



## How Genome and Exposome Data Can Open New Frontiers for Health economics and Health Policy

Rome, 11<sup>th</sup> June 2024

Health inequality begins at conception and persists throughout the life cycle due to various factors such as exposures, parenting choices, and behaviors. The life-course approach and exposome concept play pivotal roles in understanding human health and disease progression, emphasizing the impact of early life exposures on health across the lifespan. They reconcile the “Nature vs. Nurture” debate by recognizing the interplay between genetics and environment. Individual health outcomes result from a combination of genetic predispositions and exposure to modifiable factors such as environment, behavior, personal characteristics, and social determinants. Aging is influenced by biological changes and cumulative external risks. Environmental shocks can affect gene expression, contributing to health disparities, particularly among older adults. Despite this knowledge, healthcare systems primarily focus on treating diseases after onset, with minimal investment in prevention. Shifting towards personalized, preventive care is crucial for addressing inequalities and achieving universal healthcare coverage. Understanding the impact of specific exposures on health outcomes at different life stages can inform effective prevention strategies. Multidisciplinary collaborations are essential for integrating genetic susceptibility, lifelong environmental exposures, and health outcomes data. This approach can identify critical vulnerability periods and exposomic effects.

This workshop aims to introduce genome, epigenome, and exposome concepts and their implications for sustainable healthcare policies. Quantitative techniques will be discussed for examining relationships between environmental factors, behavior, and health outcomes, assisting policymakers in implementing evidence-based interventions for long-term population health improvements.

## Program

	Speaker	Title
11.00-11.30	Cinzia Di Novi, Università di Pavia, AIES President; Francesco Mennini, Ministero Salute e Università Roma Tor Vergata.	Introduction and welcome
11.30-12.15	Vincenzo Atella, Università Roma Tor Vergata	Unboxing the “life-course” model black box: the role of genetics, epigenetics and exposomics.
12.15-13.00	Pietro Biroli, Università di Bologna	The Economics and Econometrics of Gene-Environment Interplay
<b>13.00-14.15</b>	<b>Lunch Break</b>	
14.15-15.00	Gabriella Conti, University College London	(How) Can genetic data be used to inform policy on maternal and child health and well-being?
15.00-15.45	Marco Bertoni, Università di Padova	Utilization of genetic data in socio-economic research on the life cycle and aging
15.45-16.30	Andrea Ganna, Helsinki Institute of Life Science HiLIFE – University of Helsinki	The biobank legislation and the Act on secondary use of health data in Finland
16.30-16.45	Vincenzo Atella, Università Roma Tor Vergata	Conclusions

**Note:** Participation in the workshop is free upon registration by May 31, 2024. Interventions will be in Italian while the material presented will be in English.

**Venue:** Ministero della Salute – Via Lungotevere Ripa, 1 - 00153 – Roma.