Stefano Ponti, born in Varese on 16-03-1990

- 01/10/2024 – ongoing: Researcher position type B (240/10 art.24-b, University of Insubria, Varese - Italy)
- 17/09/2024: Winner of the "Simona Fratianni" prize for the best 2023 scientific publication of a young geomorphologist (AIGeo, Lecco, Italy)
- 29/09/23: National Scientific Qualification as associate professor or the disciplinary field of 04/A3, Engineering geology, physical geography and geomorphology
- 2022: Researcher position type A (240/10 art.24-a, University of Insubria, Varese - Italy): Use of remote sensing techniques to mitigate the effects of climate change in urban and extreme areas
- 2021: 24 CFU for teaching at high schools
- 2021: Qualification to the profession of Agronomist
- 2018: PhD in Chemical and Environmental Sciences (University of Insubria, Varese - Italy) "Analysis of the impacts of geomorphological disturbance on alpine and polar vegetation".
- 2014: M.Sc. in Environmental Sciences (University of Insubria, Varese - Italy) "Relationships between vegetation communities, active layer thickness, soil characteristics and CO2 fluxes at Adventdalen area". Final vote 110/110 with honors.
- 2014: Glaciology master course at University Centre in Svalbard (Norway)

ACADEMIC INDEXING

- SCOPUS: 20 documents, 242 citations, h-index 10
- WEB OF SCIENCE: 19 documents, 216 citations, h-index 10

TEACHING ACTIVITY

- 2022 – ongoing: Teaching of 2 courses: Applied Geomorphology and Climate Change (University of Insubria)
- 2020 - ongoing: Teaching of Photogrammetry and remote sensing techniques for MSc and/or PhD students (University of Insubria)
- 2020 – 2021: Integrative teaching activity of Physical Geography and Geomorphology
- 2020 – 2022: Laboratory of Remote Sensing for Geosciences and GIS
- 2016 – 2017: Integrative teaching activity of: a) Physical Geography and Geomorphology, b) Palaeoclimate and Climate Change
- 2015 – 2016: Integrative teaching activity of Physical Geography and Geomorphology
- 2014 – 2015: Integrative teaching activity of: a) Physical Geography and Geomorphology, b) Impacts of the Climate Change, c) Vegetation Biodiversity and Climate Change

RESEARCH ACTIVITY

- 2013 - 2025: 8 Arctic expeditions organized by CNR and the University of Insubria for the study of permafrost, vegetation and CO2 fluxes:
    - 2013 (5 months) at Longyearbyen (Svalbard - Norway)
    - 2014 (10 days) at Ny-Ålesund (Svalbard – Norway)
    - 2015 (10 days) at Ny-Ålesund (Svalbard – Norway)
    - 2016 (4 months) at Ny-Ålesund (Svalbard – Norway)
    - 2018 (10 days) at Ny-Ålesund (Svalbard – Norway)
    - 2019 (8 days) at Ny-Ålesund (Svalbard – Norway)
    - 2024 (one month) at Toolik Field Station (Alaska, USA), Insubre Polar Project

    - 2025 (one month) at Toolik Field Station (Alaska, USA), Insubre Polar Project
- 2017 - 2025: 8 Antarctic expeditions for the study of permafrost, vegetation and periglacial processes, organized by PNRA, Roma (Italy) and British Antarctic Survey (BAS, UK):
    - 2017 (1 month) at Mario Zucchelli Station (MZS) (Terra Nova Bay, North Victoria Land, Antarctica)
    - 2017 (4 months) at Signy Research Station (South Orkney Islands, BAS, UK)
    - 2018 (3 months) at Mario Zucchelli Station (MZS) (Terra Nova Bay, North Victoria Land, Antarctica)
    - 2019 (1 month) at Mario Zucchelli Station (MZS) (Terra Nova Bay, North Victoria Land, Antarctica
    - 2021 (1 month) at Mario Zucchelli Station (MZS) (Terra Nova Bay, North Victoria Land, Antarctica
    - 2022 (1 month) at Mario Zucchelli Station (MZS) (Terra Nova Bay, North Victoria Land, Antarctica
    - Jan 2023 (14 days) at Rothera Research Station (Adelaide Island, BAS, UK) and HMS Protector.
    - 2023 (1 month) at Mario Zucchelli Station (MZS) (Terra Nova Bay, North Victoria Land, Antarctica
    - 2024 (1 month) at Mario Zucchelli Station (MZS) (Terra Nova Bay, North Victoria Land, Antarctica
    - 2025 (1.5 month) at Mario Zucchelli Station (MZS) (Terra Nova Bay, North Victoria Land, Antarctica

<u>WORK ACTIVITY</u>

- 03/04/2018 – 03/03/2019: Self-employed at University of Insubria, Varese (Italy): Analysis of permafrost and active layer data and summer fieldwork at the cryotic area of Ny-Ålesund (Svalbard, Norway)
- 01/09/2019 – 31/05/2020: Self-employed at University of Insubria, Varese (Italy): Analysis and comparison of alpine, Antarctic, arctic permafrost and active layer data
- 01/09/2020 – 31/01/2021: Scholarship: RUS Activity Climate Change (University of Insubria, Varese, Italy)
- 01/03/2021 – 30/04/2021: Self-employed at University of Insubria, Varese (Italy): 3D reconstruction of Permafrost on Mount Scorluzzo through the software Comsol
- 01/06/2021 – 31/12/2021: Self-employed at University of Insubria, Varese (Italy): Analysis of the permafrost evolution and its landforms in Continental Antarctica

<u>SCIENTIFIC RESPONSIBILITY</u>

- 25/04/2016 – 25/08/2016: Responsible of the Italian Arctic Station “Dirigibile Italia” of CNR (Ny-Alesund, Svalbard, Norway)
- 27/01/2022 – December 2023: responsible of the operation unit of the Italian Antarctic project IPECA (PNRA18_00186 - Line E)
- 01/11/2022 – 30/04/2024: Guest Editor of the special issue “Remote Sensing of Cryosphere and Related Processes” in Remote Sensing (MDPI).
- 05/02/2021 - ongoing: Member of the Climate Change Research Center (CCRC) at University of Insubria (Varese, Italy)
- 23/03/2023 – June 2024: Convenor of 2 Sessions at International Conference on Permafrost (ICOP 2024, Whitehorse, Canada, 16-20 June 2024)
- 23/03/2023 – September 2024: Member of the Executive Committee of Permafrost Young Researchers Network (PYRN)

- December 2023 – August 2024: Co-converor at the 11th Scientific Committee on Antarctic Research SCAR Open Science Conference (Pucón, Chile, 19-23 August 2024)
- January 2024: Member of the working Group "GeomorphAI" (Italian Association of Physical Geography and Geomorphology - AIGeo)
- 1-2 March 2024: Convenor of the session "Glacial and periglacial geomorphology" at the X AIGeo Italian Young Geomorphologists' Day & III IAG International Young Geomorphologists' Meeting - 'Climate change and the role of early-career geomorphologists'.
- 05/03/2024 – 30/09/2025: Member of the Topical Advisory Panel of Remote Sensing (MDPI)
- March 2025 – December 2026: PI of the project PERMAROCK (University of Insubria)

OTHER RESPONSIBILITY

- September 2019 – December 2023: Coordinator of the municipal group of Civil Protection (Castelseprio, VA, Italy)
- 2019 – 2024: City councilor with delegation to Ecology, Environment and Civil Protection (Castelseprio, VA, Italy)
- 2025 – ongoing: City councilor with delegation to Ecology, Environment and Civil Protection (Castelseprio, VA, Italy)

PUBLICATIONS

1) Ponti, S., Cannone, N. and Guglielmin, M. (2018). Needle ice formation, induced frost heave and frost creep: a case study through photogrammetric technique at Stelvio Pass (Italian Central Alps). *Catena, 164*, 62-70. IF 2018: 3.85. Scopus Citations: 14
2) Guglielmin, M., Ponti, S., & Forte, E. (2018). The origins of Antarctic rock glaciers: periglacial or glacial features?. *Earth Surface Processes and Landforms*, *43*(7), 1390-1402. IF 2018: 3.6. Scopus Citations: 21
3) Cannone, N., Ponti, S., Christiansen, H. H., Christensen, T. R., Pirk, N., & Guglielmin, M. (2019). Effects of active layer seasonal dynamics and plant phenology on CO2 land-atmosphere fluxes at polygonal tundra in the High Arctic, Svalbard. *Catena*, *174*, 142-153. IF 2019: 4.33. Scopus Citations: 18
4) Ponti, S., Cannone, N. & Guglielmin, M. (2021). A new simple topo-climatic model to predict surface displacement in paraglacial and periglacial mountains of the European Alps: The importance of ground heating index and floristic components as ecological indicators. *Ecological Indicators, 120,* 106889. IF 2021: 6.26. Scopus Citations: 19
5) Cannone, N., Ponti, S. & Malfasi, F. (2021). A pilot project to limit the human impacts on the fragile antarctic biota: Mitigation of a runway through vegetation transplantation. *Sustainability, 13*(2)*,* 811. IF 2021: 3.89. Scopus Citations: 3
6) Ponti, S., Pezza, M. & Guglielmin, M. (2021). The development of Antarctic tafoni: Relations between differential weathering rates and spatial distribution of thermal events, salts concentration and mineralogy. *Geomorphology*, *373*, 107475. IF 2021: 4.4. Scopus Citations: 14
7) Guglielmin, M., Ponti, S., Forte, E., Cannone, N. (2020). Recent thermokarst evolution in the Italian Central Alps. *Permafrost and Periglacial Processes, 32*(2), 299-317. IF 2021: 4.3. Scopus Citations: 17
8) Ponti, S., Scipinotti, R., Pierattini, S., & Guglielmin, M. (2021). The Spatio-Temporal Variability of Frost Blisters in a Perennial Frozen Lake along the Antarctic Coast as Indicator of the Groundwater Supply. *Remote Sensing, 13(3),* 435. IF 2021: 5.35. Scopus Citations: 10
9) Ponti, S., & Guglielmin, M. (2021). Shore Evidences of a High Antarctic Ocean Wave Event: Geomorphology, Event Reconstruction and Coast Dynamics through a Remote Sensing Approach. *Remote Sensing, 13(3),* 518. IF 2021: 5.35. Scopus Citations: 6

10) Sannino, C., Borruso, L., Mezzasoma, A., Battistel, D., Ponti, S., Turchetti, B., ... & Guglielmin, M. (2021). Abiotic factors affecting the bacterial and fungal diversity of permafrost in a rock glacier in the Stelvio Pass (Italian Central Alps). *Applied Soil Ecology*, *166*, 104079. IF 2021: 5.51. Scopus Citations: 15
11) Forte, E., Santin, I., Ponti, S., Colucci, R. R., Gutgesell, P., & Guglielmin, M. (2021). New insight glaciers by differential diagnosis integrating GPR and remote sensing techniques: a case study for the Eastern Gran Zebrù glacier (Central Alps). *Remote Sensing of Environment*, *267*, 112715. IF 2021: 13.85. Scopus Citations: 28
12) Guglielmin, M., Azzaro, M., Buzzini, P., Battistel, D., Roman, M., Ponti, S., ... & Lo Giudice, A. (2023). A possible unique ecosystem in the endoglacial hypersaline brines in Antarctica. *Scientific Reports*, 13(1), 177. IF 2022: 4.6. Scopus Citations: 13
13) Santin, I., Forte, E., Nicora, M., Ponti, S., & Guglielmin, M. (2023). Where does a glacier end? Integrated geophysical, geomorphological and photogrammetric measurements to image geometry and ice facies distribution. *Catena*, 225, 107016. IF 2022: 6.2. Scopus Citations: 8
14) Ponti, S. and Guglielmin, M. (2023). How can the floor area types of a university campus mitigate the increase of urban air temperature? *Landscape and Ecological Engineering*, 1-17. IF 2022: 2.0. Scopus Citations: 7
15) Sannino, C., Borruso, L., Mezzasoma, A., Turchetti, B., Ponti, S., Buzzini, P., Mimmo, T. and Guglielmin, M. (2023). The unusual dominance of the yeast genus Glaciozyma in the deeper layer in an Antarctic permafrost core (Adélie Cove, Northern Victoria Land) is driven by elemental composition. *Journal of Fungi*, *9*(4), 435. IF 2022: 4.7. Scopus Citations: 10
16) Ponti, S. and Guglielmin, M. (2023). Advances in understanding the cooling rates and bending of needle ice: photogrammetric and thermal observations leading to the spatial distribution of needle ice creep. *Earth Surface Processes and Landforms,* 48(13), 2463-2479. IF 2022: 3.3. Scopus Citations: 2
17) Hrbáček, F., Oliva, M., Hansen, C., Balks, M., O'Neill, T.A., de Pablo, M.A., Ponti, S., … & Lacelle, D. (2023). Active layer and permafrost thermal regimes in the ice-free areas of Antarctica. *Earth-Science Reviews*, 104458. IF 2022: 12.1. Scopus Citations: 32
18) Cannone, N., Guglielmin, M. and Ponti, S. (2023). Suitability and limitations of ground-based imagery and thermography for long-term monitoring of vegetation changes in Victoria Land (continental Antarctica). *Ecological Indicators*, 156, 111080. IF 2022: 6.9. Scopus Citations: 2
19) Ponti, S., Girola, I., Guglielmin, M. (2024). Thermal photogrammetry on a permafrost rock wall for the active layer monitoring. *Science of the Total Environment*, 170391. IF 2022: 9.8. Scopus Citations: 3
20) Chaturvedi, V., Ponti, S., & Guglielmin, M. (2025). Active layer modelling at Stelvio Pass, Italian Alps. Cold Regions Science and Technology, 104762.

<u>OTHER PUBLICATIONS:</u>

1) Cannone N., Ponti S., Guglielmin M., Christensen T., Parmentier F. J., Pirk N. & Christiansen H. (2016). Active layer thickness and vegetation phenology as key factors affecting the variability of CO2 fluxes in polar environments. International Conference on Permafrost (ICOP) 2016, Potsdam (Germany), 20-24 June 2016.doi: 10.2312/GFZ.LIS.2016.001.
2) Guglielmin, M., Ponti, S., Vitale, V. & Cannone, N. (2016). The Eco-Grid of Ny-Alesund: A multidisciplinary approach to investigate the Climate Change effects in the Arctic. International Conference on Permafrost (ICOP) 2016, Potsdam (Germany), 20-24 June 2016.doi: 10.2312/GFZ.LIS.2016.001.
3) Ponti, S., Cannone, N. & Guglielmin, M. (2017). Relationships between geomorphic disturbance dynamics and vegetation change in central Alps. Proceedings: Students in Polar and Alpine Research Conference, 20 – 22 April 2017, Brno (Czech Republic). ISBN 978-80-21 0-8564-0.
4) Guglielmin, M., Ponti, S., Vitale, V. and Cannone, N. (2017). The Eco-Grid of Ny-Alesund: A multidisciplinary approach to investigate the Climate Change effects in the Arctic. Proceedings: Students in Polar and Alpine Research Conference, 20 – 22 April 2017, Brno (Czech Republic). ISBN 978-80-21 0-8564-0.
5) Ponti, S., Longhi, A., Tarca, G., Picone, S., Barresi, G. and Guglielmin, M. (2021). Cambiamento climatico e innovazione tecnologica nello studio della criosfera. Atti del Convegno “Lo Scienziato Ambientale dal

mondo del lavoro a quello della scienza", 03-02-2021, Varese (Italy). ISBN: 978-88-904708-5-1.
6) Ponti, S., Girola, I. and Guglielmin, M., 2024. Thermal photogrammetry on a permafrost rock wall for the active layer monitoring. X AIGeo Italian Young Geomorphologists' Day & III IAG International Young Geomorphologists' Meeting - 'Climate change and the role of early-career geomorphologists', Venice 1-2 March 2024 (Italy). doi: https://doi.org/10.3301/ABSGI.2024.01.

PRESENTATIONS

1) Ponti Stefano, Cannone Nicoletta and Guglielmin Mauro, 2016. Relationships between geomorphic disturbance dynamics and vegetation change in central Alps. Students in Polar and Alpine Research Conference (SPARC) 2017, Brno (Czech Republic), 20-22 April 2017.
2) Ponti Stefano, Cannone Nicoletta and Guglielmin Mauro, 2016. Relationships between geomorphic disturbance dynamics and vegetation change in central Alps. British Ecological Society (BES) 2016, Liverpool (UK), 11-14 December 2016.
3) Cannone N., Ponti S., Guglielmin M., Christensen T., Parmentier F. J., Pirk N. and Christiansen H., 2016. Active layer thickness and vegetation phenology as key factors affecting the variability of CO2 fluxes in polar environments. International Conference on Permafrost (ICOP) 2016, Potsdam (Germany), 20-24 June 2016.
4) Guglielmin Mauro, Ponti Stefano, Vitale Vito and Nicoletta Cannone, 2016. A multidisciplinary approach to investigate the Climate Change effects in Arctic permafrost areas. UArctic Congress 12-16 September 2016, St. Petersburg, Russia.
5) Stefano Ponti and Mauro Guglielmin, 2019. Spatio-temporal variability of Antarctic tafoni. Are thermal events directly responsible for cavernous weathering? ISAES 2019: XIII International Symposium on Antarctic Earth Sciences. 22-26 July 2019, Incheon, Republic of Korea.
6) Stefano Ponti, Riccardo Scipinotti, Samuele Pierattini and Mauro Guglielmin, 2019. Dynamics of frost mounds and icing blisters in perennially frozen lake in continuous permafrost areas of continental Antarctica (Terra Nova Bay, 74° S). ISAES 2019: XIII International Symposium on Antarctic Earth Sciences. 22-26 July 2019, Incheon, Republic of Korea.
7) Stefano Ponti, Francesco Malfasi, Peter Convey, Nicoletta Cannone and Mauro Guglielmin, 2019. Active layer modeling at Signy Island (maritime Antarctica) and the role of the surface type. ISAES 2019: XIII International Symposium on Antarctic Earth Sciences. 22-26 July 2019, Incheon, Republic of Korea.
8) Ponti Stefano and Guglielmin Mauro, 2022. Shore Evidences of a High Antarctic Ocean Wave Event: Geomorphology, Event Reconstruction and Coast Dynamics through a Remote Sensing Approach. XVI ICRSS. 16-20 May 2022, Fairbanks, Alaska.
9) Ponti Stefano, Scipinotti Riccardo, Pierattini Samuele and Guglielmin Mauro, 2022. The Spatio-Temporal Variability of Frost Blisters in a Perennial Frozen Lake along the Antarctic Coast as Indicator of the Groundwater Supply. XVI ICRSS. 16-20 May 2022, Fairbanks, Alaska.
10) Stefano Ponti and Mauro Guglielmin, 2022. Remote sensing from the Alps to the Antarctic: geomorphic analyses through photogrammetry, thermography and satellite imagery. IX Italian young Geomorphologists' Day. 6 October 2022, Palermo, Italy.
11) Stefano Ponti, Irene Girola and Mauro Guglielmin, 2023. Thermal photogrammetry as tool for rock wall active layer thickness modelling. 6th European Conference on Permafrost, 18-22 June 2023 (Puigcerdà, Spain).
12) Stefano Ponti and Mauro Guglielmin, 2023. A new CALM grid site in Continental Antarctica (North Victoria Land). 6th European Conference on Permafrost, 18-22 June 2023 (Puigcerdà, Spain).
13) Filip Hrbáček et al., 2023. Active layer and permafrost thermal regime in Antarctica: the overview of results in the period 2005-2020. 6th European Conference on Permafrost, 18-22 June 2023 (Puigcerdà, Spain).
14) Stefano Ponti and Mauro Guglielmin, 2023. UAV in ambito geomorfologico e periglaciale. Workshop "Droni, scienza e resilienza", 24 October 2023 (Varese, Italy).

15) Stefano Ponti and Mauro Guglielmin, 2024. Come possono le superfici calpestabili di un campus universitario mitigare il riscaldamento urbano della temperatura dell'aria? Workshop "Resilienza al cambiamento climatico in aree urbane e alpine", 02 February 2024 (Varese, Italy).
16) Stefano Ponti, Irene Girola, Mauro Guglielmin, 2024. Thermal photogrammetry on a permafrost rock wall for the active layer monitoring. International Conference on Permafrost (ICOP 2024, Whitehorse, Canada, 16-20 June 2024)
17) Nicoletta Cannone, Francesco Malfasi, Stefano Ponti, Alessandro Longhi, Peter Convey, Mauro Guglielmin, 2024. Relations between soils, vegetation types and active layer thickness at Signy Island. 11th Scientific Committee on Antarctic Research SCAR Open Science Conference (Pucón, Chile, 19-23 August 2024).
18) Stefano Ponti, Francesco Grifoni and Mauro Guglielmin, 2024. Anthropic disturbance to the Antarctic permafrost: a case study of an airstrip construction. 11th Scientific Committee on Antarctic Research SCAR Open Science Conference (Pucón, Chile, 19-23 August 2024).

LICENCES

- UAV pilot n. ITA-RP-000018799ACW, 60 hours of flight experience in high-altitude environments

PROFESSIONAL SKILLS

- Planning and management of aerial and ground-based photogrammetric surveys
- Thermal analysis
- Object-based image classification
- Spatial analysis in ArcGIS
- Multispectral analysis

*Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679)*

Data: 22/12/2025

Firma: