

## Sante Di Gioia, PhD

Tenured Assistant Professor of General Pathology, University of Foggia, Department of Medical and Surgical Sciences, Experimental and Regenerative Medicine Laboratory, Via Pinto 1 71100 Foggia Italy.

Phone: +39 0881/588074, e-mail: [sante.digioia@unifg.it](mailto:sante.digioia@unifg.it)

Web site: <https://sites.google.com/a/unifg.it/santedigioia/>

### Professional Experience

- since 2019 Dean of "Nursing" Program, University of Foggia, Seat of Lagonegro, Italy
- since 2010 Researcher and Assistant Professor of General Pathology, University of Foggia
- 2009 – 2012 PhD student, University of Foggia, Italy
- 2007 – 2008 Research Fellow, University of Foggia, Italy
- 2005 – 2007 Visiting Research Fellow, Molecular Medicine Centre, University of Edinburgh, UK
- 2002 – 2005 Research Fellow, Institute for experimental treatment of Cystic Fibrosis, DIBIT/ San Raffaele Hospital, Milan, Italy

### Education

- 2012 PhD in Biomedical Sciences and Technologies, University of Foggia, Italy
- 2006 Specialization in Clinical Pathology, University of Bari, Italy
- 2001 Graduation in Biological Sciences at the University of Bari, Italy

### Teaching

Bachelor Degree Programme: Nursing Subject Title: General Immunology Credits:1 University of Foggia – seat of Lagonegro 2020

Master Degree Programme: Medicine and Surgery Subject Title: General Pathology I Credits: 5 University of Foggia  
2010 – present

Bachelor Degree Programme: Biomedical Laboratory techniques Subject Title: General Pathology  
Credits: 2 University of Foggia  
2010 – present

Bachelor Degree Programme: Biomolecular Sciences and Technology Title: General Pathology  
Credits: 6 University of Foggia  
2019 – 2020

Bachelor Degree Programme: Radiology Technician Subject Title: General Pathology  
Credits: 2 University of Foggia  
2012 – 2013

Bachelor Degree Programme: Nursing Subject Title: General Pathology Credits:1 University of Foggia – seat of Matera 2015 – 2019

Bachelor Degree Programme: Nursing Subject Title: Clinical Pathology Credits:1 University of Foggia – seat of Matera 2015 – 2019

University of Foggia  
Medical School  
Teaching Assistant (General Pathology)  
2008 - 2010

## Research Interests

Gene therapy of cystic fibrosis: Pre-clinical evaluation of nonviral (polymers and copolymers) vectors for CFTR gene delivery into airway epithelial cells in vitro and in murine models.

Cellular therapy of cystic fibrosis: evaluation of different sources of stem cells (bone marrow, amnios) for homing to the lung and correction of the disease.

CFTR "interactome": CFTR interaction with scaffold proteins and influence on the actin cytoskeleton and tight junctions in airway epithelial cells.

Pathophysiology of cystic fibrosis lung disease: Gene expression profile of blood and sputum polymorphonuclear granulocytes (PMN) in cystic fibrosis patients and role of microparticles derived from PMN.

Biological characterization of nanoparticles derived from biocompatible materials, such as polymers, oligosaccharides or lipids, used mainly in the field of controlled and targeted release of biologically active substances (drugs, genes, plant derived-compounds) into lungs and brain .

## Scientific Publications (Last 5 years)

Guerra L, Favia M, Di Gioia S, Laselva O, Bisogno A, Casavola V, Colombo C, Conese M.

"The preclinical discovery and development of the combination of ivacaftor + tezacaftor used to treat cystic fibrosis".

Expert Opin Drug Discov. 2020 Apr 15;1-19. doi: 10.1080/17460441.2020.1750592. [Epub ahead of print]. PMID: 32290721

Vincenzo De Leo , Sante Di Gioia, Francesco Milano, Paola Fini , Roberto Comparelli , Erminia Mancini , Angela Agostiano , Massimo Conese and Lucia Catucci

"Eudragit S100 Entrapped Liposome for Curcumin Delivery: Anti-Oxidative Effect in Caco-2 Cells"

Coatings Volume 10 Issue 2 10.3390/coatings10020114

Zadorozhna M, Di Gioia S, Conese M, Mangieri D.

"Neovascularization is a key feature of liver fibrosis progression: anti-angiogenesis as an innovative way of liver fibrosis treatment".

Mol Biol Rep. 2020 Feb 10. doi: 10.1007/s11033-020-05290-0. [Epub ahead of print] Review

Abrami M, Maschio M, Conese M, Confalonieri M, Di Gioia S, Gerin F, Dapas B, Tonon F, Farra R, Murano E, Zanella G, Salton F, Torelli L, Grassi G, Grassi M.

"Use of low field nuclear magnetic resonance to monitor lung inflammation and the amount of pathological components in the sputum of cystic fibrosis patients".

Magn Reson Med. 2019 Dec 1. doi: 10.1002/mrm.28115. [Epub ahead of print]

Castellani S, D'Oria S, Diana A, Polizzi AM, Di Gioia S, Marigiò MA, Guerra L, Favia M, Vinella A, Leonetti G, De Venuto D, Gallo C, Montemurro P, Conese M.

"G-CSF and GM-CSF Modify Neutrophil Functions at Concentrations found in Cystic Fibrosis". Sci Rep. 2019 Sep 10;9(1):12937. doi: 10.1038/s41598-019-49419-z.

Zefferino R, Piccoli C, Gioia SD, Capitanio N, Conese M.

"Gap Junction Intercellular Communication in the Carcinogenesis Hallmarks: Is This a Phenomenon or Epiphenomenon?"

Cells. 2019 Aug 14;8(8). pii: E896. doi: 10.3390/cells8080896. Review.

Conese M, Cassano R, Gavini E, Trapani G, Rassa G, Sanna E, Di Gioia S, Trapani A.

"Harnessing Stem Cells and Neurotrophic Factors with Novel Technologies in the Treatment of Parkinson's Disease".

Curr Stem Cell Res Ther. 2019;14(7):549-569. doi: 10.2174/1574888X14666190301150210

Castellani S, Di Gioia S, di Toma L, Conese M.

"Human Cellular Models for the Investigation of Lung Inflammation and Mucus Production in Cystic Fibrosis".

Anal Cell Pathol (Amst). 2018 Nov 15;2018:3839803. doi: 10.1155/2018/3839803. eCollection 2018. Review.

Conese, M., Beccia, E., Castellani, S., Di Gioia, S., Corti, F., Angiolillo, A., Colombo, C.

"The role of stem cells in cystic fibrosis disease modeling and drug discovery".

(2018) Expert Opinion on Orphan Drugs, 6 (12), pp. 707-717

Stefano Castellani; Adriana Trapani; Anna Spagnoletta; Lorena di Toma; Thea Magrone; Sante Di Gioia; Delia Mandracchia; Giuseppe Trapani; Emilio Jirillo; Massimo Conese  
"Nanoparticle delivery of grape seed-derived proanthocyanidins to airway epithelial cells dampens oxidative stress and inflammation".  
J Transl Med. 2018 May 23;16(1):140. doi: 10.1186/s12967-018-1509-4.

De Leo V, Ruscigno S, Trapani A, Di Gioia S, Milano F, Mandracchia D, Comparelli R, Castellani S, Agostiano A, Trapani G, Catucci L, Conese M.

"Preparation of drug-loaded small unilamellar liposomes and evaluation of their potential for the treatment of chronic respiratory diseases".

Int J Pharm. 2018 Apr 17. pii: S0378-5173(18)30247-3. doi: 10.1016/j.ijpharm.2018.04.030. [Epub ahead of print]. PMID: 29678545

Annalucia Carbone, Roberto Zefferino, Elisa Beccia, Valeria Casavola, Stefano Castellani, Sante Di Gioia, Valentina Giannone, Manuela Seia, Antonella Angiolillo, Carla Colombo, Maria Favia, and Massimo Conese

"Gap Junctions Are Involved in the Rescue of CFTR-Dependent Chloride Efflux by Amniotic Mesenchymal Stem Cells in Coculture with Cystic Fibrosis CFBE41o- Cells"

Stem Cells International Volume 2018 (2018), Article ID 1203717, 14 pages

Di Gioia S, di Toma L, Castellani S and Conese M

"Inflammatory Response in Acute Lung Injury: A Comparison between Intratracheal and Intubation Administration of P. Aeruginosa Lipopolysaccharide"

J Pulmon Respir Sci Volume 3 Issue 1 February 13, 2018

Conese M, Beccia E, Castellani S, Di Gioia S, Colombo C, Angiolillo A, Carbone A. "The long and winding road: stem cells for cystic fibrosis".  
Expert Opin Biol Ther. 2018 Mar;18(3):281-292. doi: 10.1080/14712598.2018.1413087. Epub 2017 Dec 8. PMID: 29216777

Abrami M, Ascenzioni F, Di Domenico Eg, Maschio M, Ventura A, Confalonieri M, Di Gioia S, Conese M, Dapas B, Grassi G, Grassi M.

"A novel approach based on low-field NMR for the detection of the pathological components of sputum in cystic fibrosis patients".

Magnetic Resonance In Medicine, ISSN: 0740-3194, doi: 10.1002/mrm.26876

Massimo Conese, Silvia Amedea Tirelli , Gianfranco Alicandro , Sante Di Gioia , Annalucia Carbone , Stefano Castellani and Carla Colombo

"Biomarkers of Inflammation and Remodelling in Cystic Fibrosis" Clinical Immunology, Endocrine & Metabolic Drugs, 2017, 3, 92-108

Castellani S, Favia M, Guerra L, Carbone A, Abbattiscianni AC, Di Gioia S, Casavola V, Conese M

"Emerging relationship between CFTR, actin and tight junction organization in cystic fibrosis airway epithelium".

Histol Histopathol. 2017 May;32(5):445-459. doi: 10.14670/HH-11-842. Epub 2016 Nov 11. Review.

Di Gioia S., Sardo C., Castellani S., Porsio B., Belgiovine G., Carbone A., Giammona G., Cavallaro G., Conese M.

"From genesis to revelation: The role of inflammatory mediators in chronic respiratory diseases and their control by nucleic acid-based drugs".

Current Drug Delivery, vol. 14, p. 253-271, (2017) ISSN: 1567-2018, doi: 10.2174/1567201813666160824142843

Carbone, A; Valente, M; Annacontini, L; Castellani, S; Di Gioia, S; Parisi, D; Rucci, M; Belgiovine, G;

Colombo, C; Di Benedetto, A; Mori, G; Lo Muzio, L; Maiorella, A; Portincasa, A; Conese, M

"Adipose-derived mesenchymal stromal (stem) cells differentiate to osteoblast and chondroblast lineages upon incubation with conditioned media from dental pulp stem cell-derived osteoblasts and auricle cartilage chondrocytes"

Regulators&Homeostatic Agents, vol.30, p.111-122, ISSN:0393-974X

Di Gioia S, Conese M

"Hopes for Curing Cystic Fibrosis Lung Disease by Non-Viral Gene Therapy". Open Access Journal Of Pulmonary & Respiratory Sciences, vol. 1(2016).

Castellani S, Orlando C, Carbone A, Di Gioia S, Conese M.

"Magnetofection Enhances Lentiviral-Mediated Transduction of Airway Epithelial Cells through Extracellular and Cellular Barriers".

Genes (Basel). 2016 Nov 23;7(11).

Craparo EF, Di Gioia S, Trapani A, Cellamare S, Belgiovine G, Mandracchia D, Giammona G, Cavallaro G, Conese M .

"Realization of polyaspartamide-based nanoparticles and in vivo lung biodistribution evaluation of a loaded glucocorticoid after aerosolization in mice".

International journal of pharmaceuticals, vol. 510, p. 263-270,(2016) ISSN: 0378-5173, doi: 10.1016/j.ijpharm.2016.06.042.

Di Gioia Sante, Sardo Carla, Belgiovine Giuliana, Triolo Daniela, D'Apolito Maria, Castellani Stefano, Carbone Annalucia, Giardino Ida, Giammona Gaetano, Cavallaro Gennara, Conese Massimo .

"Cationic polyaspartamide-based nanocomplexes mediate siRNA entry and down-regulation of the pro-inflammatory mediator high mobility group box 1 in airway epithelial cells."

International journal of pharmaceuticals, vol. 491, p.359-366, ISSN: 0378-5173, doi: 10.1016/j.ijpharm.2015.06.017

Di Gioia S, Trapani A, Mandracchia D, De Giglio E, Cometa S, Mangini V, Arnesano F, Belgiovine G, Castellani S, Pace L, Lavecchia A M, Trapani G, Conese M, Puglisi G, Cassano T.

"Intranasal delivery of dopamine to the striatum using glycol chitosan/sulfobutylether- $\beta$ -cyclodextrin based nanoparticles."

European Journal Of Pharmaceutics And Biopharmaceutics, vol. 94, p. 180-193, ISSN: 0939-6411, doi:10.1016/j.ejpb.2015.05.019

Di Gioia S, Trapani A, Castellani S, Carbone A, Belgiovine G, Craparo E.F, Puglisi G, Cavallaro G, Trapani G, Conese M (2015).

“Nanocomplexes for Gene Therapy of Respiratory Diseases: Targeting and Overcoming the Mucus Barrier”.

Pulmonary Pharmacology & Therapeutics, vol. 34, p. 8-24, ISSN: 1522-9629, doi: 10.1016/j.pupt.2015.07.003