Curriculum Vitae

1. Personal information

Family name, First name:	Nicoli Francesco
Date of Birth:	August 27th 1985
Place of Birth:	Isola della Scala (VR), Italy
Contact:	+39-328 1539260, nclfnc1@unife.it

Current employment: Associate professor at the Department of Chemical, Pharmaceutical and Agricultural Sciences, University of Ferrara, Italy

2. Experience, Training and Education

May 2024	Associate professor in Microbiology and Medical Microbiology (06/A3-MED/07)
May 2021	National Scientific qualification (ASN) in Microbiology and Medical Microbiology (06/A3-MED/07)
May 2021- April 2024	Researcher (RTD/b), Medical Microbiology, University of Ferrara.
November 2018-Ocotber 2021	Second PhD, Biomedical and Biotechnological sciences, University of Ferrara. Supervisor: Prof. Peggy Marconi
September 2017 – August 2018	Post doc at University of Padua, Department of Molecular Medicine, Padua, Italy. Supervisor: Prof. Antonella Caputo
March 2015- August 2017	Post-doc at INSERM Unit 1135, Paris, France. Supervisor: Dr. Victor Appay
October 2103 – December 2014	Research assistant at the Department of Life Sciences and Biotechnology (SveB), University of Ferrara, Italy. Supervisor: Prof. Riccardo Gavioli
September 2010- September 2013	PhD in Medical research-International Health, Center of International Health – Ludwig Maximilians University – Munich – Germany. Thesis title: "Immunomodulatory properties of the HIV-1 Tat protein". Supervisors: Prof. Thomas Brocker, Dr. Christof Geldmacher, Prof. Riccardo Gavioli
September 2009- September 2010	Fellow at the Department of Biochemistry and Molecular Biology, University of Ferrara, Italy. Supervisor: Prof. Riccardo Gavioli
July 2009	Specialistic 5-years degree in Pharmaceutical Chemistry and Technology at the University of Ferrara with 110/110 cum laude. Title of the thesis: "Pre-clinical

studies on a Tat-based vaccine against HIV-AIDS". Supervisor: Prof. Riccardo Gavioli

3. Publications

1) Age differentially impacts adaptive immune responses induced by adenoviral versus mRNA vaccines against COVID-19.
Dallan B, Proietto D, De Laurentis M, Gallerani E, Martino M, Ghisellini S, Zurlo A, Volpato S, Govoni B, Borghesi M, Albanese V, Appay V, Bonnini S, Llewellyn-Lacey S, Pacifico S, Grumiro L, Brandolini M, Semprini S, Sambri V, Ladell K, Parry HM, Moss PAH, Price DA; RIV Study Group; Caputo A, Gavioli R, **Nicoli F**. Corresponding author, (2024)
Nat Aging.4(8):1121-1136. doi: 10.1038/s43587-024-00644-w.

2) Development of an Oral IgA Response against SARS-CoV-2 Following Immunization with Different COVID-19 Vaccines.
Soffritti I, D'Accolti M, Bini F, Mazziga E, Proietto D, Dallan B, Laurentis M, Ghisellini S, **Nicoli F**, Caselli E. (2023)
Viruses. 15(12):2319. doi: 10.3390/v15122319.

3) Ageing Curtails the Diversity and Functionality of Nascent CD8+ T Cell Responses against SARS-CoV-2
Proietto D, Dallan B, Gallerani E, Albanese V, Llewellyn-Lacey S, Price DA, Appay V, Pacifico S, Caputo A, **Nicoli F***, Gavioli R. Corresponding author, (2023)
***Shared last authorship**
Vaccines (Basel). 11(1):154. doi: 10.3390/vaccines11010154

4) Effects of Sirolimus treatment on patients with β-Thalassemia: Lymphocyte immunophenotype and biological activity of memory CD4+ and CD8+ T cells.
Zurlo M, **Nicoli F**, Proietto D, Dallan B, Zuccato C, Cosenza LC, Gasparello J, Papi C, d'Aversa E, Borgatti M, Scapoli C, Finotti A, Gambari R. (2023)
J Cell Mol Med. 27(3):353-364. doi: 10.1111/jcmm.17655

5) Design, Synthesis and Evaluation of New Multifunctional Benzothiazoles as Photoprotective, Antioxidant and Antiproliferative Agents.
Barbari R, Tupini C, Durini E, Gallerani E, **Nicoli F**, Lampronti I, Baldisserotto A, Manfredini S. (2023)
Molecules. 28(1):287. doi: 10.3390/molecules28010287.

6) PML at mitochondria-associated membranes governs a trimeric complex with NLRP3 and P2X7R that modulates the tumor immune microenvironment.
Missiroli S, Perrone M, Gafà R, **Nicoli F**, Bonora M, Morciano G, Boncompagni C, Marchi S, Lebiedzinska-Arciszewska M, Vezzani B, Lanza G, Kricek F, Borghi A, Fiorica F, Ito K, Wieckowski MR, Di Virgilio F, Abelli L, Pinton P, Giorgi C. (2023)
Cell Death Differ. Nov 30:1-13. doi: 10.1038/s41418-022-01095-9

7) Focus group study on perceptions and information needs regarding vaccines targeting the older population: a cross-country comparison in four European countries.
Wennekes MD, Eilers R, Caputo A, Gagneux-Brunon A, Gavioli R, **Nicoli F**, Vokó Z, Timen A; VITAL Consortium. (2023)

Geroscience. Nov 21:1-17. doi: 10.1007/s11357-022-00682-5

8) Effects of the age of vaccination on the humoral responses to a human papillomavirus vaccine.
Nicoli F, Mantelli B, Gallerani E, Telatin V, Squarzon L, Masiero S, Gavioli R, Palù G, Barzon L, Caputo A. (2022)
NPJ Vaccines. 2022 Mar 15;7(1):37. doi: 10.1038/s41541-022-00458-0.

9) Editorial: The Role of Systemic and Cellular Metabolism on Susceptibility to Infections and Responsiveness to Vaccination
Caputo A, Guzman C, Palmer C, **Nicoli F.** Corresponding author (2022)
Front. Cell. Infect. Microbiol. https://doi.org/10.3389/fcimb.2022.854241

10) Primary immune responses are negatively impacted by persistent herpesvirus infections in older people: results from an observational study on healthy subjects and a vaccination trial on subjects aged more than 70 years old.
Nicoli F, Clave E, Wanke K, von Braun A, Bondet V, Alanio C, Douay C, Baque M, Lependu C, Marconi P, Stiasny K, Heinz FX, Muetsch M, Duffy D, Boddaert J, Sauce D, Toubert A, Karrer U, Appay V. (2022)
EBioMedicine. 76:103852. doi: 10.1016/j.ebiom.2022.103852. Online ahead of print.

11) Possible effects of sirolimus treatment on the long-term efficacy of COVID-19 vaccination in patients with β-thalassemia: A theoretical perspective.
Zurlo M, **Nicoli F**, Borgatti M, Finotti A, Gambari R. (2022)
Int J Mol Med. 49(3):33. doi: 10.3892/ijmm.2022.5088. Epub 2022 Jan 21.

12) Altered Basal Lipid Metabolism Underlies the Functional Impairment of Naive CD8+ T Cells in Elderly Humans.
Nicoli F, Cabral-Piccin MP, Papagno L, Gallerani E, Fusaro M, Folcher V, Dubois M, Clave E, Vallet H, Frere JJ, Gostick E, Llewellyn-Lacey S, Price DA, Toubert A, Dupré L, Boddaert J, Caputo A, Gavioli R, Appay V. Corresponding author (2022)
J Immunol. 208(3):562-570. doi: 10.4049/jimmunol.2100194. Epub 2022 Jan 14.

13) Altered Lipid Profiles and Vaccine Induced-Humoral Responses in Children Living With HIV on Antiretroviral Therapy in Tanzania
Mbuya W, Mwakyula I, Olomi W, Agrea P, **Nicoli F**, Ngatunga C, Mujwahuzi L, Mwanyika P, Chachage M. (2021)
Front Cell Infect Microbiol. 11:721747. doi: 10.3389/fcimb.2021.721747. eCollection 2021.

14) Impaired Priming of SARS-CoV-2-Specific Naive CD8+ T Cells in Older Subjects.
Gallerani E, Proietto D, Dallan B, Campagnaro M, Pacifico S, Albanese V, Marzola E, Marconi P, Caputo A, Appay V, Gavioli R, **Nicoli F** (2021) Corresponding author
Frontiers in Immunology, 12, 693054

15) Use of a Novel Peptide Welding Technology Platform for the Development of B- and T-Cell Epitope-Based Vaccines.

Nicoli F, Pacifico S, Gallerani E, Marzola E, Albanese V, Finessi V, Llewellyn-Lacey S, Price DA, Appay V, Marconi P, Guerrini R, Caputo A, Gavioli R (2021)
Vaccines, 19:526.

16) Old and new coronaviruses in the elderly.
Nicoli F, Paudel D, Solis-Soto MT (2021) Corresponding author
Aging (Albany NY), 13:12295-12296.

17) Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition)
Klionsky et al, (2021)
Autophagy, 17:1-382

18) Age-related decline of de novo T-cell responsiveness as a cause of COVID-19 severity.
Nicoli F, Soli-Soto MT, Paudel D, Marconi P, Gavioli R, Appay V, Caputo A (2020) Corresponding author
GeroScience, 42:1015-1019

19) The TLR9 ligand CpG ODN 2006 is a poor adjuvant for the induction of de novo $CD8^+$ T-cell responses in vitro.
Papagno L, Kuse N, Lissina A, Gostick E, Price DA, Appay V, **Nicoli F**. (2020) Corresponding author
Sci Rep, 10:11620

20) The Tat protein of HIV-1 prevents the loss of HSV-specific memory adaptive responses and favors the control of viral reactivation.
Nicoli F, Gallerani E, Sicurella M, Pacifico S, Cafaro A, Ensoli B, Marconi P, Caputo A, Gavioli R. (2020) Corresponding author
Vaccines, 8:E274

21) Impact of IgA isoforms on their ability to activate dendritic cells and to prime T cells.
Gayet R, Michaud E, **Nicoli F**, Chanut B, Paul M, Rochereau N, Guillon C, He Z, Papagno L, Bioley G, Corthesy B, Paul S. (2020)
Eur J Immunol, online ahead of print

22) A new approach to UV protection by direct surface functionalization of TiO2 with the antioxidant polyphenol dihydroxyphenyl benzimidazole carboxylic acid.
Battistin M, Dissette V, Bonetto A, Durini E, Manfredini S, Marcomini A, Casagrande E, Brunetta A, Ziosi P, Molesini S, Gavioli R, **Nicoli F**, Vertuani S, Baldisserotto A. (2020)
Nanomaterials, 10:231

23) HPV-specific systemic antibody responses and memory B cells are independently maintained up to 6 years and in a vaccine-specific manner following immunization with Cervarix and Gardasil in adolescent and young adult women in vaccination programs in Italy.
Nicoli F, Mantelli B, Gallerani E, Telatin V, Bonazzi I, Marconi P, Gavioli R, Gabrielli L, Lazzarotto T, Barzon L, Palù G, Caputo A. (2020)
Vaccines, 8:26

24) Relationship between vaccination and nutritional status in children: analysis of recent Demographic and Health Surveys.
Solis-Soto MT, Paudel D, **Nicoli F**. (2020)
Corresponding author
Demographic Research, 42:1-14

25) Angry, hungry T-cells: how are T-cell responses induced in low nutrient conditions?
Nicoli F. (2020)
Corresponding author
Immunometabolism, 2:e200004

26) Synthesis and characterization of new multifunctional self-boosted filters for UV protection: ZnO complex with dihydroxyphenyl benzimidazole carboxylic acid.
Battistin M, Durini E, Dissette V, Bonetto A, Marcomini A, Casagrande E, Brunetta A, Ziosi P, Molesini A, Gavioli R, **Nicoli F**, Manfredini S, Vertuani S, Baldisserotto A. (2019)
Molecules, 24:4546

27) In chronic hepatitis C infection, myeloid-derived suppressor cell accumulation and T cell dysfunctions revert partially and late after successful direct-acting antiviral treatment.
Telatin V*, **Nicoli F*,** Frasson C, Menegotto N, Barbaro F, Castelli E, Erne E, Palu G, Caputo A. (2019)
***Shared first autorship**
Front Cell Infect Microbiol, 9:190

28) Synthesis and biological activity of peptide α-ketoamide derivatives as proteasome inhibitors.
Pacifico S, Ferretti V, Albanese V, Fantinati A, Gallerani E, **Nicoli F**, Gavioli R, Zamberlan F, Preti D, Marastoni M. (2019)
ACS Med Chem Lett, 10:1086-1092

29) The STING ligand cGAMP potentiates the efficacy of vaccine-induced $CD8^+$ T cells.
Gutjahr A, Papagno L, **Nicoli F**, Kanuma T, Kuse N, Cabral-Piccin MP, Rochereau N, Gostick E, Lioux T, Perouzel E, Price DA, Takiguchi M, Verrier B, Yamamoto T, Paul S, Appay V. (2019)
JCI Insight, 4:e125107

30) Naïve $CD8^+$ T-cells engage a versatile metabolic program upon activation in humans and differ energetically from memory $CD8^+$ T-cells.
Nicoli F, Papagno L, Frere JJ, Cabral-Piccin MP, Clave E, Gostick E, Toubert A, Price DA, Caputo A, Appay V. (2018)
Corresponding author
Front Immunol, 9:2736

31) Harnessing the induction of $CD8^+$ T-cell responses through metabolic regulation by pathogen-recognition-receptor triggering in antigen presenting cells.
Nicoli F, Paul S, Appay V. (2018)
Corresponding author

Front Immunol, 9:2372

32) The HIV-1 Tat protein affects human $CD4^+$ T-cell programing and activation, and favors the differentiation of naïve $CD4^+$ T cells.
Nicoli F, Gallerani E, Sforza F, Finessi V, Chachage M, Geldmacher C, Cafaro A, Ensoli B, Caputo A, Gavioli R. (2018)
AIDS, 32:575-581

33) Donation programme of returned medicines: role of donors and point of view of beneficiaries.
Nicoli F, Paudel D, Bresciani G, Rodi D, Siniscalchi A. (2018)
Corresponding author
Int Health, 10:133-136

34) Cutting edge: a dual TLR2 and TLR7 ligand induces highly potent humoral and cell-mediated immune responses.
Gutjahr A, Papagno L, **Nicoli F**, Lamoureux A, Vernejoul F, Lioux T, Gostick E, Price DA, Tiraby G, Perouzel E, Appay V, Verrier B, Paul S. (2017)
J Immunol, 98:4205-4209

35) Immunological considerations regarding parental concerns on pediatric immunizations.
Nicoli F, Appay V. (2017)
Corresponding author
Vaccine, 35:3012-3019

36) Association between different anti-Tat antibody isotypes and HIV disease progression: data from an African cohort.
Nicoli F, Chachage M, Podola L, Clowes P, Bauer A, Mgaya O, Kowour D, Ensoli B, Cafaro A, Maboko L, Hoelscher M, Gavioli R, Saathoff M, Geldmacher C. (2016)
Corresponding author
BMC Infect Dis, 16:344

37) Systemic immunodominant CD8 responses with an effector-like phenotype are induced by intravaginal immunization with attenuated HSV vectors expressing HIV Tat and mediate protection against HSV infection.
Nicoli F, Gallerani E, Skarlis C, Sicurella M, Cafaro A, Ensoli B, Caputo A, Marconi PC, Gavioli R. (2016)
Vaccine, 34:2216-24

38) Bystander hyperactivation of preimmune $CD8^+$ T cells in chronic HCV patients.
Alanio C, **Nicoli F**, Sultanik P, Flecken T, Perot B, Duffy D, Bianchi E, Lim A,
Clave E, Buuren MM, Schnuriger A, Johnsson K, Boussier J, Garbarg-Chenon A, Bousquet L, Mottez E, Schumacher TN, Toubert A, Appay V, Heshmati F, Thimme R, Pol S, Mallet V, Albert ML. (2015)
Elife, 4:e07916

39) Effects of different routes of administration on the immunogenicity of the Tat protein and a Tat-derived peptide vaccine.
Finessi V*, **Nicoli F***, Gallerani E, Sforza F, Sicurella M, Cafaro A, Caputo A, Ensoli B, Gavioli R. (2015)

***Shared first autorship**.
Hum Vaccin Immunother, 11:1489-93

40) Different expression of Blimp-1 in HIV infection may be used to monitor disease progression and provide a clue to reduce immune activation and viral reservoirs.
Nicoli F, Sforza F, Gavioli R. (2015)
AIDS, 29:133-4

41) An attenuated Herpes simplex virus type 1 (HSV1) encoding the HIV-1 Tat protein protects mice from a deadly mucosal HSV1 challenge.
Sicurella M, **Nicoli F**, Volpi I, Berto E, Gallerani E, Finessi V, Destro F, Triulzi C, Ensoli B, Manservigi R, Caputo A, Gavioli R, Marconi P. (2014)
PLoS One, 9:e100844

42) HIV-1 Tat affects the programming and functionality of human $CD8^+$ T cells by modulating the expression of T-box transcription factors.
Sforza F*, **Nicoli F***, Gallerani G, Finessi V, Reali E, Cafaro A, Caputo A, Ensoli B, Gavioli R. (2014)
***Shared first authorship**
AIDS, 28:1729-38

43) The HIV-1 Tat protein induces the activation of $CD8^+$ T cells and affects in vivo the magnitude and kinetics of antiviral responses.
Nicoli F, Finessi V, Sicurella M, Rizzotto L, Gallerani E, Destro F, Cafaro A, Marconi P, Caputo A, Ensoli B, Gavioli R. (2013)
PLoS One, 8:e77746

4. International Experiences

- Member of the Center of International Health – Ludwig Maximilians University – Munich – Germany (2013-present)
- Visiting Scientist at INSERM Unit 1135, Paris, France. Supervisor: Dr. Victor Appay (August 2019)
- Selected member of the Young Investigator Program: Elsevier and EJVC (2015-2017)
- Invited speaker at the symposium CIH-connect, at LMU, Munich (February 2016, February 2017 and January 2018)
- Co-chair at 10th Vaccine Congress, 4-7 September 2016, Amsterdam
- Post-doc at INSERM Unit 1135, Paris, France. Supervisor: Dr. Victor Appay (2015-2017)
- PhD in Medical research-International Health, Center of International Health – Ludwig Maximilians University– Munich – Germany (2010-2013)
- Research expedition at Mbeya Medical Research Center (MMRC), Mbeya, Tanzania. Aim: measure frequency and titers of anti-clade B and C Tat antibodies in HIV-chronically infected, therapy naïve, individuals and assess any potential relation between anti-Tat humoral response with progression to AIDS and HIV-related immune dysfunctions (2012).

- Member of the organizing committee of the international symposium: "Fighting the scourge of TB/HIV co-infection, are vaccines and novel diagnostics the solution?", Munich (Germany), March 3rd 2012 (70 participants).
- Workshop "Infections and Immunity", Mbeya Medical Research Center (MMRC), Mbeya, Tanzania (2011)

5. Oral presentations and invited seminars

Role of lipid metabolism in governing T cell activation and senescence
SIICA XIII National Congress 22-25 May 2023, Verona, Italy
(Invited speaker)

Primary immune responses are negatively impacted by persistent herpesvirus infections in older people: results from an observational study on healthy subjects and a vaccination trial on subjects aged more than 70 years old
SIICA XIII National Congress 23-26 May 2022, Naples, Italy
(Oral presentation)

Age-related decline of de novo T cell responsiveness as a cause of COVID-19 severity
Highlights in SARS-CoV-2 infection, Immunity and therapy (SIV-ISV) Online event, 26 November 2021
(invited speaker)

COVID-19 situation in Italy
Public health dialogue (through webinar): International practices on response to Covid 19 pandemic, lessons learnt and recommendations. Nepal public health association, 4 July 2020
(invited presentation)

Metabolic control of T-cell responses
MSD 2020 meeting "Immunity and HIV infection", Paris, France, 30-31 January 2020
(invited speaker)

Poor responsiveness of naïve CD8+ T-cells from elderly individuals is associated to their altered basal metabolism
Nicoli F, Folcher V, Dubois M, Papagno L, Clave E, Vallet H, Frere JJ, Toubert A, Boddaert J, Caputo A, Gavioli R, Appay V
II Joint Meeting of the German Society for Immunology (DGfI) and the Italian Society of Immunology, Clinical Immunology and Allergology (SIICA) , Munich, 10-13 September 2019
(oral presentation)

Metabolic properties of human naive $CD8^+$ T cells
Pasteur Institute of Rome, Italy, 20 June 2019
(invited seminar)

Poor responsiveness of naïve CD8+ T-cells from elderly individuals is associated to their altered basal metabolism
Nicoli F, Folcher V, Dubois M, Papagno L, Clave E, Vallet H, Frere JJ, Toubert A, Boddaert J, Caputo A, Gavioli R, Appay V
7th European Seminar in Virology, Padua, Italy, 14-16 June 2019
(oral presentation)

Premature accelerated ageing in young HIV-infected individuals: global research initiative
Nicoli F.
Conference on tropical medicine and global health, CTM 2019, 4-6 April 2019, Munich, Germany
(oral presentation)

Successful direct-acting antiviral treatment of chronic hepatitis C reverts myeloid-derived suppressor cell accumulation and T cell dysfunctions only partially
Nicoli F, Telatin V, Frasson C, Menegotto N, Barbaro F, Castelli E, Erne E, Palù G, Caputo A.
SIV-ISV 2018, Roma, Italia, 28-30 November 2018.
(oral presentation)

Cooperative control of human naïve CD8+ T cell priming by autophagy and mTOR-dependent glycolysis
Nicoli F, Papagno L, Caputo A, Appay V.
European Congress of Immunology, Amsterdam, The Netherladns, 2-5 September 2018
(oral presentation)

The HIV-1 Tat protein affects human CD4+ T-cell programing and activation, and favors the differentiation of naïve CD4+ T cells
Nicoli F, Gallerani E, Sforza F, Finessi V, Chachage M, Geldmacher C, Cafaro A, Ensoli B, Gavioli R, Caputo A.
6th European seminar in virology (EUSEV), Bertinoro, Italy, 22-24 June 2018
(oral presentation)

Cooperative control of human naïve CD8+ T cell priming by autophagy and mTOR-dependent glycolysis
Nicoli F, Papagno L, Caputo A, Appay V.
Young minds at work, Desenzano, Italy, 20-21 October 2017
(oral presentation)

HIV-1 Tat protein induces naïve $CD4^+$ T cells proliferation, activation and differentiation
Nicoli F, Gallerani E, Sforza F, Finessi V, Chachage M, Geldmacher C, Cafaro A, Ensoli B, Gavioli R, Caputo A
SIV (Italian Society of Virology) national congress, Milan, Italy, 25-28 June 2017
(selected for oral presentation)

Priming T cell responses in old age
Unité Mixte de Recerche (UMR) 1064, Nantes, Francia, September 29, 2016
(invited seminar)

6. Projects

As Principal Investigator (PI)

Title	Funding	Period
Repurposing of PPAR modulators: a novel STrategy to awaken T-cell IMmunity in the Elderly (PAST TIME)	PRIN-Italian Ministry of University ad Research	2023-2025

Adiuvanti peptidici per lo sviluppo di vaccini contro il COVID-19 con efficacia più duratura	FIRD-University of Ferrara	2023-2024
La proteina Tat di HIV-1 e peptidi Tat-derivati come booster universali della risposta ai vaccini e della memoria immunitaria (Tat-UNIBOOSTER)	Bando 5per1000, University of Ferrara	2022-2023
Identification of Causes, Reasons And Solutions for High COVID-19 mortality rate in AGEd populations (CRASH CAGE)	German Academic Exchange Service (DAAD) - Center of International Health - Ludwig Maximilian University (CIH-LMU) (Germania)	2021
Identification of Causes, Reasons And Solutions for High COVID-19 mortality rate in AGEd populations (CRASH CAGE)	German Academic Exchange Service (DAAD) - Center of International Health - Ludwig Maximilian University (CIH-LMU) (Germania)	2020
Understanding AIDS worldwide studying immunopathogenesis and correlates of protection in HIV infection caused by different subtypes (UAW)	German Academic Exchange Service (DAAD) - Center of International Health - Ludwig Maximilian University (CIH-LMU) (Germania)	2019
Premature acceLerated Ageing in Young HIV-infected Individuals: Global researcH initiative (PLAY HIGH)	German Academic Exchange Service (DAAD) - Center of International Health - Ludwig Maximilian University (CIH-LMU) (Germania)	2018

As Co-PI or participant:

Title	Funding	Period	PI
Il metabolismo lipidico dei linfociti T come marcatore della progressione della malattia di HIV	FIRD-University of Ferrara	2023-2024	Prof.ssa Antonella Caputo (Università di Ferrara)
Utilizzo della proteina Tat di HIV-1 e di peptidi Tat-derivati per potenziare la risposta immunitaria indotta dal vaccino contro SARS-CoV-2 in topi adulti e anziani.	Bando 5per1000, University of Ferrara	2023-2024	Dr.ssa Elena Torreggiani (University of Ferrara)
ANTIBIOtic RESidues in Food: a comparative analysis in Bolivia, Italy, Ghana, and Nepal	German Academic Exchange Service (DAAD) - Center of International Health - Ludwig Maximilian University (CIH-LMU) (Germania)	2023-2024	Dr.ssa Maria Teresa Solis-Soto (Universidad San Francisco Xavier de Chuquisaca, Bolivia)
Development of novel vaccines against Herpes simplex virus type 1 and 2	Ricerca Finalizzata- Italian Ministry of Health	2022-2025	Prof. Riccardo Gavioli, (Università di Ferrara) Dr.ssa Barbara Ensoli (ISS, Italy)

Evaluations of Tat and Tat-Env as targets for HIV interventions	Bill and Melinda Gates Foundation	2022-2023	Prof. Riccardo Gavioli, (Università di Ferrara) Dr.ssa Barbara Ensoli (ISS, Italy)
Premature acceLerated Ageing in Young ART-treated HIV-infected Individuals (PLAY ART)	Gilead Fellowship Program	2021-2022	Prof. Riccardo Gavioli, (Università di Ferrara)
NEXT GENERATION ANTIVIRAL AGENTS BASED ON TAT	SPRIND-German Government	2022	Prof. Riccardo Gavioli, (Università di Ferrara) Dr.ssa Barbara Ensoli (ISS, Italy)
Knolewdge Café	German Academic Exchange Service (DAAD) - Center of International Health - Ludwig Maximilian University (CIH-LMU) (Germania)	2020	Dr.ssa Maria Teresa Solis-Soto (Universidad San Francisco Xavier de Chuquisaca, Bolivia)
Vaccines and InfecTious diseases in the Ageing popuLation (VITAL)	Innovative Medicine Initiative (IMI, H2020) EU	2019-2023	Prof. Riccardo Gavioli, (Università di Ferrara) Dr.ssa Debbie Van Baarle (RIVM, Paesi Bassi)
T cell lipid metabolism as marker of HIV disease progression	Gilead Fellowship Program	2019-2021	Prof.ssa Antonella Caputo (Università di Ferrara)
Valutazione delle risposte immuni cellulari protettive contro West Nile Virus	AVIS	2020	Prof. Riccardo Gavioli (Università di Ferrara)
Development of strategies to increase vaccine efficacy in elderly people	Progetto Galileo, Università Italo-Francese/ Université Franco-Italienne	2018-2019	Prof.ssa Antonella Caputo (Università di Ferrara) Dr. Victor Appay (CIMI, Francia)
Priming T cell responses in old age	Agence Nationale de la Recherche (Francia)	2015-2017	Dr. Victor Appay (CIMI, Francia)
Demographic and Health Survey	CIH-LMU (Germania)	2016	Dr.ssa Maria Teresa Solis-Soto (Universidad San Francisco Xavier de Chuquisaca, Bolivia)

Connecting CIH alumni with current scholars for better results and networking	CIH-LMU (Germania)	2015	Dr. Deepak Paudel (Save the Children, Nepal)
Role of Tat in the establishment and maintenance of viral reservoirs: implications for new strategies toward HIV eradication	Gilead Fellowship Program	2013-2014	Prof.ssa Antonella Caputo (Università di Padova)
Ruolo di antigeni di HIV1 nell'attivazione dei linfociti umani	Gilead Fellowship Program	2012-2013	Prof. Riccardo Gavioli (Università di Ferrara)
In vitro and in vivo immunomodulatory effects of the HIV-1 Tat antigen for the development of Tat-based vaccines	Programma Nazionale AIDS	2010-2012	Prof. Riccardo Gavioli (Università di Ferrara)

7. Awards and memberships

2019-present	Member of the Italian Society of Virology (SIV-ISV)
2019-present	Member of the Italian Society of Immunology (SIICA)
2019	Scholarship from the Istituto Universitario di Studi Superiori IUSS-Ferrara 1391
2018	Travel scholarship, 6th European seminar in virology (EUSEV)
2016-2018	Member of the European academy of allergy & clinical immunology
2016-2017	Member of the French Society of Immunology (SFI)
2015	Selected for the Young Investigator Program, managed by the journal Vaccine (Elsevier) and by Edward Jenner Vaccine Society (EJVC).
2013	Immunotools special award
October 2012	Travel scholarship: Italian Centre of Biotechnology
September 2012	Travel scholarship: Spinner (project funded by Emilia Romagna Region and EU)
March-July 2012	Teaching and research assistantship: LMU University (Munich) and German Academic Exchange Service (DAAD)
July 2010	Travel scholarship: Italian Centre of Biotechnology

8. Editorial activity

2023 - present	Guest editor of the Special Issue "Analysis of vaccine-induced adaptive immune responses", Vaccines
2021-present	Reviewer editor of Frontiers in Cellular and Infection Microbiology (section: Virus and host)
2021-2023	Guest editor of the Special Issue "Vaccine Candidate against SARS-CoV-2", Vaccines.
2020-present	Topic advisory panel for Vaccines (Sections: Vaccines against Infectious Diseases; Vaccine Adjuvants; Cellular/Molecular Immunology; DNA and mRNA Vaccines)

2020-present Reviewer editor of Frontiers in Immunology (section: T cell biology)

2020-2022 Guest editor of the Research Topic "Role of systemic and cellular metabolism on susceptibility to infections and responsiveness to vaccination", Frontiers in Cellular and Infection Microbiology

Invited regularly to review manuscripts for journals such as AIDS, AIDS Research and Human Retroviruses, Cell Physiology, Clinical and Experimental Immunology, Clinical and Translational Medicine, Expert Review Vaccines , European Journal of Immunology, Frontiers in cellular and infection microbiology, Frontiers in Immunology, Frontiers in Pharmacology , Future Microbiology, GeroScience, Helyon, Immunity and ageing, Immunoassays and Immunochemistry, Journal of Applied Microbiology, Journal of Leukocyte Biology, NPJ Biofilms, NPJ Vaccines, Scientific Reports, Theranostic,
Vaccine, Vaccines, Viruses, WHO bulletin

Reviewer for the following research programs:
Network fund, CIH-LMU
Sapienza Equipment Funding Committee
Vici-grants (the netheralnds)

9. Teaching activity

2023-present Course of Microbiome and microbiology of health products, Industrial biotechnologies of biopharmaceuticals, cosmetics and nutraceuticals, University of di Ferrara, Italy

2022-present Course of Pharmacoresistance and new therapeutic approaches, School of Medicine, University of di Ferrara, Italy

2022-present Course of Vaccinology, Master degree in Medicinal Chemistry, University of di Ferrara, Italy

2022-present Lecturer for the PhD in “Advanced Therapies and Experimental Pharmacology”, University of di Ferrara, Italy

2022-present Lecturer for the Global Nutrition Course, CIH-LMU, Germany

2021-present Course of Biochemistry of Nutrition, Master degree in Pharmacy, University of di Ferrara, Italy

2021-present Laboratory activities in Microbiology, Bachelor degree in Biological Sciences, University of di Ferrara, Italy

2021-present Laboratory activities in Microbiology, Bachelor degree in Biotechnology, University of di Ferrara, Italy

2019 – 2020 Lecturer for the PhD in “Ecological minds”, University of di Ferrara, Italy

2019 – 2020 Seminars in Microbiology, Bachelor degree in Biological Sciences, University of di Ferrara, Italy

2019 – 2020 Tutor for students in Pharmacy and Medicinal Chemistry, University of di Ferrara, Italy

2019 Biochemistry of Nutrition, specialist degree in Pharmacy, University of di Ferrara, Italy

2018 Seminars in Microbiology, Bachelor degree in Biotechnology, University of di Ferrara, Italy

2016 – 2018 Organizer and lecturer for the workshop “Connect”, for PhD students in International Health, CIH-LMU, Munich, Germany

2012 – 2018 Lecturer for the University of permanent Education, Ferrara, Italy Permanente (UTEF)

2012 – present Supervisor of the following students

- Lab-supervisor/co-tutor of PhD students, University of Ferrara, Italy: 5 students

- Specialistic degree in Pharmacy, University of Ferrara, Italy: 13 students
- Specialistic degree in Medicinal Chemistry, University of Ferrara, Italy: 6 students
- Bachelor degree in Biotechnology and Medical Biotechnology, University of Ferrara, Italy: 21 students
- Bachelor degree in Biological sciences, University of Ferrara, Italy: 5 students
- Bachelor degree in Lab Technician, University of Ferrara, Italy: 1 students
- Master degree in Biomolecular and Cellular Sciences, University of Ferrara, Italy: 2 students
- Master degree in biotechnologies for the environment and health, University of Ferrara, Italy: 2 students
- Master degree in Biomolecular and Evolutionary Sciences, University of Ferrara, Italy: 1 students
- Diplôme Universitaire de Soins Palliatifs – DUSP, Diplôme d'étude universitaire scientifique et technique de BIO-INDUSTRIES et BIOTECHNOLOGIES, Paris Sud University, France: 1 student

10. Research areas of interest

- Immunopathogenesis of infectious diseases
    - Role of viral factors in HIV pathogenesis
    - Studies of mechanisms characterizing the higher susceptibility to infections in elderly populations
    - Characterization of $CD8^+$ T cell dysfunctions in ageing and viral infections
    - Immune restoration after DAA therapy in HCV-infected patients
    - Identification of protective responses toward WNV
    - Role of ADCC in HIV: protection and mechanisms of pathogenesis

- Vaccine development against infectious diseases
    - Preclinical studies on vaccines against HIV-AIDS, HSV-1 and HSV-2
    - Preclinical studies on the use of Tat as adjuvant in vaccination settings
    - Identification of new adjuvant to enhance the priming of $CD8^+$ T cells in against tumours and viral pathogens
    - Study of naïve $CD8^+$ and $CD4^+$ T cells features in physiological and pathological contexts: metabolism, functionality, capability to generate effector and memory responses
    - Identification of new adjuvants to be used for vaccination of elderly subjects

- Role of metabolism on immunopathogenesis and immune control of infectious diseases
    - Immunometabolic properties of T cells of HIV-infected patients
    - Metabolic bases of immune response to infectious diseases and vaccines
    - Immunometabolic properties of T cells of elderly patients

- Immunosenescence
    - SARS-CoV2 specific primary responses in subjects of different age groups
    - B and T cell responses to vaccines and infectious diseases in in aged individual
    - Characterization of intrinsic properties of T cell subsets in elderly individuals

11. Other skills

Language Italian (native), English (Proficient), French (Independent)

Software	Graphpad Prism, BD FACSDiva, FlowJo Software

12. References available on request to:

- Prof. Riccardo Gavioli, University of Ferrara (gvr@unife.it)
- Dr. Victor Appay, INSERM U1135, CIMI-Paris (victor.appay@upmc.fr)
- Prof. Antonella Caputo, University of Padova (antonella.caputo@unipd.it)
- Prof. Thomas Brocker, LMU University, Munich (tbrocker@med.uni-muenchen.de)
- Dr. Barbara Ensoli, National AIDS center, Rome (barbara.ensoli@iss.it)
- Dr. Christof Geldmacher, LMU University, Munich (geldmacher@lrz.uni-muenchen.de)