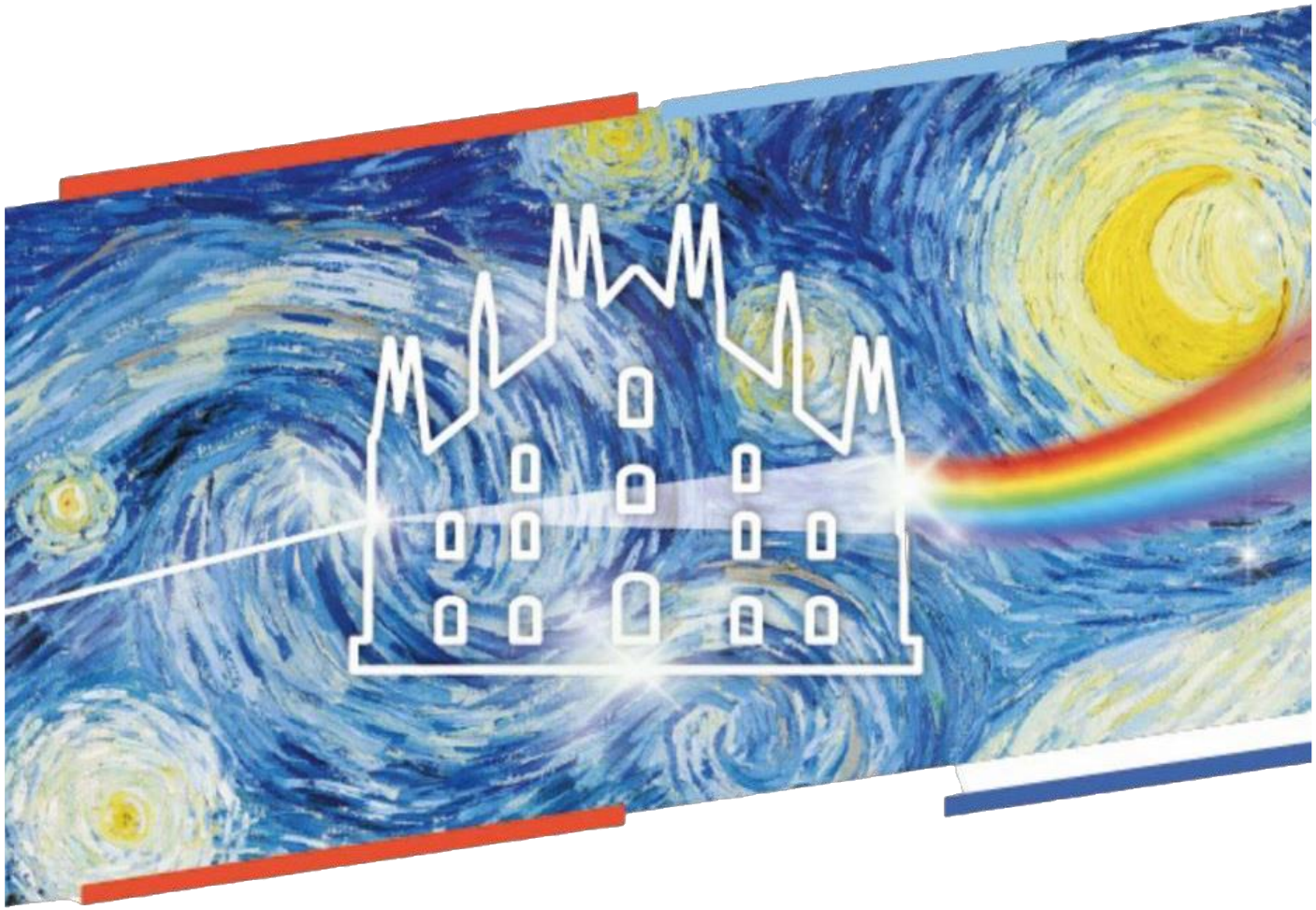

FLOW CYTOMETRY ACADEMY –UNIMI (https://flowcytometryacademy.com)

BIOMETRA

Department of Medical Biotechnology and Translational Medicine

UniMiFlow

Materia Prima srl

info@flowcytometryacademy.com in

Privacy Policy

MATERIA PRIMA

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The fast implementation of new instruments and reagents of high-dimensional and spectral flow cytometry is associated with an increasing need of training and "on hand" classes for the users of this technology at single cell level.

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The fast implementation of new instruments and reagents of high-dimensional and spectral flow cytometry is associated with an increasing need of training and "on hand" classes for the users of this technology at single cell level.

This includes the organization of educational courses to teach experiment planning and execution together with the modern computational methods to proper reading the "big data" generated from high-dimensional flow cytometry experiments.

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The fast implementation of new instruments and reagents of high-dimensional and spectral flow cytometry is associated with an increasing need of training and "on hand" classes for the users of this technology ***at single cell level.***

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Given the overlapping analytic features between high dimensional flow cytometry and RNA sequencing, and considering the several scientific intersections of these two experimental technologies, UniMiFlow started to provide dry training courses focused on modern analytic methodologies and bioinformatic approaches for the analysis of data generated from experiments dealing with single cells.

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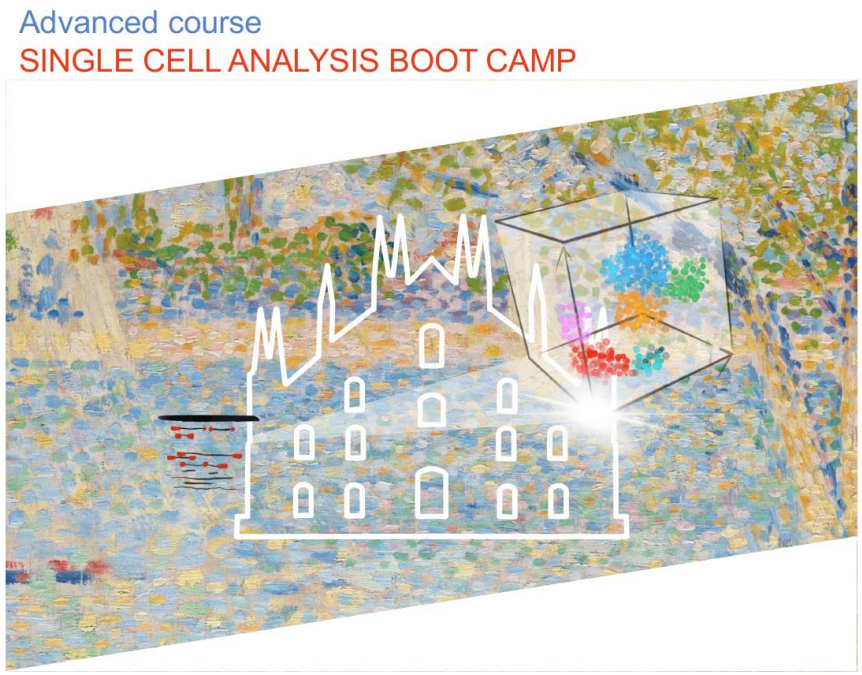
UNIVERSITÀ DEGLI STUDI DI MILANO

Advanced course

SINGLE CELL ANALYSIS BOOT CAMP

Milan, July 14-18 2025



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Advanced course

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Class Coordinators

Prof. Silvia Della Bella, University of Milan
Dr. Simone Puccio, National Research Council
Prof. Domenico Mavilio, University of Milan



Site

Teaching Pole of UNIMI in Santa Sofia
(Frontal lesson and informatic Labs)

Segretery

citometria.biometra@unimi.it

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Advanced course

SINGLE CELL ANALYSIS BOOT CAMP

Aim of the Course I

In particular, the course aims to:

i) ***understand the basic concepts of scRNA-seq data analysis and discuss its state of the art in available technologies and methodology;***

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SINGLE CELL ANALYSIS BOOT CAMP

Aim of the Course I

In particular, the course aims to:

i) ***understand the basic concepts of scRNA-seq data analysis and discuss its state of the art in available technologies and methodology;***

ii) ***use scRNA-seq Seurat data workflow;***

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Aim of the Course II

iii) ***process and analyze scRNA-seq data, including cell classification and identification of specific cell populations;***

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Aim of the Course II

iii) ***process and analyze scRNA-seq data, including cell classification and identification of specific cell populations;***

iv) ***measure the expression dynamics of genes at the single cell level;***

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Aim of the Course II

v) ***perform gene set enrichment analysis and characterize cell-cell interactions;***

vi) ***multi-omics***

Dry labs in the afternoon

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Aim of the Course III

vii) ***understand the importance of scRNA-seq data analysis in fuelling discoveries and innovations in medicine, biology and biotechnology fields.***

Talks in the morning

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Advanced course

SINGLE CELL ANALYSIS BOOT CAMP

MONDAY 14 JULY 2025

Introduction to single cell technology

Aula Delta - via Santa Sofia, 9

h. 8.30-9.00	Registration	
h. 9.00-10.00	*Domenico Mavilio*	Welcome and presentation of the Advanced course
h. 10.00-11.00	*Clelia Peano*	Single cell sequencing technologies and applications
h. 11.00-12.00	Coffee break with the speakers	
h. 12.00-13.00	*Valentina Proserpio*	Single cell RNA-seq in fundamental and translational research

Aula Delta - via Santa Sofia, 9

h. 14.00-18.00	*Simone Puccio, Silvia Della Bella*	Hands-on: Data preprocessing and integration

Morning

- ✓ ***Introduction to the course***
- ✓ ***Introduction to scRNAseq***
- ✓ ***Coffee Breaks***

Afternoon

- ✓ ***Dry Lab in informatic rooms***
- ✓ ***Hands-on. Data processing and integration***

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Advanced course

SINGLE CELL ANALYSIS BOOT CAMP

TUESDAY 15 JULY 2025

From bulk to single cell

Aula Delta - via Santa Sofia, 9

h. 9.00-10.00 *Giulio Pavesi*
Computational and statistical approaches to the analysis of scRNA-seq data (I)

h. 10.00-11.00 *Giulio Pavesi*
Computational and statistical approaches to the analysis of scRNA-seq data (II)

h. 11.00-12.00 Coffee break with the speakers

h. 12.00-13.00 *Ludovica Celli*
A multiomic approach to disentangle the interplay between Acute Myeloid Leukemia and tumor-reactive engineered T-cells

Aula Delta - via Santa Sofia, 9

h. 14.00-18.00 *Simone Puccio, Silvia Della Bella*
Hands-on: Data annotation and trajectory

Morning

- ✓ ***Computational and Statistical approaches.***
- ✓ ***Coffee Breaks***
- ✓ ***Mielo-proliferative Disorders***

Afternoon

- ✓ ***Dry Lab in informatic rooms***
- ✓ ***Data Annotation and Trajectories***

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WEDNESDAY 16 JULY 2025

scRNA-seq and T cell biology

Aula Delta - via Santa Sofia, 9

h. 9.00-10.00 *Domenico Mavilio*

From RNA-seq to multiparametric flow cytometry: computational approaches merging two different technologies at single cell level

h. 10.00-11.00 *Emilia Mazza*

Molecular mechanisms of resistance to immune checkpoint blockade mediated by $CD4^+$ regulatory T cells

h. 11.00-12.00 Coffee break with the speakers

h. 12.00-13.00 *Massimiliano Pagani*

Connecting topology to function in the tumor microenvironment

Aula Delta - via Santa Sofia, 9

h. 14.00-18.00 *Simone Puccio, Domenico Mavilio*

Hands-on: Cell interaction analysis and Pathway analysis

Morning

- ✓ ***Single cell analyses: analogies between flow cytometry and scRNAseq***
- ✓ ***Coffee Breaks***
- ✓ ***Topology and TME***

Afternoon

- ✓ ***Dry Lab in informatic rooms***
- ✓ ***Cell interaction pathways***

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THURSDAY 17 JULY 2025

scRNA-seq application

Aula Delta - via Santa Sofia, 9

h. 9.00-10.00 *Sonisilpa Mohapatra*
Technological solutions for transcriptomics and gene expression analysis

h. 10.00-11.00 *Michaela Fakiola*
Epigenomic insights into intratumoral CD4+ regulatory T cells via single cell RNA sequencing

h. 11.00-12.00 Coffee break with the speakers

h. 12.00-13.00 *Matteo Zampini*
Unraveling myelodysplastic syndromes: insights from multi-omics single cell sequencing

Aula Delta - via Santa Sofia, 9

h. 14.00-18.00 *Simone Puccio*
Hands-on: Multi-omics and TCR

Morning

- ✓ ***Multiomics***

Afternoon

- ✓ ***Dry Lab in informatic rooms***
- ✓ ***Multiomics***

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FRIDAY 18 JULY 2025

Spatial transcriptomics and transcriptional control of cell identity

Aula Delta - via Santa Sofia, 9

h. 9.00-10.00	*Federica Marchesi*	Single cell transcriptomics: pros and cons of different approaches
h. 10.00-11.00	*Silvio Bicciato*	Computational analysis of single cell spatial omics data: challenges and opportunities
h. 11.00-12.00	Coffee break with the speakers	
h. 12.00-13.00	*Sergio Marchini*	Exploring single cell sequencing technologies
h. 13.00-14.00	Final exam and customer satisfaction questionnaire	

Morning

- ✓ ***Spatial Omics and Technologies***

Afternoon

- ✓ ***Final Test and Feedback***

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Site (Morning): Via Santa Sofia 9/1

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Site (Afternoon): (Aula Informatica Delta) per Dry Lab

Silvia

Simone

Domenico

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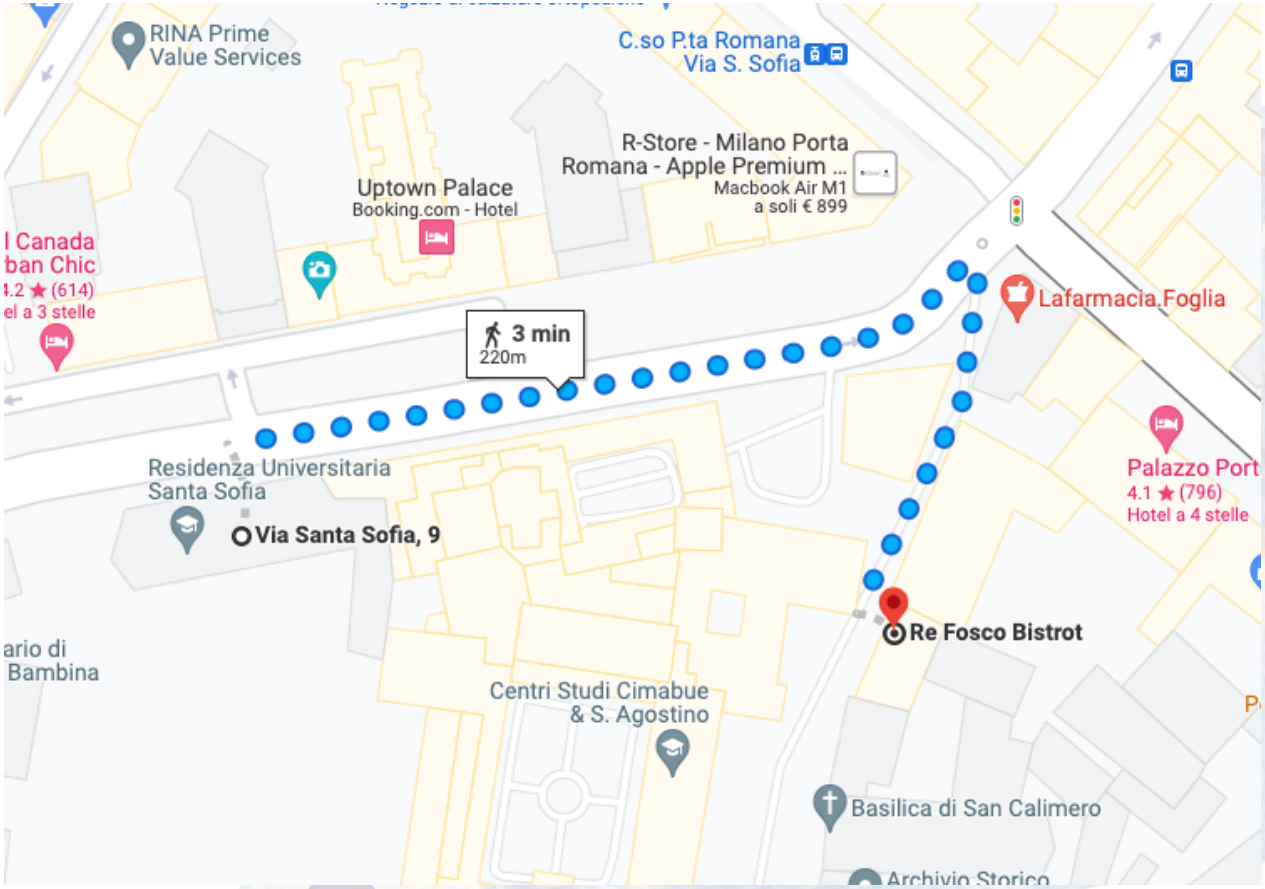

Pausa Caffè

(ReFosco Bistrot – Via San Calimero)

Voucher Giornaliero (Lun-Giov)

- n. 1 caffè
- n. 1 cappuccino o latte macchiato o caffè
- n. 1 brioche (gusto a scelta)

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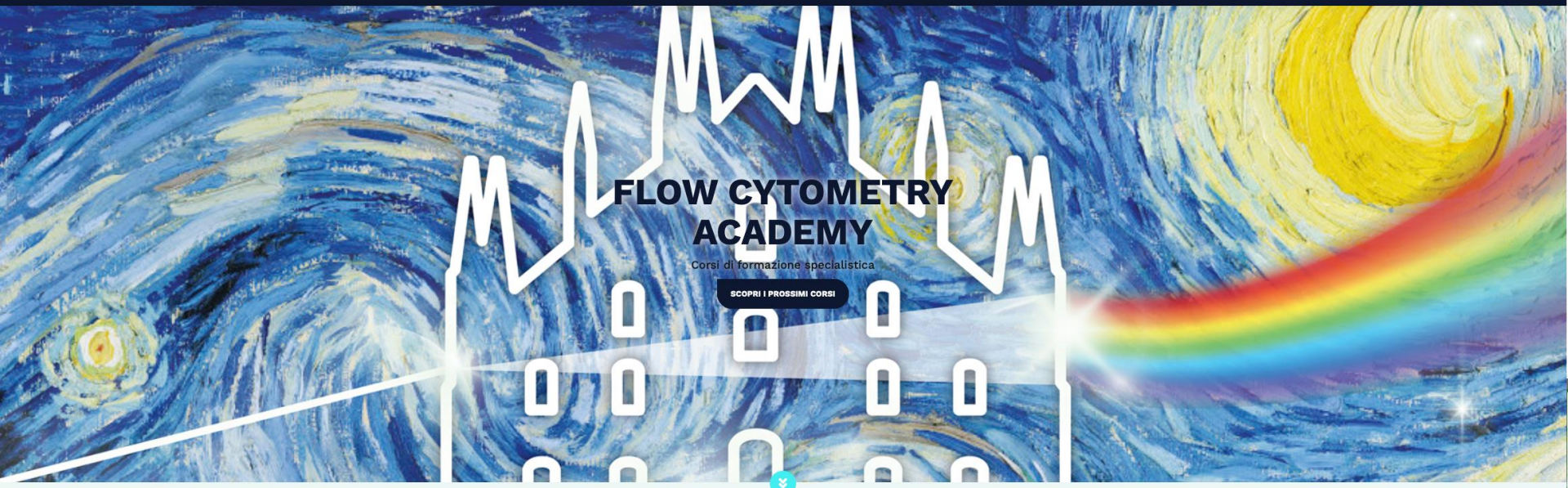


FLOW CYTOMETRY ACADEMY

Corsi di formazione specialistica

SCOPRI I PROSSIMI CORSI

08-12 settembre 2025

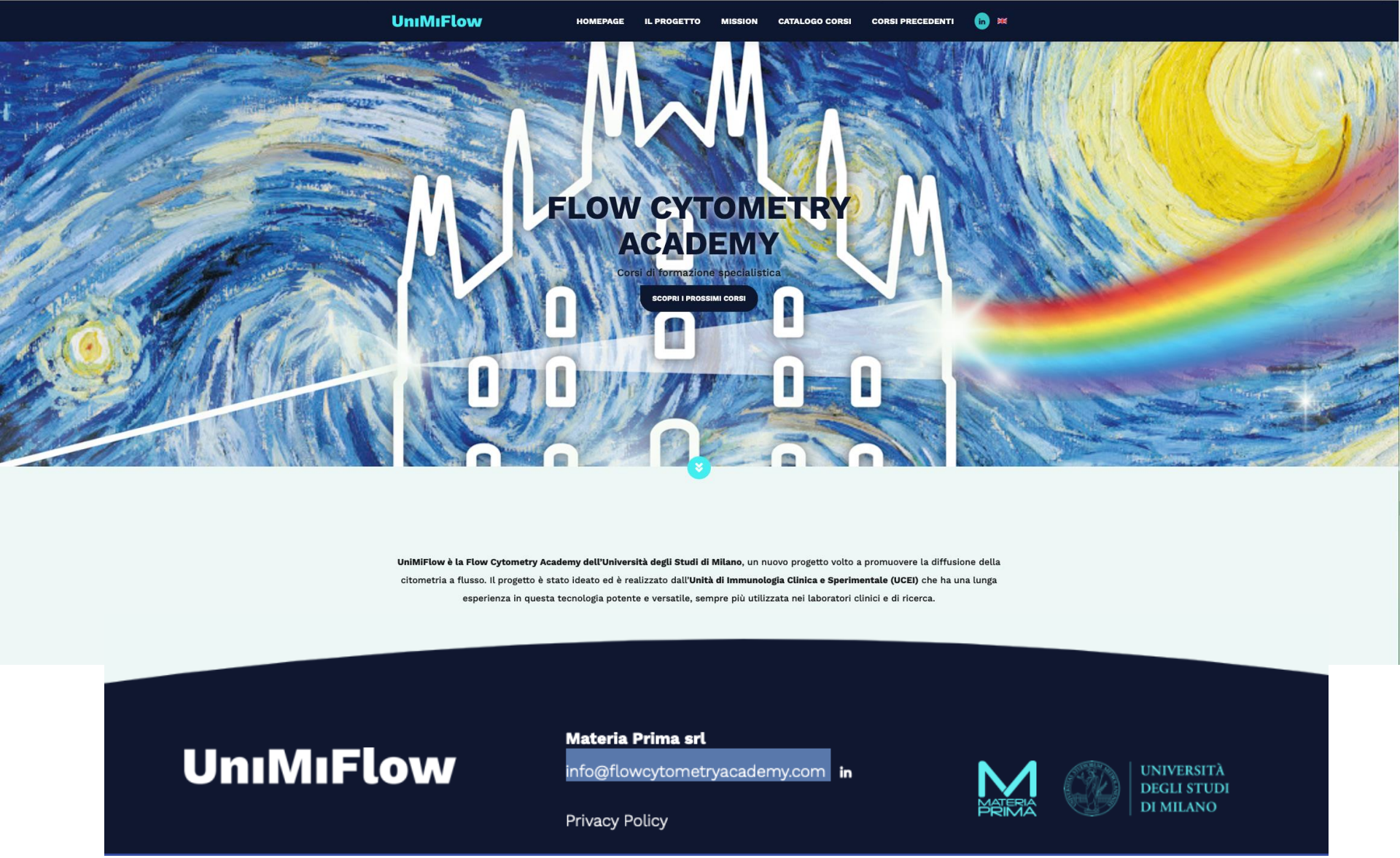
CITOFLUORIMETRIA DI ULTIMA GENERAZIONE: ASPETTI TEORICO-PRATICI E METODOLOGIE ANALITICHE IN AMBITO BIOMEDICO

APPROFONDISCI

17-21 novembre 2025

DISEGNO E VALIDAZIONE DI PANNELLI PER CITOFLUORIMETRIA MULTICOLORE

APPROFONDISCI



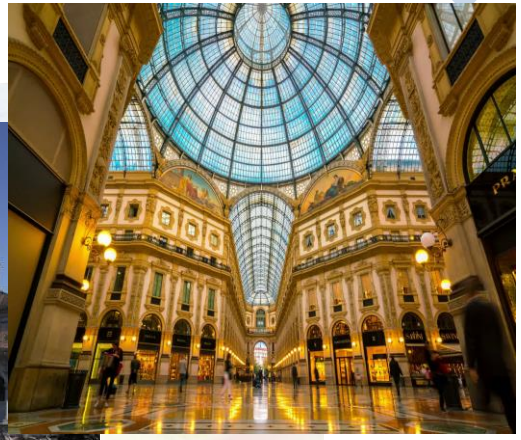
Website: https://flowcytometryacademy.com

Linkedin: https://www.linkedin.com/in/flowcytometryacademy-unimi/

Email: info@flowcytometryacademy.com

Advanced course

SINGLE CELL ANALYSIS BOOT CAMP



Benvenuti a Milano

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