



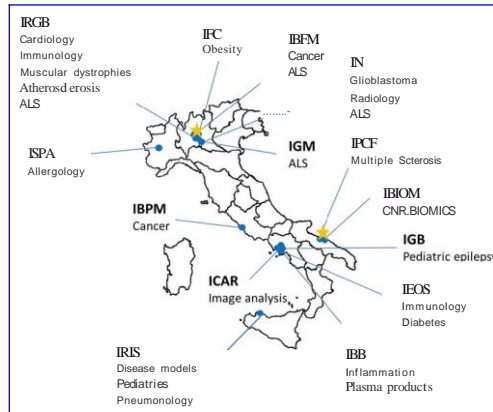
Molecular Profiles for Biomedical Investigations in Pediatric: Integrated Genomics, Metabolomics & Proteomics (iGMPomics) platform

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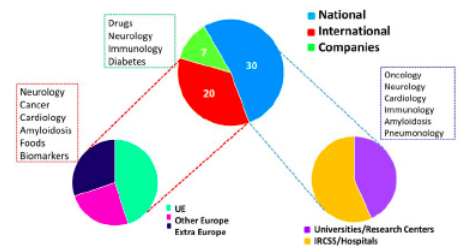
Introduction

Translational studies require multi disciplinary knowledge and technologies, including the studies on molecular profiles. In this context, CNR-ITB has competitive instruments and expertise useful to develop extensive investigations on personalized medicine, integrating Genomics, Metabolomics and Proteomics Platform (iGMP-omics), coupled to systems biology. In particular, iGMP-omics develops specific molecular-based tools, taking advantages from the availability of extended bioinformatics expertise present at ITB.

Intra-CNR collaborations



Extra-CNR Collaborations

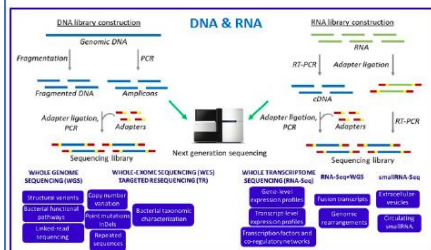


The iGMP-omics platform is an actual "data production unit" that, integrated with other technical-scientific expertise/institutions, performs bigger integrated and applicative projects ("knowledge factories"), such as for "drug discovery" and "biomarker discovery".

Aims & Activities

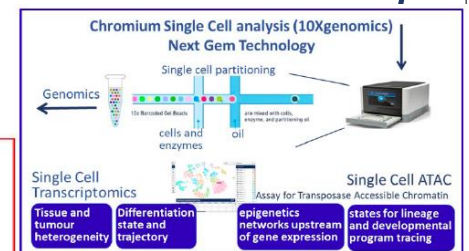
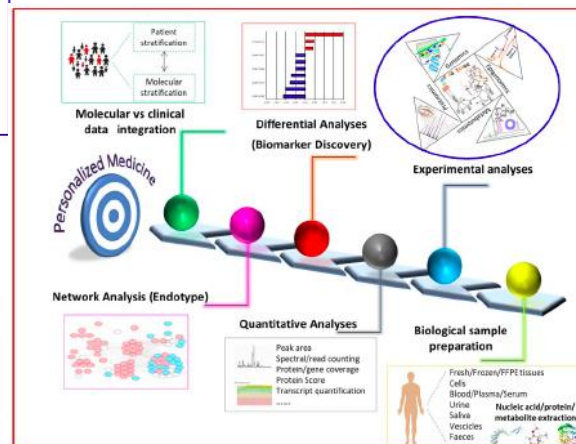
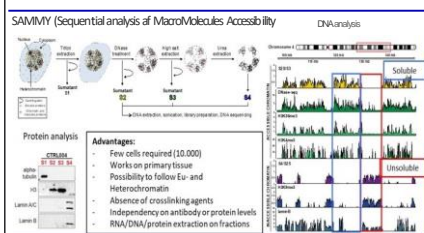
The main focus of iGMP-omics platform concerns translational investigations on prevention, diagnosis and early detection, as well as therapies, including the studies of mechanisms of diseases (endotypes). The iGMP-omics team collaborates, applying its molecular point of view, with hospitals, academics and companies to investigate human diseases, including pediatric conditions and disorders such as, autism spectrum disorder, Duchenne dystrophy, Wiskott-Aldrich syndrome, Dravet syndrome, Hutchinson-Gilford Progeria syndrome, inflammation and oxidative stress.

Omics Methodologies & Pipeline



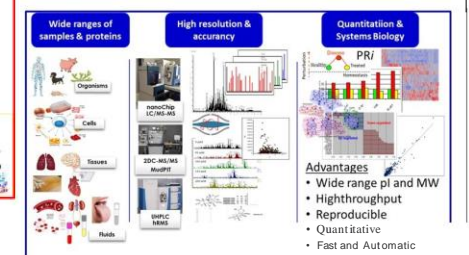
Genomics

Epigenomics



Single Cell

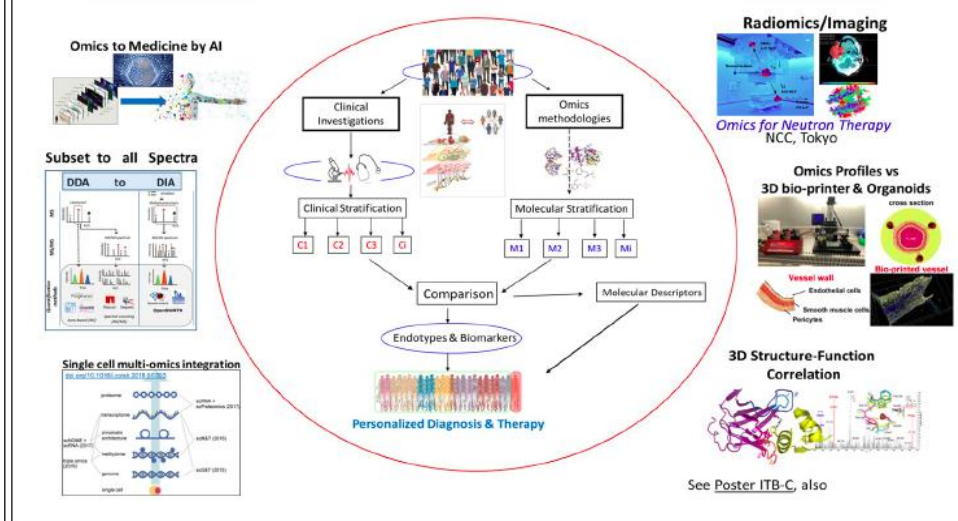
Proteomics & Metabolomics



Running improvements

Methodologies

Applications



Critical points/weakness

Shortage of human samples, mainly tissues, coupled with precise clinical data. Matching between genomics and proteomics, probably due to epigenetic issues, such as histones PTMs and miRNAs. Career paths, including stabilization and progression, of contributors for years to the development of expertise and projects. Replacement of Instrumentations International Grants to be increased.

Networks

European Proteomics Amyloid Network, EPAN. Gesellschaft flir BorNeutroneneinfangtherapie (DGBNCT) ProteomiZ discussion groups. CNR.Biomics- Elixir EPTRI



We are not here to comb the dolls!