ALESSIA DONATO

Current address:
e-mail:
Telephone:
Date of birth:
Nationality: Italian

EDUCATION AND TRAINING

November 2025 – to date

Master di I livello in coordinamento e gestione degli studi clinici, Università Degli Studi di Milano (Milan, Italy)

October 2015 – October 2018

PhD Student in Medical Biotechnologies, Laboratory of Molecular Microbiology and Biotechnology, Department of Medical Biotechnologies, University of Siena (Siena, Italy).
Thesis: **Transcriptomic analysis of the human immune response to Vesicular Stomatitis Virus-vectored vaccines**

November 2010 - July 2013

Master's degree in Medical Biotechnologies and Molecular Medicine, University of Milan (Milan, Italy).
Thesis: Functional characterization of miR-634, a microRNA potentially involved in the multiple sclerosis.

September 2006 - October 2010

Bachelor's degree in Biotechnologies University of Florence (Florence, Italy).
Thesis: *marC* and *hisH* genes: new molecular markers for identification and discrimination of bacteria belonging to *Burkholderia* and *Ralstonia* genera.

WORK EXPERIENCE

July 2024 - November 2025

Bioinformatician at Laboratory of Cystic Kidney Disorders, San Raffaele Scientific Institute, Group Leader Dr. Alessandra Boletta
Setting up computational pipelines to analyze and integrate single-cell RNA-seq data, spatial RNA-seq data, and cell-cell communication analysis to characterize polycystic and cancerous kidney samples

December 2023 - July 2024

Post-doctoral Fellow at Dipartimento di Biotecnologie e Bioscienze, University of Milano Bicocca, (Milan, MI). Group Leader: Prof. Francesca Granucci.
Setting up computational pipelines to analyze and integrate single-cell RNA-seq data, spatial RNA-seq data, and cell-cell communication analysis to characterize and identify heterogeneous cellular populations.

December 2022 - November 2023

Post-doctoral Fellow at Dipartimento di Informatica, Sistemistica e Comunicazione, University of Milano Bicocca, (Milan, MI). Group Leader: Prof. Marco Antoniotti. Project: Towards an UNIque approach for artificial intelligence data-driven solutions to fight Childhood cAncer FOR EUrope

June 2019 - June 2022

Post-doctoral Fellow at the Laboratory of Experimental Immunopathology, Humanitas Research Hospital (Rozzano, MI). Group Leader: Prof. Cecilia Garlanda
Setting up computational pipelines to integrate genomic and clinical data to identify inflammatory-related biomarkers and pathways that can be targeted to remodel the tumor microenvironment. Study of single-cell RNA-seq data and cell-cell communication analysis to characterize and identify heterogeneous cellular populations, discover new cell markers and regulatory pathways to better

understand the immune response in the tumor microenvironment.

October 2018 - June 2019

Internship at the Laboratory of Molecular Microbiology and Biotechnology (LAMMB), Department ofMedical Biotechnologies, University of Siena (Italy). Group Leader: Prof. G. Pozzi
Bioinformatic analysis of next generation sequencing data, to study blood immune response after vaccination

October 2015 - October 2018

PhD student in Medical Biotechnologies, University of Siena (Italy.)
Laboratory of Molecular Microbiology and Biotechnology (LAMMB), Department of Medical Biotechnologies, University of Siena (Italy). Group Leader: Prof. G. Pozzi
Next generation sequencing data analysis using R package to study gene expression and to perform gene set enrichment analysis. Study of the blood immune response after vaccination. Characterization of gene expression profile and predictive genes of the immune response. Blood RNA extraction from PaxGene tubes (QIAGEN), library preparation and sequencing on Ion Proton instrument.

February 2015 - October 2015

Internship at the Laboratory of Molecular Microbiology and Biotechnology (LAMMB), Department of Medical Biotechnologies, University of Siena (Italy)
Bioinformatic analysis of next generation sequencing data from Illumina and Ion Proton sequencer.

October 2012 - July 2013

Pre-Master's Degree training, Department of Medical Biotechnology and Translational Medicine, University of Milan (Italy)
Functional characterization of the miRNA 634 with several target genes, using luciferase assay.

May 2010 - September 2010

Pre-Bachelor's Degree training, Department of Evolutionistic Biology, University of Florence. Development of PCR assay to discriminate two bacterial strain.

LANGUAGES

Mother tongue: Italian

SCIENTIFIC ENGLISH

Reading skills - Excellent
Writing skills - Good
Verbal skills – Good

BIOINFORMATIC SKILLS

Proficient user of Microsoft Office tools
Advanced user of R and R software for NGS data (Bioconductor, edgeR, DESeq2, limma, CEMitool, WGCNA) and graphic packages (ggplot2, circlize)
Advanced user of R and R software for NGS-Single Cell analysis data and spatial RNA seq data (Seurat, SingleR, NicheNet, Velocyto.R, CellChat)
Proficient user of database like NCBI, UCSC, KEGG, Gene Ontology, GSEA, cBioPortal)
Basic user of Python (scanpy)

LABORATORY SKILLS

Isolation and quantification of DNA and RNA
Next generation sequencing and library preparation
Working experience with mammalian cell cultures

TEACHING EXPERIENCE

2016-2019: Supervision of students for their research activities in the laboratory.

TRAINING COURSE

20-25 October 2024 -Roscoff – **SinceIITE 5th Workshop in Single cell Data Analyses: Transcriptomics, Spatial, and Long Reads.** Institut Francais de Bioinformtique (IFB)

28-29 November 2019 Bern -: **NGS - Single-cell RNA-Seq Analysis,** Swiss Institute of Bioinformatics, Bern (Switzerland)

11-16 June 2017: CSAMA, **Statistical Data Analysis for Genome Scale Biology**, Bressanone (Bolzano, Italy)

9-11 November 2015: Alta Formazione Insubria, **Basic NGS procedures** Busto Arsizio (Varese, Italy)

NATIONAL AND INTERNATIONAL CONGRESSES

23-26 May 2022 **SIICA** (Società Italia di Immunologia Immunologia Clinica e Allergologia) XIII national congress, Napoli (Italy). Selected for poster presentation
Title: Cell-cell communication analysis: a new attractive weapon to investigate the immune cells ligand-receptor interplay in a tumor microenvironment.
Alessia Donato, Sarah Mapelli, Domenico Supino, Roberta Carriero, Joanna Mikulak, Domenico Mavilio, Cecilia Garlanda

1-3 October 2018 **ADITEC** (Advanced Immunization Technologies) meeting, Siena (Italy)

17-20 September 2018 **Genome Informatics Conference**, Wellcome Genome Campus, Hinxton (Cambridge, UK) Selected for poster presentation.

Title: Transcriptomic analysis of the blood immune response to the rVSV-ZEBOV Ebola vaccine Alessia Donato, Alice Gerlini, Simone Lucchesi, Sara Sorgi, Donata Medaglini, Gianni Pozzi, Francesco Santoro

2-5 September 2018 **ECI 5th European Congress of Immunology**, Amsterdam (Netherlands)Selected for poster presentation.
Title: Transcriptomic analysis of the blood immune response to the rVSV-ZEBOV Ebola vaccine Francesco Santoro, Alessia Donato, Alice Gerlini, Simone Lucchesi, Sara Sorgi, Marielle C. Haks, Angela Huttner, Ali M. Harandi, Thomas Monath, Tom H. M. Ottenhoff, Claire-Anne Siegrist, Gianni Pozzi, Donata Medaglini; VSV-EBOVAC and VSV-EBOPLUS Consortia.

14-16 March 2018 **VSV-EBOVAC and VSV-EBOPLUS Annual Meeting**, Camogli (Genova, Italy)

20-21 October 2017 **5th Italian experience in biomedical research: young minds at work**, Desenzano del Garda (Brescia, Italy)
Selected for oral presentation.
Title: Transcriptomic analysis of the immune response to rVSV-ZEBOV vaccination.
Alessia Donato, Alice Gerlini, Simone Lucchesi, Sara Sorgi, Donata Medaglini, Gianni Pozzi, Francesco Santoro

1-2 March 2016 **VSV-EBOVAC Annual Meeting**, Wien (Austria)

ARTICLES IN INTERNATIONAL JOURNALS

Gonçales RA, Bastos HN, Duarte-Oliveira C, Antunes D, Sokhatska O, Jacob M, Rolo R, Campos CF, Sasaki SD, **Donato A**, Mapelli SN, Costa S, Moura CS, Delgado L, Morais A, Torrado E, van de Veerdonk FL, Weichhart T, Lambris JD, Silvestre R, Garlanda C, Mantovani A, Cunha C, Carvalho A. Pentraxin 3 Inhibits Complement-driven Macrophage Activation to Restrain Granuloma Formation in Sarcoidosis. Am J Respir Crit Care Med. 2022 Nov 1;206(9):1140-1152. doi: 10.1164/rccm.202112-2771OC. PMID: 35767663; PMCID: PMC9704840.

Magrini E, Di Marco S, Mapelli SN, Perucchini C, Pasqualini F, **Donato A**, de la Luz Guevara Lopez M, Carriero R, Ponzetta A, Colombo P, Cananzi F, Supino D, Reis ES, Peano C, Inforzato A, Jaillon S, Doni A, Lambris JD, Mantovani A, Garlanda C. Complement activation promoted by the lectin pathway

mediates C3aR-dependent sarcoma progression and immunosuppression. Nat Cancer. 2021 Feb;2(2):218-232. doi: 10.1038/s43018-021-00173-0. Epub 2021 Feb 18. PMID: 34505065; PMCID: PMC8425276.

Santoro F, **Donato A**, Lucchesi S, Sorgi S, Gerlini A, Haks MC, Ottenhoff THM, Gonzalez-Dias P, Consortium VE, Consortium VE, Nakaya HI, Huttner A, Siegrist CA, Medaglini D, Pozzi G. Human Transcriptomic Response to the VSV-Vectored Ebola Vaccine. Vaccines (Basel). 2021 Jan 20;9(2):67. doi: 10.3390/vaccines9020067. PMID: 33498214; PMCID: PMC7908976.

ABSTRACT AND POSTER PRESENTATION

Cell-cell communication analysis: a new attractive weapon to investigate the immune cells ligand-receptor interplay in a tumor microenvironment.
Alessia Donato, Sarah Mapelli, Domenico Supino, Roberta Carriero, Joanna Mikulak, Domenico Mavilio, Cecilia Garlanda
SIICA XIII National congress, 23-26 May 2022, Napoli (Italy)

Transcriptomic analysis of the blood immune response to the rVSV-ZEBOV Ebola vaccine
Alessia Donato, Alice Gerlini, Simone Lucchesi, Sara Sorgi, Donata Medaglini, Gianni Pozzi, Francesco Santoro
Genome Informatics Conference**,** 17-20 September 2018, Hinxton (Cambridge, UK)

Transcriptomic analysis of the blood immune response to the rVSV-ZEBOV Ebola vaccine
Francesco Santoro, Alessia Donato, Alice Gerlini, Simone Lucchesi, Sara Sorgi, Marielle C. Haks, Angela Huttner, Ali M. Harandi, Thomas Monath, Tom H. M. Ottenhoff, Claire-Anne Siegrist, Gianni Pozzi, Donata Medaglini; VSV-EBOVAC and VSV-EBOPLUS Consortia.
ECI (5th European Congress of Immunology), September 2018, Amsterdam (Netherlands).

Transcriptomics of the immune response: comparison between two different packages for analysis ofdata obtained in a vaccine clinical trial.
Sara Sorgi, Alessia Donato, Alice Gerlini, Simone Lucchesi, Donata Medaglini, Gianni Pozzi, Francesco Santoro
SIM (Italian Society of Microbiology), September 2017, Genova (Italy).

Time course analysis of gene expression in blood cells following vaccination with a live recombinant vesicular stomatitis virus expressing the glycoprotein of Zaire ebolavirus (rVSV-ZEBOV)
Simone Lucchesi, Alessia Donato, Alice Gerlini, Sara Sorgi, Donata Medaglini, Gianni Pozzi, Francesco Santoro
SIM (Italian Society of Microbiology), September 2017, Genova (Italy).

AWARDS AND GRANTS

Travel grant, 5th Italian experience in biomedical research: young minds at work, 2017

Autorizzo il trattamento dei dati personali presenti nel CV ai sensi del D. Lgs. 2018/101 e del GDPR (Regolamento UE 2016/679)

07/04/2026 Firma

