



5 - 7 March 2020  
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## Prof. Massimo Conese

### *Born*

August 6, 1961 at Bari, Italy

### *Institution*

Department of Medical and Surgical Sciences  
Centro di Ricerche Biomediche "E. Altomare"  
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### **Education**

1987

Degree in Medicine and Surgery, University of Bari "A. Moro", Bari, Italy

1990

Specialization in Oncology, University of Bari "A. Moro", Bari, Italy

1995

Ph. D. in Cellular and Molecular Biology and Pathology, University Medical School "Federico II", Naples, Italy

### **Academic position**

October 2019 - today

Full Professor in General Pathology, Medical School, University of Foggia, Foggia, Italy.

October 2016 - today

President of the Degree Course in Nursing, San Severo (Fg), Medical School, University of Foggia, Foggia, Italy.

March 2014 - today

Responsible of the Laboratory of Experimental and Regenerative Medicine, Medical School, University of Foggia, Foggia, Italy.

January 2005 – September 2019



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Associate Professor in General Pathology, University of Foggia, Foggia, Italy.

March 2001 – April 2007

Group Leader of the Institute for Experimental Treatment of Cystic Fibrosis, Department of Biotechnology, H.S. Raffaele Scientific Institute, Milan, Italy.

March 1997 - February 2001

Researcher Assistant, Telethon Institute for Gene Therapy, Department of Biotechnology, H. S. Raffaele Scientific Institute, Milan, Italy.

### **Research Experience**

1987 - 1990

Recipient of a fellowship of the Minister of Public Education at the Institute of General Pathology, Medical School, University of Bari "A. Moro", Bari, Italy.

Sept. 1991 - Dec. 1992

Staff Scientist at the Institute of Microbiology, University of Copenhagen, Copenhagen, Denmark.

Jan. 1993 - Dec. 1994

Staff Scientist at the Molecular Genetics Unit, Department of Biotechnology, H.S. Raffaele Scientific Institute, Milan, Italy.

Jan. 1995 - Sept. 1995

Staff Scientist at the Department of Biomedical Sciences and Human Oncology, Section of General Pathology, University of Bari "A. Moro", Bari, Italy.

Oct. 1995 – Dec. 1995

Staff Scientist at the Molecular Genetics Unit, Department of Biotechnology, H.S. Raffaele Scientific Institute, Milan, Italy.

Jan. 1996 - Aug 1996

Staff Scientist at the Molecular Endocrinology Unit, Department of Biotechnology, H.S. Raffaele Scientific Institute, Milan, Italy.

Sept. 1996 - Feb. 1997

Staff Scientist at the Telethon Institute for Gene Therapy, Department of Biotechnology, H.S. Raffaele Scientific Institute, Milan, Italy.



### Synopsis of Research Interests

#### 2011-today

##### **Nanoparticle-mediated drug delivery**

- Systemic anti-coagulant effect of low molecular weight heparin through aerosol delivery of nanoparticles obtained from chitosan and derivatives.
- Delivery of beclomethasone dipropionate to the murine lungs through aerosol delivery of nanoparticles obtained from polyaspartamide and polylactic acid.
- Study of anti-inflammatory and anti-oxidant effects on airway epithelial cells by solid lipid nanoparticles loaded with red grape extract.
- Delivery of dopamine to ensheating olfactory cells and neuroblastoma cells in vitro and to the rat central nervous system through nasal instillation of nanoparticles obtained from chitosan and derivatives.
- Study of anti-inflammatory and anti-oxidant effects on intestinal epithelial cells by curcumin-loaded liposomes

#### 2004-today

##### **Stem cell-based therapy**

- Homing and differentiation of hematopoietic stem cells into airway epithelium in murine model of respiratory infection with *Pseudomonas aeruginosa*
- Study of the phenotype, mitochondrial content and adhesion molecules in murine hematopoietic stem cells in vitro and in vivo (acute lung injury model in the mouse by endotoxin administration).
- Evaluation of the potential of human amniotic mesenchymal stromal cells for the correction of the basic defect in cystic fibrosis in in vitro models of polarized airway epithelium.
- Differentiation capacities of human adipose-derived stem cells in standard culture conditions and in glycosaminoglycan scaffolds.



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## 1997-today

### Pathophysiology and Gene Therapy of Cystic Fibrosis

- Characterization of microparticles in sputum of patients with cystic fibrosis and primary ciliary dyskinesia. Pro-inflammatory potential of microparticles in vivo in a model of lung inflammation (endotoxin administration).
- Interaction between CFTR, NHERF1, actin cytoskeleton and tight junctions in polarized models of airway epithelial cells.
- Study of the pro-inflammatory potential of airway epithelial cells by evaluation of NF- $\kappa$ B activation and chemokine and cytokine secretion in vitro.
- Host-pathogen interaction between *Pseudomonas aeruginosa* and *Burkholderia cepacia* and respiratory epithelial cells in in vitro and in vivo models (fetal respiratory xenografts, acute and chronic respiratory infection in the mouse).
- Evaluation of barriers to gene transfer to the airway epithelium through viral and non-viral vectors in vitro and in vivo (mouse lung).
- Optimization of novel strategies of gene transfer via viral (lentivirus) and non-viral (artificial chromosomes) to respiratory epithelial cells in vitro and in vivo (mouse lung).
- Down-regulation of the epithelial sodium channel ENaC by lentivirus-mediated RNA interference in airway epithelial cells in vitro.
- Down-regulation of high mobility group box 1 by polyaminoacidic polymer-mediated siRNA delivery into airway epithelial cells in vitro.

## 1996

### Genetics of type 2 Diabetes mellitus

- Study of glycogenin expression in a rat model of hypreglicemy.

## 1991-1995

### Cellular and molecular biology of the urokinase/urokinase receptor system

- Interaction between urokinase-type plasminogen activator and its receptor. Role of the urokinase receptor in the internalization and degradation of the urokinase:inhibitor complexes.



- Role of the urokinase receptor in myeloid cell differentiation.

### 1986-1991

#### **Clinical and experimental aspects of intravascular coagulation and fibrinolysis.**

- Interactions between cancer cells and the haemostatic system (mainly cancer cell procoagulant and fibrinolytic activities).
- Procoagulant and fibrinolytic activities of mononuclear phagocytes, pharmacological modulation and role in haemostasis and thrombosis, malignancy and inflammation.

#### **Affiliations**

- International Society for Fibrinolysis and Thrombolysis (1996-1999)
- European Cystic Fibrosis Society (1999 and 2016)
- European Society of Gene Therapy (2000)
- Vice-President of the Italian Cystic Fibrosis Society (2004-2007)
- Responsible of the Commission "Research and Development" of the Italian Cystic Fibrosis Society (2008-2010)
- Member of the Commission "Editoria" of the Italian Cystic Fibrosis Society (2008-2010, 2011-2013, 2014-2017, 2017-2020)
- Member of the Commission "Research and Development" of the Italian Cystic Fibrosis Society (2011-2013)
  - Member of the Italian Group on Mesenchymal Stem cells (since 2018)

#### **Financing on projects**

- European Community (FP5, FP6)
- Telethon Italy
- Italian Ministry of Education and University (PRIN)
- Italian Foundation for the Research in Cystic Fibrosis
- Regione Apulia, Italy



### **Peer-Reviewer**

#### **A. Journals**

Human Gene Therapy (Editor: C. Bordignon); Thrombosis Research (Editor: F. Blasi); Gene Therapy (Editor: N. Lemoine); BioMed Central (Medical Genetics); Journal of Gene Medicine (Wiley Europe); Journal of Biological Chemistry (Editor: Roberto Sitia); Current Gene Therapy (Editor: Ignacio Anegon); Anatomical Record (Associated Editor: Gina Schatteman); Clinical Science (Editor: James Mockridge); Biotechnology Progress (Editor: Jerome S. Schultz); Current Nanoscience; European Journal of Pharmaceutics and Biopharmaceutics; Journal of Controlled Release; Journal of Molecular Medicine; Journal of Cellular Physiology; Inflammation Research; PLOsone; STEM CELLS; Current Stem Cell Research & Therapy

#### **B. Projects**

- July 1999: Reviewer for the European Commission – FifthFramework
- January 2010: Reviewer for the Medical Research Council, UK
- February 2010: Reviewer for the Health Research Board, Ireland
- January 2012: Reviewer for the Medical Research Council, UK
- December 2013: Reviewer for the Swiss National Science Foundation
- October 2015 : Reviewer for the CF Trust, UK
- March 2018: Reviewer for the Vaincre la Mucoviscidose, France
- March 2018: Reviewer for the Irish Thoracic Society, UK
- January 2019: Reviewer for the Istituto Pasteur Italia – Fondazione Cenci Bolognetti, Roma.
- March 2019: Reviewer for the Vaincre la Mucoviscidose, France
- September 2019: Reviewer for the Croatian Science Foundation, Croatia.

### **Editorial Board Member and Guest Editor**

2001-2010: Journal of Cystic Fibrosis (Editor-in-Chief: H.G.M. Heijerman and Gerd Doering)

2004-2014: Gene Therapy (Editor-in-Chief: Nicolas Lemoine)

2007-2013: International Journal of Biomedical and Pharmaceutical Sciences (Global Science Books)

2007: Advances in Gene, Molecular and Cell Therapy (Global Science Books)

2009-2013: The Open Gene Therapy Journal (Bentham Open)



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2011-2014: ISRN Pneumology (International Scholarly Research Network)

Since 2012: Advancements in Genetic Engineering (OMICS Publishing Group)

Since 2015: Open Medicine (De Gruyter Open); Section Editor in Thoracic and cardiovascular surgery

Since 2016: Current Stem Cell Research & Therapy (Bentham Science)

In 2016: Guest Editor del “Thematic Issue: Cystic Fibrosis: Pathophysiology and Drug Discovery” di  
Clinical Immunology, Endocrine & Metabolic Drugs, volume 3, issue 2.

Since 2019: Case Reports in Medicine (Hindawi)

Since 2019: Associate Editor of the Topical Issue “Stress, Immunity, and Tissue Microenvironment”,  
Section “Molecular Immunology”, International Journal of Molecular Sciences (MDPI)

Since 2020: International Journal of Molecular Sciences (MDPI)

### **Scientific presentations delivered (last 2 years)**

- 1) November 2018, Lecture: "Nanocomplexes for gene therapy of respiratory diseases: Targeting and overcoming the mucus barrier". I international IVEK Bio Congress, Istanbul, Turkey.
- 2) June 2018, Lecture: “Stem cells as sources for CF disease modeling and drug discovery”, 41st European Cystic Fibrosis Conference, Belgrade, Serbia.
- 3) April 2018, Lecture: “MSC-based treatment of cystic fibrosis: preclinical studies and challenges ahead”, 2018 GISM Annual Meeting, Assisi, Italy.
- 4) April 2018, Lecture: “Pathophysiology of cystic fibrosis and new therapies”, Laboratory of Biocompatible Polymers – Thematic Workshop Pulmonary Drug Administration”, Palermo, Italy.

### **Publications**

Prof. Massimo Conese has published 137 peer-reviewed scientific articles.

Total number of citations: 3986. Scopus h-index: 35.

(<https://www.scopus.com/authid/detail.uri?authorId=6603802601>).

ORCID ID: <https://orcid.org/0000-0003-3465-6641>

He has published 11 chapter books and is co-author of 90 communications to international congresses.