

Biographical Sketch

Higher Education

2013- 2016	PhD in physics of the atmosphere, Faculty of Physics, University of Ferrara, Italy, PhD supervisor Federico Fierli
2009 – 2012	MSc, Diploma degree in Atmospheric Physics and Meteorology, Faculty of Physics, Università degli studi di Tor Vergata, Roma (Italy)
2005- 2009	BSc in Physics, Faculty of Physics, Università degli studi di Tor Vergata, Roma (Italy)

Previous Appointments & Positions

2020 - 2026	Research scientist (Department of Meteorology and Geophysics, University of Vienna; Vienna, Austria)
2017 – 2020	Research scientist (Laboratoire de Météorologie Dynamique (LMD) of the Institute Pierre Simon Laplace (IPSL), Paris, France)
2016-2017	Research scientist (Institute of Atmospheric Sciences and Climate (ISAC) of the Italian National Research Council (CNR), Rome, Italy)

Grants/Third Party Funding/Projects, Fellowships and Awards

2024-ongoing	French National Program of Space Remote Sensing (PNTS) , Title: "Microplastiques Atmosphérique Par Satellite: exploration des propriétés optiques pour la télédétection (MAPS), funds: 86000 € Role: PI
2024-ongoing	National Center of Spatial studies (CNES, France), Project title: EarthCare2025, Title of the Work Package: "Investigating the potential of active satellite observations for the identification of atmospheric microplastics", funds for the WP: 6000 €, Role: Work Package investigator
2024-ongoing	Hochschuljubiläumsstiftung der Stadt Wien: Title: „Plastic microfibers in the air: do we breathe our clothes?“, funds: 12000 € Role: PI
2023 - ongoing	Emerging Field grant. Title: “Microplastics as Anthropocene markers and proxies for sediment connectivity in fluvial systems”, funds: PhD fellowship in the VISESS school, role: collaborator and co-supervisor
2019	Balloon project Hemera. Title: “Monitoring of trace gases and aerosols in the stratosphere for climate change analysis”. Funds: a stratospheric balloon flight, travel and accommodation to Svalbard for up to 3 team members. Role: Co-PI
2018	Early Career Scientist Outstanding Poster Award , SPARC General Assembly. Award sponsored by the Google Project Loop: 300 \$
2013-2018	4 Travel grants as Early Career Researcher SPARC,STANCO, IGAC,ACCENT-Plus

Lecturer: at Department of Meteorology and Geophysics, University of Vienna, Austria.
[Link list lectures](#)

Organization of scientific meetings: from 2020 until now: 2 EGU sessions as main convener and 6 as co-convener

Member of the Master thesis Committee: 2016, University of Rome Tor Vergata, Italy

A brief summary of scientific career:

During my participation in large European projects, I served as a **key figure for atmospheric dynamic and composition forecasting** to interpret data. Noteworthy contributions include acting as reference person for weather and pollutant transport forecast to design flights for aircraft campaigns (StratoClim, STANCO), taking care of remote sensing ground measurements during field campaigns (AirSeaLab) and developing a modelling tool, with open access data and plots ([link here](#)) for MOSAIC (the world's largest polar research expedition). My diverse experience in **atmospheric pollution questions**, utilizing various composition data and tools, has equipped me with unique skills in atmospheric data analysis, source apportionment and transport analysis.

I have also been engaged in several teaching activities (4 master level courses, and 2 bachelor level ones), including the supervision and training of early career scientists and students. I participated as **invited lecturer in summer schools** and served as a visiting scientist at Cochin University, India, to **train a PhD**

student. I mentored 10 undergraduate students on topics of atmospheric pollution, emissions and transport and on the special issue of atmospheric microplastic. I have also been a mentor in the AGU college of fellows mentoring network, where I have been responsible as a **career mentor** for 3 young postdocs.

10 Selected Publications

1. Evangelou, I., **Bucci, S.** & Stohl, A. Atmospheric microplastic emissions from land and ocean. *Nature* 649, 1186–1189 (2026). <https://doi.org/10.1038/s41586-025-09998-6>
 2. **Bucci, S. et al.** (2024) "Exploring the seasonal path of oceanic microplastics in the atmosphere", *Environmental Science & Technology*, <https://pubs.acs.org/doi/10.1021/acs.est.4c03216>
 3. Sonke, J.E., Segur, T. & Bucci, S. Plastic Ponzi scheme. *npj Emerg. Contam.* **1**, 4 (2025). <https://doi.org/10.1038/s44454-025-00006-0>
 4. Tatsii, D, **Bucci, S.** et al 2023 ."Shape matters: Long-range transport of microplastic fibers in the atmosphere". *Environmental Science Technology* .<https://doi.org/10.1021/acs.est.3c08209>
 5. Dada, L., et al. (2022). "A central arctic extreme aerosol event triggered by a warm air-mass intrusion". *Nature Communications* ,13 <https://doi.org/10.1038/S41467-022-32872-2>
 6. **Bucci, S.** , et al. (2020). "Deep-convective influence on the upper troposphere-lower stratosphere composition in the asian monsoon anticyclone region: 2017 stratoclim campaign results". *Atmospheric Chemistry and Physics* , 20 , 12193–12210. <https://doi.org/10.5194/ACP-20-12193-2020>
 7. Legras, B., and **Bucci, S.** (2020). "Confinement of air in the asian monsoon anticyclone and pathways of convective air to the stratosphere during the summer season". *Atmospheric Chemistry and Physics* , 20 ,11045–11064. <https://doi.org/10.5194/ACP-20-11045-2020>
 8. Höpfner, M. et al. (2019). "Ammonium nitrate particles formed in upper troposphere from ground ammonia sources during asian monsoons". *Nature Geoscience* , 12 , 608–612. <https://doi.org/10.1038/S41561-019-0385-8>
 9. **Bucci, S.** et al (2018). "Vertical distribution of aerosol optical properties in the po valley during the 2012 summer campaigns". *Atmospheric Chemistry and Physics* , 18 , 5371–5389. <https://doi.org/10.5194/ACP-18-5371-2018>
 10. **Bucci, S.**, Cagnazzo, C., Cairo, F., Di Liberto, L., and Fierli, F. (2014): Aerosol variability and atmospheric transport in the Himalayan region from CALIOP 2007–2010 observations, *Atmos. Chem. Phys.*, 14, 4369–4381, <https://doi.org/10.5194/acp-14-4369-2014>.
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Complete Publication List

Link: <https://orcid.org/0000-0002-6251-9444>
