



LAURA CAIAZZO

Environmental Chemist, Ph.D.

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RESEARCH EXPERIENCE

Researcher

Laboratory Impacts on the Territory and in Developing Countries (SSPT-IMPACT-TERPVS)

📅 April 2022 – Ongoing

📍 ENEA C.R. Casaccia

Research in Environmental Chemistry, Atmospheric Chemistry and Analytical Chemistry, through the use of analytical instrumentation, such as GC/MS, UPLC-QToF.

Post-Doc Researcher

Department of Chemistry

📅 June 2021 – Ongoing

📍 University of Florence, Italy

Set up and application of fast and highly sensitive methods for the analysis of ice cores for the projects PRIN17 “AMICO” in tight connection with the “Beyond EPICA – Oldest Ice Core” H2020 European project

Post-Doc Researcher

INFN (National Institute of Nuclear Physics)

📅 May 2019 – April 2021

📍 Florence, Italy

Study of particulate matter composition in polar areas for the PNRA project 2016/AC2.04 SIDDARTA

Research Fellowship

Department of Chemistry

📅 May 2018 – April 2019

📍 University of Florence, Italy

Development and application to real samples of analytical methods for the determination of major and in trace ion components in snow and polar ice samples

Research Fellowship

Department of Chemistry

📅 October 2014 – November 2014 📍 University of Florence, Italy

Optimizing with dedicated software (Dionex Chromeleon) of chromatographic layouts already acquired with Ion Chromatographic systems and analysing of the obtained data from every single chromatogram and compiling a complete data set for the research project PATOS-2

POLAR EXPEDITIONS

Research Assistant

Italian Program of Antarctic Research (PNRA)

📅 Nov 2021 – Feb 2022

📍 Dome C, Antarctica

- Training of the winterover personnel for the next winter campaign for the PNRA projects: SIDDARTA (2016/AC2.04), STEAR (2018/FC3.05), 3D (2016/AC3.05), WHETSTONE (2018/FC3.03) e OPTAIR (2016/AC2.03)

MOST PROUD OF



Commitment I had

to change my life, starting the academic career at 30 years old



Persistence

in achieving my goals



Personal Growth

meeting many different people and cultures around the world

STRENGTHS

Enthusiast

Problem solving

Stress management

Project coordination

Representation of data

Field experience

Analytical Methodologies

Writing

Python

Project management SW

HTML

MS Office

LANGUAGES

English



Italian



French



EDUCATION

PMP® Advanced Course

University of Udine

📅 2021

Ph.D. in Chemical Sciences

University of Florence

📅 Nov 2014 – March 2018

M.S. in Chemical Sciences

University of Florence

📅 Apr 2014

B.S. in Technology for the Conservation and Restoration of Cultural Heritage

University of Florence

📅 Apr 2008

- Maintenance of the aerosol instruments; maintenance and collection of data of DOMEX radiometer and of temperature probes.

Research Assistant

Italian Program of Antarctic Research (PNRA)

📅 Nov 2020 – Jan 2021 📍 Dome C, Antarctica

- Training of the winterover personnel for the next winter campaign for the PNRA projects: SIDDARTA (2016/AC2.04), STEAR (2018/FC3.05), 3D (2016/AC3.05), WHETSTONE (2018/FC3.03) e OPTAIR (2016/AC2.03)
- Maintenance of the aerosol instruments; maintenance and collection of data of DOMEX radiometer and of temperature probes; superficial snow sampling for the PNRA project MER.CRO (2016/AC2.05); support for the maintenance of HF radars for the PNRA project SUPERDARN (OSS 14)

Research Assistant

Italian Program of Antarctic Research (PNRA)

📅 Nov 2019 – Feb 2020 📍 Dome C and MZS, Antarctica

- Concordia Station: training of the winterover personnel for the next winter campaign for the PNRA projects LTCPAA (2015/AC3.04), SIDDARTA (2016/AC2.04), 3D (2016/AC3.05) e OPTAIR (2016/AC2.03); maintenance of the aerosol instruments; digging and sampling of a 5-m depth snow pit for the PNRA projects LTCPAA and SIDDARTA
- Mario Zucchelli Station: collection of aerosol samples, sea water samples and air samples; Gas Chromatography of the air samples

Research Assistant and Station Leader

National Research Council (CNR)

📅 May and Oct. 2019 📍 Ny-Ålesund, Svalbard Islands

- SIOS project “Biogenic Aerosol, oceanic Primary production and Nucleation Events in the Arctic (BioAPNEA)”: aerosol and sea water sampling; filtration of sea water samples
- Project “Gruvebadet Atmospheric Laboratory Project (GRUVELAB)”: aerosol sampling on different kind of filters

Research Assistant

Italian Program of Antarctic Research (PNRA)

📅 Nov 2018 – Feb 2019 📍 Dome C, JBS and MZS, Antarctica

- Concordia Station: training of the winterover for the next winter season for the PNRA projects: LTCPAA, SIDDARTA and 3D; drilling, logging and packing of two shallow firn cores (106 m and 123 m) in Dome C
- Jang Bogo Station: installation of a PM10 sampler, a radiometer and a photometer; training of the winterover personnel (SAMEECA project)
- Mario Zucchelli Station: collection of aerosol samples, sea water samples and air samples; Gas Chromatography of the air samples

Research Assistant

Italian Program of Antarctic Research (PNRA)

📅 Nov 2016 – Dec 2017 📍 Dome C, Antarctica

- Glaciology and Atmospheric Chemistry
- Crew member of winterover (DC13)

Research Assistant and Station Leader

National Research Council (CNR)

TEACHING

Department of Chemistry “Ugo Schiff”

📅 2015 – 2018 📍 University of Florence, Italy

- Assistant to “Analytical Chemistry Laboratory II” course
- Assistant to “Environmental Analytical Chemistry – Inorganic Compounds” course

TRAINING

Overhead Work & Elevating Platforms Qualification

S.i.l.Teco srl

📅 2020 📍 Ancona, Italy

Human Behaviour & Performance Training (HBPT)

European Astronaut Centre, ESA

📅 2016 📍 Cologne, Germany

Communication – Cultural Influences – Teamwork – Conflict Management – HBP Toolkit

Antarctic life training

ENEA Research center

📅 2016 📍 Bologna, Italy

First aid - firefighting - emergency management in extreme environments

REFEREES

Prof. Rita Traversi

@ University of Florence

✉ rita.traversi@unifi.it

Dr. Christoph Ritter

@ Alfred Wegener Institute

✉ Christoph.Ritter@awi.de

📅 February 2016 – April 2016 📍 Ny-Ålesund, Svalbard Islands

Project “Gruvebadet Atmospheric Laboratory Project (GRUVE-LAB)”: taking care of aerosol samplings on different kind of filters, counter particles and PBL (planetary boundary layer) instruments

Research Assistant and Station Leader

National Research Council (CNR)

📅 June 2015 – October 2015 📍 Ny-Ålesund, Svalbard Islands

Project “Gruvebadet Atmospheric Laboratory Project (GRUVE-LAB)”: taking care of aerosol samplings on different kind of filters, counter particles and PBL (planetary boundary layer) instruments

Research Assistant and Station Leader

National Research Council (CNR)

📅 June 2013 – September 2013 📍 Ny-Ålesund, Svalbard Islands

Project “Gruvebadet Atmospheric Laboratory Project (GRUVE-LAB)”: taking care of aerosol samplings on different kind of filters, counter particles and PBL (planetary boundary layer) instruments

PUBLICATIONS

📄 Journal articles

- Barbati, B. et al. (2024). “Surfactant-enhanced mobilization of polycyclic aromatic hydrocarbons from an historically contaminated marine sediment: Study of surfactants’ concentration effect and continuous test for sediment flushing simulation”. In: *Journal of Environmental Chemical Engineering*. DOI: 10.1016/j.jece.2024.113820.
- Moscatelli, G., B. Barbati, L. Lorini, et al. (2024). “Preliminary study for Polycyclic aromatic Hydrocarbons mobilization from contaminated marine sediment using synthetic and natural surfactants”. In: *Chemical Engineering Science*. DOI: 10.1016/j.atmosenv.2024.120850.
- Vecchio, M.A. et al. (2024). “Provenance of mineral dust deposited on Antarctica over the last sixty years by strontium isotopic analysis of snow from Dome C”. In: *Atmospheric Environment*. DOI: 10.1016/j.ces.2024.120317.
- Feltracco, M. et al. (2023). “Characterization of free L- and D-amino acids in size-segregated background aerosols over the Ross Sea, Antarctica”. In: *Science of the Total Environment* 879. DOI: 10.1016/j.scitotenv.2023.163070.
- Moscatelli, G., B. Barbati, S. Chiavarini, et al. (2023). “Synthetic and Natural Surfactants for Mobilizing Pahs in Marine Sediments for Remediation Purposes”. In: *Proceedings of the World Congress on New Technologies*. DOI: 10.11159/icepr23.135.
- Severi, M., S. Becagli, L. Caiazzo, R. Nardin, et al. (2023). “The 239Pu nuclear fallout as recorded in an Antarctic ice core drilled at Dome C (East Antarctica)”. In: *Chemosphere* 329. DOI: 10.1016/j.chemosphere.2023.138674.
- Amore, A. et al. (2022). “Source apportionment of sulphate in the High Arctic by a 10 yr-long record from Gruvebadet Observatory (Ny-Ålesund, Svalbard Islands)”. In: *Atmospheric Environment*. DOI: 10.1016/j.atmosenv.2021.118890.
- Becagli, S., E. Barbaro, et al. (2022). “Factors controlling atmospheric DMS and its oxidation products (MSA and nssSO₄²⁻) in the aerosol at Terra Nova Bay, Antarctica”. In: *Atmospheric Chemistry and Physics*. DOI: 10.5194/acp-22-9245-2022.
- D’Amico, M. et al. (2022). “Occurrence of the UV-filter 2-Ethylhexyl 4-methoxycinnamate (EHMC) in Antarctic snow: First results”. In: *Microchemical Journal* 183. DOI: 10.1016/j.microc.2022.108060.
- Bertinetti, Stefano, Francisco Ardini, Laura Caiazzo, et al. (2021). “Determination of major elements in Antarctic snow by inductively coupled plasma optical emission spectrometry using a total-consumption sample introduction system”. In: *Spectrochimica Acta Part B: Atomic Spectroscopy* 181, p. 106231. DOI: <https://doi.org/10.1016/j.sab.2021.106231>.
- Caiazzo, Laura, Silvia Becagli, et al. (2021). “High Resolution Chemical Stratigraphies of Atmospheric Depositions from a 4 m Depth Snow Pit at Dome C (East Antarctica)”. In: *Atmosphere* 12.7, p. 909. DOI: 10.3390/atmos12070909. URL: <https://doi.org/10.3390/atmos12070909>.
- Caiazzo, Laura, Giulia Calzolari, et al. (2021). “Carbonaceous Aerosol in Polar Areas: First Results and Improvements of the Sampling Strategies”. In: *Atmosphere* 12.3, p. 320. DOI: 10.3390/atmos12030320. URL: <https://doi.org/10.3390/atmos12030320>.

- Nardin, Raffaello, Mirko Severi, et al. (2021). "Dating of an East Antarctic ice core (GV7) by high resolution chemical stratigraphies". In: DOI: 10.5194/cp-2021-44. URL: <https://doi.org/10.5194%2Fcp-2021-44>.
- Bertinetti, Stefano, Francisco Ardini, Maria Alessia Vecchio, et al. (2020). "Isotopic analysis of snow from Dome C indicates changes in the source of atmospheric lead over the last fifty years in East Antarctica". In: *Chemosphere* 255, p. 126858. DOI: <https://doi.org/10.1016/j.chemosphere.2020.126858>.
- Nardin, Raffaello, Alessandra Amore, et al. (2020). "Volcanic Fluxes Over the Last Millennium as Recorded in the Gv7 Ice Core (Northern Victoria Land, Antarctica)". In: *Geosciences* 10.1. DOI: 10.3390/geosciences10010038.
- Becagli, Silvia et al. (2019). "Biogenic Aerosol in the Arctic from Eight Years of MSA Data from Ny Ålesund (Svalbard Islands) and Thule (Greenland)". In: *Atmosphere* 10.7. ISSN: 2073-4433. DOI: 10.3390/atmos10070349. URL: <https://www.mdpi.com/2073-4433/10/7/349>.
- Choi, JH et al. (2019). "Influence of biogenic organics on the chemical composition of Arctic aerosols". In: *Global Biogeochemical Cycles* 33.10, pp. 1238–1250.
- Giardi, F., R. Traversi, et al. (2018). "Determination of Rare Earth Elements in multi-year high-resolution Arctic aerosol record by double focusing Inductively Coupled Plasma Mass Spectrometry with desolvation nebulizer inlet system". In: *Science of the Total Environment* 613-614, pp. 1284–1294.
- Caiazzo, L., G. Baccolo, et al. (2017). "Prominent features in isotopic, chemical and dust stratigraphies from coastal East Antarctic ice sheet (Eastern Wilkes Land)". In: *Chemosphere* 176, pp. 273–287.
- Moroni, B. et al. (2017). "Morphochemical characteristics and mixing state of long range transported wildfire particles at Ny-Ålesund (Svalbard Islands)". In: *Atmospheric Environment* 156, pp. 135–145.
- Severi, M., S. Becagli, L. Caiazzo, V. Ciardini, et al. (2017). "Sea salt sodium record from Talos Dome (East Antarctica) as a potential proxy of the Antarctic past sea ice extent". In: *Chemosphere* 177, pp. 266–274.
- Traversi, R. et al. (2017). "Multi-year record of atmospheric and snow surface nitrate in the central Antarctic plateau". In: *Chemosphere* 172, pp. 341–354.
- Becagli, S., L. Lazzara, et al. (2016). "Relationships linking primary production, sea ice melting, and biogenic aerosol in the Arctic". In: *Atmospheric Environment* 136, pp. 1–15.
- Caiazzo, L., S. Becagli, et al. (2016). "Spatial and temporal variability of snow chemical composition and accumulation rate at Talos Dome site (East Antarctica)". In: *Science of the Total Environment* 550, pp. 418–430.
- Ferrero, Luca et al. (Oct. 2016). "Vertical profiles of aerosol and black carbon in the Arctic: a seasonal phenomenology along 2 years (2011–2012) of field campaigns". In: *Atmospheric Chemistry and Physics* 16.19, pp. 12601–12629. DOI: 10.5194/acp-16-12601-2016. URL: <https://doi.org/10.5194%2FACP-16-12601-2016>.
- Giardi, F., S. Becagli, et al. (2016). "Size distribution and ion composition of aerosol collected at Ny-Ålesund in the spring-summer field campaign 2013". In: *Rendiconti Lincei* 27, pp. 47–58.
- Udisti, R. et al. (2016). "Sulfate source apportionment in the Ny-Ålesund (Svalbard Islands) Arctic aerosol". In: *Rendiconti Lincei* 27, pp. 85–94.

Technical Reports

- Traversi, Rita et al. (Jan. 2021). *Arctic haze in a climate changing world: the 2010-2020 trend (HAZECLIC)*. SESS Report 2020 - the State of Environmental Science in Svalbard - an Annual Report. Longyearbyen: Svalbard Integrated Arctic Earth Observing System. DOI: 10.5281/zenodo.4293826. URL: <https://doi.org/10.5281/zenodo.4293826>.