

I'm a highly motivated and independent scholar that is able to reach his objective. I'm a ductile person and I do not fear facing new challenges: I'm open to explore research fields that are distant from my background and I'm able to adapt my methodological approach when necessary. I never stop learning. This is how I obtained some significant professional and personal achievements: being able to start my independent research path attracting independent research funds and being considered a valuable resource in the research groups I've been collaborating. When working in team and when mentoring students I always do my best to help everyone expressing their potential: supporting diversity and inclusivity to create the best possible environment, necessary to achieve highest goals.

Education

- 2023–present **Researcher**, *National Research Council of Italy*, Venice, *Liv. III*
Developing wireless sensor networks technologies and IoT applications for Atmospheric, Climate and Public Health Sciences. Project Partner Leader of Horizon EU projects MISO (GA 101086541), and HealthRiskAdapt (101157458). Affiliated researcher (volunteer) at the Center for the Built Environment (CBE) collaborating on research projects looking at improving Indoor Air Quality.
- 2021–2023 **Postdoctoral Researcher**, *University of California*, Berkeley,
Marie Skłodowska-Curie Fellow looking for the development of low-cost sensors technologies and applications for Atmospheric and Climate Sciences. Researcher at the Center for the Built Environment (CBE) collaborating on industry-funded research project looking at improving Indoor Air Quality. Supervisors: Prof. Schiavon Stefano, Prof. Barbante Carlo.
- 2017–2021 **Postdoctoral Researcher**, *National Research Council of Italy*, Venice,
Development of hardware and software technologies for the environmental monitoring of remote alpine and polar areas. Supervisor: Prof. Barbante Carlo.
- 16-02-2017 **PhD - Cum Laude**, *Ca' Foscari University*, Venice,
Developing of a quantitative analytical method for the analysis of the diffusion of VOCs in the snowpack. Supervisor: Prof. Barbante Carlo.
- 2011–2013 **MSc - Chemistry**, *University of Ferrara*, City, 110/110&L
Study of the electronic properties of homologous series of linear polyenes. Supervisor: Prof. Angeli Celestino.
- 2008–2011 **BSc - Chemistry**, *University of Ferrara*, City, 110/110&L
Study of the electronic properties of homologous series of linear polyenes. Supervisor: Prof. Angeli Celestino.

Fundings

- 2024–2028 **HORIZON-MISS-2023-CLIMA-01-03**, *Horizon Europe*. Proposal nr. 101157458, EUR 300,000.00
Acronym: HEALTHRISKADAPT, Total funding: EUR 5.9M, 48-month. Development of transformative adaptation strategies to tackle climate-related health risks across Europe.

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- 2022–2026 **HORIZON-CL6-2022-GOVERNANCE-01-07**, *Horizon Europe*. *Proposal nr. 101086541, EUR 150,000.00*
 Acronym: MISO, Funding amount: EUR 3.5M, 42-month. Development of new technology for acquiring in-situ observation datasets in remote polar areas to improve the assessment of CO_2 and CH_4 emissions sources.
- 2021–2024 **Marie Skłodowska-Curie Actions**, *Horizon Europe*. *Proposal nr. 844526, EUR 250,000.00*
 Acronym: PIONEER, Total funding: EUR 350k, 36-month. Postdoctoral Fellowship: establish an LCS wireless sensor network to assess the effectiveness of low-cost technologies in the study of transboundary transport of tropospheric ozone.
- 2021–2022 **CITRIS and the Banatao Institute Seed Awards**, *University of California, Berkeley*. *Proposal nr. 2021-0000000055, EUR 50,000.00*
 UC Berkeley Grand Challenge Theme: Digital Health Innovation, Project Title: Clearing the air, 12-month. Using smart thermostats to develop an automated solution that utilizes existing technologies to coordinate residential HVAC systems to minimize occupant exposure to PM_{2.5} during wildfires in California.
- 2018–2019 **Arctic Field Grant**, *The Research Council of Norway (RCN)*. *Grant nr. 282613, EUR 8,000.00*
 Acronym: O3NET, Total funding: EUR 8k, 12-month. Assess the reliability of low-cost sensors for the determination of near-surface ozone mixing ratio in remote areas.

Patents

- 2022 **Provisional Patent**, *University of California, Berkeley*,
 Schiavon S., Modera M., Parkinson T., Duarte C. Dallo F. *System to Reduce Indoor Particulate Exposure in Residential Buildings*. Application B23-002-UCBK-002400.

Teaching, Mentoring & Professional

- 2023–current **Lab Manager**, *National Research Council of Italy, Venice*,
 Responsible for Reactive Gases research at the Regional Station GAW-WMO 0-380-0-MRG. Col Margherita High Altitude Observatory.
- 2022 **Lecturer**, *University of California, Berkeley*,
 Teaching R and mentorship PhD and postgraduate students enrolled in Building Science programs at the Center of Environmental Design Research. ARCH 249 Module 3.
- 2022 **Mentoring - Undergraduate Research Apprentice Program**, *University of California, Berkeley*,
 Supervision of three undergraduate students: Angela Kou, Aayushi Jain and Anusha Kansal; in a research-education project, promoting diversity and inclusion of Women in Science. The project, in which we developed a low-cost sensing system for indoor monitoring of PM_{2.5}, was financially supported by the CITRIS Clearing the air project. [git/clearing-the-air](https://github.com/clearing-the-air).
- 2021 **Mentoring - Undergraduate Research Apprentice Program**, *University of California, Berkeley*,
 Supervision of six undergraduate students: Janek de Silva, Pranav Kalra, Divya Malle-madugala, Jerry Zhang and Naichen Zhao; in a research-education project. Goal of the project was design a low-cost Personal Comfort System with IoT features (e.g. wireless connectivity, bluetooth interface) to be installed as add-on in Staples Hyken Mesh Chair to increase user thermal comfort and safe building energy. [git/pcs-chair](https://github.com/theRosyProject).

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- 2021 **Mentoring - Research-training "Alternanza Scuola-Lavoro"**, *ITIS Max Plank*, Treviso - IT,
The project started in January 2020 and continued throughout the Covid-19 pandemic, thanks to the great motivation of the students and teachers, and was completed during spring 2021. Goal of the project was to develop a low-cost wireless PCB equipped with LoRa technology to be used for developing a wireless sensor networks. [git/MRGLoRaNetwork](https://github.com/MRGLoRaNetwork).
- 2017–2021 **Lab Manager**, *National Research Council of Italy*, Venice,
Responsible for IT and sensory systems management of the Regional Station GAW-WMO 0-380-0-MRG. Col Margherita High Altitude Observatory.
- 2017–current **Member of Scientific Board**, *Officina Journal*, Venice,
OFFICINA is a magazine of Architecture, Technology and Environment born in 2014 in digital format (ISSN 2384-9029) and registered at the court of Treviso under the number n. 245/2017 as a print publication in 2017 (ISSN 2532-1218). OFFICINA is a Scientific Journal included in the ANVUR lists for Area 08 starting from issue 16 of 2017.
- 2017 **Founder**, *Venice Climate Lab*,
The Venice Climate Lab (VCL) is a group of experts in climate change who recognizes art and creativity as powerful connectors between people and science. We organize and promote events at the intersection of art and climate science to build opportunities to communicate the consequences of climate change on society, economy and the environment.
- 2015–2016 **Member of the "Committee on self-managed activities by students"**, *Ca' Foscari University*, Venice,
The committee is formed by Professors and students of Ca' Foscari and has the role of promote and financing student's projects and provides a total amount of about EUR 40,000.00 euros per year.
- 2015–2016 **Academic Tutor in Statistics**, *Ca' Foscari University*, Venice,
At the Department of Environmental Science, Informatics and Statistics, class for solving exercises in descriptive statistics, probability, inference in support of the course in statistics of the bachelor degree in Environmental Sciences. The course includes programming with R. Supervisor: Prof. Gaetan Carlo.
- 2014–2016 **Academic Tutor in Physics**, *Ca' Foscari University*, Venice,
Class for solving exercises in electromagnetism and waves in support of the course in physics of the bachelor degree in Chemistry. Supervisor: Prof. Battaglin Giancarlo.
- 2015 **Academic Tutor in Earth's Climate: Past, Present and Future**, *Ca' Foscari University - Harvard, Summer School*, Venice,
This course deals with past present and future climate changes as evinced from the most recent studies on palaeoclimate archives, such as marine sediments and ice cores. Supervisor: Barbante Carlo.
- 2014 **National Habilitation in Chemistry**, Italy,
Qualification for professional practice as a chemist.

Publications

- [1] Andrea Spolaor, Federico Scoto, Catherine Larose, Elena Barbaro, Francois Burgay, Mats P Bjorkman, David Cappelletti, Federico Dallo, Fabrizio de Blasi, Dmitry Divine, et al. Climate change is rapidly deteriorating the climatic signal in svalbard glaciers. *The Cryosphere*, 18(1):307–320, 2024.
- [2] Michele Crozzolin, Camilla Belloni, Jian Xu, Takayuki Nakanishi, Jumpei Ueda, Setsuhisa Tanabe, Federico Dallo, Eleonora Balliana, Asia Saorin, Flavio Rizzolio,

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- et al. Stabilizing cubic γ - Ga_2O_3 : Cr^{3+} spinel nanocrystals by size confinement into mesoporous silica nanoreactor channels. *Journal of Materials Chemistry C*, 2024.
- [3] Marco Vecchiato, Carlo Barbante, Elena Barbaro, François Burgay, Warren RL Cairns, Alice Callegaro, David Cappelletti, Federico Dallo, Marianna d'Amico, Matteo Feltracco, et al. The seasonal change of PAHs in Svalbard surface snow. *Environmental Pollution*, 340:122864, 2024.
 - [4] Matteo Feltracco, Elena Barbaro, Francesca Maule, Mara Bortolini, Jacopo Gabrieli, Fabrizio De Blasi, Warren RL Cairns, Federico Dallo, Roberta Zangrando, Carlo Barbante, et al. Airborne polar pesticides in rural and mountain sites of north-eastern Italy: An emerging air quality issue. *Environmental Pollution*, 308:119657, 2022.
 - [5] Elena Barbaro, Matteo Feltracco, Azzurra Spagnesi, Federico Dallo, Jacopo Gabrieli, Fabrizio De Blasi, Daniele Zannoni, Warren RL Cairns, Andrea Gambaro, and Carlo Barbante. Fast liquid chromatography coupled with tandem mass spectrometry for the analysis of vanillic and syringic acids in ice cores. *Analytical chemistry*, 94(13):5344–5351, 2022.
 - [6] Massimiliano Vardè, Carlo Barbante, Elena Barbaro, Francesca Becherini, Paolo Bonasoni, Maurizio Busetto, Francescopiero Calzolari, Giulio Cozzi, Paolo Cristofanelli, Federico Dallo, et al. Characterization of atmospheric total gaseous mercury at a remote high-elevation site (Col Margherita observatory, 2543 m asl) in the Italian Alps. *Atmospheric Environment*, 271:118917, 2022.
 - [7] Federico Dallo, Daniele Zannoni, Jacopo Gabrieli, Paolo Cristofanelli, Francescopiero Calzolari, Fabrizio De Blasi, Andrea Spolaor, Dario Battistel, Rachele Lodi, Warren Cairns, et al. Low-cost O_3 sensor in remote alpine environment. In *AGU Fall Meeting Abstracts*, volume 2021, pages A15P–14, 2021.
 - [8] Andrea Vannini, Raffaello Tedesco, Stefano Loppi, Valter Di Cecco, Luciano Di Martino, Juri Nascimbene, Federico Dallo, and Carlo Barbante. Lichens as monitors of the atmospheric deposition of potentially toxic elements in high elevation Mediterranean ecosystems. *Science of The Total Environment*, 798:149369, 2021.
 - [9] Matteo Feltracco, Elena Barbaro, Andrea Spolaor, Marco Vecchiato, Alice Callegaro, François Burgay, Massimiliano Vardè, Niccolò Maffezzoli, Federico Dallo, Federico Scoto, et al. Year-round measurements of size-segregated low molecular weight organic acids in Arctic aerosol. *Science of The Total Environment*, 763:142954, 2021.
 - [10] Federico Dallo, Daniele Zannoni, Jacopo Gabrieli, Paolo Cristofanelli, Francescopiero Calzolari, Fabrizio De Blasi, Andrea Spolaor, Dario Battistel, Rachele Lodi, Warren Raymond Lee Cairns, et al. Calibration and assessment of electrochemical low-cost sensors in remote alpine harsh environments. *Atmospheric Measurement Techniques Discussions*, 2021:1–29, 2021.
 - [11] Michele Back, Elisa Casagrande, Enrico Trave, Davide Cristofori, Emmanuele Ambrosi, Federico Dallo, Marco Roman, Jumpei Ueda, Jian Xu, Setsuhisa Tanabe,

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et al. Confined-melting-assisted synthesis of bismuth silicate glass-ceramic nanoparticles: formation and optical thermometry investigation. *ACS Applied Materials & Interfaces*, 12(49):55195–55204, 2020.

- [12] Luca Naitza, Paolo Cristofanelli, Angela Marinoni, Francescopiero Calzolari, Fabrizio Roccato, Maurizio Busetto, Damiano Sferlazzo, Eleonora Aruffo, Piero Di Carlo, Mariantonia Bencardino, et al. Increasing the maturity of measurements of essential climate variables (ecvs) at italian atmospheric wmo/gaw observatories by implementing automated data elaboration chains. *Computers & Geosciences*, 137:104432, 2020.
- [13] Elena Barbaro, Elisa Morabito, Elena Gregoris, Matteo Feltracco, Jacopo Gabrieli, Massimiliano Vardè, Warren RL Cairns, Federico Dallo, Fabrizio De Blasi, Roberta Zangrando, et al. Col margherita observatory: A background site in the eastern italian alps for investigating the chemical composition of atmospheric aerosols. *Atmospheric Environment*, 221:117071, 2020.
- [14] Federico Dallo, Daniele Zannoni, Fabrizio de Blasi, Jacopo Gabrieli, Carlo Barbante, Paolo Bonasoni, Paolo Cristofanelli, Francescopiero Calzolari, Ann Mari Fjaeraa, Are Bäcklund, et al. Pioneer: open wireless sensor network for smart environmental monitoring of remote areas. In *EGU2020-16375*. EGU, 2020.
- [15] Andrea Spolaor, Elena Barbaro, David Cappelletti, Clara Turetta, Mauro Mazzola, Fabio Giardi, Mats P Björkman, Federico Lucchetta, Federico Dallo, Katrine Aspmo Pfaffhuber, et al. Diurnal cycle of iodine, bromine, and mercury concentrations in svalbard surface snow. *Atmospheric Chemistry and Physics*, 19(20):13325–13339, 2019.
- [16] Federico Dallo. *Ritorno nella notte artica*. Antefirma Editore, 2019.
- [17] Federico Dallo. *Nella notte artica*. Incipit Editore, 2016.
- [18] Celestino Angeli, Renzo Cimiraglia, Federico Dallo, Riccardo Guareschi, and Lorenzo Tenti. Dependence of the population on the temperature in the boltzmann distribution: a simple relation involving the average energy. *Journal of chemical education*, 90(12):1639–1644, 2013.

Scientific Expeditions

- 2020–Sept **Survey at Mt. Grand Combin**, *Institute of Polar Sciences*, Ollomont (IT), Ice core drilling campaign as part of the Ice Memory Project.
- 2019 **Survey at Ny-Alesund**, *Institute of Polar Sciences*, Svalbard (NO), Project O3NET for testing the adoption of low-cost sensor technology for the measurement of tropospheric ozone concentration in remote polar areas (1-month).
- 2018 **Survey at Ny-Alesund**, *Institute of Polar Sciences*, Svalbard (NO), Project O3NET for testing the adoption of low-cost sensor technology for the measurement of tropospheric ozone concentration in remote polar areas (1-month).

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- 2017 **Survey at Ny-Alesund**, *Institute of Polar Sciences*, Svalbard (NO),
Project ASIHAD for the study of post depositional processes on the surface of the winter snow in order to evaluate the accumulation and release to the atmosphere of pollutants in the absence of light conditions. For the monitoring of air/aerosol particulate in winter conditions of absence or minimum production of compounds derived from primary oceanic production. For the evaluation of the chemical composition of the winter snow cover at high altitude, at medium altitude and close to Ny-Alesund (1-month).
- 2016 **Survey at Mont Blanc**, *Institute of Polar Sciences*, Chamonix (CH),
We have extracted ice cores from the "Col du Dome" (4304 m) glacier as part of the "Ice Memory project" in Chamonix, near the Mont-Blanc peak in eastern France. The goal, born out of the threat of global warming, is to build the world's first library of glacier ice that will be preserved in Antarctica. (<https://www.theguardian.com/science/2016/sep/04/protecting-data-stored-in-ice-mont-blanc-terrawatch>) (1-week).

Event & Conference (excerpta)

- 2023–June **Podium Presenter**, *Fondazione Bruno Kessler*, Trento,
Invited speaker at the Fondazione Bruno Kessler summer school for dissemination of interdisciplinary research.
- 20-10-2022 **Podium Presenter**, *University of California*, Berkeley,
Presenting the results of the Clearing the air project at the annual meeting of the industrial research partners.
- 2022–June **Podium Presenter**, *Fondazione Bruno Kessler*, Trento,
Invited speaker at the Fondazione Bruno Kessler summer school for dissemination of interdisciplinary research.
- 2021–Dec **Poster and Virtual Podium Presenter**, *American Geoscience Union*, New Orleans,

Presentation of the analytical performances of the original open-source low-cost sensor (LCS) system developed to measure tropospheric O₃ in remote alpine environment.
- 09-04-2021 **Streaming - Terre Altre**, *Venice Climate Lab*,
Final event of the school-work alternation project for the dissemination of technical skills for monitoring the territory, to increase technological interest in the service of the environment. During the event some of the students involved in the project were presenting their experiences.
- 21-10-2017 **Organizing Committee - Italian TEX User Group**, *Ca' Foscari University*, Venice,

Annual GUIT meeting 2017 hosted at Ca' Foscari University.
- 11-09-2017 **Organizing Committee - Antarctic Research (PAIS)**, Trieste,
APECS-Italy Space Annual meeting.
- 14-06-2017 **Podium Speaker**, *Ca' Foscari University*, Venice,
Invited speaker at the PhD Graduation Ceremony at Teatro Goldoni, Venezia.
- 09-09-2017 **Interview**, *WIRED*,
It's too late to save the glaciers, but scientist are saving some pieces in an Antarctic vault.

Computer Skills */***

Operating Systems GNU-Linux***, OSX***, Win**

Program R***, Python***, Bash***, Labview***, yaml**, C++**, Java**, Fortran**
 Languages
 GIS R***, QGis**
 Graphical Gimp***, PremierePro***, FinalCut**, Blender*
 CAD KiCad**
 Other LaTeX***, Vim**

Languages

Italian	Mother tongue	
English	C1	<i>Reading, Writing, Speaking</i>
Spanish	B2	<i>Reading, Listening, Speaking</i>
French	A2	<i>Reading, Listening, Speaking</i>
Arabic	A1	<i>Reading</i>

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