



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DIPARTIMENTO DI SCIENZE
BIOMEDICHE, SPERIMENTALI
E CLINICHE "MARIO SERIO"

ECCELLENZA 2023-27

2025, 17th December

Single-Cell Omics for Precision Medicine

Auditorium CTO

Careggi University Hospital

Single-cell omics technologies are fundamentally revolutionizing our understanding of biology by revealing cellular diversity and molecular complexity at unprecedented resolution. These approaches are driving a foundational shift toward precision medicine, where diagnosis and treatment can be precisely tailored to individual cellular and molecular profiles.

The Department of Experimental and Clinical Biomedical Sciences has been selected as a Department of Excellence by ANVUR for the 2023-2027 period, with a strategic focus on the use of single-cell technologies to advance gender medicine. This one-day symposium, bringing together leading researchers, clinicians, and technologists, represents a critical opportunity for the scientific community to discuss the latest advances and key applications of single-cell omics across diverse biomedical fields. We warmly welcome all participants to this day dedicated to scientific exchange and dissemination.

Organizer:

Department of Experimental and Clinical Biomedical Sciences
"Mario Serio", University of Florence

Free registration required by December 7

<https://forms.gle/phZNaxxYNhXFHucV6>

Faculty

Barbara Altieri - University of Parma
Carmine Carbone - Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome
Davide Cittaro - San Raffaele Hospital, Milan
Cecilia Domínguez Conde - Human Technopole, Milan
Veronica De Sanctis - University of Trento
Gennaro Gambardella - TIGEM, Naples
Paola Romagnani - University of Florence
Giuseppe Testa - University of Milan



Da un secolo, oltre.

8.15 | **Registration**

9.00 | **Opening and Introduction**

- *Institutional Welcome and Opening Remarks*
- *Gender Medicine from the "Single Cell" to the Clinic*
- *Departmental infrastructures enabling single-cell omics studies*

9.45 | **Session 1 (educational): Technological Innovations in Single-Cell Omics**

- *Exploring Single-Cell Platforms: From Experimental Design to Applications*
Veronica De Sanctis (Trento)
- *Computational Methods for Single-Cell Omics Data Analysis*
Davide Cittaro (Milan)
- Q&A

11.00 | **Coffee break and networking**

11.30 | **Session 2: Single-Cell Omics: Novel Insights into Biological Systems**

- *Defining Cell States in Paediatric Health and Disease*
Cecilia Domínguez Conde (Milan)
- *Single-Cell Omics to Dissect Intra-Tumoral Heterogeneity and Clonal Dynamics*
Gennaro Gambardella (Naples)

13.00 | **Lunch break**

14.20 | **Session 3: Dissecting the Molecular Basis of Disease, One Cell at a Time**

- *From cells to selves and back: scaling organoid modelling for the mechanistic dissection of human neurodiversity*
Giuseppe Testa (Milan)
- *Estrogen-regulated renal progenitors determine pregnancy adaptation and preeclampsia*
Paola Romagnani (Florence)
- *Single-Nuclei RNA Sequencing to Explore Adrenal Cortical Carcinoma Landscape*
Barbara Altieri (Parma)
- *Decoding Pancreatic Carcinogenesis through Spatial and Single-Cell Multi-Omics*
Carmine Carbone (Rome)

17.00 | **Closing Remarks**