ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

DIPARTIMENTO
DI FARMACIA
E BIOTECNOLOGIE

AVVISO DI SEMINARIO

Il giorno **6 ottobre 2025**
alle ore **14.30**

Prof. Nicola Facchinello

Professore Associato di Genetica, Dipartimento FaBiT, Università di Bologna e
Ricercatore Associato, Istituto di Neuroscienze, CNR, Padova
(ospite della Prof.ssa M. Bartolini)

terrà un seminario in lingua italiana (inglese su richiesta) dal titolo:

Advancing cancer research through zebrafish models

Area tematica: Cancer Biology

in presenza:
Aula A, Farmacologia, via Irnerio48 - Bologna

L' evento è organizzato nell'ambito del Piano Strategico di Dipartimento

ABSTRACT

The zebrafish has emerged as a powerful in vivo model due to its transparency, genetic versatility, and advanced imaging compatibility, making it an ideal system to investigate disease mechanisms and therapeutic strategies at the whole-organism level. Our group focuses on tumor interactions and the development of innovative cancer therapies using zebrafish xenograft models, integrating transgenics, high-resolution microscopy, and drug screening approaches. We are exploring the use of engineered phages in zebrafish xenografts to validate their tumor-targeting capacity and exploit photo-oncolytic nanovectors for selective ablation of GD2-positive neuroblastoma cells. In parallel, we investigate how defects in mitochondrial respiratory complex I initially suppress tumor growth yet eventually promote adaptive metabolic mechanisms that restore proliferation, revealing critical vulnerabilities in cancer progression. Together, these approaches highlight the versatility of zebrafish as a translational platform to dissect tumor biology, assess therapeutic strategies in vivo, and identify novel opportunities to improve cancer treatment.

BIOGRAPHICAL SKETCH

Nicola Facchinello is Professor of Genetics at the Department of Pharmacy and Biotechnology, University of Bologna, and Research Associate at the Neuroscience Institute of the National Research Council (CNR) in Padova. He holds a Master's degree and a PhD in Biotechnology from the University of Padova. His research background spans extensive experience in cell biology and in vivo manipulation of mouse and zebrafish models, with a strong focus on human disorders. Over the course of his career, he has investigated diverse mechanisms underlying neural, cardiovascular, muscular, oncological, and endocrine development. His expertise has enabled him to integrate CRISPR/Cas9 technology with pathway-responsive zebrafish lines and advanced imaging approaches to achieve detailed visualization of developmental and pathophysiological processes.