ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

DIPARTIMENTO
DI FARMACIA
E BIOTECNOLOGIE

AVVISO DI SEMINARIO

Il giorno **7 settembre 2026**
alle ore **12.00**

Prof.ssa Laura Giusti

Professoressa Associata di Biochimica, Dipartimento di Farmacia e Biotecnologie,
Università di Bologna
(ospite della Prof.ssa A.M. Porcelli)

terrà un seminario dal titolo:

Translational Bottom-Up Proteomics in the Study of Diabetes and Endocrine Tumors

in presenza:
Aula Spampinato UE5 Navile, Via Gobetti 87, Bologna

e in streaming:
https://teams.microsoft.com/l/meetup-join/19%3aN09c0NIyEssBnF7ObCyDOQwkgDWm1qdd9f7F2nJV9fw1%40thread.tacv2/1631519544944?context=%7b%22Tid%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 delle attività del Piano Strategico di Dipartimento con l'obiettivo di valorizzare il ruolo delle persone come capitale umano su cui investire in un sistema circolare virtuoso

ABSTRACT

Bottom-up proteomics has emerged as a useful tool for investigating endocrine diseases, providing comprehensive protein identification and offering high resolution insight into protein networks, metabolic pathways, and stress response programs in human tissues. In pancreatic islets, shotgun proteomics and acetylome profiling revealed how pro inflammatory cytokines disrupt β cell function by altering metabolic enzymes, cytoskeletal components, immune response mediators, and mitochondrial regulators. Our analyses also showed that therapeutic agents such as metformin can partially counteract cytokine induced dysfunction by modulating oxidative stress defenses, mTOR signaling, and protein ε-lysine acetylation. In endocrine tumors, proteomic profiling of atypical parathyroid tumors uncovered a distinct signature characterized by lipid metabolism rewiring, impaired mevalonate cholesterol flux, proteotoxic stress, and non-canonical immunosuppression. Altered ephrin A signaling was also observed as well as a nutrient restricted T cell metabolism further suggested a stressed microenvironment. Together, these studies illustrate how bottom-up proteomics advances the clinical investigation of diabetes and endocrine tumors, that enable the identification of biomarkers and pathways with diagnostic and therapeutic relevance.

BIOGRAPHICAL SKETCH

Prof. Giusti earned her degree in Biology at the University of Pisa, where she later completed both her PhD and her specialization in Clinical Biochemistry. She has developed extensive academic, scientific, and managerial experience, authoring 125 peer reviewed publications and contributing to national and international research projects with roles of coordination and responsibility. Her academic service includes long standing teaching activity across undergraduate, postgraduate, and doctoral programs, participation in academic committees, and the fulfillment of institutional and organizational duties. She has held positions within national and international scientific societies, contributed to the organization of scientific meetings, and served on scientific and editorial committees. She is an active member of SIB, ItPA, and EuPA. Her research integrates cellular biochemistry and protein biochemistry to investigate protein function and its alterations in human diseases. After initial studies on membrane receptors and signal transduction, she focused on the application of proteomics and systems biology to endocrine disorders, oncology, autoimmune diseases, and diabetes, with the aim of elucidating pathophysiological mechanisms and identifying diagnostic and therapeutic biomarkers. Her recent work includes the study of post translational modifications, particularly lysine acetylation, in type I and type II diabetes, and the application of proteomics to nutrition and nutraceutical research. She has also established recognized expertise in salivary proteomics, applied to autoimmune rheumatic diseases, endocrine disorders, and acute stress models.