

Symposium

Single-Cell Omics for Precision Medicine

Organizer: Department of Experimental and Clinical Biomedical Sciences “Mario Serio”, University of Florence, Florence

Date: December 17th, 2025

Location: Auditorium CTO, Largo Piero Palagi, 1, Florence, Italy

Presentation

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.

Sincerely.

The local scientific committee

Program

08:15 – 8:55 | Registration

09:00 – 9:45 | Opening and Introduction

Time	Title	Speaker
09:00 – 09:15	<i>Institutional Welcome</i>	University of Florence / Careggi University Hospital / Regione Toscana
	<i>Opening Remarks</i>	Andrea Galli
09:15 – 09:30	<i>Gender Medicine from the “Single Cell” to the Clinic</i>	Michaela Luconi
09:30 – 09:45	<i>Departmental infrastructures enabling single-cell omics studies</i>	Serena Pillozzi

09:45 – 11:00 | Session 1 (Educational): Technological Innovations in Single-Cell Omics

Chairs: Matteo Benelli, Letizia De Chiara, Matteo Lulli, Tommaso Mello

Time	Title	Speaker
09:45 – 10:15	<i>Exploring Single-Cell Platforms: From Experimental Design to Applications</i>	Veronica De Sanctis University of Trento, Trento
10:15 – 10:45	<i>Computational Methods for Single-Cell Omics Data Analysis</i>	Davide Cittaro IRCCS San Raffaele Institute, Milan
10:45 – 11:00	Q&A	

11:00 – 11:30 | Coffee Break & Networking

11:30 – 13:00 | Session 2: Single-Cell Omics: Novel Insights into Biological Systems

Chairs: Paola Chiarugi, Elena Lazzeri, Elisabetta Rovida

Time	Title	Speaker
11:30 – 12:10	<i>Defining Cell States in Paediatric Health and Disease</i>	Cecilia Domínguez Conde Human Technopole, Milan
12:10 – 12:50	<i>Single-Cell Omics to Dissect Intra-Tumoral Heterogeneity and Clonal Dynamics</i>	Gennaro Gambardella TIGEM, Naples

12:50 – 14:20 | Light Lunch

14:20 – 17:15 | Session 3: Dissecting the Molecular Basis of Disease, One Cell at a Time

Chairs: Gabriele Dragoni, Andrea Morandi, Michaela Luconi, Linda Vignozzi

Time	Title	Speaker
14:20 – 15:00	<i>From cells to selves and back: scaling organoid modelling for the mechanistic dissection of human neurodiversity</i>	Giuseppe Testa University of Milan and Human Technopole, Milan
15:00 – 15:40	<i>Estrogen-regulated renal progenitors determine pregnancy adaptation and preeclampsia</i>	Paola Romagnani University of Florence, Florence
15:40 – 16:20	<i>Single-Nuclei RNA Sequencing to Explore Adrenal Cortical Carcinoma Landscape</i>	Barbara Altieri University of Parma, Parma
16:20 – 17:00	<i>Decoding Pancreatic Carcinogenesis through Spatial and Single-Cell Multi-Omics</i>	Carmine Carbone Fondazione Policlinico Universitario Agostino Gemelli- IRCCS, Università Cattolica del Sacro Cuore, Rome

17:00 – 17:15 | Closing Remarks

Matteo Benelli, Andrea Galli

17:15 – 18:30 | Closing Coffee & Drinks + Networking

Information

Free registration required by December 7 at <https://forms.gle/phZNaxxYNhXFHucV6>

Website: <http://www.sbsc.unifi.it>

Local Scientific Committee and Faculty

Local Scientific Committee

Department of Experimental and Clinical
Biomedical Sciences, University of
Florence

Matteo Benelli
Paola Chiarugi
Letizia De Chiara
Gabriele Dragoni
Andrea Galli
Elena Lazzeri
Michaela Luconi
Matteo Lulli
Simone Luti
Icro Meattini
Tommaso Mello
Alessandra Modesti
Andrea Morandi
Serena Pillozzi
Elisabetta Rovida
Linda Vignozzi

Faculty

Barbara Altieri (Parma)
Carmine Carbone (Rome)
Davide Cittaro (Milan)
Cecilia Domínguez Conde (Milan)
Veronica De Sanctis (Trento)
Gennaro Gambardella (Naples)
Paola Romagnani (Florence)
Giuseppe Testa (Milan)



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BIOMEDICHE, SPERIMENTALI
E CLINICHE "MARIO SERIO"
ECCELLENZA 2023-27



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Da un secolo, oltre.