

Curriculum Vitae – 2023

Name: Stanchi Silvia

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Academic degrees

->PhD Agricultural, Forest & Food Sci. 31/01/2006 (University of Torino).

->Msc. Forest Sciences 05/11/99 (University of Torino) magna cum laude

Current & past positions

->01-10/2020 – present: Associate Professor (Soil physics & Pedology) at DISAFA, University of Torino

->01/10/2017 – 30/09/2020: tenure-track researcher at DISAFA, University of Torino

->01/10/2012 – 30/09/2017: researcher at DISAFA, University of Torino

->1/11/2005 - 30/09/2012: Post Doc researcher at DISAFA, University of Torino

->01/11/2002 - 31/10/2005: PhD student at DISAFA, University of Torino

->01/06/2001 - 31/10/2002: research fellow researcher at DISAFA, University of Torino

Main research interests

I am working on land degradation and soil erosion, and in particular on: the relationships among soil physical & chemical properties and erodibility/erosion; soil erosion modelling and prediction in different environments; erosion assessment and remediation; effects of natural and anthropogenic disturbance on soil erosion and degradation. My main focus is on alpine soils, vineyard and terraced soils from a cross-sectoral perspective putting together agriculture, landscape conservation, tourism & forestry. I am also interested in soil physical quality, aggregate stability and soil mechanic properties.

Relevant research experiences

->15/01/2005 - 25/04/2005, Visiting scholar at UTK University of Tennessee – Knoxville (USA). Supervisor Prof. Edmund Perfect

Teaching activities

->Course PEDOLOGIA GENERALE E FISICA DEL SUOLO (8 CFU, AGR010, L Scienze Forestali e Ambientali), AA 2021/22, 2022/23

->Module SOILSCAPES AND LAND USE PLANNING (4CFU, SAF0274, LM Scienze Agrarie, curriculum Sustainable Farming Systems) – Integrated course LAND AND SOIL RESOURCES AA 2020/21, 2021/22, 2022/23

->Corso DECISION SUPPORT SYETEMS FOR CROP MANAGEMENT (3CFU, SAF0277, LM Scienze Agrarie, curriculum Sustainable Farming Systems) AA 2020/21, 2021/22, 2022/23

->Course PEDOLOGIA GENERALE E FISICA DEL SUOLO (6 CFU, AGR010, L Scienze Forestali e Ambientali), AA 2017/18, 2018/19, 2019/20

->Module SOIL USE AND PROTECTION (2CFU, SAF0128, LM Scienze Agrarie, curriculum Sustainable Farming Systems) – Integrated course WATER AND NUTRIENT CYCLING IN CROPPING SYSTEMS, AA 2017/18, 2018/19, 2019/20, 2021/22, 2022/23

->Course VITICULTURAL PEDOLOGY (5CFU, INT0622, European Master of Science of Viticulture and Enology – Vinifera), AA 2012/13, AA 2013/14, 2014/15, 2015/16

->Module PRINCIPLES OF PEDOLOGY (4 CFU, AGR0379, LM Scienze Agrarie, curriculum Sustainable Farming Systems) Integrated course SOIL PLANT CLIMATE SYSTEM MODELING 1, AA 2013/14, 2014/15, 2015/16, 2016/17

->ESERCITAZIONI INTERDISCIPLINARI (1 CFU, AGR0329, L Scienze Forestali e Ambientali) AA 2015/2016, 2016/2017, 2018/19

Project participation & management

->2022-2023 participation in “Soilfire” project funded by Compagnia di Sanpaolo, PI Prof. Davide Ascoli

- >2021-2022 Participation in the Public Engagement project “EscapeTOLearn” at University of Torino- PI Prof.ssa Alessandra Bianco-Prevot
- > 2020-2022 participation in the CRT Foundation Project “Strumenti per la valutazione del rischio di degradazione del suolo e la gestione dei boschi piemontesi percorsi da incendio. PI Prof. Raffaella Marzano
- >2021 participation in “Progetto pilota per la cooperazione ed il miglioramento della competitività della castanicoltura regionale (3C)” PI prof. Eleonora Bonifacio
- >Co responsible Interreg Alpine Space P “Links4Soils” - Linking Alpine Soil Knowledge for Sustainable Ecosystem Management and Capacity Building. Start date 01/11/2016. Duration 3y
- >2020-2021 Participation in the Public Engagement project “All4Science – Science4All” at University of Torino- PI Prof.ssa Giuliana Magnacca
- >2020 -Participation in WP3 of the INTERRACED – NET – Interreg
- >Participation in the Project TERRASUS “The Effect of Root Reinforcement as an indicator in soil SUSceptibility mapping in mountain ecosystems”. (Initiative FP7-PEOPLE COFUND nr. 609402 – “2020 Researchers Train2Move”). PI Prof. Michele Freppaz. Start date 01/04/15. Duration 2 y
- >Participation in the national project PRIN 2010-2011 “Dinamica dei sistemi morfoclimatici in risposta ai cambiamenti globali e rischi geomorfologici indotti”, Protocollo 2010AYKTAB_004. National coordinator Prof. Baroni (Università di Pisa), Reserach Unit Responsible Dott. Michele Freppaz, DISAFA, Università di Torino. Start date 01/02/2013. Duration 3y
- >Responsible of Agreement Between the Food and Agriculture Organization of the United Nations (“FAO”) and Università di Torino – Department of Agricultural, Forest and Food Sciences (DISAFA) - Interdepartmental Research Centre on Natural Risks in Mountain and Hilly Environments (NatRisk) For provision of “Support to the organization of the 2018 International Programme on Research and Training on Sustainable Management of Mountain Areas (IPROMO) course”
- >10/07/2006-9/10/2006: research activities - EU-INTERREG IIIB 2000-2006 Spazio Alpino “AlpTER – Terraced Landscapes of the Alpine Arc”

Organization of congresses, sessions, meetings, courses

- >Organizing Committee Second Joint Meeting Soil & Plant System Sciences (Torino, online, 20-23/08/21)
- >Co-convener Eurosoil 2020 session (sept. 2021, online) “Understanding and managing mountain soils, and related ecosystem services “
- >Event for World Soil Day 2019 – “The soil map of Aosta Valley” (Bard, AO, 06/12/2019)
- >Scientific Committee Links4Soils Summer School “Soils and soil ecosystem services” (Pokljuka, SL, 10-14/06/2019) targeting EU highschool students
- >organization meeting of the Interreg Alpine Space “Links4Soils” - Linking Alpine Soil Knowledge for Sustainable Ecosystem Management and Capacity Building (Torino, 14-15/3/ 2017)
- >Organizing Committee Giornate Pedologiche SiPE (Società Italiana di Pedologia), XI edizione (Ormea, CN, 19-21/09/2012)
- >Tutor Summer School IPROMO 2010 “Protecting Mountain Biodiversity” in collaborazione con FAO-Mountain Partnership Secretariat (01/10/2010-31/12/2010)
- > Organization & tutoring Summer School IPROMO 2009 “Developing economic opportunities for mountain areas” in collaborazione con FAO-Mountain Partnership Secretariat (29/08/2009-05/11/2009)
- > Organization & tutoring IPROMO 2008 “Mountain Environment and Global Change” in collaborazione con FAO-Mountain Partnership Secretariat (06/06/2008-05/11/2008)
- >Organization Committee Giornate Pedologiche SiPE (Susa, Coazze, Torino, 23-25/6/2002)
- > Organization Committee SICA conference (Torino,20-23/11/2005)

Publications with IF

Scopus metrics (access 21/03/2023)

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Documents: 35

Total citations:571

h-index: 15

Schaber, E., D'Amico, M.E., Pintaldi, E., Stanchi, S., Freppaz, M., Geitner, C. (2022). Soil function assessment in high-mountain environments: Testing the SEPP tool in a ski resort in the Italian Alps. *Soil Use and Management* 39, 485-502.

Zanella A., et al. (2022). Standardized Morpho-Functional Classification of the Planet's Humipedons. *Soil Systems*, 6, art no. 59.

Stanchi, S., Negri, S., D'Amico, M.E., Raimondo, E., Bonifacio, E., (2021). Atterberg limits fail in recognizing fragipan horizons. *Catena*, 202, art. no. 105282, .

Negri, S., Stanchi, S., Celi, L., Bonifacio, E. (2021). Simulating wildfires with lab-heating experiments: Drivers and mechanisms of water repellency in alpine soils. *Geoderma*, 402, art. no. 115357,

Stanchi S., Zecca O., Hudek C., Pintaldi E., Viglietti D., D'Amico M.E., Colombo N., Goslino D., Letey M., Freppaz M., 2021. Effect of Soil Management on Erosion in Mountain Vineyards (N-W Italy) *Sustainability* 13, 1-14.

Negri S., Raimondo E., D'Amico M.E., STANCHI S., Basile A., Bonifacio E. (2021). Loess-derived polygenetic soils of North-Western Italy: A deep characterization of particle size, shape and color to draw insights about the past. *Catena* 196, 104892.

Hudek C., Barni E., STANCHI S., D'Amico M.E., Pintaldi E., Freppaz M. (2020). Mid and long-term ecological impacts of ski run construction on alpine ecosystems. *Scientific reports*, 10, 11654.

Raimondo E., Falsone G., D'Amico M., STANCHI S., Celi L., Bonifacio E. (2019). Characteristics of fragipan B horizons developed on different parent material in North-Western Italy. *Archives of Agronomy and Soil Science* 65: 308-321.

Pintaldi E., D'Amico M., STANCHI S., Catoni M., Freppaz M., Bonifacio E. (2018). Humus forms affect soil susceptibility to water erosion in the Western Italian Alps. *Applied Soil Ecology* 123: 478-483.

Bonifacio E., D'Amico M., Catoni M., STANCHI S. (2018). Humus forms as a synthetic parameter for ecological investigations. Some examples in the Ligurian Alps (North-Western Italy). *Applied Soil Ecology* 123: 568-571.

STANCHI S., Catoni M., D'Amico M.E., Falsone G., Bonifacio E. (2017). Liquid and plastic limits of clayey, organic C-rich mountain soils: role of organic matter and mineralogy. *Catena* 151, 238-246.

Falsone G., STANCHI S., Bonifacio E. (2017). Simulating the effects of wet and dry on aggregate dynamics in argillic fragipan horizon. *Geoderma* 305: 407-416.

Hudek C., STANCHI S., D'Amico M., Freppaz M. (2017). Quantifying the contribution of the root system of alpine vegetation in the soil aggregate stability of moraine. *International Soil and Water Conservation Research* 5: 36-42.

Hudek C., Sturrock C.J., Atkinson B.S., STANCHI S., Freppaz M. (2017). Root morphology and biomechanical characteristics of high altitude plant species and their potential application in soil stabilization. *Ecological Engineering* 109: 228-239.

Pintaldi E., Hudek C., STANCHI S., Spiegelberger T., Rivella E., Freppaz M. (2017). Sustainable Soil Management in Ski Areas: Threats and Challenges. *Sustainability* 9: 1-17.

Maggioni M., Godone D., Höller, P., Oppi L., STANCHI S., Frigo B., Freppaz M. (2016). Snow gliding susceptibility: The Monterosa Ski resort, NW Italian Alps. *Journal of Maps*, 1-7, doi:10.1080/17445647.2016.1167785.

Falsone G., Celi L., STANCHI S., Bonifacio E. (2016). Relative Importance of Mineralogy and Organic Matter Characteristics on Macroaggregate and Colloid Dynamics in Mg-Silicate Dominated Soils. *Land Degradation & Development* 27: 1700-1708.

Belmonte S.A., Celi L., STANCHI S., Said-Pullicino D., Zanini E., Bonifacio E. (2016). Effects of permanent grass versus tillage on aggregation and organic matter dynamics in a poorly developed vineyard soil. *Soil Research* 54: 797-808

STANCHI S., D'Amico M., Zanini E., Freppaz M. (2015). Liquid and plastic limits of mountain soils as a function of the soil and horizon type. *Catena* 135: 114-121.

Martin M., STANCHI S., Jakeer Hossain K.M., Imamul Huq S.M., Barberis E. (2015). Potential phosphorus and arsenic mobilization from Bangladesh soils by particle dispersion. *Science of the Total Environment* 536: 973-980.

STANCHI S., Falsone G., Bonifacio E. (2015). Soil aggregation, erodibility, and erosion rates in mountain soils (NW Alps, Italy). *Solid Earth* 6: 403-414.

Curtaz F., STANCHI S., D'Amico M.E., Filippa G., Zanini E., Freppaz M. (2015). Soil evolution after land-reshaping in mountains areas (Aosta Valley, NW Italy). *Agriculture, Ecosystems and Environment* 199: 238-248.

Vacchiano G., STANCHI S., Marinari G., Ascoli D., Zanini E., Motta R. (2014). Fire severity, residuals and soil legacies affect regeneration of Scots pine in the Southern Alps. *Science of the Total Environment* 472: 778-788.

STANCHI S., Freppaz M., Ceaglio E., Maggioni M., Meusburger K., Alewell C., Zanini E. (2014). Soil erosion in an avalanche release site (Valle d'Aosta: Italy): towards a winter factor for RUSLE in the Alps. *Natural Hazard And Earth System Sciences* 14: 1761-1771.

STANCHI S., Freppaz M., Godone D., Zanini E. (2013). Assessing the susceptibility of alpine soils to erosion using soil physical and site indicators. *Soil Use and Management* 29: 586-596.

STANCHI S., Godone D., Belmonte S., Freppaz M., Galliani C., Zanini E. (2013). Land suitability map for mountain viticulture: a case study in Aosta Valley (NW Italy). *Journal of Maps*, 1-6, doi:10.1080/17445647.2013.785986.

20)STANCHI S., Freppaz M., Agnelli A., Reinsch T., Zanini E. (2012). Properties, best management practices and conservation of terraced soils in Southern Europe (from Mediterranean areas to the Alps); a review. *Quaternary International* 265: 90-100. Ruolo personale nel lavoro: corresponding author, stesura.

STANCHI S., Freppaz M., Zanini E. (2012). The influence of Alpine soil properties on shallow movement hazards, investigated through factor analysis. *Natural Hazards And Earth System Sciences* 12: 1845-1854.

STANCHI S., Oberto E., Freppaz M., Zanini E. (2009). Linear regression models for liquid and plastic limit estimation in Alpine soils. *Agrochimica* 5: 322-338.

STANCHI S., Bonifacio E., Zanini E. (2008). Mass-size fractal dimension of primary and aggregated particles and soil profile development. *Soil Science* 173: 87-95.

STANCHI S., Bonifacio E., Zanini E., Perfect E. (2008). Chemical and physical treatment effects on aggregate breakup in the 0-2 mm size range. *Soil Science Society of America Journal* 72: 1418-1421.

STANCHI S., Bonifacio E., Zanini E., Pachepsky Y. (2006). Presence and prediction of fractal behaviour in particle-size distributions as affected by the sample pretreatment and soil properties. *Soil Science* 171: 283-292.

Other publications

Stanchi, S. et al., (2022). Policy Brief: Sustainable soil management in mountain regions. <https://www.natrisk.unito.it/it/notizie/policy-brief-international-year-mountains-2022>

Soil Protection Working Group of the Alpine Convention. Long Term Action Plan for the implementation of provisions and declarations on soil protection in the specific context of the Alpine region – Mandate 2021-2022, *Long-term-action-plan_soil-protection.pdf* Geitner C.; Freppaz M.; Lesjak J.; Schaber E.; STANCHI S.; D'Amico M.; Vrščaj B., STANCHI S. (Eds.) (2020). I Servizi Ecosistemici del Suolo nelle Alpi. 74 pp., ISBN:978-88-99108-18-2.

C14) Geitner C., Freppaz M., Lesjak J., Schaber E., STANCHI S., D'Amico M., Vrščaj B. B. Vrščaj & S. STANCHI (Eds.) (2019). *Soil Ecosystem Services in Brief*. Università degli Studi di Torino and The Agricultural Institute of Slovenia, pp.13, ISBN: 978-961-6998-34-5.

Martin M., Rivoira M., STANCHI S., Freppaz M., in press. Piemonte e Valle d'Aosta / Piedmont and Aosta Valley. In: *Proverbi del suolo – Soil Proverbs*. Adamo, P., Capra, G.F., Vacca, A., Vianello, G., (Eds.), Edizioni dell'Orso, Alessandria, pp. 131-152.

Geitner C., Freppaz M., Lesjak J., Schaber E., STANCHI S., D'Amico M., Vrščaj B. (2019). *Soil Ecosystem Services in the Alps - An introduction for decision-makers*. Agricultural Institute of Slovenia, 78 pp., ISBN: 978-961-6998-35-2.

Geitner C., Baruck J., Freppaz M., Godone G., Grashey-Jansen S., Gruber F.E., Heinrich K., Papritz A., Simon A., STANCHI S., Traidl R., von Albertini N., Vrščaj B., 2017, *Soil and land use in the Alps – Challenges and examples of soil survey and soil-data use to support sustainable development*. In: *Soil Mapping and Process Modeling for Sustainable Land Use Management*, pp. 225-296. Elsevier, DOI: 10.1016/B978-0-12-805200-6.00008-6.

STANCHI S., Freppaz M., Walter S., Vanderwegen L. (2015). Mountain soils and threats. In: Romeo R., Vita A., Manuelli S., Zanini E., Freppaz M., STANCHI, S. (Eds.), *Understanding Mountain Soils: A contribution from mountain areas to the International Year of Soils 2015*. FAO, Rome, Italy, ISBN/ISSN: 978-92-5-108804-3.

Zanini E., Freppaz M., STANCHI S., Bonifacio E., Egli M. (2015). Soil variability in mountain areas. In: Romeo R., Vita A., Manuelli S., Zanini E., Freppaz M., STANCHI, S. (Eds.), *Understanding Mountain Soils: A contribution from mountain areas to the International Year of Soils 2015*. FAO, Rome, Italy, ISBN/ISSN: 978-92-5-108804-3.

Freppaz M., Agnelli A., Drusi B., STANCHI S., Galliani C., Revel Chion V., Zanini E. (2008). Terraced pergola vineyards in the low Aosta Valley. In: Scaramellini G., Varotto M. (Eds), *Terraced landscapes of the Alps, Atlas*. pp.84-87, Venezia, Marsilio Editori, ISBN/ISSN: 9788831795203.

Freppaz M., Agnelli A., Drusi B., STANCHI S., Galliani C., Revel Chion V., Zanini E. (2008). Productive and environmental problems of terraced areas in the Alpine space. In: Scaramellini G., Varotto M. (Eds), *Terraced landscapes of the Alps, Atlas*. pp.84-87, Venezia, Marsilio Editori, ISBN/ISSN: 9788831795203.

Freppaz M., Agnelli A., Drusi B., STANCHI S., Galliani C., Revel Chion V., Zanini E. (2008). Soil quality and fertility: studies in the Valle d'Aosta. In: Scaramellini G., Varotto M. (Eds.), *Terraced landscapes of the Alps, Projects in Progress*. pp. 37-39. Venezia, Marsilio Editori., ISBN/ISSN: 9788831794862.

STANCHI S., Freppaz M., Oberto E., Caimi A., Zanini E. (2008). Plastic and liquid limits in Alpine soils: methods of measurement and relations with soil properties. *Advances in Geocology* 39, pp. 594-604, Reiskirken: Catena Verlag GMBH, ISBN/ISSN: 9783923381562.

Bonifacio E., Catoni M., D'Amico M.E., Filippa G., Freppaz M., STANCHI S. (2012). I suoli. In Bonifacio E., Zanini E. (Eds.) *Suoli e paesaggi delle Alpi Liguri*. p. 33-75, Sarre (AO): Tipografia Testolin Bruno, ISBN/ISSN: 9788890693113.

Zanini E, STANCHI S. (2012). Parte C: il suolo nel territorio. In: Curtaz F, Zanini E. (Eds.) Guida pratica di Pedologia. pp. 61-74, Aosta: I.A.R., ISBN/ISSN: 9788890667701.

STANCHI S., Zanini E (2012). Parte D: La morte del suolo. In: F. Curtaz E. Zanini. GUIDA PRATICA DI PEDOLOGIA: Rilevamento di campagna, principi di conservazione e recupero dei suoli. pp. 75-90, Aosta: I.A.R., ISBN/ISSN: 9788890667701.

Romeo R., Vita A., Manuelli S., Zanini E., Freppaz M., STANCHI S. (Eds.) (2015). Understanding Mountain Soils: A contribution from mountain areas to the International Year of Soils 2015. ROMA: FAO, 169 pp., ISBN: 978-92-5-108804-3.