

Report on Guest Lecture & Research Interaction by Dr. Arun Khattri

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**A Report on
Guest Lecture & Research Interaction by Dr. Arun Khattri
Organised by
Department of Biosciences, Integral University**

On Tuesday, July 23, 2024, the Department of Biosciences, a DST-FIST sponsored department, hosted an engaging session with Dr. Arun Khattri, a Ramalingaswami Fellow from the Department of Pharmaceutical Engineering and Technology at IIT-BHU. As a leading molecular oncologist specializing in Oral and Head and Neck Cancer (HNC), Dr. Khattri captivated the audience with his insightful talk on "Head and Neck Cancer: Integrative Genomic Analysis and Next Steps for Immunotherapy."

The lecture drew an audience of approximately 115 participants, including faculty members, research scholars, and students. Prof. Snober S. Mir warmly welcomed Dr. Khattri to Integral University, while Dr. Durdana Yasin, Assistant Professor in the Department of Biosciences, introduced Dr. Khattri's impressive academic journey, setting an engaging tone for his presentation.

Dr. Khattri's talk was both informative and insightful, beginning with the fundamentals of cancer and exploring the cutting-edge therapies involved in cancer treatment. Dr. Khattri highlighted that **Head and Neck Cancer (HNC)** is the sixth most common cancer globally and identified tobacco use and **Human Papillomavirus (HPV)** infection as the primary risk factors for HNC. He noted that HPV-negative HNC is commonly linked to smoking and excessive alcohol consumption, while HPV-positive HNC is sexually transmitted. Dr. Khattri further elaborated on the distinct mutational profiles of these subtypes, with HPV-negative HNC characterized by mutations in EGFR, CCND1, and FGFR1, and HPV-positive HNC by mutations in DDX3X and FGFR2/3. He also categorized the molecular subtypes of HNC into basal, classical, and inflamed mesenchymal. Dr. Khattri then addressed cancer treatment therapies, highlighting their diversity and the importance of tailoring them to the specific type, stage, and characteristics of the cancer, as well as the patient's overall health. He explained that **Immunotherapy**, enhances the body's natural defenses to fight cancer, including checkpoint inhibitors such as pembrolizumab and nivolumab, CAR-T cell therapy, which involves engineering a patient's T-cells to attack cancer, and cancer vaccines like the HPV vaccine for cervical cancer prevention. He discussed **PD-1 immunotherapy**, a cancer treatment that targets the programmed death-1 (PD-1) pathway, a key regulator of the immune system. Additionally, he introduced **SIGLECs** as potential targets for HNC patients who exhibit a poor response to anti-PD-1 immunotherapy, suggesting that these could offer alternative avenues for improving treatment efficacy in such cases. His lecture, rich with molecular insights into HNC, captivated the audience's attention from start to finish, maintaining their engagement until the final slide. He concluded his talk by expressing gratitude to the Head of the Department of Biosciences for providing the platform to share his insights with the department's biologists. At the end, Prof. Mir thanked Dr. Khattri for visiting Integral University and sharing his research and extended an invitation for more visits in the future. Prof. Wahajul Haq presented a memento to Dr. Khattri as a token of appreciation. Following the talk, Dr. Khattri interacted with faculty members and research scholars of the Department, engaging in discussions and answering questions about his research.



Best Regards,
 Dr. Snober S. Mir
 Professor and Head,
 Department of Biosciences,
 Integral University,
 Lucknow