Curriculum Vitae dr. Chiara Medaglia

January 2022 - present: Lab Manager of the Genomics Research Center at the Human Technopole (Italy).

2018–2022: Maître assistante at the University of Geneva, in the department of Microbiology and Molecular Medicine.
Research topics:

- Development of broad spectrum antiviral therapies against respiratory viruses.

2015 - 2018: post-doctoral "Sergio Lombroso Fellow" at the Weizmann Institute of Science (Israel).
Host Laboratory: Prof. Ido Amit, Immunology Department, Faculty of Biology.
Research topics:

- Application of single cell RNA-sequencing to the study of innate immune response.
- Immuno-genomics.

2013 - 2015: post-doctoral "Sergio Lombroso fellow" at the Weizmann Institute of Science (Israel).
Host laboratory: Prof. Tsvee Lapidot, Immunology Department, Faculty of Biology.
Research topics:

- Leukemic Stem Cells expansion and motility in the context of Acute Myeloid Leukemia (AML)
- The role of autophagy in leukemic stem cells survival and response to chemotherapy.
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PREGRADE FORMATION

2010 - 2013: PhD program in Production And Safety of Foods of Animal Origin at the Federico II University of Naples.
Research topics:

- Host factors responsible for the susceptibility to *Mycobacterium Bovis* infection
- MicroRNAs in cancer onset and progression

2007 - 2009: M.Sc. studies in Medical Biotechnologies (score: 110/110) at the Federico II University of Naples (Italy).
2004- 2007: B.Sc. studies in Health Biotechnologies (score: 110/110) at the Federico II University of Naples (Italy).

DEGREES

2013: PhD degree in Production And Safety of Foods of Animal Origin at the Federico II University of Naples, Thesis title: "Heterozygosity at the A625C Polymorphic Site of the MyD88 Gene Is Associated with Mycobacterium bovis Infection in Cattle."

2009: M.Sc. studies in Medical Biotechnologies (score: 110/110 and honorable mention) at the Federico II University of Naples.
Thesis title: "In vitro studies of miR34a in neuroblastoma".

2007: B.Sc. studies in Health Biotechnologies (score: 110/110) at the Federico II University of Naples.
Thesis title: "Staphylococcus aureus Bacteriophage resistant strains".

LIST OF PUBLICATIONS

Chiara Medaglia, Arnaud Charles-Antoine Zwygart, Paulo Jacob Silva, Samuel Constant, Song Huang, Francesco Stellacci and Caroline Tapparel.
Interferon lambda delays the emergence of influenza virus resistance to oseltamivir.
***Microorganisms** 2021*

Archana Palika, Antonius Armanious, Akram Rahimi, **Chiara Medaglia**, Matteo Gasbarri, Stephan Handschin, Antonella Rossi, Marie O. Pohl, Idoia Busnadiego, Christian Gübeli, Ravi B. Anjanappa, Sreenath Bolisetty, Benjamin G. Hale, Caroline Tapparel, Francesco Stellacci, Raffaele Mezzenga.
An anti-viral trap made of protein nanofibrils and iron hydroxide nanoparticles.
***Nature Nanotechnology* 2021**

Paola Cuomo, Marina Papaianni, Rosanna Capparelli and **Chiara Medaglia**.
The role of Formyl peptide receptors in permanent and low-grade inflammation: Helicobacter pylori infection as a model.
***International Journal of Molecular Sciences* 2021**

Valeria Cagno, Matteo Gasbarri, **Chiara Medaglia**, Diana Gomes, Sophie Clement, Francesco Stellacci, Caroline Tapparel.
Sulfonated Nanomaterials with Broad-Spectrum Antiviral Activity Extending beyond Heparan Sulfate-Dependent Viruses.
***Antimicrobial Agents Chemotherapy* 2020**

Bost P, Giladi A, Liu Y, Bendjelal Y, Xu G, David E, Blecher-Gonen R, Cohen M, **Medaglia C**, Li H, Deczkowska A, Zhang S, Schwikowski B, Zhang Z, Amit I.
Host-Viral Infection Maps Reveal Signatures of Severe COVID-19 Patients.
***Cell* 2020**

Giladi A, Cohen M, **Medaglia C**, Baran Y, Li B, Zada M, Bost P, Blecher-Gonen R, Meir Salame T, Eyal David, Ronchese F, Tanay A, Amit I.
Dissecting cellular crosstalk by sequencing physically interacting cells.
***Nature Biotechnology* 2020**

Giovanni M, Cutillo V, Giladi A, G. Maganuco C G, **Medaglia C**, Bono E, Di Lucia P, Giustini L, Cristofani C, Linterman M, Pinschewer D D, Kastenmuller W, Amit I, Kuka M, Iannacone M.
Spatiotemporal regulation of type I interferon expression determines the antiviral polarization of CD4+ T cells.
***Nature immunology* 2020**

Bahar Halpern K , Shenhav R , Massalha H ,Toth B , Egozi A, Massasa E E,1 **Medgalia C***, David E, Amir Giladi A, E. Moor A E , Ziv Porat Z, Amit I, and Itzkovitz S.
Paired-cell sequencing enables spatial gene expression mapping of liver endothelial cells.
***Nat Biotechnology* 2018** Nov 1; 36(10): 962–970.
* Surname misspelled, erratum submitted

Cxcl10^{+} monocytes define a pathogenic subset in the central nervous system during autoimmune neuroinflammation.
Giladi A, Wagner LK, Li H, Dörr D, **Medaglia C**, Paul F, Shemer A, Jung S, Yona S, Mack M, Leutz A, Amit I, Mildner A.
***Nature Immunology* 2020**

Giovanni M, Cutillo V, Giladi A, G. Maganuco C G, **Medaglia C**, Bono E, Di Lucia P, Giustini L, Cristofani C, Linterman M, Pinschewer D D, Kastenmuller W, Amit I, Kuka M, Iannacone M.
Spatiotemporal regulation of type I interferon expression determines the antiviral polarization of CD4+ T cells.
***Nature immunology* 2020**

Non-toxic virucidal macromolecules show high efficacy against influenza virus ex vivo and in vivo.
Ozgun Kocabiyik, Valeria Cagno, Laura Sedano, Yoshita Bhide, Joelle Mettier, **Chiara Medaglia**, Bruno D a Costa, Yong Zhu, Samuel Constant, Song Huang, Laurent Kaiser, Wouter L.J. Hinrichs Anke Huckeriede Ronan Le Goffic, Caroline Tapparel, Francesco Stellacci.

***Advanced Science** 2020*

Bahar Halpern K , Shenhav R , Massalha H ,Toth B , Egozi A, Massasa E E,1 **Medgalia C***, David E, Amir Giladi A, E. Moor A E , Ziv Porat Z, Amit I, and Itzkovitz S.
Paired-cell sequencing enables spatial gene expression mapping of liver endothelial cells.
***Nat Biotechnology** 2018*
* Surname misspelled, erratum submitted

Medaglia C, Giladi A, Stoler-Barak L, De Giovanni M, Salame TM, Biram A, David E, Li H, Iannacone M, Shulman Z, Amit I.
Spatial reconstruction of immune niches by combining photoactivatable reporters and scRNA-seq.
***Science** 2017*

Lavin Y, Kobayashi S, Leader A, Amir ED, Elefant N, Bigenwald C, Remark R, Sweeney R, Becker CD, Levine JH, Meinhof K, Chow A, Kim-Shulze S, Wolf A, **Medaglia C**, Li H, Rytlewski JA, Emerson RO, Solovyov A, Greenbaum BD, Sanders C, Vignali M, Beasley MB, Flores R, Gnjatic S, Pe'er D, Rahman A, Amit I, Merad M.
Innate Immune Landscape in Early Lung Adenocarcinoma by Paired Single-Cell Analyses.
***Cell.** 2017*

Contaldi F, Capuano F, Fulgione A, Aiese Cigliano R, Sanseverino W, Iannelli D, **Medaglia C**, Capparelli R.
The hypothesis that Helicobacter pylori predisposes to Alzheimer's disease is biologically plausible.
***Scientific Reports** 2018*

Ludin A, Gur-Cohen S, Golan K, Kaufmann KB, Itkin T, **Medaglia C**, Lu XJ, Ledergor G, Kollet O, Lapidot T.
Reactive oxygen species regulate hematopoietic stem cell self-renewal, migration, and development, as well as their bone marrow microenvironment.
***Antioxidants & Redox Signaling.** 2014*

De Antonellis P, Carotenuto M, Vandenbussche J, De Vita G, Ferrucci V, **Medaglia C**, Boffa I, Galiero A, Di Somma S, Magliulo D, Aiese N, Alonzi A, Spano D, Liguori L, Chiarolla C, Verrico A, Schulte JH, Mestdagh P, Vandesompele J, Gevaert K, Zollo M.
Early targets of miR-34a in neuroblastoma.
***Molecular & Cellular Proteomics** 2014*
Kollet O, Vagima Y, D'Uva G, Golan K, Canaani J, Itkin T, Gur-Cohen S, Kalinkovich A, Caglio G, **Medaglia C**, Ludin A, Lapid K, Shezen E, Neufeld-Cohen A, Varol D, Chen A, Lapidot T.
Physiologic corticosterone oscillations regulate murine hematopoietic stem/progenitor cell proliferation and CXCL12 expression by bone marrow stromal progenitors.
***Leukemia** 2013*

Capparelli R, De Chiara F, Di Matteo A, **Medaglia C**, Iannelli D.
The MyD88 rs6853 and TIRAP rs8177374 polymorphc sites are associated with resistance to human pulmonary tuberculosis.
***Genes Immun.** 2013*

Capparelli R, De Chiara F, Nocerino N, **Medaglia C**, Di Costanzo R, Ramunno L, Capuano F, Casalnuovo F, Di Matteo A, Iannelli D.
Heterozygosity at the A625C Polymorphic Site of the MyD88 Gene Is Associated with Mycobacterium bovis Infection in Cattle.
***Infect Immun.** 2013*

Spano D, Marshall JC, Marino N, De Martino D, Romano A, Scoppettuolo MN, Bello AM, Di Dato V, Navas L, De Vita G, **Medaglia C**, Steeg PS, Zollo M.
Dipyridamole prevents triple-negative breast-cancer progression.

***Clin Exp Metastasis* 2013**

de Antonellis P, **Medaglia C**, Cusanelli E, Andolfo I, Liguori L, De Vita G, Carotenuto M, Bello A, Formiggini F, Galeone A, De Rosa G, Virgilio A, Scognamiglio I, Sciro M, Basso G, Schulte JH, Cinalli G, Iolascon A, Zollo M.
MiR-34a targeting of Notch ligand delta-like 1 impairs CD15+/CD133+ tumor-propagating cells and supports neural differentiation in medulloblastoma.
***PLoS One.* 2011**

Capparelli R, Nocerino N, **Medaglia C**, Blaiotta G, Bonelli P, Iannelli D.
The Staphylococcus aureus peptidoglycan protects mice against the pathogen and eradicates experimentally induced infection.
***PLoS One.* 2011**

Capparelli R, Nocerino N, Lanzetta R, Silipo A, Amoresano A, Giangrande C, Becker K,
Blaiotta G, Evidente A, Cimmino A, Iannaccone M, Parlato M, **Medaglia C**, Roperto S, Roperto F, Ramunno L, Iannelli D.
Bacteriophage-resistant Staphylococcus aureus mutant confers broad immunity against staphylococcal infection in mice.
***PLoS One.* 2010**

Capparelli R, Nocerino N, Iannaccone M, Ercolini D, Parlato M, Chiara M, Iannelli D.
Bacteriophage therapy of Salmonella enterica: a fresh appraisal of bacteriophage therapy.
***J Infect Dis.* 2010**

Capparelli R, Iannaccone M, Palumbo D, **Medaglia C**, Moscariello E, Russo A, Iannelli D.
Role played by human mannose-binding lectin polymorphisms in pulmonary tuberculosis.
***J Infect Dis.* 2009**

Brun R, Urraro C, **Medaglia C**, Russo V, Borzacchiello G, Roperto F, Roperto S.
Lymphoepithelioma-like carcinoma of the urinary bladder in a cow associated with bovine papillomavirus type-2.
***J Comp Pathol.* 2008**

PARTICIPATION TO CONFERENCES

Medaglia C, Kalinkovich A, Itkin T, Nagler A, Lapidot T, Avigdor A
Cathecholamines Differently Regulate Human AML and Normal Hematopoietic Progenitor Cell Motility via miR126 and RGS16.
19th Congress of the European Hematology Association - Milan 2014 June 12–15, 2014 – Poster.

Spatial reconstruction of immune niches by combining photoactivatable reporters and scRNA-seq.
Medaglia C, Giladi A, Stoler-Barak L, De Giovanni M, Salame TM, Biram A, David E, Li H, Iannacone M, Shulman Z, Amit I.
Single Cell Genomic Conference - Weizmann Institute of Science October 16-18, 2017 (Israel) 2017

PATENTS

Antibacterial polymers and method for obtaining them.
Patent Number(s): US2014296442-A1 ; CA2825299-A1 ; WO2014155156-A1
Designed inventors: Fiori M, Nocerino N, Capparelli R, Fulgione A, Van Der Jagt M, **Medaglia C**, Marchetti M, Roveri N, Mercuri R, Lelli M, Rinaldi F.