


# CURRICULUM VITAE

## PERSONAL INFORMATION



**Giuseppina Arbore, PhD**

Date of birth 15/03/1986 | Nationality Italian

 *Università Vita-Salute San Raffaele, Via Olgettina 58, Milan (20132), Italy*

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## POSTGRADUATE RESEARCH EXPERIENCE

- From 20/12/2022 **Researcher (RTD-A)** in Biochemistry at *Università Vita-Salute San Raffaele, Milan, Italy*
- 01/2021 – 12/2022 **Principal investigator My first AIRC grant**  
*San Raffaele Hospital and Università Vita-Salute San Raffaele, Milan, Italy*  
*Experimental Immunology Unit*  
*head Dr Paolo Dellabona and Dr Giulia Casorati*  
Research topics: molecular signatures and immune microenvironment in esophageal cancer, translational research and collaboration with clinicians from the Gastrointestinal Surgery Unit and with the bioinformaticians of the Center of OMICs Sciences in San Raffaele Hospital  
Didactic experience: supervision of thesis internship students of the Faculty of Medicine, *Università Vita-Salute San Raffaele- Milan*
- 06/2017 – 12/2020 **Postdoctoral fellow** at *Ospedale San Raffaele - Milan, Italy*  
*Experimental Immunology Unit*
- 10/2012 – 05/2017 **Research fellow and PhD student**  
*King's College London, London, UK - laboratory of Prof. Claudia Kemper*  
Research topics: adaptive immunity in autoimmune diseases and inflammation
- 09/2011 – 03/2012 **Post-Graduate research studentship Leonardo Da Vinci**  
*Unipharma Graduates Programme, European Union funding*  
*Babraham Institute, Cambridge, UK - laboratory of Dr. Elena Vigorito*  
Research topics: role of the miRNA 155 in germinal center B cell maturation in vivo

## EDUCATION AND TRAINING

- 01/12/2016 **PhD in Immunology**  
*King's College London, London, UK - laboratory of Prof. Claudia Kemper*  
Elsevier Outstanding PhD Thesis Prize for the dissertation: "Control of IFN- $\gamma$  response via autocrine activation of the C5a complement receptors and the NLRP3 inflammasome within human T lymphocytes"
- 01/11/2013 **Master of Research - Biomedical and Translational Sciences**  
*King's College London, London, UK*  
Grade: A (distinction)
- 03/12/2010 **Master degree in Medical Biotechnologies and molecular medicine**  
*Università degli studi di Bari Aldo Moro, Bari, Italy - Grade: 110/110 with honours*  
Thesis (supervisor Prof. Graziano Pesole): "Genotyping Epstein-Barr virus in multiple sclerosis patients: amplification of viral genomic regions for pyrosequencing"
- 09/10/2008 **Bachelor degree in Sanitary and Pharmaceutical Biotechnologies**  
*Università degli studi di Bari Aldo Moro, Bari, Italy - Grade: 110/110 with honours*  
Thesis (supervisor Prof. Graziano Pesole): "Bioinformatics analysis of regulatory elements at post-transcriptional level localized in the untranslated regions of mRNAs"
- 07/2005 **Scientific Diploma – Liceo Scientifico Orazio Tedone, Ruvo di Puglia, Italy**  
Grade: 100/100

## OTHER TITLES

- 05/2021-05/2030 **Italian Scientific National Abilitation – Molecular Biology** (abilitation to participate to Italian concourses as associate professor in sector BIO11 – s.c. 05/E2)  
*Italian Ministry of University and Research (MIUR)*
- 12/2020 **Italian National Abilitation exam – Profession Biologist**  
*Università degli studi di Bari Aldo Moro, Bari, Italy – Passed*

## Teaching experiences

- Lectures in Biochemistry courses for Università Vita-Salute San Raffaele (Faculty of medicine)
- Tutoring of high school and university students (including PhD and master thesis supervision)
- Seminars and orientation activity to students from university and high schools
- Demonstrations to secondary schools (project "Breakin' Science" Ospedale San Raffaele, Milan)

## GRANTS

12/2022 – ongoing **PNRR Young Researchers MSCA** (Project IMMUNE-ESOCA, 3 years funding)  
01/2021 – 12/2022 **My first AIRC grant** (Project MFAG 24780)  
10/2020 – 03/2021 **L'Oréal UNESCO for Women in Science Italy**  
03/2018 – 05/2020 **Marie Curie Individual Fellowship** (Project IC\_IL\_EC\_2017, grant n 752698)  
06/2017 – 02/2018 **EMBO Long-term fellowship** (ALTF number 1358-2016)  
10/2012 – 09/2016 **MRes & PhD fellowship from the King's Bioscience Institute** (London, UK)  
09/2011 – 03/2012 **Unipharma Graduate European Union research fellowship**

## Research collaborations

- "Defining Predictive Immunodeterminants of response to neoadjuvant Chemoradiation In Oesophageal Adenocarcinoma", project PREDICO, Funded by ERA-NET TRANSCAN-3, coordinator Dr Paolo Dellabona  
- "T-Plex-Capture: Isolation of neoantigen-specific CD8+ T cell receptors for patient-specific immunotherapy in esophageal adenocarcinoma", project T-Plex-EAC, Funded by ERA-NET TRANSCAN-3 – partner Dr. Giulia Casorati  
- "Generation of a soluble ACE2-Ig chimeric molecule to neutralize SARS-CoV" (Principal Investigator Dr Giulia Casorati, Co-PI Prof Massimo Degano and Dr Paolo Dellabona)  
- Genomic characterization of the mutational profile of esophageal epithelia in patients with esophageal cancer who underwent neoadjuvant chemo-radiation therapy (collaboration with Prof Phil Jones, Sanger Institute, Cambridge, United Kingdom)

## PUBLICATIONS – h-index 9 (Scopus ID 56730838300)

**Arbore G**, Albarello L, Bucci G, Punta M, Cossu A, Fanti L, Maurizio A, Di Mauro F, Bilello V, Arrigoni G, Bonfiglio S, Biancolini D, Puccetti F, Elmore U, Vago L, Cascinu S, Tonon G, Rosati R, Casorati G, Dellabona P. Preexisting Immunity Drives the Response to Neoadjuvant Chemotherapy in Esophageal Adenocarcinoma. *Cancer Res.* 2023 Sep 1;83(17):2873-2888. doi: 10.1158/0008-5472.CAN-23-0356. PMID: 37350667

**Arbore G**, Ong VH, Costantini B, Denton CP, Abraham D, Placais L, Blighe K, Mitchell L, Ellis R, Heck S, Nocerino P, Woodruff TM, Kordasti S, Kemper C, Hourcade DE. (2020) Deep phenotyping detects a pathological CD4+ T-cell complosome signature in systemic sclerosis. *Cell Mol Immunol* 17(9):1010-1013. doi: 10.1038/s41423-019-0360-8. PMID: 31974397

**Arbore G**, Henley T, Biggins L, Andrews S, Vigorito E, Turner M, Leyland R. (2019) MicroRNA-155 is essential for the optimal proliferation and survival of plasmablast B cells. *Life Sci Alliance.* 2(3). pii: e201800244. doi: 10.26508/lsa.201800244. PMID: 31097471

**Arbore G**, West EE, Rahman J, Le Friec G, Niyonzima N, Pirooznia M, Tunc I, Pavlidis P, Powell N, Li Y, Liu P, Servais A, Couzi L, Fremeaux-Bacchi V, Placais L, Ferraro A, Walsh PR, Kavanagh D, Afzali B, Lavender P, Lachmann HJ, Kemper C. (2018) Complement receptor CD46 co-stimulates optimal human CD8+ T cell effector function via fatty acid metabolism. *Nat Commun* 9(1):4186. doi: 10.1038/s41467-018-06706-z. PMID: 30305631

Jiménez-Reinoso A, Marin AV, Subias M, López-Lera A, Román-Ortiz E, Payne K, Ma CS, **Arbore G**, Kolev M, Freeley SJ, Kemper C, Tangye SG, Fernández-Malavé E, Rodríguez de Córdoba S, López-Trascasa M, Rugeiro JR. (2018) Human plasma C3 is essential for the development of memory B, but not T, lymphocytes. *J Allergy Clin Immunol* 141(3):1151-1154.e14. doi: 10.1016/j.jaci.2017.09.037. PMID: 29113906

**Arbore G**, Kemper C, Kolev M. (2017) Intracellular complement - the complosome - in immune cell regulation. *Mol Immunol* 89:2-9. – Review doi: 10.1016/j.molimm.2017.05.012. PMID: 28601357

Papin J, Brennand A, **Arbore G**, Hohenstein B, Kamvissi V, Kemper C, Bornstein SR. (2017) Dysregulation of the CD4+ T cells lineage differentiation in dyslipidemic patients and impact of lipoprotein-apheresis treatment: A case study. *Atheroscler Suppl* 30:238-245. doi: 10.1016/j.atherosclerosis.2017.05.046. PMID: 29096844

**Arbore G**, West EE, Spolski R, Robertson AAB, Klos A, Rheinheimer C, Dutow P, Woodruff TM, Yu ZX, O'Neill LA, Coll RC, Sher A, Leonard WJ, Köhl J, Monk P, Cooper MA, Arno M, Afzali B, Lachmann HJ, Cope AP, Mayer-Barber KD, Kemper C. (2016) T helper 1 immunity requires complement-driven, NLRP3 inflammasome activity in CD4+ T cells. *Science.* 352(6292):aad1210. doi: 10.1126/science.aad1210. PMID: 27313051

**Arbore G**, Kemper C. (2016) A novel 'Complement – Metabolism – Inflammasome Triangle' as key regulator of immune cell effector function. *Eur J Immunol* 46(7):1563-1573. – Review doi: 10.1002/eji.201546131. PMID: 27184294

Nakagawa R, Leyland R, Meyer-Hermann M, Lu D, Turner M, **Arbore G**, Phan TG, Brink R, Vigorito E. (2016) MicroRNA-155 controls affinity-based selection by protecting c-MYC+ B cells from apoptosis. *Journal of Clinical Investigation* 126(1):377-88. doi: 10.1172/JCI82914. PMID: 26657861

Kolev M, Dimeloe S, Le Friec G, Navarini A, **Arbore G**, Povolieri GA, Fischer M, Belle R, Loeliger J, Develioglu L, Bantug GR, Watson J, Couzi L, Afzali B, Lavender P, Hess C, Kemper C. (2015) Complement regulates nutrient influx and metabolic reprogramming during Th1 responses. *Immunity* 42:1033-47. doi: 10.1016/j.immuni.2015.05.024. PMID: 26084023

## **COMMUNICATION, ORGANIZATION AND MANAGERIAL SKILLS**

- Goal-oriented, adaptable and determined person with a strong work ethic
- Able to take on leadership roles and work in multi-cultural and high-pressure environments
- Participation to internal and external collaborations with researchers and clinicians
- Public engagement in science: Meet Me Tonight 2019, 2018 (European researcher night, Milan, Italy)
- Participation in fundraising activities - Self Help Africa, Cancer Research UK, Sostieni la Ricerca-Ospedale San Raffaele, Fondazione AIRC per la Ricerca sul Cancro
- Reviewer of scientific articles for Frontiers journals
- Participation to live interviews for RAI television and You tube channel
- Member of "European Association for Cancer Research" (EACR) and "Network Italiano per la Bioterapia dei Tumori" (NIBIT)
- Past member of the "British Society of Immunology" (2014-2017)
- Member of organizing committees for the conferences:
  - Milan Meets Immunology editions 2023, 2022, 2021 and 2019 (Milan, Italy)
  - annual KBI/BRC/MRC PhD retreat 2015 (King's College London, UK)
  - annual DIIID/DTIMB PhD Symposium 2014 (King's College London, UK)

## **INVITED ORAL PRESENTATIONS AT SCIENTIFIC CONFERENCES**

- 2023 CICON Congress (International Cancer Immunotherapy Conference)- Milan, Italy  
EACR annual Congress (European Society of Cancer Research) – Turin, Italy  
Congress "Defence is the Best attack" organized by EACR – Barcelona, Spain
- 2022 SIICA Congress (Società Italiana di Immunologia Clinica e Allergologia)- Naples, Italy  
Ospedale San Raffaele scientific retreat - Baveno, Italy  
e-conference: International Electronic Conference on Cancers (IECC 2022)
- 2021 ESDE (EU Society Diseases Esophagus )- IGCA (International Gastric Cancer) Congress-Milan, Italy  
e-conference: SIC Young Researchers take center stage (Società Italiana Cancerologia)  
e-conference: Alliance against cancer 6th annual meeting
- 2019 EMBO Long-term fellows meeting - Heidelberg, Germany  
Ospedale San Raffaele scientific retreat - Baveno, Italy
- 2016 International Congress of Immunology - Melbourne, Australia  
London Inflammation Network 01/2016 - London, UK
- 2015 European Congress of Immunology - Vienna, Austria

## **LABORATORY SKILLS**

- Cell Culture (Biosafety Level 2, adherent and in-suspension cells), bacteria culture
- Molecular biology (DNA and RNA extraction, PCR and RT-PCR, microarray preparation)
- Protein analysis (production and purification of recombinant proteins, immunoblot, enzymatic assays, transfection, immunostaining, high dimensional flow cytometry, ELISA)
- Handling of clinical samples – solid tissue and whole blood
- Molecular cloning, viral particles production and transduction, in-vivo models
- Confocal and time-lapse microscopy, digital spatial profiling on histology sections (Nanostring)

## **DIGITAL SKILLS**

- Microsoft Office: Word, Excel, PowerPoint
- Programs and softwares: GraphPad Prism, FACSDiva, FlowJo, Image J, Nikon ImageSpace, Integrative Genome Viewer, Blast Alignment tools, Nucleic Acid and Protein structures prediction, MHC Class I epitope prediction, R packages.

I hereby certify that the above information given are true and correct as to the best of my knowledge.  
I hereby authorize the treatment of my personal data for the purpose of recruitment and selection as per Art. 13 Law Decree 196/2003 and the UE General Data Protection Regulation 2016/679.

Giuseppina Arbore  
Milan, 27/09/2023