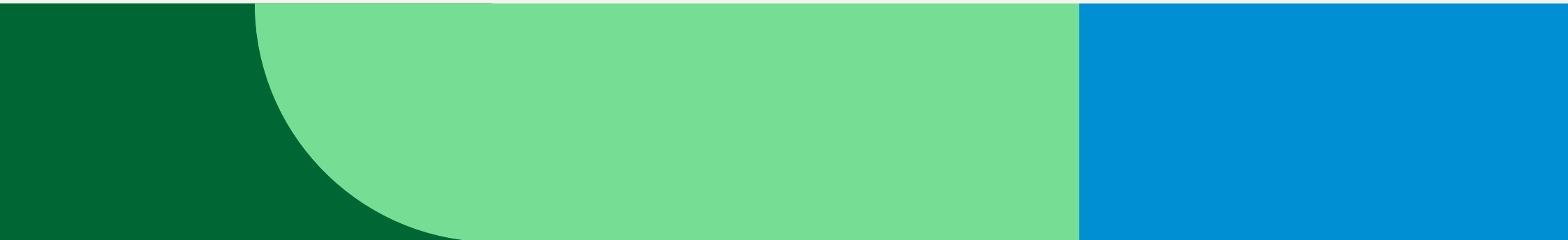


Italian Institute for Genomic Medicine



# IIGM FACILITIES

Genomic Facility



# Who we are



IIGM's **GENOMIC FACILITY** is equipped with state-of-the-art technologies for:

- **Massively parallel next-generation sequencing (NGS)**
- **Microarray based large-scale genotyping and methylation profiling**

# Services

*Comprehensive solutions from bulk sequencing to single-cell and spatial omics.*

## GENOMIC ANALYSIS

- Whole Genome Sequencing (WGS) - Illumina and Nanopore
- Whole Exome Sequencing (WES) - Illumina
- Targeted Gene Panels (e.g. TruSight Oncology 500)
- Plate-based single-cell DNA-seq
- ATAC-seq

## SINGLE-CELL & SPATIAL OMICS (10x Genomics)

- Single-cell/single-nucleus RNA-seq
- Single-cell/single-nucleus ATAC-seq
- Multiome (scRNA & ATAC-seq)
- Visium spatial transcriptomics

## TRANSCRIPTOMICS ANALYSIS

- Bulk RNA-seq (mRNA & Total RNA) - Illumina
- Direct RNA Sequencing - Nanopore

## MICROARRAY ANALYSIS

- Methylation Profiling - Illumina BeadChip
- Genotyping - Illumina BeadChip



## SEQUENCERS

- **GridION** (Oxford Nanopore Technologies): enables long-read, high-fidelity sequencing
- **NovaSeq6000 System** (Illumina): allows a modular and scalable approach to sequencing with the availability of different sequencing media format



## AUTOMATION

- **Biomek i7 automated workstation** (Beckman Coulter): for automated preparation of genomic libraries in high-throughput sequencing projects



## MICROARRAY

- Illumina integrated platform for **large-scale genotyping** and **DNA methylation** analysis (TECAN **Freedom EVO**® platform and Illumina **iScan**™ System)



# Instruments

# TEAM



**Simonetta Guarrera**

Facility Coordinator



**Katuscia Gizzi**

Core Staff



**Caterina Parlato**

Core Staff

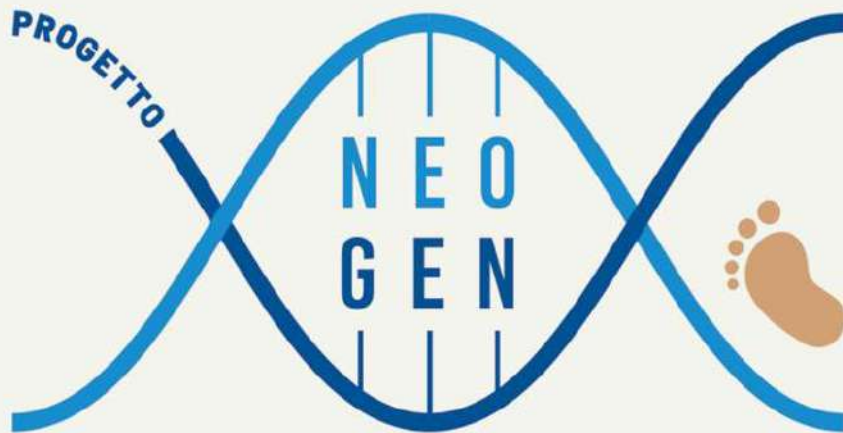


**Beatrice Fenoglio**

Core Staff

# KEY RESULT

Over 4,000 newborns sequenced in the **NEOGEN** project, with results published in **JAMA Network Open**.



Fondazione  
Compagnia  
di San Paolo



FONDAZIONE  
MARIA TERESA  
LAVAZZA



REGIONE  
PIEMONTE



Italian Institute for Genomic Medicine  
IIGM



Ospedale Policlinico San Paolo  
Città della Salute e della Ricerca di Roma

- Our facility collaborated on the **NEOGEN** project together with **Regina Margherita Hospital (Prof. Fagioli)**.
- The goal of NeoGen was to explore how newborn exome sequencing can expand and enhance traditional screening programs. The first results were published in **JAMA Network Open**, in the paper *“A Genomic Sequencing Approach to Newborn Mass Screening and Its Opportunities”*.
- The findings of the study, conducted on more than 4,000 newborns, support the use of **genomic sequencing as a screening method** alongside traditional biochemical newborn screening.



Italian Institute for Genomic Medicine



Interested in  
collaborations, projects, or  
scientific exchange?

**GET IN TOUCH WITH US!**

*simonetta.guarrera@iigm.it*  
*info@iigm.it*

[www.iigm.it](http://www.iigm.it)

