

CURRICULUM VITAE

ELISABETTA BARBERIS

Full Professor in Agricultural Chemistry at the University of Turin (Italy) from March 1st 2000;
Senior Deputy Rector of the University of Turin from October 1st 2013.

Her didactic activity is carried out mainly at the Agricultural Faculty of Turin, where she taught Agricultural Chemistry, Soil Chemistry and Soil Fertility and she has been the Headmaster of the Agricultural Faculty from October 1st 2008 to September 30th 2012.

From October 1st 2002 to September 30th 2008 she has been the President of the Didactic Council of Agricultural and Agro-Food Sciences.

From November 1th 2000 to October 31th 2003 coordinated the PhD Course in Agricultural, Forestry and Agro-Food Sciences (University of Torino, Bologna and Sassari) moreover, she held the Course of Agricultural Chemistry at the Faculty of Sciences of the University of Turin.

She holds lesson cycles at the ENITA of Clermont Ferrand (France) for the Master in Sustainable Agriculture; she took part to activities linked to PhD Courses in France, Sweden, Finland and Spain.

Her research activity produced more than 230 publications on international and national journals or congress and meeting proceedings.

Soil is her main research subject. In particular, the biogeochemical cycles of iron, phosphorus and arsenic have been studied on the point of view of the plant nutrition and also for the environmental aspects involved.

She is member of the Royal Swedish Academy of Agriculture and Forestry; she was President of the Italian Society of Agricultural Chemistry and vice-president of the Soil Mineralogy Division of the International Society of Soil Science.

She has been the responsible for the Scientific Cooperation Agreement between DI.V.A.P.R.A. and the Department of Soil Science of the Swedish University of Agriculture. She took part in the "F.A.O. European cooperative network on trace elements, sub-network a: estimation of trace element status by chemical soil and plant analysis".

She has been member of the Management Committee of the AIONP: International Association Optimization of Plant Nutrition; she worked as "independent expert" for the European Community (DG XII) for the selection of research projects; she was National Delegated in the Management Committee of the COST Action 832 "Quantifying the agricultural contribution to eutrophication" and is now National Delegated in the Management Committee of the COST Action 869 "Mitigation options for nutrient reduction in surface water and groundwaters".

In the last years she conducted a number of researches on P chemistry in particular on those soil properties that influence P behaviour. These researches have been funded by National and local agencies and by the EC. In particular was the coordinator of the CEE AIR -CT- 92-0303: "Phosphate release potential of overfertilized soils of important agricultural areas of the EC: implications for the sustainability of agricultural systems and for the environment" project.

Some recent publications are:

1. Martin M., Stanchi S., Hossain K.M.J., Huq S.M.I, **Barberis, E.** 2015. Potential phosphorus and arsenic mobilization from Bangladesh soils by particle dispersion. *Science of total environment*. 536: 973-980.
2. Martin, M.^a, Bonifacio, E.^a, Hossain, K.M.^{ab}, Huq, S.M.I.^c, **Barberis, E.^a** (2014). Arsenic fixation and mobilization in the soils of the Ganges and Meghna floodplains. Impact of pedoenvironmental properties. *Geoderma*: 228-229: 132-141.
3. Martin M., Violante, A.; Ajmone-Marsan, F.; **Barberis E.**, (2014). Surface interactions of arsenite and arsenate on soil colloids. *Soil Science Society of America Journal*: 78: 157-170
4. Scalenghe, R.; Edwards, A.C.; **Barberis, E.**; Ajmone-Marsan, F (2014). Release of phosphorus under reducing and simulated open drainage conditions from overfertilised soils. *Chemosphere*:95: 289-294.
5. Comba S., Martin M., Marchisio D., Sethi R., **Barberis E.** 2012. Reduction of nitrate and ammonium adsorption using microscale iron particles and zeolite, *WATER AIR AND SOIL POLLUTION* (ISSN:0049-6979) , pp. 1079- 1089, Vol. 223.
6. Scalenghe R., Edwards A. C. **Barberis, E.** , and F. Ajmone Marsan. 2012. Are agricultural soils under a continental temperate climate susceptible to episodic reducing conditions and increased leaching of phosphorus? *Journal of Environmental Management* 97: 141-147.
7. Borda T., Celi L., Zavattaro L., Sacco D., **Barberis E.** 2011 Effect of agronomic management on risk of suspended solids and phosphorus losses from soil to waters, *Journal of Soils and sediments*. 11:440-451.
8. Giaveno C., Celi L., Richardson A.E., Simpson J.R., **Barberis E.** 2010. Interaction of phytases with minerals and availability of substrate affect the hydrolysis of inositol phosphates. *SOIL BIOLOGY & BIOCHEMISTRY*, 42: 491-498.
9. Martin M., Ferdousi R., Hossain K.M.J. **Barberis E.** 2010. Arsenic from Groundwater to Paddy Fields in Bangladesh: Solid–Liquid Partition, Sorption and Mobility. *Water, Air, & Soil Pollution*, 212: 27-36.
10. Borda, T; Withers, PJA; Sacco, D, Zavattaro L., **Barberis E.** 2010. Predicting mobilization of suspended sediments and phosphorus from soil properties: a case study from the north west Po valley, Piemonte, Italy. *SOIL USE AND MANAGEMENT*, 26: 310-319.
11. Miller N., Quinton J., **Barberis E.**, Presta M. 2009. Variability in the mobilisation of sediment and phosphorus across 13 European soils. *Journal of environmental quality* 38: 560-566.
12. Withers P.J.A., Hartikainen H., **Barberis E.**, N.J. Flynn and G.P. Warren 2009. The effect of soil phosphorus on particulate phosphorus in land runoff. *Europ. J. Soil Sci.*: 60:994-1004. DOI>10.1111/j.1365-2389.2009.01161.x
13. Martin M., Yu G., **Barberis E.**, Violante A., Kozak L.M., Huang P.M. 2009.

Impact of structural perturbation of aluminum hydroxides by tannate on arsenate adsorption. *Soil Sci Soc. Am J.* 73:1664-1675.

14. Martin, M., L. Celi, **Barberis E.**, A. Violante, L. M. Kozak and P. M. Huang. 2009. Effect of humic acid coating on arsenic adsorption on ferrihydrite-kaolinite mixed systems. *Canadian Journal of Soil Science*: 89:421-434.
15. Cessa R., M.A., Celi L., Vitorino A.C.T., Novelino J.O., **Barberis E.** 2009 Area superficial específica, porosidade da fração argila e Adsorção de fósforo em dois latossolos vermelhos. *R. Bras. Ci. Solo* 33:1153-1162.
16. Giaveno C., Celi L., Maja Aveiro Cessa R., Prati M., Bonifacio E., **Barberis E.** 2008. Inositol hexaphosphate. interaction with clays extracted from oxisols. *Soil Sci.* 173:694-706.
17. Garbarino G., Magnoni M., Perrone U., **Barberis E.** 2008. Investigation about ¹³⁷Cs soil to plant transfer factors. *Agrochimica* 52:116-128.
18. Torrent J., **Barberis E.**, Gil-Sotres F. 2007. Agriculture as a source of phosphorus for eutrophication in southern Europe. *Soil Use and Management.* 23 suppl.1: 25-35.
19. Martin M., Violante A., **Barberis E.** 2007. Fate of Arsenite and Arsenate in Flooded and not Flooded Soils of South West Bangladesh Irrigated with Arsenic Contaminated Water. *J. Environ. Sci. Health, Part A, Vol. A42, No. 12.*
20. Scalenghe R., Edwards A.C., **Barberis E.** 2007. Phosphorus losses in overfertilized soils: the selective partitioning and redistribution between particles size separates. *Europ. J. Agronomy.* 27:72-80.
21. Withers, P.J.A., **Barberis E.**, Hartikainen, H., Quinton, J., Sisak, I. and Strauss, P. 2007. An environmental soil test to estimate the intrinsic risk of sediment and phosphorus mobilization from European soils. *Soil Use and Management.* 23 suppl.1:57-70.
22. Celi L., **Barberis E.** 2007. Abiotic reactions of Inositol phosphates in soil. In: *Inositol Phosphates. Linking agriculture and the environment.* Eds B.L. Turner, A.E. Richardson and Mullaney E.J. CAB International. Pagg. 207-220.
23. Martin M., Celi L., Nardi S., Bonifacio E., **Barberis E.** 2006 Characteristics of soil organic matter in a limnic histosol of the alpine morainic system. *Soil Sci.* 171:527-54.
24. Gburek W.J., **Barberis E.**, Haygarth P.M., Kronvang B., Stamm C. 2005. Phosphorus mobility in the landscape. In: *Phosphorus: agriculture and the environment.* American Society of Agronomy, 941-979
25. Celi L., **Barberis E.** 2005. Abiotic stabilization of organic phosphorus in the environment. In: *Organic Phosphorus in the environment.* Eds B.L. Turner, E. Frossard and Baldwin D.S. CAB International. Pagg. 113-132.
26. Celi L., **Barberis E.** 2004. Abiotic stabilization of organic phosphorus in the environment. In *Organic Phosphorus in the environment.* Eds B.L. Turner, E. Frossard and Baldwin D.S. CAB International. Pagg. 113-132.

27. Borling K., **Barberis E.**, Otabbong E. 2004. Soil variables for prediction of potential phosphorus release in Swedish non-calcareous soils. *J. Environm. Qual.* 33:99-106.
28. Martin M., Celi L., **Barberis E.** 2004. Desorption and plant availability of inositol phosphate adsorbed on goethite. *Soil Sci.* 169:115-224.
29. Borling K., **Barberis E.**, Otabbong E. 2004. Impact of long-term inorganic phosphorus fertilization on accumulation, sorption and release of phosphorus in five Swedish soil profiles. *Nutrient Cycling in Agroecosystems.* 69:11-21.
30. Celi L., De Luca G., **Barberis E.** 2003. Interaction of organic and inorganic P forms with ferrhydrite and kaolinite-iron oxide systems: effects on iron release. *Soil Sci* 168:479-488.
31. Violante A., **Barberis E.**, Pigna M., Boero V. 2003. Factors affecting formation, nature, and properties of iron precipitation products at the soil-root interface. *J. Plant Nutr.* 26:1889-1908
32. Martin M., Celi L., **Barberis E.** 2002. Extractability and plant availability of phosphate from P-goethite complexes. *Commun. Soil Sci. Plant Anal.*33:143-153.
33. Scalenghe R., Edwards A.C., Ajmone Marsan F., **Barberis E.** 2002. The effect of reducing conditions on P solubility for a diverse range of European agricultural soils. *European Journal of Soil Science* 53:439-447.
34. **Barberis E.**, Withers P. 2002. Influence of soil processes on detachment of P forms: A review of experimental data. In: *Phosphorus losses from agricultural soils: Processes at the field scale.* Eds: W.J. Chardon, O.F. Schoumans. ALTEERRA, Wageningen, The Netherlands. Pagg:53:60.