



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

DIPARTIMENTO
DI FARMACIA
E BIOTECNOLOGIE

AVVISO DI SEMINARIO

Il giorno **9 Giugno 2025**
alle ore **11:00**

Prof.ssa Milena Bellin

Professor of Genetics and Group Leader at the Dept. of Biology, University of Padua (Italy), and Principal Investigator at the Dept. of Anatomy and Embryology, Leiden University Medical Center (The Netherlands)
(ospite del Prof. Giovanni Perini)

terrà un seminario in lingua inglese dal titolo:

Cardiac microtissues from human pluripotent stem cells to model and correct inherited heart disease

in presenza:

Aula Carinci, via Belmeloro 8, Bologna BO

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>

Il seminario è organizzato nell'ambito del Corso di Dottorato
in Biologia Cellulare e Molecolare.
Collegli e studenti sono cordialmente invitati.

ABSTRACT

Human induced pluripotent stem cells (hiPSCs) from patients are a precious tool to study human cardiac disease. We recently developed three-dimensional multi-cellular cardiac organoids combining hiPSC-derived cardiomyocytes, cardiac fibroblasts, and cardiac endothelial cells. We demonstrate that, under these culture conditions, hiPSC-cardiomyocytes mature to post-natal levels at structural, functional, electrical, and metabolic level. Using patient-derived hiPSCs, we show that cardiac fibroblasts can be active contributors to arrhythmia and that mature hiPSC-cardiomyocytes express post-natal isoforms of cardiac ion channels, revealing mutation effects in heart disease. Cardiac microtissues can also be used to capture drug response. We will discuss directions and challenges in the field.

BIOGRAPHICAL SKETCH

Milena Bellin is Professor of Genetics and Group Leader at the Dept. of Biology, University of Padua (Italy), and Principal Investigator at the Dept. of Anatomy and Embryology, Leiden University Medical Center (The Netherlands). She pioneered the use of human induced pluripotent stem cells (hiPSCs) to study inherited cardiac diseases. Her research ranges from developing three-dimensional multicellular cardiac organoids for modelling inherited cardiac diseases to the development of hiPSC-based platforms for drug-screening and safety pharmacology. During her career, she has been granted with a Marie Curie fellowship (2012), FEBS Anniversary Prize for outstanding achievements in Biochemistry and Molecular Biology (2016), and an ERC Consolidator Grant (2020). She is part of the Institute for human Organ and Disease Model technologies.