

Prof. Alberto Agnelli
SSD AGR/14 - Pedology
Macro-sector 07/E1

Field of specialization

Pedology and soil biogeochemistry in cultivated and natural soils.

Main research topics: soil C cycle; structure and dynamic of the different fractions of the soil organic matter; mechanisms of protection of soil organic matter; soil-plant relationships and feedbacks; the rhizosphere; extracellular soil DNA; role of the rock fragments (> 2 mm) on plant nutrition; soil mineralogy; pedogenetic and biogeochemical processes in extreme environments.

ERC panels and keywords covering the research activity:

PE 10-12 Sedimentology, soil science, palaeontology, earth evolution

PE 10-9 Biogeochemistry, biogeochemical cycles, environmental chemistry

PE10-4 Terrestrial ecology, land cover change

LS 9-4 Plant sciences (including crop production, plant breeding, agroecology, soil biology)

Member of the following scientific societies:

Italian Society of Pedology (SIPE), Italian Society of Soil Science (SISS), International Humic Substances Society (IHSS), Soil Science Society of America (SSSA), European Society for Soil Conservation (ESSC).

Senior Associate Editor for the international journal *Geoderma* (Elsevier).

Member of the Editorial Board of the international journal *Pedosphere* (Elsevier).

Reviewer for the following journals: *Soil Biology & Biochemistry*, *Soil Science Society of America Journal*, *Biogeochemistry*, *Geoderma*, *Plant and Soil*, *Pedosphere*, *Agriculture, Ecosystems and Environment*, *Environmental Monitoring and Assessment*, *Fresenius Environmental Bulletin*, *Arid Land Research and Management*, *Waste Management Research*, *Journal of Plant Nutrition and Soil Science*.

Publications

De Feudis, M., Cardelli, V., Massaccesi, L., Trumbore, S.E., Vittori Antisari, L., Cocco, S., Corti, G., Agnelli, A. 2019. Small altitudinal change and rhizosphere affect the SOM light fractions but not the heavy fraction in European beech forest soil. *Catena* 181, 104091.

Massaccesi, L., Cartoni Mancinelli, A., Mattioli, S., De Feudis, M., Castellini, C., Dal Bosco, A., Marongiu, L., Agnelli, A. 2019. Geese reared in vineyard: soil, grass and animals interaction. *Animals* 9, 179.

- Mocali, S., Agnelli, A., Mengoni, A., Chiellini, C., Donato Alessi, G., Corti, G., Massaccesi, L., De Feudis, M., Cocco, S., Cardelli, V. 2019. Exploring the links between bacterial communities and magnetic susceptibility in bulk soil and rhizosphere of beech (*Fagus sylvatica* L.). *Applied Soil Ecology* 138, 69-79.
- Cardelli, V., De Feudis, M., Fornasier, F., Massaccesi, L., Cocco, S., Agnelli, A., Weindorf, D.C., Corti, G. 2019. Changes of topsoil under *Fagus sylvatica* along a small latitudinal-altitudinal gradient. *Geoderma* 344 164-178.
- Corti, G., Agnelli, A., Cocco, S., Cardelli, V., Masse, J., Courchesne, F. 2019. Soil affects throughfall and stemflow under Turkey oak (*Quercus cerris* L.). *Geoderma* 333, 43-56.
- Corti, G., Agnelli, A., Cocco, S., Cardelli, V., Masse, J., Courchesne, F. 2018. Data on soil physicochemical properties and chemical composition of rainfall and of throughfall and stemflow generated by Turkey oak trees (*Quercus cerris* L.) in acid and sub-alkaline soils. *Data in Brief*, <https://doi.org/10.1016/j.dib.2018.08.050>.
- Massaccesi, L., De Feudis, M., Agnelli, A.E., Nasini, L., Regni, L., D'Ascoli, R., Castaldi, S., Proietti, P., Agnelli, A. 2018. Organic carbon pools and storage in the soil of olive groves of different age. *European Journal of Soil Science* 69, 843-855.
- Vittori Antisari, L., Agnelli, A., Corti, C., Falsone, G., Ferronato, C., Marinari, S., Vianello, G. 2018. Modern and ancient pedogenesis as revealed by holocene fire - northern Apennines, Italy. *Quaternary International* 467, 264-276.
- Cocco, S., Cardelli, V., Bigaran, F., Massaccesi, L., Agnelli, A., Weindorf, D.C., Ping, C-L. Michaelson, G.J., Corti, G. 2018. Latitudinal transect relationship between soil organic horizons and permafrost depth in Alaska. *Applied Soil Ecology* 123, 588-596.
- De Feudis, M., Cardelli, V., Massaccesi, L., Lagomarsino, A., Fornasier, F., Westphalen, D.J., Cocco, S., Corti, G., Agnelli, A. 2017. Influence of altitude on biochemical properties of European beech (*Fagus sylvatica* L.) forest soils. *Forests* 8, 213.

- De Feudis, M., Cardelli, V., Massaccesi, L., Hofmann, D., Berns, A.E., Bol, R., Cocco, S., Corti, G., Agnelli, A. 2017. Altitude affects the quality of the water-extractable organic matter (WEOM) from rhizosphere and bulk soil in European beech forests. *Geoderma* 302, 6–13.
- Cardelli, V., Stefania Cocco, S., Agnelli, A., Nardi, S., Pizzeghello, D., Fernández Sanjurjo, M.J., Corti, G. 2017. Chemical and biochemical properties of soils developed from different lithologies in northwestern Spain (Galicia). *Forests* 8, 135.
- Ricci, A., Massaccesi, L., Pezzolla, D., Corti, G., Agnelli, A., Gigliotti, G., 2017. Multi-approach characterization of organic sediment produced by an anaerobic digestion plant fed with pig slurry and stored for a long term in a lagoon. *Journal of Hazardous Materials* 330, 29–35.
- Regni, L., Nasini, L., Ilarioni, L., Brunori, A., Massaccesi, L., Agnelli, A., Proietti P., 2017. Long term amendment with fresh and composted solid olive mill waste on olive grove affects carbon sequestration by prunings, fruits and soil. *Frontiers in Plant Science* 7, 2042.
- Agnelli, A., Cocco, S., Massaccesi, L., Courchesne, F., Ugolini, F.C., Corti, G., 2017. Features of skeleton water-extractable fines from different acidic soils. *Geoderma* 289, 82–96.
- Cardelli, V., Weindorf, D.C., Chakraborty, S., Li, B., De Feudis, M., Cocco, S., Agnelli, A., Choudhury, A., Ray, D.P., Corti, G., 2017. Soil organic horizon characterization via advanced proximal sensors. *Geoderma* 288, 130-142.
- De Feudis, M., Cardelli, V., Massaccesi, L., Bol, R., Willbold, S., Cocco, S., Corti, G., Agnelli, A., 2016. Effect of beech (*Fagus sylvatica* L.) rhizosphere on phosphorous availability in soils at different altitudes (central Italy). *Geoderma* 276, 53-63.
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