



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

DIPARTIMENTO
DI FARMACIA
E BIOTECNOLOGIE

AVVISO DI SEMINARIO

Il giorno **24 Febbraio 2025**
alle ore **14:30**

Prof. Sanjay Kumar

UC Berkeley Professor and Director of the California Institute of Quantitative
Bioscience at Berkeley
(ospite del nostro Dipartimento)

terrà un seminario in lingua inglese dal titolo:

Biomaterial platforms to identify therapeutic targets in brain cancer

Area tematica: Cancer Biology

in presenza:

Aula Magna Navile, UE1, Via della Beverara 123/1, Bologna

Collegli e studenti sono cordialmente invitati

ABSTRACT

Glioblastoma (GBM) is the most common primary intracranial tumor, with a dismal median survival time of less than two years. GBM is defined in part by extensive cellular infiltration into the three-dimensional tissue of the brain, destroying critical brain structures and rendering complete tumor eradication impossible. The search for therapies that limit invasion has been limited by a lack of culture paradigms that recapitulate important aspects of brain matrix while allowing high-resolution characterization of invasive cells. I will describe our team's efforts to introduce and exploit such models, including our use of three-dimensional hyaluronic acid matrices to grow tumors in vitro, isolate invasive tumor cells, and identify targetable lesions that drive invasion. An important strength of these approaches is the ability to benchmark findings against site-directed biopsies from patients to ensure maximal clinical relevance.

BIOGRAPHICAL SKETCH

Sanjay Kumar is the Chancellor's Professor and Director, California Institute for Quantitative Biosciences at UC Berkeley (QB3-Berkeley). The Kumar Lab research team seeks to understand and control biophysical communication between cells and their surroundings. A large portion of their work involves the integration of biomaterials science, single-cell technologies, and advanced imaging to dissect molecular mechanisms through which cells sense, process, generate, and respond to mechanical forces. In addition to investigating fundamental aspects of this problem, they are especially interested in applying their insights to control tumor and stem cell biology, particularly in the central nervous system. For example, they have developed materials to control neurogenesis and deliver stem cells to tissue, and they have created new technological platforms to model the invasion of brain tumors, which may in turn be used to discover new therapies.