



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

DIPARTIMENTO  
DI FARMACIA  
E BIOTECNOLOGIE

## AVVISO DI SEMINARIO

Il giorno **10 dicembre 2025**  
alle ore **15:00**

**Prof. Dhruv Kumar**

School of Health Sciences and Technology, UPES University, Dehradun, India  
(ospite del Prof. Giampaolo Zuccheri)

terrà un seminario in lingua inglese dal titolo:

# **Combinatorial Therapeutic Approach for Head and Neck Cancer through Targeting Cancer Cells and Tumor Microenvironment**

Area tematica: Cancer Biology

*in presenza:*

**AULA 5 Ex-Bodoniana, Via San Donato 19/2, Bologna**

*e in streaming:*

<https://teams.microsoft.com/l/meetup-join/19%3aN09c0NlyEssBnF7ObCyDOQwkgDWM1qdd9f7F2nJV9fw1%40thread.tacv2/1631519544944?context=%7b%22id%22%3a%22e99647dc-1b08-454a-bf8c-699181b389ab%22%2c%22Oid%22%3a%225a941351-ef41-4aa4-8771-fa50a6d62ca1%22%7d>

L'evento è organizzato nell'ambito del Corso di Dottorato in Biologia Cellulare e Molecolare/Collegli e studenti sono cordialmente invitati

## **ABSTRACT**

Metabolic alterations stand as critical hallmarks in the landscape of Head and Neck Cancer. The unceasing proliferation and heightened energy requisites of cancer cells result in augmented glucose uptake, thereby fueling their energy demands for replication and survival. Unlike normal cell metabolism, cancer cells opt for glycolysis even in aerobic conditions, distinctly favoring glycolysis over oxidative phosphorylation. This metabolic shift amplifies the expression of pivotal enzymes hexokinase, pyruvate kinase, lactate dehydrogenase-A, c-MET/HGF, FGF/FGFR, among others contributing significantly to cancer growth, progression, and the development of drug resistance. Hence, targeting and modulating these metabolic switches serve as promising avenues to devise therapeutic interventions for cancer, offering potential solutions to combat drug resistance issues. A comprehensive combinatorial therapeutic approach that integrates targeting metabolic alterations within cancer cells and the tumor microenvironment holds promise for novel therapeutic strategies in managing Head and Neck Cancer.

## **BIOGRAPHICAL SKETCH**

Prof. Dhruv Kumar is a Professor and Cluster Head at the School of Health Sciences & Technology, UPES Dehradun, and also serves as the Coordinator for Internationalization and Alliances. He completed his Bachelor's and master's in bioinformatics in India, followed by a Ph.D. in Cellular and Molecular Biology from the University of Bologna, Italy. He pursued postdoctoral research at the University of Kansas Medical Center, USA. His research expertise includes cancer biology, cancer metabolism, tumor micro-environment, bioinformatics, and translational cancer research. He has published more than hundreds of research articles in high-impact journals and authored five books and has led multiple national and international collaborations. Prior to joining UPES, he served as Assistant Director at the Institute of Molecular Medicine & Stem Cell Research, Amity University, India. Currently, his group is working on several cancer biology projects funded by national and international funding agencies.