UNIVERSITÀ POLITECNICA DELLE MARCHE

Supervisor: Prof. Matteo Giulietti

Dept. of Odontostomatologic and Specialized Clinical Sciences
https://www.disco.univpm.it/

Project idea: Pancreatic Cancer Dormancy at Single-Cell Resolution

UNIVERSITÀ POLITECNICA DELLE MARCHE

Prof. Matteo Giulietti

Position: Associate Professor – [BIOS-10/A, Cell and Applied Biology]
Institution: Università Politecnica delle Marche (UNIVPM), Italy

Brief CV & Academic Track

Senior researcher with expertise in **pancreatic cancer, molecular biomarkers, gene networks, gene expression, single cell RNA-seq**.
ORCID: **https://orcid.org/0000-0002-9871-265X**
Total publications: **59** (Scopus)

Research Interests & Potential MSCA Area

Pancreatic cancer biology
Single-cell transcriptomics
Tumour biomarker profiling
➡ Potential project domain: **Bioinformatics for Single-Cell Cancer Transcriptomics**

5 Selected Recent / Significant Publications

- Oketch et al. (2025) - PanSCOPE - Pancreatic cancer signature COllection for prognostic evaluation - *Pancreatology*

- Oketch et al. (2024) - A Comparison of Tools That Identify Tumor Cells by Inferring Copy Number Variations from Single-Cell Experiments in Pancreatic Ductal Adenocarcinoma - *Biomedicines*

- Giulietti et al. (2024) - Effects of Eribulin on the RNA Content of Extracellular Vesicles Released by Metastatic Breast Cancer Cells - *Cells*

- Sabanovic et al. (2022) - Effects of the Exposure of Human Non-Tumour Cells to Sera of Pancreatic Cancer Patients - *Biomedicines*

- Giulietti et al. (2018) - LncRNA co-expression network analysis reveals novel biomarkers for pancreatic cancer - *Carcinogenesis*

SUN RISE — SMALLER (STRATEGIC) UNIVERSITIES NETWORK FOR REGIONAL INNOVATIVE AND SUSTAINABLE EVOLUTION

hr — HR EXCELLENCE IN RESEARCH

UNIVPM Host Department:

Department of Odontostomatologic and Specialized Clinical Sciences

A multidisciplinary environment supporting research in:

- Biology, Genetics, Biochemistry
- Clinical Medicine
- Odontostomatology

Research Group Description

Applied Biology Lab
Team composition: **Prof Giulietti, Prof Piva**
International network and collaborations

Key Infrastructure & Laboratories
Available facilities include:
Lab 1: advanced microscopy / cell culture
Lab 2: bioinformatics analysis / AI platforms
Core instruments: 2x high-performance workstations (8TB SSD, 128GB RAM, Intel i9 13th generation; 6TB SSD, 64GB RAM, Intel i9 10th generation)

Training & Career Development Opportunities
Access to doctoral school courses, transferable skills training
Support for Open Science, dissemination, and stakeholder engagement
Opportunities for **secondments** and **non-academic placement**

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Overall Goal

The project aims to develop **bioinformatics approaches to identify and characterize dormant cells in pancreatic cancer and metastases**, contributing to:

- Scientific advancement in **understanding pancreatic tumor heterogeneity and cellular dormancy at single-cell resolution.**
- Innovation potential in **precision oncology and development of targeted therapies for dormant tumor cells.**
- Strengthening European research excellence.

Specific Objectives

- Investigate **dormant cell populations and heterogeneity in primary pancreatic tumors and metastases using bioinformatic tools for analysis of single-cell RNA-seq data.**
- Develop **bioinformatics pipelines to analyze and classify dormant versus active tumor cells.**
- Validate results through **integration with experimental datasets, known biomarkers, and functional annotation.**

Novelty & Interdisciplinarity

- Combines expertise in **bioinformatics + cancer biology**
- Strong potential for academic + non-academic impact

Expected Outcomes

- High-impact publications
- New methodology / prototype / dataset
- Enhanced career perspectives for the fellow

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The Department of Odontostomatologic and Specialized Clinical Sciences

Director: Prof. Giovanni Cobellis

2026

AT A GLANCE

DISCO

Last three years 2023-24-25

15 Scientific Areas
MEDS-07/B, MEDS-14/B, MEDS-14/C, MEDS-16/A, MEDS-22/A, MEDS-22/B, MEDS-20/A, MEDS-21/A, MEDS-26/A, MEDS-08/C, MEDS-26/B, BIOS-07/A, BIOS-08/A, BIOS-09/A, BIOS-10/A, PHYS-06/A

741 Publications

>2.900.000 € Research income

45 Staff

48 PhD, Post-doc, Research fellows

Teaching programs for **undergraduates** in Medicine and Surgery, Dentistry, Professional education, Physiotherapy, Dietetics, Dental hygiene, Nursing, Speech Therapy, Obstetrics, Biomedical laboratory techniques, Prevention techniques in the environment and workplace, Medical, Imaging and Radiation Therapy techniques.
Postgraduate Medical Training specialty in Gynecology and Obstetricia, Medical Physics, Pediatrics, Pediatric Surgery, Radiodiagnostics, Urology, Nuclear Medicine, Oral Surgery, Sport Medicine

1 Centre of Artificial Intelligence & Digital Health in Medicine and Biology AIDH

1 Centre of Health Education and promotion (CIESS)

Master's Degree in:
- Nutrition and Dietetics
- Applied Nutrition and Dietetics
- Sports Applied Nutrition and Dietetics
- Vegetarian Nutrition and Dietetics
- Expert in Diet Planning
- Nutrition in Physiological condition
- Nutrition in Patological condition

8 Clinical research Units

19 Research Laboratories

6 Clinic Laboratories