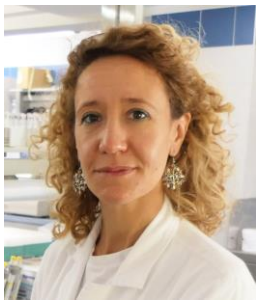
Curriculum Vitae Europass



Personal Inormation

Surname(i/)/Name(i)	**Caldrer Sara**
Telephone	
E-mail	sara.caldrer@sacrocuore.it
Citizen	Italian
DOB	10/01/1983
Sex	Woman

Professional experience

November 2018-Today	Researcher and biologist executive at the Department of Infectious-Tropical Diseases and Microbiology (DITM), IRCCS Sacro Cuore Don Calabria Hospital, Negrar di Valpolicella, Verona, Italy.
09/15- 09/17	Unit coordinator (Partner1)-(P.I. Prof. Hugo de Jonge) Grant FFC#3/2015 for the project “Assessment and pharmacological correction of abnormalities in bicarbonate (HCO3-) and mucus transport in intestinal biopsies and organoids of CF patients”. Departmental Research Laboratory applied to Cystic Fibrosis "Daniele Lissandrini" .Dip. Pathology, Section of General Pathology, University of Verona.
09/14-08/2015	One-year fellowship “CFTR in epithelial organoids: relevance for drugs and diagnosis development of cystic fibrosis" FFC# 3/2014. Coordinator - Dr. P. Melotti. Dr. Sorio Claudio- Laboratory Dip. Pathology, Section of General Pathology, University of Verona.
09 /13- 03/14	One-year fellowship "CFTR in epithelial organoids: relevance for drugs and diagnosis development of cystic fibrosis" FFC # 4/2013 Coordinator - Dr. P. Melotti. Dr. Sorio Claudio- Laboratory in the Dip. Pathology, Section of General Pathology, University of Verona.
05/13	Collaboration with Dr. Leal Theresina at the Louvain Centre for Toxicology and Applied Pharmacology. Cliniques St Luc - UCL. Service de Biochimie Médicale, Brussels. This collaboration was born in order to study the molecular mechanisms involved in the inflammatory process development, as well as the cellular homing in the lung affected with Cystic Fibrosis.

05/13	Beamtime at the synchrotron Diamon Didcot (Oxfordshire) for creating -IR spectra derived from samples of interest in the project "The analysis of the CFTR gene in leukocytes."
02/13	Internship at the Department of Biochemistry of the Erasmus University Medical Center, Rotterdam, Netherland, under Prof. Hugo De Jonge supervision. In this period, I have been briefed on methods for the isolation and processing of stem cells derived from the intestinal crypts of both human and murine colon.
01/2013	Fellowship on project "Analysis of the activity and function of the CFTR gene in leukocytes". The main part of the research was conducted in the laboratory of Dr. Claudio Sorio, Department of Pathology and Diagnostics, Section of General Pathology, University of Verona.
11/2012	Beamtime at the DAONE synchrotron at National Institutes of Nuclear Physics (Frascati, Rome) for the creation of IR-spectra derived from samples of interest in the project "Analysis of the CFTR gene in leukocytes".
05/12	Beamtime at the DIAMON synchrotron, Didcot (Oxfordshire), for the creation of IR-spectra derived from samples of interest in the project "Analysis of the CFTR gene in leukocytes."
04/12- 08/2012	Fellowship for FFC # 6/2010 project: "Novel biomarkers for evaluation of efficacy of new therapies in cystic fibrosis" Coordinator - Dr. P. Melotti. The main part of the research was conducted in the laboratory of Dr. Claudio Sorio, Department of Pathology and Diagnostics, Section of General Pathology, University of Verona.
07/11 - 04/2012	Person in charge for Italy for the processing of PBMCs isolated in the context of multicenter IMMATICS IMA901-Renal Cell Cancer (phase III) according to ICH-GCP, in the laboratory of "Cell Biology and Therapy Oncology Advanced" Modena. A randomized, double-blind, placebo-controlled phase III study to evaluate the efficacy and safety of pazopanib as adjuvant therapy for subjects with localized or locally advanced RCC Following nephrectomy (sponsor GSK).
07/11 - 07/12	Fellowship for the project "Cell biology and Advanced Gene Therapies for Paediatric Malignancies" to be carried out in collaboration between the Department of Oncology, under supervision of Dr. Massimo Dominici, and the Department of Maternal and Child, directed by Prof. Paolo Paolucci.
04/10	Collaboration with Dr. Bestagno Marco at the Molecular Immunology Laboratory (Directed By Oscar Burrone) at the International Center for Genetic Engineering and Biotechnology, Patriciano, Trieste. This collaboration was born in order to create by Gene-gun, mice immunized for Neuroblastoma.
06/09- 06/11	Fellowship and Advanced Training on "Pre-clinical development of cell therapies for paediatric cancer." Department A.I. Mother and Child, University of Modena and Reggio Emilia under the responsibility of Prof. Paolo Paolucci
02/08 - 02/09	Fellowship in the research Project "Transplantation of hematopoietic stem cells" in the laboratory of "Cell Biology and Therapy Oncology Advanced" at the Cancer Center of Modena, under the supervision of Dr. Massimo Dominici and responsibilities Prof. Paolo Paolucci.
	Internship inherent the master degree in the Department of Integrated Oncology and Haematology, Laboratory of Cell Biology and Advanced Therapies Oncology.

10/06 - 10/07	Dr. Dominici and Prof. Conte. Thesis Title: "Evaluation of changes in serum levels of cytokines in patients with peritoneal carcinomatosis treated with adoptive immunotherapy with TALL-104 cells".
11/04 - 12/05	Internship at the Department of Human Anatomy and Physiology, Medicine Department, Padua University. Title of thesis: "Analysis with immunohistochemistry and western blot of children affected by nodding syndrome". Responsible: Dr. Carla Mucignat. Co-supervisor: Dr. Raffaele Pezzani. Head of department: Prof. Andrea Cavaggioni.
05/01 - 08/01	Internship in the Analysis laboratory at the hospital "Sacro Cuore" Negrar, Verona. Tutor: Dr. Arturo

Training

July 2016	**Participation at the "Hands-on workshop: Epithelial system:** Physiology and pathophysiology" course at the Faculdade de Ciências da Universidade de Lisboa, Lisboa (Portugal) organized by Dr.ssa Margarida Amaral. Learn about the latest developments in the field, and acquire practical skills on: -production, cultivation and characterization of epithelial cells -collection of nasal cells -cultivation of intestinal organoids -functional approaches to assess CFTR Organized by the European Cystic Fibrosis Society (ECFS), participation after international selection
01/09 –01/12	**Ph.D. in Molecular and Regenerative Medicine**. University of Modena and Reggio Emilia. Thesis Title: "Ex-vivo manipulation of gene modified immuneffectors to target GD2 positive Neuroblastoma". Research activity at the Maternal and Child Department and at Oncology, Haematology and Respiratory Diseases Department, Modena.
01/10	**Professional Practice Exam for Profession of Biologist**
06/09- 06/11	**Fellowship and Advanced Training on "Pre-clinical development of cell therapies for paediatric cancer.**" Department A.I. Mother and Child, University of Modena and Reggio Emilia under the responsibility of Prof. Paolo Paolucci
2011	**Training in "Advanced Flow Cytometry" organized by SIICA** (Italian Society of Immunology, Clinical Immunology and Allergology), Modena.
12/05 – 10/07	**Degree in Medical Biotechnology** (Result: 110/110) at Bioscience and Biotechnology Department, University of Modena and Reggio Emilia.
10/02 – 12/05	Degree in Applied Biotechnologies (Result 100/110) at Faculty of Medicine and Surgery, Faculty of Pharmacy and Faculty of Veterinary Medicine, University of Padova.
09/97 – 07/02	Title of qualification awarded: Chemical-Biological Laboratory Technician. Result: 85/100 IPSIA. "Enrico Fermi", Verona.
1999- 2000	Title of qualification awarded: Chemical-Biological Laboratory Technician in Food and Environment. Results: 100/100 IPSIA. "Enrico Fermi" in collaboration with ARPA Veneto e IAL Verona.

Personal competence

Language **Italian**

Others Language **English**

Technical skills

CELL CULTURE:

- Stem cells isolation from colon-rectal epithelium to generate organotypic cultures.
- Maintenance of neoplastic cells of human origin (neuroblastoma, breast cancer, adenocarcinoma, ...);
- Maintenance and Pharmacological treatment of Bronchial Epithelium cell lines affected by Cystic Fibrosis;
- Creation of packaging cells (Flyrd18);
- Isolation and expansion of lymphocytes from peripheral blood or buffy coat;
- Lymphocytes expansion with WAVE bioreactor and VueLife Bag;
- Cell transduction with retroviral vectors;
- Maintenance and recovery supernatants of a line producing the protein rspond-1;
- Maintenance and recovery supernatants of a line producing the protein Wnt-3a;

ASSAYS:

- Cytofluorimetric analysis using the FACS Calibur and MACSQuant Flow Cytometer; Cytoflex BD (3 laser, 13 colours)
- Cell sorting using cell sorter (FACS AriaIII);
- Cells sorting through immune-magnetic separators (MACS)
- Cell depolarization assay with probe DISBAC;
- Forskolin Induced Swelling Assay on organoid culture (FIS assay)
- Sample preparation for special microscopy using infra-red sources such Globar or synchrotron, and analysis of the spectra resulting from this analysis;

MOLECULAR BIOLOGY:

- Immunohistochemistry of preparations in whole brain or cerebellum;
- Separation of immunoglobulin G of separation column with protein A;
- MTT assay;
- Western Blotting;
- Use of spectrophotometric techniques for quantification of nucleic acids;
- Techniques of cloning with bacteria (TA cloning);
- Techniques of induction in eukaryotic systems (transfection, transduction)
- Extraction of DNA / RNA cell;
- Cytotoxicity Test: LDH and radioactive Chromium-51;
- Cellular DNA fragmentation ELISA (BrdU);
- ELISA;
- Protein separation by acrylamide gel electrophoresis;
- Gene amplification by PCR and RT-PCR;
- Sequencing;
- DNA and RNA extraction from cell pellets and whole blood;
- Retroviral vectors manipulation;
- Creation of anti-idiotype anti-body by Gene-Gun method;
- Immunohistochemistry (IHC);
- Immunofluorescence (IF)

MICE: CARE AND HANDLING

- Colonies maintenance of immune-deficient mice NOD / SCID CB.17 PRKDC / J;
- Injection, after anaesthesia with isoflurane, of tumour cells under skin;
- Necropsy and organs collection;
- Immunization method using the Gene Gun.
- Recovery by flushing the cells derived from the bone marrow of mice WT or KO for the CFTR gene;
- Injection of immunoreactive substances in the respiratory tract (LPS; MCP-1) by insertion in the nostril of the same;

Computer and software

- Word processing (Word 2007/XP)
- Spread sheet (Excel 2007/XP)
- Instrumentation presentation (PowerPoint 2003/XP)
- Image processing (ImageJ64/PhotoShop)
- 3D image analysis (Immaris 7.2)
- Computer Networking
- Browser for analysing DNA-RNA-protein (eg Ensemble)

Patent

M. Dominici, S. Caldrer, M.C. Spano, M. Bestagno, D. Campana, P. Paolucci (2011) - MODIFIED EFFECTOR CELL (CHIMERIC RECEPTOR) FOR TREATING DISIALOGANGLIOSIDE GD2-EXPRESSING NEOPLASIA. Una cellula effettrice modificata per il trattamento di neoplasie esprimenti il disialonganglioside GD2 [Brevetto] MO2011A000270, PCT/IB2012/055878 e U.S. 14/354,082.

Papers

- **Sara Caldrer**, Cristina Mazzi, Milena Bernardi, Marco Giuseppe Prato, Niccolò Ronzoni, Paola Rodari, Andrea Angheben, Chiara Piubelli, Natalia Tiberti. *T regulatory cells as predictors of clinical course in hospitalised COVID-19 patients.* In press Frontiers in immunology, **(IF: 7.8**)

- Treggiari D, Piubelli C, Caldrer S, Mistretta M, Ragusa A, Orza P, Pajola B, Piccoli D, Conti A, Lorenzi C, Serafini V, Boni M, Perandin F. *SARS-CoV-2 rapid antigen test in comparison to RT-PCR targeting different genes: A real-life evaluation among unselected patients in a regional hospital of Italy.* J Med Virol. 2021 Oct 7. doi: 10.1002/jmv.27378. (**IF 2.327)**

- Molecular techniques for the genomic viral RNA detection of West Nile, Dengue, Zika and Chikungunya arboviruses: a narrative review. *Mori A, Pomari E, Deiana M, Perandin F, **Caldrer S**, Formenti F, Mistretta M, Orza P, Ragusa A, Piubelli C.* Expert Rev Mol Diagn. 2021 Jun;21(6):591-612. doi: 10.1080/14737159.2021.1924059. Epub 2021 Jun 8 **(IF 5.225)**

- Federico Gobbi, Dora Buonfrate, Lucia Moro, Paola Rodari, Chiara Piubelli, **Sara Caldrer** , Silvia Riccetti , Alessandro Sinigaglia and Luisa Barzon. "*Antibody Response to the BNT162b2 mRNA COVID-19 Vaccine in Subjects with Prior SARS-CoV-2 Infection*". Viruses 2021,13, 422. https://doi.org/10.3390/v13030422 (**IF:3.81)**

- Tamara Ursini, Roberta Di Giacomo, **Sara Caldrer**, Andrea Angheben, Lorenzo Zammarchi, Stefania Filipponi, Nicola Renato Pizio, Zeno Bisoffi, Dora Buonfrate. *Neurocysticercosis-related seizures in the post-partum period: two cases and a review of the literature.* The Lancet Infectious Disease. June 19, 2020 doi.org/10.1016/S1473-3099(20)30240-1 (**IF: 27)**

- Giuseppe Bellisola, **Sara Caldrer**, Mariangela Cestelli-Guidi, Gianfelice Cinque. *Infrared biomarkers of impaired cystic fibrosis transmembrane regulator protein biogenesis*, J. Biophotonics. 2020;13:e201900174.(I.F**: 3.84**)

- **Sara Caldrer, et all**. "*Multiple evaluation of Cystic Fibrosis Transmembrane Conductance Regulator function in case report with acute recurrent pancratits*" World J Clin Cases 2019 November 26; 7(22): 3757-3764 (**IF: 1.13)**

- Sorio C, Montresor A, Bolomini-Vittori M, **Caldrer S**, Rossi B, Dusi S, Angiari S, Johansson JE, Vezzalini M, Leal T, Calcaterra E, Assael BM, Melotti P, Laudanna C. *Mutations of Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Gene Cause a Monocyte-selective Adhesion Deficiency..* Am J Respir Crit Care Med. 2015 Dec 22 (IF**: 13.00**).

- Malvina Prapa, **Sara Caldrer**, Carlotta Spano, Marco Bestagno, Giulia Golinelli, Giulia Grisendi, Tiziana Petrachi, Dario Campana, Paolo Paolucci & Massimo Dominici. *A Novel Anti-GD2 Chimeric Antigen Receptor Retain Specific Antitumor Activities Against Neuroblastoma*. Oncotarget, 20 July 2015.(**IF: 6,6**)

- Michele Ettorre, Genny Verzè, **Sara Caldrer**, Jan Johansson, Elisa Calcaterra, Baroukh Maurice Assael, Paola Melotti, Claudio Sorio, Mario Buffelli. *Electrophysiological evaluation of Cystic Fibrosis Conductance Transmembrane Regulator (CFTR) expression in human monocytes.* Biochimica et Biophysica Acta 1840 (2014) 3088–3095. (IF**: 4.38**)

- Jan Johansson, Marzia Vezzalini, Genny Verzè, **Sara Caldrer**, Silvia Bolognin, Mario Buffelli, Giuseppe Bellisola, Gloria Tridello, Baroukh Maurice Assael, Paola Melotti and Claudio Sorio: *Detection of cftr protein in human leukocytes by flow cytometry.* Cytometry Part A _ 85A: 611_620, 2014. (**IF: 2.93**)

- **Sara Caldrer**, Giuseppe Bellisola, Gianfelice Cinque, Mariangela Cestelli Guidi, Baroukh Maurice Assael, Paola Melotti, Claudio Sorio. "*The identification of cystic fibrosis (CF) cells and their pharmacological correction by mid-infrared microspectroscopy and unsupervised data analysis methods"* ScienceJet 2014, 3: 51 (**IF: 2,4**)

- **Sara Caldre**r et.al. "*Challenging the diagnosis of Cystic Fibrosis in a patient carrying the 186-8T/C allelic variant in the CF Transmembrane Conductance Regulator gene*". BMC Pulmunary Medicine 2014, 14:44 **(IF: 2.40)**

- **S. Caldrer**, M.C. Spano, G. Grisendi, M. Dominici, P. Paolucci (2011) - *An adoptive immuno-gene therapy approach targeting neuroblastoma.* - PEDIATRIC BLOOD & CANCER - n. volume 57 - pp. da 783-794. (**IF: 2.39**)

Negrar 01/01/2022

Ai sensi della Legge 196/2003, autorizzo il trattamento dei dati personali forniti

Sara Caldrer