latest scientific findings among peers and faculty. It's an integral part of the curriculum that not only enhances the learning experience but also prepares students for future scientific endeavours and collaborations. This initiative reflects AIPH University's commitment to academic excellence and its pursuit of creating a stimulating educational atmosphere.

Ms. Sanskriti Bhagat, BSc Microbiology, School of Biological Sciences presented a seminar on "Virus: Structure and Function" on August 14, 2024.



Mr. Pratyush Patel, BSc Microbiology, School of Biological Sciences presented a seminar on "Mode of Nutrition in Bacteria" on August 21, 2024.



Congratulations!!!

We are delighted to announce that Prof. Padan Kumar Jena, Dean, School of Biological Sciences has been nominated as the State President of the Odisha Chapter of the Microbiologists Society, India (MBSI) for the session 2024-25. This prestigious position is a testament to Prof. Jena's dedication and outstanding contributions to the field of microbiology. We extend our heartiest congratulations to him on this remarkable achievement and wish him success in his new role.



About Microbiologists Society, India (MBSI)

The Microbiologists Society, India (MBSI) is a distinguished community dedicated to the advancement of microbiology in the country. Established with a vision to foster research and education in the field, the society organizes various activities including seminars, workshops, and conferences to facilitate knowledge sharing among professionals. The society has more than 1000 renowned microbiologists Teachers/ Researchers as its Life members and more than 10000 annual student members. The society spearheads campaign for the propagation of Microbiology education in various states under the active guidance of President state chapters and zonal co-ordinators. With a rich history and a commitment to excellence, the society plays a pivotal role in addressing microbiological issues of public interest and advising governmental agencies.

Student Membership

MBSI offers a student membership option designed to foster the growth and development of students interested in microbiology. This membership provides a platform for students to engage with a community of professionals and peers, enhancing their educational experience and career prospects. By joining, students can participate in various activities and gain access to resources that support their academic and research endeavors. The society encourages the establishment of student units in colleges, promoting active involvement at a grassroots level. This initiative reflects the society's commitment to nurturing the next generation of microbiologists. School of Biological Sciences, AIPH University is linked with MBSI since 2020 and has an active student unit in the department.

The Department of Microbiology of AIPH University, Bhubaneswar has been adjudged as the Best Microbiology Department of the state by MBSI during 2019-20. The award to the AIPH University Microbiology Department was decided by a high-level expert committee consisting of well-known microbiologists from various parts of the country under the Chairmanship of Prof. S D Patil of Amravati University. Department faculty, academic profile and their expertise, Lab infrastructure that includes analytical and instrumental facilities, Teaching methods and conducted experimental protocols are some of the criteria that are being considered as the parameters on which the award is decided.



Collaborators of AIPHU :



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