SDG 14

LIFE BELOW WATER

LIST OF ACTIVITIES

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ACTIVITY 01:

EXPLORATION OF BIOFILMS IN SECONDARY INFECTIONS

Organized By:
The Department of Bioinformatics & Biosciences

The Department of Bioinformatics and Biosciences organized a seminar, under the supervision of Dr. Arshia Amin, with Ms. Haleema Sadia as the speaker. The seminar was attended by MS and PhD students, along with faculty members. Ms. Haleema Sadia emphasized the importance of preventing nosocomial (hospital-acquired) infections, which contribute to antibiotic resistance and increase the disease burden on the healthcare sector. The event aimed to equip students with knowledge, skills, and research strategies in this field while highlighting key gaps and future research opportunities. The session aligned with Sustainable Development Goal (SDG) 14: Life Below Water, as antibiotic resistance and medical waste impact marine ecosystems. 14.1 (reducing marine pollution, including from antibiotics and medical waste), 14.2 (protecting and restoring marine ecosystems affected by pollution) and 14.5 (conserving coastal and marine areas impacted by human activities).

ACTIVITY 02:

PREVENTION OF SIGNALING AMONG DISEASE CAUSING BACTERIA

Organized By:
The Department of Bioinformatics & Biosciences

The Department of Bioinformatics and Biosciences organized a seminar under the supervision of Dr. Arshia Amin, with Mr. Muhammad Zameer as the speaker. The seminar was attended by MS and PhD students, along with faculty members. Mr. Muhammad Zameer discussed bacterial signaling, explaining how communication among disease-causing bacteria strengthens their adaptability in various habitats, including oceanic regions, deep water bodies, wastewater, and land. The event aimed to explore these communication mechanisms for better bacterial control while identifying research gaps and future opportunities. The session aligned with Sustainable Development Goal (SDG) 14: Life Below Water, as bacterial communication influences both terrestrial and aquatic ecosystems. The sub-targets of SDG 14 covered in the discussion were: 14.1 (reducing marine pollution caused by pathogenic bacteria), 14.2 (protecting marine ecosystems from bacterial contamination) and 14.5 (conserving aquatic biodiversity affected by bacterial infections).

ACTIVITY 03:

MEDICINALLY IMPORTANT PLANTS AND THEIR THERAPEUTIC PRODUCTS

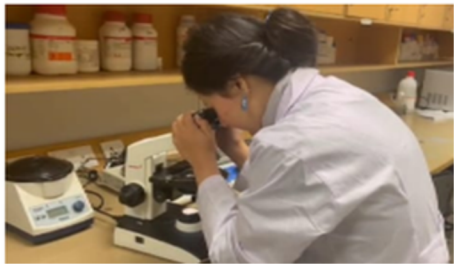
Organized By:
The Department of Bioinformatics & Biosciences

The Department of Bioinformatics and Biosciences organized two seminars on "Medicinally Important Plants and Their Therapeutic Values" under the supervision of Dr. Rizwan ur Rehman and Dr. Erum Dilshad, with Miss Maliha Fatima and Miss Rukhsana Tabassum as speakers. The seminars were attended by MS and PhD students, along with faculty members. The speakers highlighted the importance of medicinal plants found in local habitats and their therapeutic potential. The event emphasized the role of these plants in healthcare, biodiversity conservation, and sustainable resource utilization. The discussion aligned with Sustainable Development Goals SDG 14: Life Below Water, as plant-derived compounds also influence terrestrial and aquatic ecosystem Sub-targets of SDG 14 covered in the discussion were: 14.1 (reducing pollution affecting marine biodiversity, including plant-derived waste), 14.2 (protecting marine and coastal ecosystems that house medicinally important aquatic plants) and 14.5 (conserving biodiversity in coastal and marine areas, ensuring the sustainability of medicinal plants in these habitats).

ACTIVITY 04:

TEACHING VIDEOS SERIES ON ETHICAL CONCERNS IN MARINE RESEARCH

Organized By:
The Department of Bioinformatics & Biosciences



The Department of Bioinformatics and Biosciences launched a teaching video series on ethical concerns in life sciences, featuring a collection of videos and online podcasts focused on bioethics. The topics align with Sustainable Development Goal 14 covering confidentiality, truth-telling, responsible conduct in life sciences, decision-making, research ethics involving humans and animals, reproductive ethics, public health, and organ transplantation. The first two sessions were conducted by Dr. Arshia Amin, discussing Confidentiality and Truth-Telling (December 19, 2024) and Organ Transplantation (December 16, 2024). The initiative aims to raise awareness and promote ethical scientific practices, with a nationwide audience as the content will be shared on social media and public forums. This initiative encourages responsible scientific practices, ethical decision-making, and sustainable research methodologies while fostering awareness of bioethical concerns in life sciences. It targeted SDG 14: Life Below Water. Its sub-targets; 14.1 (Reducing pollution affecting marine biodiversity, including ethical considerations in marine research) and 14.2 (Sustainable management of marine and coastal ecosystems, considering ethical research practices).

ACTIVITY 05:

12TH INTERNATIONAL CONFERENCE ON BIOLOGICAL AND COMPUTATIONAL SCIENCES (C-BICS 2024)

Organized By:
The Department of Bioinformatics & Biosciences

The Department of Bioinformatics and Biosciences organized an international conference covering a wide range of topics, including Biological Data Science, Forensics and Diagnostics, AI/ML in Health & Life Sciences, Precision & Molecular Medicine, Epidemiology & Infectious Diseases, Bioinformatics & Computational Biology, Climate Change, Food & Nutrition, Synthetic Biology, Smart Agriculture, Bio-entrepreneurship, and Biomedical Engineering. The event was attended by more than 11 institutions and featured 40 oral presentations and 33 poster presentations. The conference provided a platform for researchers to exchange knowledge, discuss advancements, and address challenges in health, agriculture, and environmental sustainability. The discussions aligned with Sustainable Development Goals (SDG) 14: Life Below Water, its sub-target: 14.1 (Reducing marine pollution, including agricultural and medical waste), 14.2 (Protecting and restoring marine ecosystems affected by climate change and pollution) and 14.7 (Enhancing sustainable use of marine resources through biotechnology and bio-entrepreneurship).

ACTIVITY 06:

SDG'S EXPO 2025: LIFE BELOW WATER

Organized By:
The Directorate of Sustainability and Environment

Being the ambassador of SDG-14 from the Department of Bioinformatics and Biosciences, Ms. Ghazala Ali presented posters showcasing the importance of marine life, water and sustainable measures for the protection of marine life on the planet earth, regarding the biodiversity and economic importance each marine species plays in SDGs Expo 2025. These events targets Target 14.1, By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution, Target 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans, Target 14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels, Target 14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.

ACTIVITY 07:

WORLD EARTH DAY-DESK ACTIVITY

Organized By:
The Department of Bioinformatics & Biosciences

A desk activity on the occasion of World Earth Day, held on Friday, from 9:00 AM to 12:00 PM at the F Block corridor. The primary aim of this event was to raise awareness among students about environmental conservation and sustainable living practices. The activity targeted the promotion of eco-friendly habits, such as recycling, reducing plastic usage, and planting more trees. An interactive desk was set up where students engaged with posters, brochures, and live demonstrations on how small actions can lead to significant environmental impact. The importance of keeping our water bodies clean for greener environment.

ACTIVITY 08:
SDG-14 AWARENESS VISIT

Organized By:
The Department of Bioinformatics & Biosciences

SDG-14 awareness session was held at Punjab college. It focused on conserving and sustainably using the oceans, seas, and marine resources. This awareness session aims to highlight the urgent need to protect marine ecosystems from threats such as pollution, overfishing, and climate change, among the young students. Healthy oceans are vital for food security, climate regulation, and the livelihoods of millions of people. Through this expo, we seek to inspire collective action, showcase innovative solutions, and empower individuals and communities to contribute to the preservation of our blue planet for future generations.

ACTIVITY 09:
FM TALK ON LIFE BELOW WATER

Organized By:
The Department of Bioinformatics & Biosciences




Genix Society, Department of Bioinformatics & Biosciences in collaboration with DSE, organized an FM session on SDG-14: Life Below Water featuring Dr. Arshia Amin Butt, Associate Professor in Environmental and Industrial Microbiology. The discussion addressed key sub-targets of SDG-14, including reducing marine pollution (14.1), protecting marine and coastal ecosystems (14.2), minimizing ocean acidification (14.3), regulating overfishing (14.4), and enhancing the livelihoods of small-scale fishers (14.b). The session highlighted the importance of the blue economy in promoting sustainable development and emphasized oceans as vital for climate regulation, food security, and biodiversity. Pakistan's marine conservation efforts, such as the restoration of Astola Island and mangrove forests, were recognized as significant progress aligned with SDG-14.

ACTIVITY 10:
WORLD ENVIRONMENT DAY

Organized By:
The Department of Bioinformatics & Biosciences

Genix in collaboration with DSE, and GYM organized an awareness desk on World Environment Day. It was an engaging awareness session to educate students about the importance of oceans, the diverse life forms they support, and the crucial steps needed to protect these vital ecosystems. The session aimed to highlight the role oceans play in maintaining environmental balance and supporting millions of marine species. Students were introduced to the threats facing our oceans, including pollution, overfishing, and climate change, along with practical solutions such as reducing plastic use, supporting sustainable seafood choices, and advocating for clean water initiatives.

ACTIVITY 11:
SDG 14: POSTER EXHIBITION

Organized By:
The Department of Bioinformatics & Biosciences

A Poster competition was organized on Wednesday at the A Block corridor. where students showcased their posters on diverse topics aligned with SDG 14: Life Below Water, including marine bacteria, sea anemones, and the living ecosystems of oceans. The event aimed to raise awareness about marine biodiversity and the vital role of oceanic organisms in maintaining ecological balance. The competition directly addressed Target 14.1: reducing marine pollution, Target 14.2: sustainably manage and protect marine ecosystems, and sub-target 14.a: increase scientific knowledge and research for ocean health, fostering environmental stewardship and encouraging scientific exploration to protect life below water.

ACTIVITY 12:

AWARENESS WALK ON CONSERVATION OF MARINE BIO-DIVERSITY

Organized By:
The Department of Bioinformatics & Biosciences

Genix in collaboration with DSE, Pharma-Spark & WHO-CUST CHAPTER organized an awareness walk session, The event aimed to promote biodiversity conservation with a specific focus on SDG 14: Life Below Water, which emphasizes the protection, restoration, and sustainable use of marine and coastal ecosystems. Participants highlighted the vital role of aquatic biodiversity in maintaining global ecological balance and raised awareness about threats such as pollution, habitat degradation, and overfishing. The walk addressed Target 14.1: reducing marine pollution, Target 14.2: sustainable management and protection of marine and coastal ecosystems, and Target 14.a: enhancing scientific knowledge and research for ocean health. Through this initiative, attendees pledged to support ocean conservation and demonstrated their dedication to environmental stewardship and sustainable marine resource management.