



Spoke 1 – Holistic Nosology

Personalised Rna-Oriented Medicine in Italy Novel Therapeutics (PROMINENT)



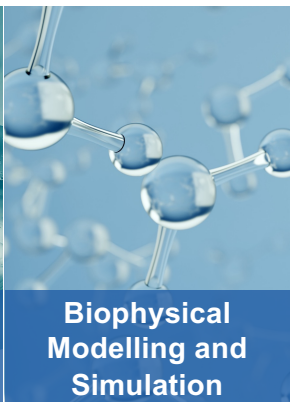
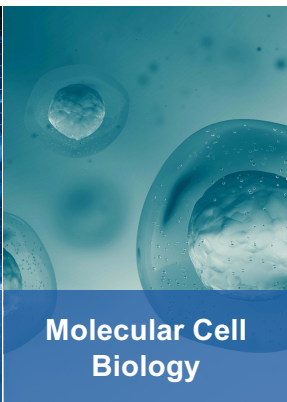
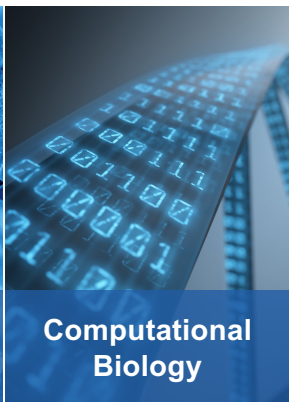
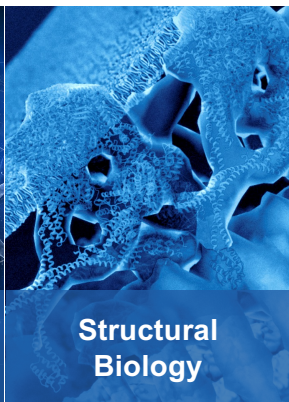
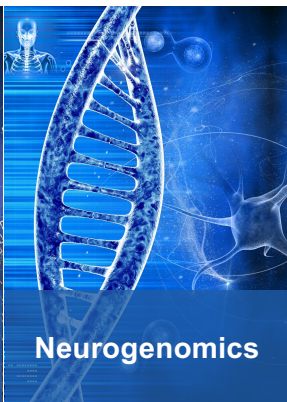
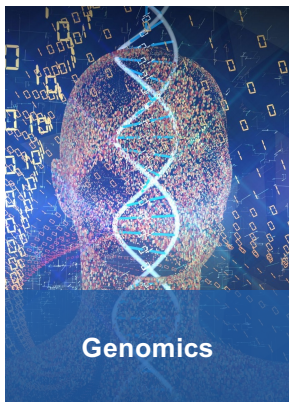
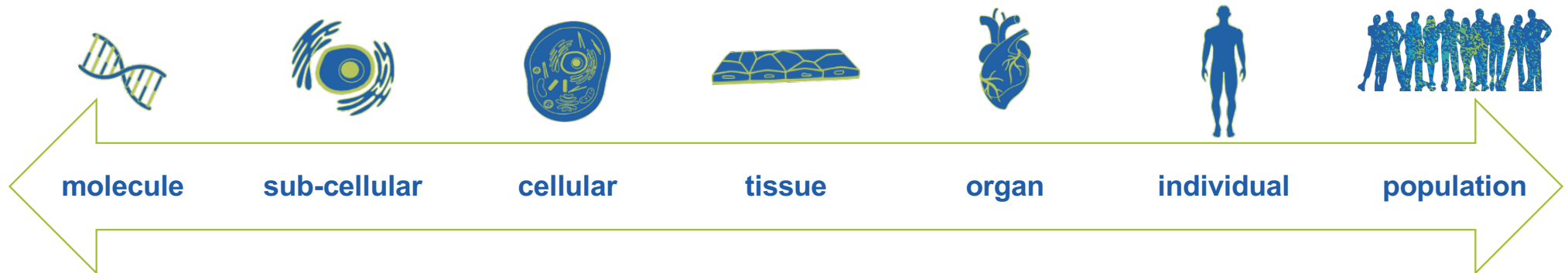
P1 – Human Technopole

Human Technopole (HT) is a newly established Life Sciences research institute located in the heart of MIND (Milano INnovation District). HT's mission is to **improve human life and technology** by deepening our collective understanding of human physiology and disease by adopting a multi-scale systems biology approach, through the achievement of four main objectives:

- 1) To foster **fundamental cutting-edge** research on human biology and human health;
- 2) To provide **shared infrastructures to the national scientific community**;
- 3) To offer **advanced scientific training** to scientists;
- 4) To enable the exploitation of research and technological innovations results via **technology transfer**.

HT's Approach to Research

Bridging biological scales: from molecules to populations





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HEAL ITALIA

PROMINENT GOAL

The project aims to develop **innovative**, **cost-effective**, and evidence-based **non-invasive diagnostic pathways** for faster, earlier, more accurate, accessible, and affordable prediction, detection, and monitoring of monogenic (rare), polygenic (cardiovascular and metabolic) diseases, and cancer, while identifying effective and **innovative therapeutic approaches**.

1. Precision Medicine: the common soil hypothesis and the Moli-sani studies and other cohorts.
2. Genomics, Phenomics and Biomarkers.
3. Metabolome mapping from mouse to Moli-sani sub-cohorts and development of new therapeutic targets.



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HEALITALIA

Human Technopole Contribution to the Research Program of the Spoke

- Analysis of multivariate clinical phenotypes and health data (e.g. mortality, discharges, medical registers);
- Use of molecular traits (proteomics, metabolomics) to characterize associated genetic traits;
- In silico identification of omics traits responsible for the onset of complex diseases;
- Development of a new approach to link phenotypes to causal relationships, using genetic variants as anchors, age as exposure time.

OUTCOMES:

- **In silico identification of omic traits responsible for disease insurgence**
- **Validation of targets in the Moli-Sani cohort**
- **Development of a digital platform for applying of developed methods in future studies**