

List of publications
Prof. Dr. Wolfgang Wilcke

February 2023

a. Dissertation

Wilcke, W. (1996): Small-scale chemical heterogeneity in soils. Distribution of aluminum, heavy metals, and polycyclic aromatic hydrocarbons in aggregates. (In German.) *Bayreuther Bodenkundliche Berichte* **48**, 136 p.

b. Habilitation

Wilcke, W. (1999): Pollutants in soils of the temperate and tropical zones – pools, reactivity, trends. Partly in German. Cumulative.

c. Peer-reviewed original research papers

1994

1. Kayser, A.T., **W. Wilcke**, M. Kaupenjohann & J.D. Joslin (1994): Small-scale heterogeneity of soil chemical properties. I A rapid technique for aggregate fractionation. *Z. Pflanzenernähr. Bodenk.* **157**, 453-458.
2. **Wilcke, W.** & M. Kaupenjohann (1994): Small-scale heterogeneity of soil chemical properties. II Fractions of Al and heavy metals. *Z. Pflanzenernähr. Bodenk.* **157**, 459-465.

1995

3. Kaupenjohann, M. & **W. Wilcke** (1995): Heavy metal release from a serpentine soil using a pH-stat technique. *Soil Sci. Soc. Am. J.* **59**, 1027-1031.

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4. Kaiser K. & **W. Wilcke** (1996): Pedogenetic differentiation of soil properties on the aggregate level. (In German.) *Z. Pflanzenernähr. Bodenk.* **159**, 599-603.
5. **Wilcke, W.** & A. Amelung (1996): Small-scale heterogeneity of Al and heavy metals in aggregates along a climatic transect. *Soil Sci. Soc. Am. J.* **60**, 1490-1495.
6. **Wilcke, W.**, R. Bäumler, H. Deschauer, M. Kaupenjohann & W. Zech (1996): Small-scale distribution of Al, heavy metals, and PAHs in an aggregated Alpine Podzol. *Geoderma* **71**, 19-30.
7. **Wilcke, W.**, W. Zech & J. Kobza (1996): PAH pools in soils along a PAH deposition gradient. *Environ. Pollut.* **92**, 307-313.

1997

8. Berghofer, R., **W. Wilcke**, V. Linkeš, O. Nestroy & W. Zech (1997): Changes of Al and heavy metal concentrations in Slovak soils during the last 25 years. *Z. Pflanzenernähr. Bodenk.* **160**, 469-474.
9. Bundt, M., S. Kretzschmar, W. Zech & **W. Wilcke** (1997): Seasonal redistribution of manganese in soil aggregates of a Costa Rican coffee field. *Soil Sci.* **162**, 641-647.
10. Bundt, M., S. Kretzschmar, W. Zech & **W. Wilcke** (1997): Seasonal dynamics of nutrients in leaves and xylem sap of coffee plants as related to different soil compartments. *Plant Soil* **197**, 157-166.

11. **Wilcke, W.** & M. Kaupenjohann (1997): Differences in concentrations and fractions of Al and heavy metals between aggregate interior and exterior. *Soil Sci.* **162**, 323-332.
12. **Wilcke, W.** & W. Zech (1997): Polycyclic aromatic hydrocarbons (PAHs) in forest floors of the northern Czech mountains. *Z. Pflanzenernähr. Bodenk.* **160**, 369-378.
13. **Wilcke, W.,** W. Amelung & W. Zech (1997): Heavy metals and polycyclic aromatic hydrocarbons (PAHs) in a rural community leewards of a waste incineration plant. *Z. Pflanzenernähr. Bodenk.* **160**, 369-378.

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14. Lilienfein, J., **W. Wilcke,** M.A. Ayarza & W. Zech (1998): Land-use effects on organic carbon, nitrogen, and sulphur concentrations in macroaggregates of differently textured Brazilian Oxisols. *Z. Pflanzenernähr. Bodenk.* **161**, 165-171.
15. Lobe, I., **W. Wilcke,** J. Kobza & W. Zech (1998): Heavy metal contamination of soils in northern Slovakia. *Z. Pflanzenernähr. Bodenk.* **161**, 541-546.
16. **Wilcke, W.** & M. Kaupenjohann (1998): Heavy metal distribution between soil aggregate core and surface fractions along gradients of deposition from the atmosphere. *Geoderma* **83**, 55-66.
17. **Wilcke, W.** & W. Zech (1998): Polychlorinated biphenyls (PCBs) in bulk soil and particle-size separates of soils in a rural community. *Z. Pflanzenernähr. Bodenk.* **161**, 289-295.
18. **Wilcke, W.,** S. Kretzschmar, M. Bundt, G. Saborío & W. Zech (1998): Aluminum and heavy metal partitioning in A horizons of soils in Costa Rican coffee plantations. *Soil Sci.* **163**, 463-471.
19. **Wilcke, W.,** J. Mosbach, J. Kobza & W. Zech (1998): Distribution of Al and heavy metals in bulk soil and aggregates at three sites contaminated by the emissions of a Central Slovak Al smelter. *Water Air Soil Pollut.* **106**, 389-402.
20. **Wilcke, W.,** S. Müller, N. Kanchanakool & Wolfgang Zech (1998): Urban soil contamination in Bangkok: heavy metal and aluminium partitioning in topsoils. *Geoderma* **86**, 211-228.

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21. Lilienfein, J., **W. Wilcke,** M.A. Ayarza, S.d.C. Lima, L. Vilela & W. Zech (1999): Annual course of matric potential in differently used savanna Oxisols, Brazil. *Soil Sci. Soc. Am. J.* **63**, 1778-1785.
22. Schwarz, A., **W. Wilcke,** J. Kobza & W. Zech (1999): Spatial distribution of soil heavy metal concentrations as indicator of pollutant sources at Mount Križna (Great Fatra, central Slovakia). *J. Plant Nutr. Soil Sci.* **162**, 421-428.
23. Schwarz, A., **W. Wilcke,** J. Styk & W. Zech (1999): Heavy metal release from soils in batch pH-stat experiments. *Soil Sci. Soc. Am. J.* **63**, 290-296.
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25. **Wilcke, W.,** S. Kretzschmar, M. Bundt & W. Zech (1999): Metal concentrations in aggregate interiors, exteriors, whole aggregates, and bulk of Costa Rican soils. *Soil Sci. Soc. Am. J.* **63**, 1244-1249.
26. **Wilcke, W.,** J. Lilienfein, S. d. C. Lima & W. Zech (1999): Contamination of highly weathered urban soils in Uberlândia, Brazil. *J. Plant Nutr. Soil Sci.* **162**, 539-548.
27. **Wilcke, W.,** S. Müller, N. Kanchanakool & Wolfgang Zech (1999): Urban soil contamination in Bangkok: concentrations and patterns of polychlorinated biphenyls (PCBs) in topsoils. *Austr. J. Soil Res.* **37**, 245-254.
28. **Wilcke, W.,** S. Müller, N. Kanchanakool, C. Niamskul & W. Zech (1999): Polycyclic aromatic hydrocarbons (PAHs) in hydromorphic soils of the tropical metropolis Bangkok. *Geoderma* **91**, 297-309.

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30. Krauss, M., **W. Wilcke** & W. Zech (2000): Availability of polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) to earthworms in urban soils. *Environ. Sci. Technol.* **34**, 4335-4340.
31. Lilienfein, J., **W. Wilcke**, M.A. Ayarza, S.d.C. Lima, L. Vilela & W. Zech (2000): Soil acidification in *Pinus caribaea* forests on Brazilian savanna Oxisols. *For. Ecol. Manage.* **128**, 145-157.
32. Lilienfein, J., **W. Wilcke**, M.A. Ayarza, S.d.C. Lima, L. Vilela & W. Zech (2000): Partitioning of phosphorous, sulphur, and molybdenum in differently used Brazilian savannah Oxisols. *Geoderma* **96**, 31-46.
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35. Müller, S., **W. Wilcke**, N. Kanchanakool & W. Zech (2000): Polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) in particle-size separates of urban soils in Bangkok, Thailand. *Soil Sci.* **165**, 412-419.
36. Totsche, K.U., **W. Wilcke**, M. Körber, J. Kobza & W. Zech (2000): Evaluation of fluoride-induced metal mobilization in soil columns. *J. Environ. Qual.* **29**, 454-459.
37. **Wilcke, W.** (2000): Small-scale variability of metal concentrations in soil leachates. *Soil Sci. Soc. Am. J.* **64**, 138-143.
38. **Wilcke, W.** & W. Amelung (2000): Persistent organic pollutants (POPs) in native grassland soils along a climosequence in North America. *Soil Sci. Soc. Am. J.* **64**, 2140-2148.
39. **Wilcke, W.**, W. Amelung, C. Martius, M.V.B. Garcia & W. Zech (2000): Biological sources of polycyclic aromatic hydrocarbons (PAHs) in the Amazonian rain forest. *J. Plant Nutr. Soil Sci.* **163**, 27-30.
40. **Wilcke, W.**, S. Kretzschmar, M. Bundt, G. Saborío & W. Zech (2000): Depth distribution of aluminum and heavy metals in soils of Costa Rican coffee cultivation areas. *J. Plant Nutr. Soil Sci.* **163**, 499-502.
41. **Wilcke, W.**, K.U. Totsche, M. Körber, J. Kobza & W. Zech (2000): Fluoro-mobilization of metals in a Slovak forest soil affected by the emissions of an aluminum smelter. *J. Plant Nutr. Soil Sci.* **163**, 503-508.

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43. Krauss, M. & **W. Wilcke** (2001): Predicting soil-water partitioning of polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) by desorption with methanol-water mixtures at different temperatures. *Environ. Sci. Technol.* **35**, 2319-2325.
44. Krauss, M. & **W. Wilcke** (2001): Biomimetic extraction of polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) from soil with octadecyl-modified silica disks to predict their availability to earthworms. *Environ. Sci. Technol.* **35**, 3931-3935.

45. Lilienfein, J. & **W. Wilcke** (2001): Nutrient input from the atmosphere into Brazilian savanna Oxisols under corn. *Soil Sci.* **166**, 391-399.
46. Lilienfein, J., **W. Wilcke**, L. Vilela, S.d.C. Lima, R. Thomas & W. Zech (2001): Effects of *Pinus caribaea* plantations on the C, N, P, and S status of Brazilian savanna Oxisols. *For. Ecol. Manage.* **147**, 171-182.
47. Lilienfein, J., **W. Wilcke**, R. Zimmermann, P. Gerstberger, G.M. Araújo & W. Zech (2001): Nutrient storage in soil and biomass of native Brazilian Cerrado. *J. Plant Nutr. Soil Sci.* **164**, 487-495.
48. Müller, S., **W. Wilcke**, N. Kanchanakool & W. Zech (2001): Polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) in density fractions of urban soils in Bangkok, Thailand. *Soil Sci.* **166**, 672-680.
49. **Wilcke, W.**, M. Krauss, J. Kobza & W. Zech (2001): Quantification of anthropogenic lead in Slovak forest and arable soils along a deposition gradient with stable lead isotope ratios. *J. Plant Nutr. Soil Sci.* **164**, 303-307.
50. **Wilcke, W.**, S. Yasin, C. Valarezo & W. Zech (2001): Nutrient budget of three microcatchments under tropical montane rain forest in Ecuador – preliminary results. *Die Erde* **132**, 61-74.
51. **Wilcke, W.**, S. Yasin, C. Valarezo & W. Zech (2001): Change in water quality during the passage through a tropical montane rain forest in Ecuador. *Biogeochemistry* **55**, 45-72.

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52. Krauss, M. & **W. Wilcke** (2002): Sorption strength of persistent organic pollutants in particle-size fractions of urban soils. *Soil Sci. Soc. Am. J.* **66**, 430-437.
53. Krauss, M. & **W. Wilcke** (2002): Photochemical oxidation of polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) in soils - a tool to assess their degradability? *J. Plant Nutr. Soil Sci.* **165**, 173-178.
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55. **Wilcke, W.**, R. Bol & W. Amelung (2002): Fate of dung-applied copper in a British grassland soil. *Geoderma* **106**, 273-288.
56. **Wilcke, W.** & J. Lilienfein (2002): Biogeochemical consequences of the transformation of native Cerrado into *Pinus caribaea* plantations in Brazil. *Plant Soil* **238**, 175-189.
57. **Wilcke, W.**, M. Krauss & W. Amelung (2002): Carbon isotope signature of polycyclic aromatic hydrocarbons (PAHs): Evidence for different sources in tropical and temperate environments? *Environ. Sci. Technol.* **26**, 3530-3535.
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60. Lilienfein, J. & **W. Wilcke** (2003): Element storage in native, agri-, and silvicultural ecosystems of the Brazilian savanna – I. Biomass, carbon, nitrogen, phosphorus, and sulfur. *Plant Soil* **254**, 425-442.
61. Lilienfein, J., **W. Wilcke**, L. Vilela, M.A. Ayarza, S.d.C. Lima & W. Zech (2003): Soil fertility under native Cerrado and pasture in the Brazilian savanna. *Soil Sci. Soc. Am. J.* **67**, 1195-1205.
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72. **Wilcke, W.**, M. Krauss, J. Lilienfein & W. Amelung (2004): Polycyclic aromatic hydrocarbon storage in a typical Cerrado of the Brazilian savanna. *J. Environ. Qual.* **33**, 946-955.

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86. Oelmann, Y., Y. Kreuziger, V.M. Temperton, N. Buchmann, C. Roscher, J. Schumacher, E.-D. Schulze, W. W. Weisser & **W. Wilcke** (2007): Nitrogen and phosphorus budgets in experimental grasslands of variable diversity. *J. Environ. Qual.* **36**, 396-407.
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- Reply to the comment of Zimmermann et al. on "Spatial throughfall heterogeneity in a montane rain forest in Ecuador: extent, temporal stability and drivers" [*J. Hydrol.* 377 (2009), 71-79], *J. Hydrol.* **395**, 137-139, published online on 11/10/2010, doi:10.1016/j.jhydrol.2010.10.007.

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