

AVAILABLE POSITIONS

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Title of the proposed project:	1) Deciphering Host–Microbiome Interactions in Human Diseases through Multi-Omics Approaches 2) Predictive Medicine 3) Integrated multi-omics approaches for hereditary red blood cell disorders
Short description of the project	1) This project investigates the role of the human microbiome in the molecular pathogenesis of complex diseases, integrating clinical data with next-generation sequencing (NGS)-based metagenomics, transcriptomics, and epigenomics. Using a systems medicine approach, the candidate will explore how host–microbiome interactions contribute to disease onset and progression, aiming to identify novel biomarkers and therapeutic targets 2) DNA sequencing using gene panels for multifactorial diseases to enhance the understanding of genes predisposing to specific diseases, including cancer. This involves third-generation (long-read) sequencing and analysis of gene expression through RNA-seq and expression arrays, accompanied by biomarker research (ctDNA and small RNAs, including those in exosomes). 3) The project aims to investigate hereditary red blood cell disorders using integrated multi-omics approaches - including DNA sequencing, RNA sequencing, and methylation profiling - to uncover disease mechanisms and identify novel therapeutic targets.
Main research area for the project	Genomic Medicine
Institutional page link	Valeria D'Argenio, https://www.ceinge.unina.it/en/dargenio-valeria Franco Salvatore, https://www.ceinge.unina.it/en/salvatore-francesco Achille Iolascon, https://www.ceinge.unina.it/en/iolascon-achille