

Matteo Zoccolillo

Personal Details:

Address: Via Statuto 8, Milano, Italy
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Nationality: Italian
Birth: 23/07/1989

Education:

2012-2015 Master's degree in Biotechnology, Vita-Salute San Raffaele University (Italy), final grade 103/110. Experimental thesis at Center for Translational Genomics and Bioinformatics (CTGB), San Raffaele Hospital (Italy), under supervision of Dr. Lazarević D. : *"Determination of genetic variants associated with prostatic adenocarcinoma in italian people throughout genetic enrichment panel: implication in screening programs"*.

2008-2012 Bachelor's degree in Molecular Biology, University of Pavia (Italy), final grade 96/110. Experimental thesis at PhotoGreen Lab of Department of Chemistry, University of Pavia (Italy), under supervision of Prof. Fagnoni M. : *"Functionalization of oxetane derivatives by Photocatalytic way"*.

Research and professional experience:

2017-present **Università degli studi di Roma Tor Vergata, Phd in Immunologia e Biotecnologie Applicate.**
Position: Phd student

2016-2017 **Telethon Institute for Gene Therapy (HSR-TIGET), headed by Aiuti A., San Raffaele Hospital (Italy)**
Position: Research Fellow

2015 **CTGB, headed by Bianchi ME., San Raffaele Hospital (Italy)**
Position: Junior Research Fellow
Acquired laboratory technical skills:

- Exome Illumina library preparation via Illumina Nextera Rapid Capture Exome Kit and HaloPlex Exome Kit.

Bioinformatic knowledge:

- Exome Analysis;
- Principal Component Analysis, sPLS-Discriminant Analysis;
- Bioinformatics techniques for sequence similarity searching, gene profile clustering, GO-term mapping and SNP analysis;
- Data analysis and visualization using R/Bioconductor.

2013-2015 **CTGB, headed by Stupka E., San Raffaele Hospital (Italy)**
Position: Undergraduate Student
Acquired laboratory technical skills:

- Genomic DNA/FFPE DNA extraction (manually and by Maxwell® Systems - Promega);
- RNA/FFPE RNA extraction (manually and by Maxwell® Systems - Promega);
- Real-Time Quantitative PCR and data analysis;
- Hamilton and Eppendorf Robotics Workstation usage;
- Qubit and Bioanalyzer 2100 usage;
- Target enrichment Illumina library preparation via PCR;
- Fluidigm Access Array Workstation usage;
- Target enrichment Illumina library preparation via Haloplex Enrichment kit (Agilent);
- Sanger Sequencing;
- PCR amplification.

Bioinformatics knowledge:

- Base of Unix Command;
- Sequences and Genomic Features: Annotation, Alignment, Variants detection;
- Gene target enrichment Analysis;
- Base of bpipe (Sadedin S., Rambaldi D.);
- Gene target enrichment panel design;
- Primers design.

2012-2013 **Vita-Salute San Raffaele University (Italy)**

Educational Workshop:

- Tissue engineering: preparation of the joints, selection of cartilage tissue, preparation of the collagenase and incubation with cartilage tissue, isolation and culturing of cartilage cells in bioreactors.

2009-2012 **PhotoGreen Lab of Department of Chemistry, headed by Fagnoni M. University of Pavia (Italy)**

Position: Undergraduate Student

Acquired laboratory technical skills:

- Affinity chromatography column;
- Adsorption chromatography column;
- Thin layer chromatography (TLC);
- Gas chromatography;
- Principles of Nuclear Magnetic Resonance (NMR).

2008-2011 **University of Pavia (Italy)**

Educational Workshop:

- Genomic DNA extraction from bacterial cells, restriction enzymatic digestion, construction restriction map;
- Cloning in an expression vector of a gene isolated by PCR amplification, transformation of bacterial cells with the recombinant vector, selection and analysis of genotypic and phenotypic transformed colonies;
- Crystallization of macromolecules: biological significance of the crystallization of macromolecules, crystallization of lysozyme using the methods of vapour diffusion and mixing;

- Purification of an enzyme (Pyruvate Kinase) for the purpose of quantitative and kinetics analysis;
- Cultures in vitro of mammalian somatic cells: counting and seeding of cells, preparation of chromosome and banding, karyotype analysis, FISH analysis, acquisition and processing of digital images;
- Colture Bacterial: staining and microscopic observation of different microorganisms, antibiogram and MIC;
- Colture in vitro plant cells: vitality assay of Spinach cell, Protoplastizzazione Tests, transformation by *Agrobacterium tumefaciens*;
- Cytochemistry ultrastructural of DNA and RNA in animal and plant cells, ultrastructure of *Agrobacterium tumefaciens*, immunocytochemistry in microscopy housing to factors related to the transcript.

Language Knowledge:

- Italian language, mother tongue;
- English language: Bell Cambridge Course Report 30/10/2015

Reading	B1
Writing	B1
Speaking	B1
Grammar	B1+
Vocabulary	B1+

List of publications:

- 2019 Chiriaco M., Conti F., Di Matteo G., Petricone D., De Luca M., Di Cesare S., Cifaldi C., **Zoccolillo M.**, Serafinelli J., Poerio N., Fraziano M., Brigida I., Rossi P., Aiuti A., Cancrini C., and Finocchi A.
"First case of patient with digenic homozygous mutations in MYD88-CARD9 genes mimicking Hyper IgE syndrome (HIES)".
 Front Immunol. Feb 14;10:130. doi: 10.3389/fimmu.2019.00130. eCollection 2019.
- 2019 Barzaghi F., Minniti F., Mauro M., Bortoli M., Balter R., Bonetti E., Zaccaron A., Vitale V., Omrani M., **Zoccolillo M.**, Brigida I., Cicalese M.P., Degano M., Hershfield M.S., Aiuti A., Bondarenko A.V., Chinello M. and Cesaro S.
"ALPS-Like Phenotype Caused by ADA2 Deficiency Rescued by Allogeneic Hematopoietic Stem Cell Transplantation".
 Front Immunol. Jan 14;9:2767. doi: 10.3389/fimmu.2018.02767. (2019).
- 2019 Cifaldi C., Brigida I., Barzaghi F., **Zoccolillo M.**, Ferradini V., Petricone D., Cicalese M.P., Lazarevic D., Cittaro D., Omrani M., Attardi E., Conti F., Scarselli A., Chiriaco M., Di Cesare S., Licciardi F., Davide M., Ferrua F., Canessa C., Pignata C., Giliani S., Ferrari S., Fousteri G., Barera G., Merli P., Palma P., Cesaro S., Gattorno M., Trizzino A., Moschese V., Chini L., Villa A., Azzari C., Finocchi A., Locatelli F., Rossi P., Sangiuolo F., Aiuti A., Cancrini C., Di Matteo G.
"Targeted NGS Platforms for Genetic Screening and Gene Discovery in Primary Immunodeficiencies".

Front Immunol. May 31;10:1184. doi: 10.3389/fimmu.2019.01184. (2019).

- 2018 Brigida I., **Zoccolillo M.**, Cicalese M.P., Pfajfer L., Barzaghi F., Pavesi L., Scala S., Oleaga Quintas C., Alvarez J.A., Sereni L., Giannelli S., Sartirana C., Dionisio F., Benavides-Nieto M., Basso-Ricci L., Capasso P., Mazzi B., Rosain J., Marcus N., Lee Y.N., Somech R., Degano M., Raiola G., Caorsi R., Picco P., Moncada Velez M., Khourieh J., Arias A.A., Bousfiha A., Issekutz T., Issekutz A., Boisson B., Dobbs K., Villa A., Lombardo A., Neven B., Moshous D., Casanova J.L., Franco J.L., Notarangelo L.D., Scielzo C., Volpi S., Dupré L., Bustamante J., Gattorno M. and Aiuti A.
"T cell defects in patients with ARPC1B germline mutations account for combined immunodeficiency".
Blood Nov 29;132(22):2362-2374. doi: 10.1182/blood-2018-07-863431. (2019).
- 2018 Calbi V., Fumagalli F., Consiglieri G., Penati R., Acquati S., Redaelli D., Attanasio V., Marcella F., Cicalese M.P., Migliavacca M., Barzaghi F., Ferrua F., Assanelli A., Silvani, P., **Zoccolillo M.**, Chidini G., Chiesa R., Arora R., Ciotti F., Sarzana, M., Antonioli G., Baldoli C., Morena F., Martino S., Ardissino G.L., Sora M.G.N., Naldini L., Ciceri F., Aiuti A., Bernardo M.E.
"Use of Defibrotide to help prevent post-transplant endothelial injury in a genetically predisposed infant with metachromatic leukodystrophy undergoing hematopoietic stem cell gene therapy".
Bone Marrow Transplantation Jul;53(7):913-917. Doi: 10.1038/s41409-017-0085-1 (2018)
- 2017 Brigida I., Chiriaco M., Di Cesare S., Cittaro D., Di Matteo G., Giannelli S., Lazarevic D., **Zoccolillo M.**, Stupka E., Jenkner A., Francalanci P., Livadiotti S., Morawski A., Ravell J., Lenardo M., Cancrini C., Aiuti A., Finocchi A.
"Large Deletion of MAGT1 Gene in a Patient with Classic Kaposi Sarcoma, CD4 Lymphopenia, and EBV Infection".
J Clin Immunol. Jan;37(1):32-35. doi: 10.1007/s10875-016-0341-y. (2017).
- 2014 Davide Ravelli, **Matteo Zoccolillo**, Mariella Mella, Maurizio Fagnoni.
"Photocatalytic Synthesis of Oxetane Derivatives by Selective C-H Activation".
Advanced Synthesis & Catalysis 356, 13, 2781-2786, DOI: 10.1002/adsc.201400027 (2014).