



I, the undersigned, ask to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Department of Health Science**.

Scientist- in - charge: **Prof. Giulia Marchetti**

[Mariangela Natale]

## CURRICULUM VITAE

### PERSONAL INFORMATION

Surname	Natale
Name	Mariangela
Date of birth	[06/10/1988]

### PRESENT OCCUPATION

Appointment	Structure
Unemployed PhD student	

### EDUCATION AND TRAINING

Degree	Course of studies	University	Year of achievement of the degree
Bachelor Degree	Biological Science	Alma Mater Studiorum, University of Bologna	2011
Master Degree	Cellular and Molecular Biology	Alma Mater Studiorum, University of Bologna	2014
Specialization			
PhD	Experimental Biology and Biomedicine (specialization in oncobiology)	University of Coimbra (Portugal)	Expected date of defence: from December 2020 to February 2021.
Master			
Degree of medical specialization			
Degree of European specialization			
Other			



## REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
2017	European Respiratory Society (ERS)	London
2015	Marie Curie Alumni Association (MCAA)	Brussels

## FOREIGN LANGUAGES

Languages	Level of knowledge
Italian	Mother tongue
English	Advanced
Portuguese	Intermediate

## AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2017	Cash Award as Invited Student to European Respiratory Society (ERS) conference and 15 credits to ERS. Conference title: Mechanistic overlap between chronic lung injury and lung cancer. Estoril (Portugal).
2016	Fellowship Award from Foundation for Science and Technology (FCT). Lisbon (Portugal). Fellowship number SFRH/BD/116646/2016.
2015	One-Time Trainee Cash Award. MD Anderson Cancer Center, Houston (Texas).
2014	Marie Curie Fellowship as part of the EU-funded project Cancer Associated Fibroblasts (CAF) Function in Tumor Expansion and Invasion (CAFFEIN), Grant number: 316610. European Commission, Copenhagen, (Denmark).
2014	Acknowledgements for technical help in published paper: <i>Mitochondrial DNA genotyping efficiently reveals clonality of synchronous endometrial and ovarian cancers (Guerra et al., 2014)</i>

## TRAINING OR RESEARCH ACTIVITY

The focus of my PhD work was on evaluating molecular and cellular mechanisms responsible for the increased incidence of lung cancer (LC) in patients with idiopathic pulmonary fibrosis (IPF). At the University of Coimbra, I learned human histology analysis and optimized a protocol, using fluorescence-activated sorting (FACS), for detecting cell populations using two liquid biopsies (PBMCs and BAL) from patients affected with different Interstitial Lung Diseases (ILDs). At MD Anderson Cancer Center, I was trained to work and characterize transgenic mouse (GEM) models. I generated a new GEM model to study the effect of a human epigenetic deregulated gene, associated with IPF and LC. I also assisted in various types of mouse surgery, including intratracheal injections of bleomycin, orthotopic injections of pancreatic cancer cells into the pancreas, and retro-orbital injections of cancer cells. In addition, I learned mouse histology and molecular biology techniques from DNA analysis to qPCR, cell culture and different *in vitro* assays as metabolic activity, ELISA and cytokine arrays. Finally, at MD Anderson, I improved my oral communications at internal and Department meetings, gaining a strong confidence in scientific exposition. As a student in training during the bachelor and master degree in Cellular and Molecular Biology I was involved respectively in two projects: the evaluation of Nuclear Mitochondrial



Sequences (Numts) analysis for human phylogenetic reconstruction and the role of mitochondrial DNA mutations in chemo-resistance of ovarian cancer patients. As a student in training, I learned basic molecular biology techniques, from DNA/RNA and protein extraction, to cell culture, *in vitro* assays, Sanger-sequencing and bioinformatics programs.

## PROJECT ACTIVITY

Year	Project
2014-2020	Evaluating the role of myofibroblasts in lung fibrosis and cancer progression (PhD project).
2018	Contribution on the role of different fibroblasts populations involved in pancreatic cancer progression (side project within the PhD).
2017	Analysis of cell populations using PBMCs and BAL fluid from patients affected with different Interstitial Lung Diseases (ILDs) (PhD project).
2013	Evaluating the role of mitochondrial DNA mutations in chemo-resistance of ovarian cancer patients (master intern).
2011	The Nuclear Mitochondrial Sequences (Numts) analysis for human phylogenetic reconstruction (bachelor intern).

## PATENTS

Patent

## CONGRESSES AND SEMINARS

Date	Title	Place
Jan 2019	Oral presentation title: Ras activated fibroblasts provoke lung cancer after lung fibrosis.	At the MD Anderson Cancer Center, Cancer Biology and Genomic medicine Departments seminars, Houston (Texas).
Mar 2017	Poster presentation title: Epigenetic unbalance may increase lung cancer incidence in patients affected by idiopathic pulmonary fibrosis.	At the European Respiratory Society Conference "Mechanistic overlap between chronic lung injury and lung cancer", Estoril (Portugal).
Apr 2016	Oral communication title: Myofibroblasts in pulmonary fibrosis and lung cancer microenvironment: do they really look similar?	At the IPO, 2 <sup>ND</sup> ASPIC INTERNATIONAL CONFERENCE, Porto (Portugal).
Oct 2015	Oral communication title: Ras-mediated fibroblast proliferation and lung fibrosis associated with epigenetic modifications provoke spontaneous lung adenocarcinoma.	At the University of Bergen, Department of Biomedicine, Conference "The tumor stroma: friend or foe?", Bergen (Norway).
May 2015	Poster presentation title: Understanding the role of activated fibroblasts in lung fibrosis and lung cancer	At Global Academic Programs Annual Conference, MD Anderson Cancer Center, Houston (Texas).

## PUBLICATIONS



Books

[title, place, publishing house, year ...]

Articles in reviews

Co-author in article under review in Cancer Discovery journal (unpublished): [Identification of Functional Heterogeneity of Carcinoma-Associated Fibroblasts with Distinct Tumor-Restraining and Tumor-Promoting Properties in Pancreatic Cancer; Cancer Discovery; J. Darlpoor., MD Anderson Cancer Center, Cancer Biology Department]

First author in manuscript under review by the authors (unpublished): [Ras-mediated fibroblasts proliferation and lung fibrosis associated with epigenetic modifications provoke spontaneous lung adenocarcinoma; M. Natale., MD Anderson Cancer Center, Cancer Biology Department., University of Coimbra, Vector and Gene Therapy Department, University of Gottingen, Department of Nephrology and Rheumatology]

Congress proceedings

[Epigenetic unbalance may increase lung cancer incidence in patients affected by idiopathic pulmonary fibrosis., at the European Respiratory Society Conference titled: Mechanistic overlap between chronic lung injury and lung cancer., Estoril (Portugal), Mar 2017]

[Myofibroblasts in pulmonary fibrosis and lung cancer microenvironment: do they really look similar?., IPO, 2<sup>ND</sup> ASPIC INTERNATIONAL CONFERENCE., Porto (Portugal), Apr 2016]

OTHER INFORMATION

Expert in Zeiss ZEN Microscope, Panoramic Viewer, FlowJo, GrapPad-Prism, Illustrator, EndNote, Word package (Word, Excel, Powerpoint).

Completed and passed the course on Introduction to mice, MD Anderson Cancer Center, 2015

Completed and passed the course on: Molecular Pathology in Medicine VII, Immunomodulation in pulmonary non-tumor diseases & lymphomas, Jul 2017, Portugal

Completed and passed the Transcriptome Analysis Control (TAC) 4.0 training course, Thermo Fisher Scientific, Madrid, Jul 2017

Volunteering at Web Summit, Lisbon, Nov 2017

Completed and passed the Gulbenkian Training Program in Bioinformatics, Portugal 2014

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: Castelli, 13-12-20

SIGNATURE