



# MetaGenoPolis

Center of excellence for human and animal microbiome research



**WHO are we?** : Pre-industrial demonstrator leadership in gut microbiote metagenomics

**Aim** : Elucidate link between gut microbiota, health, drugs and food


**Certified industrial process**

**High throughput** collaborative hub

**Quality** requirement for industrial and clinical studies

**Validated/** standardized protocols (IHMS)

**Internal R&D** to improve performance

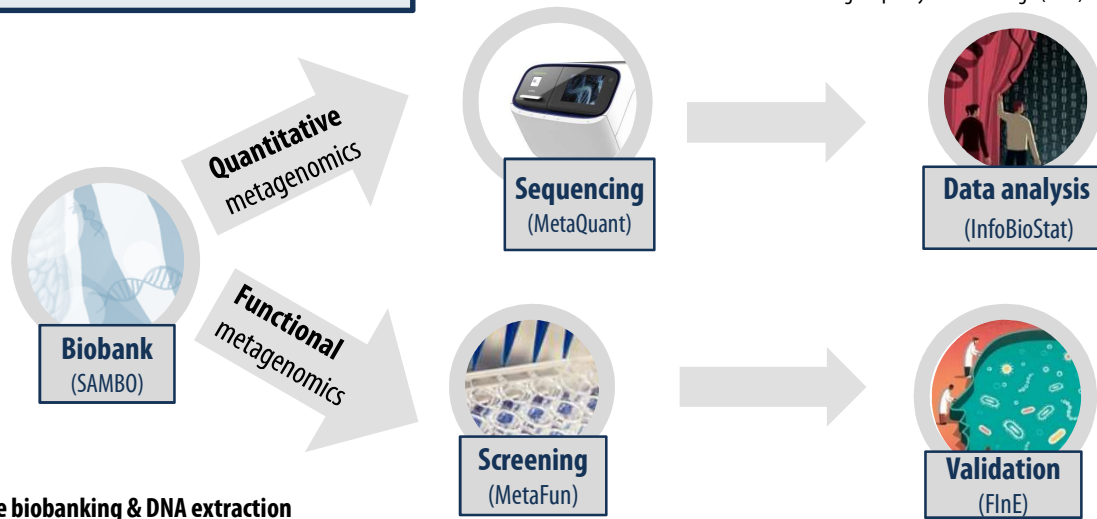


### Whole metagenome sequencing

- High-Throughput sequencers
- New Generation Sequencing (NGS)
- Up to 5 000 samples/year

### Large-scale big data processing and analysis

- 20 multi-disciplinary experts dedicated
- High resolution taxonomic and functional profiling of microbial communities
- Software & statistical methodology development (machine learning...)
- Clinical and multi-omics data integration
- Participation in more than 100 projects with large cohorts
- High Performance Computing facilities
- Large capacity secure storage (1 Pb)



### Sample biobanking & DNA extraction

- Expertise in sample collection, processing and storage
- Automatic DNA extraction
- Large capacity secure biobanking: 600 000 samples
- **Promotor** of validated and standardized protocols (IHMS)

### HT screening

- 18 metagenomic libraries
- 575 000 clones → 23 million genes
- > 20 reporter cell lines: metabolic disorders, IBD, liver pathologies; Human & Animal
- Equipment?

### Hits validation

- Identification of genes & molecules
- Potential therapeutic effects
- Mechanisms of regulation (PMO,POC)

## Scientific Outcomes

- Development of microbial signatures for personalized diagnostic, prognostic or predictive purposes
- Elucidating the impact of your product (e.g. food, drug, adjuvant) on the microbiota and the host.
- Discovery of drugs (molecules, probiotics) for innovative microbiome-based therapeutics
- Guidance for studies design

## Industry Sector & Partnerships

59% of our research contracts with private entities



**Pharma Diagnostic Clinical trials**



**Human nutrition Agri-food Pro-pre-biotic**



**Animal nutrition & health**

## Technological transfer

- 3 Startups
  - 31 patents applications, 3 registered software
  - 5 licences for commercial exploitation
- Saliva Skin



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