

CURRICULUM VITAE



PERSONAL INFORMATION

First name and surname

Stefano Augusto Maria Biressi

E-mail

Web page

WORK EXPERIENCES

• 2017–present

INSTITUTION	POSITION	FIELD OF STUDY/ACTIVITY
UNIVERSITY OF TRENTO, ITALY	ASSOCIATE PROFESSOR	REGENERATIVE MEDICINE CELLULAR DYNAMICS DURING PATHOPHYSIOLOGICAL MUSCLE REGENERATION

• 2015-present

DULBECCO TELETHON INSTITUTE, ITALY	PRINCIPAL INVESTIGATOR	DEFECTIVE REGENERATION IN DYSTROPHIES MOLECULAR MODIFIERS OF MUSCULAR DYSTROPHY PROGRESSION
------------------------------------	------------------------	--

• 2015-2017

UNIVERSITY OF TRENTO, ITALY	ASSISTANT PROFESSOR	STEM CELL HETEROGENEITY SUBPOPULATIONS OF MYOGENIC PROGENITORS DURING DEVELOPMENT AND REGENERATION
-----------------------------	---------------------	---

• 2012-2014

STANFORD UNIVERSITY, USA	RESEARCH ASSOCIATE	FIBROSIS AND MUSCULAR DYSTROPHIES CELLULAR AND MOLECULAR MECHANISMS OF FIBROSIS IN DUCHENNE MUSCULAR DYSTROPHY
--------------------------	--------------------	---

• 2007-2012

STANFORD UNIVERSITY, USA	POSTDOCTORAL FELLOW	STEM CELL BIOLOGY LINEAGE STUDIES OF THE EMBRYONIC ORIGIN OF ADULT MUSCLE STEM CELLS AND EVALUATION OF THE MOLECULAR MECHANISMS REGULATING SELF-RENEWAL
--------------------------	---------------------	--

EDUCATION AND TRAINING

• 2002-2006

Institution	Degree	Field of Study
DiBiT, S. Raffaele hospital, Milan, Italy/Open University of London, UK	Ph.D.	Cellular and Molecular Biology

• 1995-2001

University of Milan, Italy	B.Sc./M.Sc. with Highest Honors	Pharmaceutical Biotechnology
----------------------------	---------------------------------	------------------------------

PUBLICATIONS

2022

FLORIO F., ACCORDINI S., LIBERGOLI M., **BIRESSI S.** Targeting muscle-resident single cells through *in vivo* electro-enhanced plasmid transfer in healthy and compromised skeletal muscle. *In press in Front Physiology*.

2021

GHZAIEL I, ZARROUK A, NURY T, LIBERGOLI M, FLORIO F, HAMMOUDA S, MÉNÉTRIER F, AVOSCAN L, YAMMINE A, SAMADI M, LATRUFFE N, **BIRESSI S**, LEVY D, BYDLOWSKI SP, HAMMAMI S, VEJUX A, HAMMAMI M, LIZARD G. Antioxidant Properties and Cytoprotective Effect of Pistacia lentiscus L. Seed Oil against 7 β -Hydroxycholesterol-Induced Toxicity in C2C12 Myoblasts: Reduction in Oxidative Stress, Mitochondrial and Peroxisomal Dysfunctions and Attenuation of Cell Death. *Antioxidants*, 10(11):1772 (2021).

- MAGARÒ MS, BERTACCHINI J, FLORIO F, ZAVATTI M, POTÌ F, CAVANI F, AMORE E, DE SANTIS I, BEVILACQUA A, REGGIANI BONETTI L, TORRICELLI P, MAUREL DB, **BIRESSI S***, PALUMBO C*. Identification of Sclerostin as a Putative New Myokine Involved in the Muscle-to-Bone Crosstalk. *Biomedicines*; 9(1):E71. PMID: 33445754 *Equal contribution.
- BAUER J, CUVELIER N, RAGAB N, SIMON-KELLER K, NITZKI F, GEYER N, BOTERMANN DS, ELMER DP, ROSENBERGER A, RANDO TA, **BIRESSI S**, FAGIN JA, SAUR D, DULLIN C, SCHILDHAUS HU, SCHULZ-SCHAEFFER W, ABERGER F, UHMANN A, HAHN H. Context-dependent modulation of aggressiveness of pediatric tumors by individual oncogenic RAS isoforms. *Oncogene*.;40(31):4955-4966.
- SPAGNOLLI G, MASSIGNAN T, et al. Pharmacological inactivation of the prion protein by targeting a folding intermediate. *Commun Biol*.; 4(1):62. PMID: 33437023
- 2020 **BIRESSI S**, FILARETO A, RANDO TA. Stem cell therapy for muscular dystrophies. *J Clin Invest*.;130(11):5652-5664. PMID 32946430
- 2018 KHEIR E, CUSELLA G, MESSINA G, COSSU G, & **BIRESSI S**. Reporter-based Isolation of Developmental Myogenic Progenitors. *Front Physiol*. 2018 Apr 5;9:352. PMID 29674978
- 2017 DE MORRÉE A, VAN VELTHOVEN C, GAN Q, SALVI JS, KLEIN JD, AKIMENKO I, QUARTA M., **BIRESSI S**, & RANDO TA. Stauf1 inhibits MyoD translation to actively maintain muscle stem cell quiescence. *Proc Natl Acad Sci USA*, 114 (43), E8996-9005. PMID 29073096
- 2015 **BIRESSI S** & GOPINATH S. The quasi-parallel lives of satellite cells and atrophying muscle. *Front Aging Neurosci*, 7, 140. PMID 26257645
- 2014 **BIRESSI S**, MYHABARA E, GOPINATH S, CARLIG PMM, & RANDO TA. A Wnt-TGFβ2 axis induces a fibrogenic program in muscle stem cells from dystrophic mice. *Sci Trans Med*, 6 (267), 267ra176. PMID 25520397
- 2013 GEORGE RM*, **BIRESSI S***, BERES B, ROGERS R, GEIGER L, MULIA A, ALLEN ER, RAWLS A, RANDO TA & WILSON-RAWLS J. Numb deficient satellite cells have a regeneration and proliferation defect. *Proc Natl Acad Sci USA*, 110(46), 18549-54. PMID 24170859 *Equal contribution.
- BIRESSI S**, BJORNSON CRR, CARLIG PMM, NISHIJO K, KELLER C, & RANDO TA. Myf5 expression during fetal myogenesis defines the developmental progenitors of adult satellite cells. *Dev Biol*, 379 (2), 195-207. PMID 23639729
- 2011 SOSIO C, BOSCHETTI F, MANGIAVINI L, SCOTTI C, MANZOTTI S, BURAGAS MS, **BIRESSI S**, FRASCHINI G, GIGANTE A, & PERETTI GM. Blood exposure has a negative effect on engineered cartilage. *Knee Surg Sports Traumatol Arthrosc*, 19 (6), 1035-42. PMID 20981535
- 2010 **BIRESSI S**, & RANDO TA. Heterogeneity in the muscle satellite cell population. *Semin Cell Dev Biol*, 21(8), 845-54. Cover figure assigned. PMID 20849971
- BOUTET SC, **BIRESSI S**, IORI K, NATU V, & RANDO TA. Taf1 regulates Pax3 protein by monoubiquitination in skeletal muscle progenitors. *Mol Cell*, 40 (5), 749-61. PMID 21145483
- MESSINA G*, **BIRESSI S***, MONTEVERDE S, MAGLI A, CASSANO M, PERANI L, RONCAGLIA E, TAGLIAFICO E, STARNES L, CAMPPELL CE, GROSSI M, GOLDHAMER DJ, GRONOSTAJSKI RM, & COSSU G. Nfix regulates fetal specific transcription in developing skeletal muscle. *Cell*, 140 (4), 554-66. Commented in *Dev Cell*, 18 (3), 340-1. F1000 factor 12. *Equal contribution. PMID 20178747
- 2009 QUACH NL, **BIRESSI S**, REICHARDT LF, KELLER C, & RANDO TA. Focal adhesion signaling regulates the expression of caveolin 3 and beta1 integrin, genes essential for myoblast fusion. *Mol Biol Cell*, 20 (10), 3422-35. PMID 19458188
- 2008 **BIRESSI S**, MESSINA G, COLLOMBAT P, TAGLIAFICO E, MONTEVERDE S, BENEDETTI L, CUSELLA-DE ANGELIS MG, MANSOURI A, FERRARI ST, TAJBAKHS S, BROCCOLI V, & COSSU G. The homeobox-gene *Arx* is a novel positive regulator of embryonic myogenesis. *Cell Death Differ*, 15 (1), 94-104. PMID 17932502
- CASSANO M*, **BIRESSI S***, FINAN A, BENEDETTI L, OMES C, BORATTO R,

- MARTIN F, ALLEGRETTI M, BROCCOLI V, CUSELLA-DE ANGELIS G, COMOGLIO PM, BASILICO C, TORRENTE I, MICIELI P, COSSU G, & SAMPAOLESI M. Magic-F1, a partial agonist of Met, induces muscle hypertrophy by protecting myogenic progenitors from apoptosis. *PLoS One*, 16 (3), e3223. *Equal contribution. PMID 18795097
- BERGHELLA L, DE BUYSSCHER T, DE ANGELIS L, **BIRESSI S**, FORCALES SV, SIRABELLA D, COSSU G, & WOLD B. MSY-3 represses myogenin during skeletal muscle innervation through a bifunctional conserved DNA motif. *Genes Dev*, 22 (15), 2125-38. PMID 18676817
- 2007 **BIRESSI S**, MOLINARO M, & COSSU G. Cellular heterogeneity during vertebrate skeletal muscle development. *Dev Biol*, 308(2), 281-293. PMID 17612520
- BIRESSI S**, TAGLIAFICO E, LAMORTE G, MONTEVERDE S, TENEDINI E, RONCAGLIA E, FERRARI S, FERRARI ST, CUSELLA-DEANGELIS G, TAJBAKHS S, & COSSU G. Intrinsic phenotypic diversity of embryonic and fetal myoblasts is revealed by genome-wide gene expression analysis on purified cells. *Dev Biol*, 304 (2), 633-51. PMID 17292343
- 2005 SOSIO C, BOSCHETTI F, BEVILACQUA C, MANGIAVINI L, SCOTTI C, BURGAS MS, **BIRESSI S**, FRASCHINI G, GIGANTE A, & PERETTI GM. Effect of blood on the morphological, biochemical and biomechanical properties of engineered cartilage. *Knee Surg Sports Traumatol Arthrosc*, 15 (10), 10251-7. PMID 17497129
- 2002 COSSU G & **BIRESSI S**. Satellite cells, myoblasts and other occasional myogenic progenitors: possible origin, phenotypic features and role in muscle regeneration. *Semin Cell Dev Biol*, 21(8), 845-54. PMID 16118057
- SAMPAOLESI M, **BIRESSI S**, TONLORENZI R, INNOCENZI A, CUSELLA DE ANGELIS MG, & COSSU G. Cell therapy of primary myopathies. *Arch Ital Biol*, 143, 235-242. PMID 16097501
- MARTINENGI S, CUSELLA-DE ANGELIS G, **BIRESSI S**, AMADIO S, BIFARI F, RONCAROLO MG, BORDIGNON C & FALQUI L. Human insulin production and amelioration of diabetes in mice by electrotransfer-enhanced plasmid DNA gene transfer to the skeletal muscle. *Gene Ther*, 9, 1429-1437. PMID 12378405

EDITORIAL COMMITMENTS

Associate Editor: *Frontiers in Physiology*; *Frontiers in Cell and Developmental Biology*

Special Issues organization: "Muscle Stem Cells" in *Journal of Stem Cell Research and Therapy*, 2012; "Methods and applications in striated muscle Physiology" in *Frontiers in Physiology*, 2022.

SCIENTIFIC INTERESTS

The scientific interests of my laboratory are centered along the cellular and molecular mechanisms that are controlling the behavior of stem cells. We are mainly using regenerating skeletal muscle models as well as developing (embryonic) ones. Critically, we are studying these aspects of stem cell biology in different pathophysiological conditions, which include aging and muscular dystrophies. Mice are our elective animal model, but recently we started also to access human specimens.

TEACHING/SUPERVISION

Since 2015, 5 postdocs, 3 PhD students, 7 Master students, 5 Bachelor students

Lecturer (University of Trento): *Function of the Peripheral Nervous System* (Master in biotechnology, 2015-Present, 48 hours/term, in English); *Cell Therapy* (Master in biotechnology, 2019-Present, 16 hours/term, in English); *Molecular mechanism of adaptation to exercise* (Master in Sport Sciences, 2019-Present, 20 hours/term, in Italian); *Physiology of the cells and organisms* (Bachelor in Sciences, 2020-Present, 24 hours/term, in Italian); *Neurodegenerative Diseases* (Master in biotechnology, 2017, 8 hours/term, in English); *Monogenic and polygenic diseases* (Master in biotechnology, 2015-2017, 40 hours/term)

MASSIMO PIZZATO

Virus-Cell Interaction Laboratory
Department of Cellular, Computational and Integrative Biology (CIBIO)
University of Trento
Via Sommarive 9, 38123 Trento – Italy

Current position:

Full Professor, Department of Cellular, Computational and Integrative Biology (CIBIO), University of Trento, Italy.

Previous positions

- 2009 - 2012 Dept. of Microbiology & Molecular Medicine, **University of Geneva**, Switzerland
Lecturer
- 2004 –2009 Dept. of Infectious Diseases, **Imperial College London**, U.K.
Lecturer
- 2001- 2004 Dept. of Histology, Microbiology and Medical Biotechnology, **University of Padova**, Italy
Lecturer (Ricercatore a tempo indeterminato)
- 2000 – 2002, 2004 Dept. of Cancer, Immunology and AIDS, Dana-Farber Cancer Institute, **Harvard Medical School**, USA
Postdoctoral research fellow
- 1999 – 2000 Windeyer Institute of Medical Sciences, **University College London**, U.K.
Postdoctoral Honorary Research Scientist
- 1995 – 1999 **The Institute of Cancer Research** and **GlaxoWellcome**, London, UK.
Ph.D. student
- 1994 – 1995 Dept. of Microbiology, **University of Padova**, Italy
Graduate Research Fellow

Education

- 1999 The Institute of Cancer Research, **University of London**, UK.
Ph.D. in Virology
- 1994 Department of Biology, **University of Padova**, Italy.
B.Sc. in Biological Sciences

Fellowships and Funding

- 2020-2021 VRT Foundation, Cell-based assay development for high throughput screening and identification of antiviral inhibitors for SARS-CoV-2 infection (100,000 EUR)
- 2013-2016 CARITRO Foundation: Human endogenous retrovirus-W (HERV-W/MSRV) in multiple sclerosis: evaluating its contribution to pathogenesis and its use as prognostic biomarker. (215,000 EUR)
- 2012-2016 Marie Curie Career Integration Grant (EU FP7): Understanding molecular mechanisms and pathogenic functions of Nef-like retrovirus infectivity factors. Project number: 322130 (100,000 EUR)
- 2008-2011 co-investigator, NIH R01 AI077412-01A1: Nef Function in HIV Infectivity. (194,400 USD)
- 2010-2011 Marie Curie Intra European Fellowship (EU, FP7): The importance of Nef effects on HIV-1 infectivity for viral pathogenesis. Project number: 237265 (260,000 EUR)

Awards

- 2017 **Pettenkofer Prize** from the **City of Munich, Pettenkofer Foundation**, for research on "Restriction factors against pathogenic viruses"

Patents

- 2020 European patent 20175072.8 "Bacterial outer membrane vesicles carrying coronavirus proteins, method of preparation, composition and use thereof". May 15, 2020
- Pending "A highly susceptible fluorescent reporter cell line to study entry of coronaviruses which use ACE2 as receptor, with retroviral pseudotypes and methods thereof". December 2020

Editorial & Journal Positions

- Editorial Board member of "Virology"
- Guest editor for "mBIO"
- Serving as reviewer for several journals including, (in the last five years): Nature Microbiology, PNAS, Science Advances, Cell Host and Microbes, eLife, Trends in Microbiology, Plos Biology, Scientific reports, Journal of Virology, Retrovirology, Cells, Antimicrobial agents and chemotherapy, Virology, Viruses, Virology Journal, Virus Research, Journal of General Virology, Plos One, FEBS Letters.

Administrative roles

- Current University of Trento
- Teaching coordinator for the University of Trento Medical School (pre-clinical), from 2020
 - Departmental delegate for the internationalization, from 2012.
 - Member of the PhD School committee, from 2014.
- 2004-2009 Imperial College London
- Member of the Graduate School of Life Sciences and Medicine committee.
- 2001-2004 University of Padova, Faculty of Medicine
- Member of the Post-graduate School of Microbiology and Molecular Medicine committee

Languages

Italian: mother tongue.
English: fluent (written and oral).
French: intermediate.
Swedish: basic

Invited seminars (last 5 years)

Invited keynote speeches at international conferences:

- 31st International Conference on Retroviral Pathogenesis, October 2019 (upcoming) Padova, Italy.
- Frontiers in Retrovirology Conference, September 2018, Leuven, Belgium.
- International Symposium "Innate sensing and restriction of human retroviruses", June 2018, Heidelberg, Germany.
- The 15th Awaji International Forum on Infection and Immunity, September 2016, Awaji Island, Japan
- ICAR Conference on AIDS and Antiviral Research, June 2016, Milano, Italy
- Conference on Retroviruses and Opportunistic Infections (CROI), February 2016, Boston, USA,
- Ninth Annual Meeting of the Cambridge Retrovirologists, January 2016, Cambridge, UK
- 1st Kyoto International Symposium on Virus Host Coevolution, September 2014, University of Kyoto, Japan

Other invited talks at International Universities and Institutes

- University College London , London, February 2020, London, UK.
- ICGEB, June 2018, Trieste, Italy.
- Ludwig Maximilian University of Munich, November 2017, Munich, Germany.
- University College London, January 2017, London, UK
- Kumamoto University, September 2016, Kumamoto, Japan.
- Institut Cochin, June 2016, Paris, France.
- Institut Pasteur, March 2016, Paris, France.
- University of Geneva, February 2016, Switzerland.
- Albert Einstein College of Medicine - Yeshiva University, February 2016, New York, USA
- Imperial College London, January, 2016, London, UK
- San Raffaele University, January 2016, Milano, Italy
- University of Heidelberg, September 2015, Germany

Outreach public presentations

- Divulgative presentation "I virus: nemici e amici". January 2017, Muse Science Museum, Trento, Italy.
- Update course "HIV infection" February 2016, Grand Hotel, Trento, Italy
- AIDS-day, Divulgative public presentation. Palazzo della Provincia, December 2015, Trento, Italy.
- TedX Trento, November 2015, Teatro Sociale, Trento, Italy.

Scientific career

1995 – 1999 **The Institute of Cancer Research and GlaxoWellcome**, London, UK.
Ph.D. student, Supervisor: Prof. Robin Weiss. Thesis: Retroviral vectors for gene therapy: characterisation of vector particle-cell interaction and development of novel packaging cell lines.

1999 – 2000 Windeyer Institute of Medical Sciences, **University College London**, U.K
Postdoctoral Honorary Research Scientist

Having witnessed the peak of the AIDS epidemic while I was a student, retrovirus biology has been the interest of my research since the early days of my scientific career, mentored by Robin Weiss, an inspirational scientist who had paved the way for HIV research. As history has amply demonstrated, investigating a virus' interaction with the cell not only benefits the fight against infectious diseases but is also a crucial asset to explore unknown aspects of cell biology. Such double aim has fuelled my desire to investigate the interaction between viruses and cells. During my PhD, followed by a short postdoc, I developed a method to visualize and study single retrovirus particles by immunofluorescence microscopy³⁴. It was the first time fluorescence microscopy was used to visualize single retrovirus particles and has been followed by hundreds of publications in which this notion was applied. This research introduced a paradigm-shifting concept by revealing that retroviruses do not need the cognate receptor or an Env glycoprotein to interact with the cell membrane, since non-specific adhesion mechanisms are instrumental to provide an initial contact with the cells, preceding the binding of the receptor required for fusion. This had an immediate practical consequence on the strategies to create targeted gene therapy retroviral vectors^{25, 27, 30}

2001- 2004 Dept. of Histology, Microbiology and Medical Biotechnology, **University of Padova**, Italy
Lecturer

2000 – 2002, 2004 Dept. of Cancer Immunology and AIDS, Dana-Farber Cancer Institute **Harvard Medical School**, USA
Postdoctoral research fellow

Since my PhD I spent major effort in understanding the mechanism of action of retroviral regulatory factors, focused on one of the most enigmatic: HIV Nef. This multifunctional regulatory protein of primate lentiviruses is a subversive manipulator of the cell, and a crucial pathogenic factor. Several aspects of Nef had been well understood during the early days of HIV research, but its enhancing effect on the infectivity of HIV remained unexplained for more than 20 years. I started to investigate Nef when I joined Heinrich Gottlinger's lab as a post-doc in 2000 where I discovered that it interacts with dynamin 2 and hijacks clathrin-mediated endocytosis, to modulate virus infectivity²⁴. This finding introduced the notion that cellular vesicular trafficking is crucial for the effect of Nef on infectivity and allowed to postulate the existence of a putative cell surface retroviral restriction factor counteracted by Nef via endocytosis.

2004 –2009 Dept. of Infectious Diseases, **Imperial College London**, U.K.
Lecturer

As I continued the search for the putative host restriction factor targeting HIV infection, I discovered that a Nef-like activity on virus particles is not a prerogative unique to primate lentiviruses. Glycosylated Gag, an integral membrane protein of gammaretroviruses, was identified 30 years earlier but had remained orphan of a known function. My research at Imperial College showed that glycosylated Gag is required for intact MLV infectivity and is sufficient to fully replace the activity of Nef on HIV-1 infectivity²⁰. The discovery pinpointed a fascinating example of convergent evolution aimed at counteracting a putative host restriction factor capable of inhibiting diverse retroviruses. The evidence that a common restrictive activity could affect the biology of divergent retroviruses fuelled my determination to pursue its identification.

2009 - 2012

Dept. of Microbiology & Molecular Medicine, **University of Geneva**, Switzerland

Lecturer

I was awarded an Intra-European Marie-Curie Fellowship to continue the hunt for the putative restriction factor as an independent researcher at the University of Geneva. While postulating a link between the Nef activity of virion infectivity and the viral envelope glycoprotein, my studies established that Nef protects HIV from potent and broadly-acting neutralizing antibodies¹⁸. Since I demonstrated that the same activity is also exerted by glycosylated-Gag, this observation exposed a fundamental function of Nef-like infectivity factors with important implications for anti-HIV-1 immunity and AIDS pathogenesis, further boosting my resolution to identify the molecular mechanism at the basis of the effect on virus particles. In parallel, while working in close contact with Jeremy Luban's Lab, I began to investigate cytoplasmic and nuclear restriction of retroviruses by known and unknown cellular factors. To this end I demonstrated the existence of a yet unknown nuclear restrictive activity against retroviruses¹¹ and contributing in exposing the role of TRIM5 as a pathogen recognition receptor¹⁷.

2012-current

Centre for Integrative Biology (CIBIO), **University of Trento**, Italy.

RTD-B researcher and Associate Professor,

As I moved to a tenured position at the University of Trento, I could access crucial resources and technologies allowing me to finally identify the nature of the restriction activity targeted by Nef, which had remained elusive for such a long time. A large-scale transcriptome analysis by massive parallel sequencing was instrumental to identify the highly conserved family of proteins (SERINC), as the inhibitors of retrovirus infectivity counteracted by both lentiviral Nef and gammaretroviral glycosylated Gag¹⁰. Our studies further revealed a third example of a SERINC-counteracting factor (S2), independently evolved within the genome of equine infectious anemia virus (EIAV)⁷, confirming the broad activity and the fundamental role of SERINC proteins.

While this discovery has provided the long-sought answer to one puzzle, it also raised many more questions, given that the cellular function of SERINC remains unknown. My group is now pursuing different lines of research to investigate SERINC's role in immunity against pathogens and their core function within the animal cell, while promoting productive collaborations^{1, 4, 5, 6, 8, 9}. Since 2015, my lab has teamed up with Peter Cherepanov's lab at the Francis Crick Institute in London in the attempt to unveil the molecular structure of the SERINC proteins. At the end of a massive research effort, we succeeded in solving the structure of SERINC by CryoEM, unveiling an unprecedented conformation unique to this protein family and conserved across species, illustrating the molecular basis for the anti-retroviral activity⁴¹.

Publications

1. Pagani I., Demela P., Ghezzi S., Vicenzi E., **Pizzato M.**, and Poli G. Host Restriction Factors Modulating HIV Latency and Replication in Macrophages. *IJMS in press*.
2. Ruggiero A., Piubelli C., Calciano L., Accordini S., Valenti M.T., Dalle Carbonare L., Siracusano G., Temperton N., Tiberti N., Longoni ., **Pizzato M.**, Accordini S., A.M.S.L.V. group, Fantoni T., Lopalco L., Beretta A., Bisoffi Z., Zipeto D. SARS-CoV-2 vaccination elicits unconventional IgM specific responses in naïve and previously COVID 19-infected individuals. *E Biomedicine, EBioMedicine*. 2022;77. <https://doi.org/10.1016/j.ebiom.2022.103888>.
3. Fronza, F., Groff, N., Martinelli, A., Passerini, B.Z., Rensi, N., Cortelletti, I., Vivori, N., Adami, V., Helander, A., Bridi, S., Pancher, M., Greco, V., Garritano, S.I., Piffer, E., Stefani, L., De Sanctis, V., Bertorelli, R., Pancheri, S., Collini, L., Dassi, E., Quattrone, A., Capobianchi, M.R., Icardi, G., Poli, G., Caciagli, P., Ferro, A. and **Pizzato, M.** A Community Study of SARS-CoV-2 Detection by RT-PCR in Saliva: A Reliable and Effective Method. *Viruses*, 14, 313. <https://doi.org/10.3390/v14020313>. (2022)
4. **Pizzato M**, Baraldi C, Boscato Sopetto G, Finozzi D, Gentile C, Gentile MD, Marconi R, Paladino D, Raoss A, Riedmiller I, Ur Rehman H, Santini A, Succetti V and Volpini L. SARS-CoV-2 and the host cell: a tale of interactions. *Frontiers in Virology*, <https://doi.org/10.3389/fviro.2021.815388> (2022)
5. Pattaro C, Barbieri G, Foco L, Weichenberger CX, Biasiotto R, De Grandi A, Fuchsberger C, Egger C, Amon VSC, Hicks AA, Mian M, Mahlknecht A, Lombardo S, Meier H, Weiss H, Rainer R, Dejaco C, Weiss G, Lavezzo E, Crisanti A, **Pizzato M**, Domingues FS, Mascalonzi D, Gögele M, Melotti R, Pramstaller PP. Prospective epidemiological, molecular, and genetic characterization of a novel coronavirus disease in the Val Venosta/Vinschgau: the CHRIS COVID-19 study protocol. *Pathog Glob Health*. 12:1-9. (2021)
6. Diomede L, Baroni S, De Luigi A, Piotti A, Lucchetti J, Fracasso C, Russo L, Bonaldo V, Panini N, Filippini F, Fiordaliso F, Corbelli A, Beeg M, **Pizzato M**, Caccuri F, Gobbi M, Biasini E, Caruso A, Salmona M. Doxycycline Inhibition of a Pseudotyped Virus Transduction Does Not Translate to Inhibition of SARS-CoV-2 Infectivity. *Viruses*. 13(9):1745 (2021)
7. Diehl, W.E.; Guney, M.H.; Vanzo, T.; Kyawe, P.P.; White, J.M.; **Pizzato, M.**; Luban, J. Influence of Different Glycoproteins and of the Virion Core on SERINC5 Antiviral Activity. *Viruses*, 13, 1279. (2021)
8. Dalle Carbonare L, Valenti MT, Bisoffi B, Piubelli C, **Pizzato M**, Accordini S, Mariotto S, Ferrari S, Minoia A, Bertacco J, Li Vigni V, Dorelli G, Crisafulli E, Alberti D, Masino L, Tiberti N, Longoni S, Lopalco L, Beretta L, Zipeto, D. Serology study after BTN162b2 vaccination in participants previously infected with SARS-CoV-2 in two different waves versus naïve. *Commun Med* 1, 38 (2021)
9. Ataollahi N, Broseghini M, Ferreira F, Susana A, **Pizzato M** and Scardi P. Effect of High-Energy Milling on the Dissolution of Anti-HIV Drug Efavirenz in Different Solvents. *ACS Omega* 2021, 2021
10. Rosa A, Pye VE, Graham C, Muir L, Seow J, Ng KW, Cook NJ, Rees-Spear C, Parker E, Silva Dos Santos M, Rosadas C, Susana A, Rhys H, Nans A, Masino L, Roustan C, Christodoulou E, Ulferts R, Wrobel AG, Short CE, Fertleman M, Sanders RW, Heaney J, Spyer M, Kjær S, Riddell A, Malim MH, Beale R, MacRae JI, Taylor GP, Nastouli E, van Gils MJ, Rosenthal PB, **Pizzato M**, McClure MO, Tedder RS, Kassiotis G, McCoy LE, Doores KJ, Cherepanov P. SARS-CoV-2 can recruit a haem metabolite to evade antibody immunity. *Sci Adv*: eabg7607. (2021)
11. Burigotto M, Migliorati D, Mattivi A, Magnani M, Valentini C, Rocuzzo M, Offterdinger M, **Pizzato M**, Schmidt A, Villunger A, Maffini S, Musacchio A, Fava LL. Surveillance of centrosome number requires ANKRD26-mediated recruitment of PIDD1 to centriole distal appendages. *EMBO J*. 2020, Dec 22:e104844 (2020)

12. Toyoda M., Kamori D., Tan T.S., Goebuchi K., Ohashi J., Carlson J., Kawana-Tachikawa A., Gatanaga Y., Oka S., **Pizzato M.**, Ueno T. Impaired ability of Nef to counteract SERINC5 is associated with reduced plasma viremia in HIV-infected individuals. *Scientific Reports*, 10(1):19416 (2020)
13. Pye V.E., Rosa A., Bertelli C., Struwe W., Maslen S., Corey R., Liko I., Hassall M., Mattiuzzo G., Ballandras-Colas A., Nans A., Takeuchi Y., Stansfeld P.J., Skehel M., Robinson C., **Pizzato M.***, Cherepanov P.* "A Bipartite Structural Organization Defines the SERINC Family of HIV-1 Restriction Factors". *Nat Struct Mol Biol* 27 (1), 78-83 (2020)
14. de Sousa-Pereira P, Abrantes J, Bauernfried S, Pierini V, Esteves PJ, Keppler OT, **Pizzato M**, Hornung V, Fackler OT, Baldauf HM. "The antiviral activity of rodent and lagomorph SERINC3 and SERINC5 is counteracted by known viral antagonists". *J Gen Virol*. Feb;100(2):278-288. (2019).
15. Firrito C, Bertelli C, Vanzo T, Chande A, **Pizzato M**. "SERINC5 as a New Restriction Factor for Human Immunodeficiency Virus and Murine Leukemia Virus." *Annu Rev Virol*. 29;5(1):323-340 (2018).
16. Cappelletto E, Firrito C, **Pizzato M**, Rebuffi L, Scardi P. "Mechanical activation of Efavirenz: the effects on the dissolution and inhibitory behaviour". *Pharm Dev Technol*. 23(10):1128-1135 (2018)
17. Schulte B, Selyutina A, Opp S, Herschhorn A, Sodroski JG, **Pizzato M**, Diaz-Griffero. "Localization to detergent-resistant membranes and HIV-1 core entry inhibition correlate with HIV-1 restriction by SERINC5". *Virology*, 515:52-65 (2017)
18. Trautz B, Wiedemann H, Lüchtenborg C, Virginia Pierini V, Kranich J, Glass B, Kräusslich HG, Brocker T, **Pizzato M**, Ruggieri A, Brügger B and Fackler OT. "SERINC5 Restricts HIV-1 Infectivity Without Altering the Lipid Composition and Organization of Viral Particles". *J. Biol. Chem*. 292:13702-13713 (2017).
19. Sood C., Marin M., Chande A., **Pizzato M.** and Melikyan G.B. "SERINC5 Inhibits HIV-1 Fusion Pore Formation by Promoting Functional Inactivation of Envelope Glycoproteins". *J. Biol. Chem*. jbc.M117.777714. (2017).
20. Chande A, Cuccurullo EC, Rosa A, Ziglio S, Carpenter S, **Pizzato M**. "S2 from Equine infectious anemia virus is an infectivity factor which counteracts the retroviral inhibitors SERINC5 and SERINC3". *PNAS*, 113:13197-13202 (2016).
21. Trautz B, Pierini V, Wombacher R, Stolp B, Chase AJ, **Pizzato M**, Fackler OT. "Antagonism of the SERINC5 Particle Infectivity Restriction by HIV-1 Nef Involves Counteraction of Virion-associated Pools of the Restriction Factor." *Journal of virology*. JVI.01246-16 (2016)
22. Heigele A, Kmiec D, Regensburger K, Langer S, Peiffer L, Stürzel CM, Sauter D, Peeters M, **Pizzato M**, Learn GH, Hahn B, Kirchhoff F. "The Potency of Nef-mediated SERINC5 Antagonism Correlates with the Prevalence of Primate Lentiviruses in the Wild", *Cell Host and Microbe*, 20: 381-391 (2016).
23. Rosa A, Chande A, Ziglio S, De Sanctis V, Bertorelli R, Goh SL, McCauley SM, Nowosielska A, Antonarakis SE, Luban J, Santoni FA, **Pizzato M**. "HIV-1 Nef promotes infection by excluding SERINC5 from virion incorporation". *Nature*, 526: 121-7. (2015).
24. **Pizzato M**, McCauley SM, Neagu MR, Pertel T, Firrito C, Ziglio S, Dauphin A, Zufferey M, Berthoux L & Luban J. "Lv4 Is a Capsid-Specific Antiviral Activity in Human Blood Cells That Restricts Viruses of the SIVMAC/SIVSM/HIV-2 Lineage Prior to Integration". *PLoS pathogens* 11, e1005050 (2015).
25. Guipponi M, Chentouf A, Webling KE, Freimann K, Crespel A, Nobile C, Lemke JR, Hansen J, Dorn T, Lesca G, Rylvlin P, Hirsch E, Rudolf G, Rosenberg DS, Weber Y, Becker F, Helbig I, Muhle H, Salzmann A, Chaouch M, Oubaiche ML, Ziglio S, Gehrig C, Santoni F, **Pizzato M**, Langel U & Antonarakis SE. "Galanin pathogenic mutations in temporal lobe epilepsy". *Human molecular genetics* 24, 3082-3091 (2015).

26. Cuccurullo EC, Valentini C & **Pizzato M**. "Retroviral factors promoting infectivity". *Progress in molecular biology and translational science* 129, 213-251 (2015).
27. Basmaciogullari S & **Pizzato M**. "The activity of Nef on HIV-1 infectivity". *Frontiers in microbiology* 5, 232 (2014).
28. Vermeire J, Naessens E, Vanderstraeten H, Landi A, Iannucci V, Van Nuffel A, Taghon T, **Pizzato M** & Verhasselt B. "Quantification of reverse transcriptase activity by real-time PCR as a fast and accurate method for titration of HIV, lenti- and retroviral vectors". *PLoS one* 7, e50859 (2012).
29. Miyamoto T, Nakayama EE, Yokoyama M, Ibe S, Takehara S, Kono K, Yokomaku Y, **Pizzato M**, Luban J, Sugiura W, Sato H & Shioda T. "The carboxyl-terminus of human immunodeficiency virus type 2 circulating recombinant form 01_AB capsid protein affects sensitivity to human TRIM5alpha". *PLoS one* 7, e47757 (2012).
30. Pertel T, Hausmann S, Morger D, Zuger S, Guerra J, Lascano J, Reinhard C, Santoni FA, Uchil PD, Chatel L, Bisiaux A, Albert ML, Strambio-De-Castillia C, Mothes W, **Pizzato M**, Grutter MG & Luban J. "TRIM5 is an innate immune sensor for the retrovirus capsid lattice". *Nature* 472, 361-365 (2011).
31. Lai RP, Yan J, Heeney J, McClure MO, Gottlinger H, Luban J & **Pizzato M**. "Nef decreases HIV-1 sensitivity to neutralizing antibodies that target the membrane-proximal external region of TMgp41". *PLoS pathogens* 7, e1002442 (2011).
32. Sokolskaja E, Olivari S, Zufferey M, Strambio-De-Castillia C, **Pizzato M** & Luban J. "Cyclosporine blocks incorporation of HIV-1 envelope glycoprotein into virions". *Journal of virology* 84, 4851-4855 (2010).
33. **Pizzato M**. "MLV glycosylated-Gag is an infectivity factor that rescues Nef-deficient HIV-1". *PNAS* 107, 9364-9369 (2010).
34. **Pizzato M**, Erlwein O, Bonsall D, Kaye S, Muir D & McClure MO. "A one-step SYBR Green I-based product-enhanced reverse transcriptase assay for the quantitation of retroviruses in cell culture supernatants". *Journal of virological methods* 156, 1-7 (2009).
35. Takeuchi Y, McClure MO & **Pizzato M**. "Identification of gammaretroviruses constitutively released from cell lines used for human immunodeficiency virus research". *Journal of virology* 82, 12585-12588 (2008).
36. **Pizzato M**, Popova E & Gottlinger HG. "Nef can enhance the infectivity of receptor-pseudotyped human immunodeficiency virus type 1 particles". *Journal of virology* 82, 10811-10819 (2008).
37. **Pizzato M**, Helander A, Popova E, Calistri A, Zamborlini A, Palu G & Gottlinger HG. "Dynamin 2 is required for the enhancement of HIV-1 infectivity by Nef". *PNAS* 104, 6812-6817 (2007).
38. Viejo-Borbolla A, **Pizzato M**, Blair ED & Schulz TF. "Insertion of targeting domains into the envelope glycoprotein of Moloney murine leukemia virus (MoMLV)-based vectors modulates the route of mCAT-1-mediated viral entry". *Virus research* 108, 45-55 (2005).
39. Raisch KP, **Pizzato M**, Sun HY, Takeuchi Y, Cashdollar LW & Grossberg SE. "Molecular cloning, complete sequence, and biological characterization of a xenotropic murine leukemia virus constitutively released from the human B-lymphoblastoid cell line DG-75". *Virology* 308, 83-91 (2003).
40. Walker SJ, **Pizzato M**, Takeuchi Y & Devereux S. "Heparin binds to murine leukemia virus and inhibits Env-independent attachment and infection". *Journal of virology* 76, 6909-6918 (2002).
41. Dorfman T, Popova E, **Pizzato M** & Gottlinger HG. "Nef enhances human immunodeficiency virus type 1 infectivity in the absence of matrix". *Journal of virology* 76, 6857-6862 (2002).

42. **Pizzato M**, Merten OW, Blair ED & Takeuchi Y. "Development of a suspension packaging cell line for production of high titre, serum-resistant murine leukemia virus vectors". *Gene therapy* 8, 737-745 (2001).
43. **Pizzato M**, Blair ED, Fling M, Kopf J, Tomassetti A, Weiss RA & Takeuchi Y. "Evidence for nonspecific adsorption of targeted retrovirus vector particles to cells". *Gene therapy* 8, 1088-1096 (2001).
44. Takeuchi Y & **Pizzato M**. "Retrovirus vectors". *Advances in experimental medicine and biology* 465, 23-35 (2000).
45. Palu G, **Pizzato M**, Bonaguro R & Colombo F. "Gene Therapy of Glioblastoma Multiforme with a Bicistronic Retroviral Vector Expressing Human IL-2 and HSV-tK". *Methods in molecular medicine* 35, 511-522 (2000).
46. Palu G, Parolin C, Takeuchi Y & **Pizzato M**. "Progress with retroviral gene vectors". *Reviews in medical virology* 10, 185-202 (2000).
47. **Pizzato M**, Marlow SA, Blair ED & Takeuchi Y. "Initial binding of murine leukemia virus particles to cells does not require specific Env-receptor interaction". *Journal of virology* 73, 8599-8611 (1999).
48. Palu G, Cavaggioni A, Calvi P, Franchin E, **Pizzato M**, Boschetto R, Parolin C, Chilosi M, Ferrini S, Zanusso A & Colombo F. "Gene therapy of glioblastoma multiforme via combined expression of suicide and cytokine genes: a pilot study in humans". *Gene therapy* 6, 330-337 (1999).
49. Calistri A, Parolin C, **Pizzato M**, Calvi P, Giaretta I & Palu G. "Herpes simplex virus chronically infected human T lymphocytes are susceptible to HIV-1 superinfection and support HIV-1 pseudotyping". *J Acquir Immune Defic Syndr* 21, 90-98 (1999).
50. Zanesi N, Mognato M, **Pizzato M**, Viezzer C, Ferri G & Celotti L. "Determination of HPRT mutant frequency and molecular analysis of T-lymphocyte mutants derived from coke-oven workers". *Mutation research* 412, 177-186 (1998).
51. **Pizzato M**, Franchin E, Calvi P, Boschetto R, Colombo M, Ferrini S & Palu G. "Production and characterization of a bicistronic Moloney-based retroviral vector expressing human interleukin 2 and herpes simplex virus thymidine kinase for gene therapy of cancer". *Gene therapy* 5, 1003-1007 (1998).
52. **Pizzato M**, Palu G. "La vettorologia: una nuova scienza". *Le Basi Razionali della Terapia*, 27(1): 17-27. (1997).
53. Marcello A, **Pizzato M**, Loregian A & Palu G. "Effect of differential growth conditions on the dTTP pool size in herpes simplex virus-infected Vero cells". *Biochemical Society transactions* 23, 627S (1995).

Autorizzo il trattamento dei miei dati personali presenti nel cv ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali" e del GDPR (Regolamento UE 2016/679);

Trento, 05/04/2022

PERSONAL INFORMATION **Michael Pancher**

WORK EXPERIENCE

Sep 2017 – Today

PTA a tempo indeterminate

Department of Cellular, Computational and Integrative Biology CIBIO, University of Trento, via Sommarive n. 9, 38123 Povo (TN) Italy

- Facility Manager in High Throughput Screening and Validation Core Facility, the main tasks were to provide technological support for CIBIO researchers, including microarrays analysis, HTS and HCS assay, R&D activity, management of siRNA and small molecules libraries, development of automatized procedures using liquid handling instruments, maintenance of instruments and management of laboratory issues.

HTS Core Facility, Academic Research

Aug 2016 – Jul 2016

Co.co.co.

Center for Integrative Biology CIBIO, University of Trento, via Sommarive n. 9, 38123 Povo (TN) Italy

- Facility Manager in High Throughput Screening and Validation Core Facility, the main tasks were to provide technological support for CIBIO researchers, including microarrays analysis, HTS and HCS assay, R&D activity, management of siRNA and small molecules libraries, development of automatized procedures using liquid handling instruments, maintenance of instruments and management of laboratory issues.

HTS Core Facility, Academic Research

Jul 2015 – Jul 2016

Co.co.co.

Center for Integrative Biology CIBIO, University of Trento, via Sommarive n. 9, 38123 Povo (TN) Italy

- Facility Manager in High Throughput Screening and Validation Core Facility, the main tasks were to provide technological support for CIBIO researchers, including microarrays analysis, HTS and HCS assay, R&D activity, management of siRNA and small molecules libraries, development of automatized procedures using liquid handling instruments, maintenance of instruments and management of laboratory issues.

HTS Core Facility, Academic Research

Jul 2013 – Jul 2015

Co.co.co.

Center for Integrative Biology CIBIO, University of Trento, via Sommarive n. 9, 38123 Povo (TN) Italy

- Facility Manager in High Throughput Screening Core Facility within the project AGER MELO aimed to unravel the effects of apple's polyphenols on human health. Beside the research activity related to this project, the main tasks were to provide technological support for CIBIO researchers, including microarrays analysis, HTS and HCS assay, R&D activity, management of siRNA and small molecules libraries, development of automatized procedures using liquid handling instruments, maintenance of instruments and management of laboratory issues.

HTS Core Facility, Academic Research

Jul 2010 – Mar 2013

Co.co.co.

Fondazione Edmund Mach, S. Michele all'Adige, via E. Mach, 1 38010 S. Michele all'Adige (TN) , Italy

- Research technician in a research group working on the project MECAGrAFic (Microbial Endophytic Communities Associated with Grapevines And Functional Analysis of Their Interaction With Plants). The project's focus was the analysis of grapevine endophytic microbial populations and their biotechnological potential, through classical microbiology, molecular analysis and metagenomics.

Research on Plant and Environmental protection

Jan 2009 – Feb 2010

Co.co.pro.

Molecular Stamping s.r.l. Trento, via Sommarive n. 18, 38123 Povo (TN) Italy

- Research technician in R&D team, analysis and development of a new generation of microarray chips. Development of sample preparation and hybridization procedures, analysis protocol and technology.

R&D in Biotech Start-up

EDUCATION AND TRAINING

Oct 2005 – Oct 2008

Laurea in Tecniche di Laboratorio Biomedico

Level 6

Facoltà di Medicina e Chirurgia. Università degli studi di Verona, Italy

- Biomedical and biotechnological analysis, biochemistry, microbiology and virology, pharmacology and toxicology, immunology and clinical pathology.

Sep 2000 – Jul 2005

Maturità Scientifico-Tecnologica

Level 4

Istituto Tecnico Industriale Michelangelo Buonarroti, Trento, Italy

- Laboratory of Chemistry, Physics and Biology, Informatics and Electronic systems.

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B1	B1	B1	B1	B1
	Replace with name of language certificate. Enter level if known.				
German	A1	A2	A1	A1	A1
	Replace with name of language certificate. Enter level if known.				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user

Common European Framework of Reference for Languages

- Communication skills
- Good communication skills gained through over nine years of experiences in international working places.
 - Good teaching skills gained through tutoring and one to one music lessons

- Organisational / managerial skills
- Management of laboratory issues
 - Assay development and problem solving skills
 - Organization and promotion of public events

- Job-related skills
- Good knowledge of quality control processes
 - Good knowledge of standard laboratory procedures
 - Great experience in automated platforms and instruments management

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user
Digital competences - Self-assessment grid
 ECDL full standard

- good command of office suite (word processor, spread sheet, presentation software)
- good command of image acquisition and analysis softwares (CellProfiler, ImageJ, Harmony PE, Columbus, MetaXpress, INCARTA)
- good command of data analysis & visualization softwares (GraphPad, KNIME)
- basic command of programming languages (Python)

Other skills

Driving licence

- Additional Information
- Actual member of the Executive Committee of CTLS (Core Technology for Life Science)
 - Currently involved as RLS (Rappresentante dei Lavoratori per la Sicurezza) at the University of Trento