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**MUST study: MUlti-omics phenotyping of non-Specific pleuriTis**

**Supervisor: Prof. Federico Mei**

Department of Biomedical Sciences and Public Health- <http://www.disbsp.univpm.it/>



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## Supervisor: Prof. Federico Mei

### Research Group Description

Clinical researcher of Respiratory Diseases (SSD MED 10)  
Department of Biomedical Science and Public health (DSBSP)-  
UNIVPM

**N° publications:** 42

**H index :** 11

**Citations:** 506 (last SCOPUS access: 29<sup>th</sup> February 2024)

#### Job positions:

##### **Consultant in Respiratory Medicine and Interventional Pulmonology**

SOSD Intertitial Lung disease, Pleural disease and bronchiectasis, Dept of Internal Medicine - University Hospital; Ancona, Italy

##### **Clinical Observer**

Oxford Pleural Unit; Oxford University Foundation Hospitals Trust

#### Research interests:

**pleural disease, mesothelioma, pleural infection, interventional pulmonology, lung cancer, ILD, IPF, air pollution**

#### Teaching activity:

**Assistant Professor and Clinical Researcher of Respiratory Medicine - DiSBSP– UNIVPM**

**Senior Lecturer - DiSBSP– UNIVPM**

#### **Research group (UNIVPM)**

Martina Bonifazi (DSBSP), Francesca Gonnelli (DSBSP), Flavia Carle (DSBSP), Rosaria Gesuita (DSBSP), Edlira Skrami (DSBSP), Gianluca Moroncini (DISCO), Monia Orciani (DISCLIMO), Marco Tomassetti (DISCO), Lory Santarelli (DISCO), Gaia Goteri (DSBSP)

#### **National and international research collaboration**

Università San Raffaele (Milano), Università Studi di Milano, Oxford University (UK), University of Nottingham (UK), University of Glasgow, University of Sheffield (UK), Univeristy of Bristol (UK), Univesity of Lleda (Spain), University of Zealand (DK), Royal Brompton Hospital (London), Stellenbosch University (South-Africa)



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# Research Topics



<https://pleuraldisease.eu>

### Aims

2017 - 2022

- Investigate pleural diseases typically under-represented in the pleural literature
- Serve as a platform to launch ambitious multinational collaborations in pleural disease

The International Collaborative Effusion (ICE) database: an ERS Clinical Research Collaboration

### Future plans

2023

- Expand membership and diversity
- Establish research priorities of global pleural disease practitioners
- Establish research priorities of patients with pleural disease through engagement with the European Lung Foundation
- Investigate current practices in pleural disease diagnosis and management in diverse global populations
- Launch targeted initiatives in pleural research

Join the ICE Pleural Disease Project

**22 countries**  
**5 continents**

**70 members**

**40 institutions**

**Non-specific pleuritis**

**Benign effusions**

**Suspected drug-induced effusions**

**Chylothorax**

**Eosinophilic effusions**

**Data collection**

**Administrator**  
Jenny Symonds | [jenny.symonds@nbt.nhs.uk](mailto:jenny.symonds@nbt.nhs.uk)

**Chairs**  
Uffe Bodtger | [ubt@regsj.dk](mailto:ubt@regsj.dk)  
Federico Mei | [f.mei@staff.univpm.it](mailto:f.mei@staff.univpm.it)  
Steven Walker | [steven.walker@bristol.ac.uk](mailto:steven.walker@bristol.ac.uk)  
Jane Shaw | [janshaw@sun.ac.za](mailto:janshaw@sun.ac.za)

### Role of patient-derive organoids in mesothelioma (MPM) in collaboration with the departement of occupational medicine of UNIVPM

Patient-derived MPM organoids (PDO-MPMs), developed through a 3-D culture system from pleural effusion and pleural biopsies of patients with MPM, and tested for drug response to CisPt/PeMtx or to Pembrolizumab

Ongoing international reseaserch: PREDICT MESO, in collaboration with San Raffaele University and University of Glasgow

### Impact of air pollution (mainly due to maritime trasportation) on respiratory and cardiovascular diseases using secondary health care sources and Flexible Air Quality Regional Model (FARM), in collaboration with expert epidemiologists (Dr Francesco Forastiere; Dr Giovanni Viegi)

Long-term effects of air pollutants on respiratory and cardiovascular mortality in a port city along the Adriatic sea

Federico Mei<sup>1,2\*</sup>, Matteo Renzi<sup>1\*</sup>, Martina Bonifazi<sup>1,2</sup>, Floriano Bonifazi<sup>1,2</sup>, Nicola Pepe<sup>1</sup>, Alessio D'Alaura<sup>1</sup>, Giuseppe Brusasca<sup>1</sup>, Giovanni Viegi<sup>3</sup> and Francesco Forastiere<sup>2\*</sup>

### Epidemiology and pharmacoepidemiology of respiratory diseases (COPD, Interstitial Lung Disease ILDs) using secondary health care sources, in collaboration with epidemiologists of UNIVPM, of Milano University, Bicocca University, and University of Nottingham

#### Chronic obstructive pulmonary disease (COPD) mortality trend worldwide: An update to 2019

Federico Mei<sup>1,2\*</sup> | Michela Dalmartello<sup>3</sup> | Martina Bonifazi<sup>1,2\*</sup> | Paola Bertuccio<sup>4</sup> | Fabio Levi<sup>5</sup> | Paolo Boffetta<sup>6,7</sup> | Eva Negri<sup>1,2,8</sup> | Carlo La Vecchia<sup>9</sup> | Matteo Malvezzi<sup>10</sup>

#### Occurrence of Idiopathic Pulmonary Fibrosis in Italy: Latest Evidence from Real-World Data

Marica Iommi<sup>1\*</sup>, Martina Bonifazi<sup>2,3</sup>, Andrea Faragalli<sup>1</sup>, Lara Letizia Latini<sup>2,3</sup>, Federico Mei<sup>2,3</sup>, Liana Spazzafumo<sup>4</sup>, Editra Skrami<sup>1,4</sup>, Luigi Ferrante<sup>1</sup>, Flavia Carle<sup>1,4\*</sup> and Rosaria Gesuita<sup>1,4\*</sup>

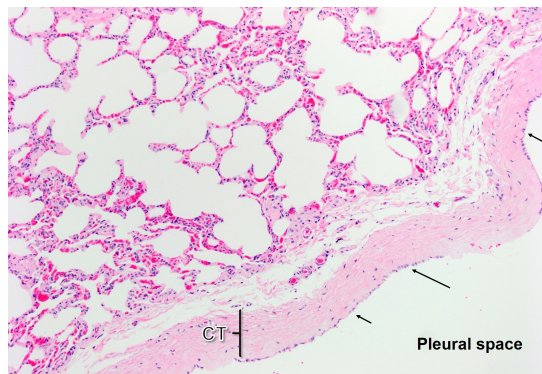


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### Project Idea

**Background:** Non-specific pleuritis (**NSP**) reflects a heterogenous group of diagnoses and pathophysiological processes that remain poorly understood. So far, the majority of research has focused on identification of the 10% of patients with NSP who go on to develop malignancy – leaving 90% of patients with no diagnosis, uncertainty and a variable treatment and investigation approach. A clear needs assessment in NSP is required.



**Aim:** The MUST study, allied to our research network (EPIC: European Pleural disease Investigators Collaboration), aims to conduct a prospective longitudinal study creating a translational platform. We will conduct multi compartment sampling and omics analysis with the aim to identify disease endotypes, treatable traits and future targets for precision medicine (including repurposing of currently available medications).



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# The Department of Biomedical Sciences and Public Health

Director: Prof. Abele Donati



## The Department of Biomedical Sciences and Public Health

was established on the 1st July 2011, following a process of reorganisation of the University, The Department is a self-managing organizational branch of the university which is dedicated to scientific research, teaching, and contributing to the so called Third Mission of the Higher Education Institution through the dissemination of scientific research findings amongst the community.

Its main aims are to plan, organize and regularly assess the quality of the research activity carried out in the scientific sectors and disciplines under its jurisdiction; to plan, organize and manage first level and master courses of the Faculty of Medicine and, last but not least, to provide cultural and educational activities and contribute to training and guidance activities according to the students needs in collaboration with the medical association.

It has been declared in 2018 by Ministry of University and Research “Department of Excellence”

## AT A GLANCE

