



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

DIPARTIMENTO  
DI FARMACIA  
E BIOTECNOLOGIE

## AVVISO DI SEMINARIO

Il giorno **27 Maggio 2024**  
alle ore **14:00**

### **Prof. Jeanette Anne Marie Maier**

Professore Ordinario, Dipartimento di Scienze Biomediche e Cliniche,  
Università degli studi di Milano  
(ospite del Prof. Stefano Iotti e della Dr.ssa Martina Rossi)

terrà un seminario dal titolo:

## **Reti, interazioni e circuiti nel fenotipo di salute e malattia - l'uomo, una realtà complessa**

Area tematica: Nutrition and health

*in presenza:*

**Aula Magna Biochimica, via Irnerio 48, Bologna BO**

*e/o 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>

Collegli e studenti sono cordialmente invitati

## **ABSTRACT**

The human body is a complex biological system whose homeostatic balance relies on a dynamic network of intra- and extra-cellular signals that allow constant adaptation to the numerous perturbations of the external and/or internal environment. Health results from the organizational and dynamic features of interconnected components, from molecules to cells, from tissues to organs. Therefore, information processing within organisms is fundamental and it relies on intricate signaling networks between and within the cells. In this light, modern physiology is slowly moving from being a pure molecular discipline back to its holistic nature. When some interferences arise through these broad signaling networks, cellular homeostasis is disrupted, and adaptive mechanisms are activated to cope with aberrant stimuli or disease development. The integrated analysis of multi-omic data has allowed us to understand the complexity of biological systems, highlighting that each molecule within our cells is a piece of a complex communicative mosaic. Based on these premises, disease arises from altered cellular communication, which extends from the cell, the fundamental unit of life, to the microenvironment and subsequently impacts tissues and organs, leading to their impaired function. This perspective prompts new inquiries into the pathogenesis of diseases and therapeutic strategies.

## **BIOGRAPHICAL SKETCHES**

Australian by birth, trained in Parma where she graduated in Medicine, and specialized in the United States, Jeanette Maier teaches General Pathology at the University of Milan Medical School. She has always had a keen interest in vascular pathophysiology and has studied various aspects of endothelial dysfunction induced by biochemical imbalances and mechanical stimuli. For some years now, she has been interested in precision medicine and has developed 3D experimental models for the study of personalized pharmacological approaches in non transmissible chronic diseases.