

IVM/OMK PUBLICATIONS DURING 2018

Peer-reviewed publications

1. **Ahrens L., Daneshvar A., Lau A. E., Kreuger J.** 2018. Concentrations, fluxes and field calibration of passive water samplers for pesticides and hazard-based risk assessment. *Science of the Total Environment* 637-638, 835-843.
2. Angeler D.G., Allen C.R., Garmestani A., Pope K.L., Twidwell D., **Bundschuh M.** 2018. Resilience in environmental risk and impact assessment: concepts and measurement. *Bulletin of Environmental Contamination and Toxicology* 101, 543–548.
3. **Assefa A.**, Tysklind M., Klanova J., **Wiberg K.** 2018. Tracing sources of PCDD/Fs in Baltic Sea air by using metals as source markers. *Environmental Science: Processes & Impacts* 20, 544-552.
4. Blum K.M., Andersson P.L., **Ahrens L., Wiberg K.**, Haglund P. 2018. Persistence, mobility and bioavailability of emerging organic contaminants discharged from sewage treatment plants. *Science of the Total Environment* 612, 1532-1542.
5. Blum K.M., Haglund P, Gao Q., **Gros M., Ahrens L., Wiberg K.**, Andersson P.L. Mass fluxes per capita of organic contaminants from on-site sewage treatment facilities. *Chemosphere* 201, 864-873.
6. **Bundschuh M.**, Filser J., Lüderwald S., McKee M., Metrevelli G., Schaumann G.E., Schulz R., Wagner S. 2018. Nanoparticles in the environment - where do we come from, where do we go to? *Environmental Sciences Europe* 30:6.
7. Campos Pereira, H., Ullberg, M., Berggren Kleja, D., Gustafsson, J.P., **Ahrens, L.** 2018. Sorption of perfluoroalkyl substances (PFASs) to an organic soil horizon – effect of cation composition and pH. *Chemosphere* 207, 183–91.
8. Dalahmeh S., **Ahrens L., Gros M., Wiberg K.**, Pell M. 2018. Potential of biochar filters for onsite sewage treatment: Adsorption and biological degradation of pharmaceuticals in laboratory filters with active, inactive and no biofilm. *Science of the Total Environment* 612, 192-201.
9. Dalahmeh S., Tirgani S., Komakech A.J., Niwagaba C.B., **Ahrens L.** 2018. Per- and polyfluoroalkyl substances (PFASs) in water, soil and plants in wetlands and agricultural areas in Kampala, Uganda. *Science of the Total Environment* 631-632, 660-667.
10. Englert D., Zubrod J.P., Neubauer C., Schulz R., **Bundschuh, M.** 2018. UV-irradiation and leaching in water reduce the toxicity of imidacloprid-contaminated leaves to the aquatic leaf-shredding amphipod *Gammarus fossarum*. *Environmental Pollution* 236, 119-125.
11. **Feckler A.**, Low M., Zubrod J.P., **Bundschuh M.** 2018. When significance becomes insignificant: Effect sizes and their uncertainties in Bayesian and frequentist frameworks as an alternative approach when analyzing ecotoxicological data. *Environmental Toxicology and Chemistry* 37, 1949-1955.
12. **Feckler A.** Rakovic J., Kahlert M., **Tröger R., Bundschuh M.** 2018. Blinded by the light: increased chlorophyll fluorescence of herbicide-exposed periphyton masks

unfavorable structural responses during exposure and recovery. *Aquatic Toxicology* 203, 187-193.

13. **Gago-Ferrero P.**, Krettek A., Fischer S. **Wiberg K.**, **Ahrens L.** 2018. Suspect screening and regulatory databases: A powerful combination to identify emerging micropollutants. *Environmental Science & Technology* 52, 6881–6894.
14. **Gobelius L.**, Hedlund J., **Dürig W.**, **Tröger R.**, **Wiberg K.**, Lilja K., **Ahrens L.** 2018. Per- and polyfluoroalkyl substances (PFASs) in Swedish groundwater and surface water: Implications for Environmental Quality Standards (EQS) and (drinking) water guidelines. *Environmental Science & Technology* 52, 4340-4349.
15. **Gobelius L.**, Persson C., **Wiberg K.**, **Ahrens L.** Calibration and application of passive sampling for per- and polyfluoroalkyl substances in a drinking water treatment plant. *Journal of Hazardous Materials* 362, 230-237.
16. **Gustavsson J.**, **Wiberg K.**, Ribeli E., **Nguyen M.A.**, **Josefsson S.**, **Ahrens L.** 2018. Screening of organic flame retardants in Swedish river water. *Science of the Total Environment* 625,1046–1055.
17. Gyllenhammar I., Benskin J., Sandblom O., Berger U., **Ahrens L.**, Lignell S., **Wiberg K.**, Glynn A. 2018. Perfluoroalkyl acids (PFAAs) in serum from 2-4-month-old infants – influence of maternal serum concentrations, gestational age, breastfeeding and contaminated drinking water. *Environmental Science & Technology* 52, 7101-7110.
18. López-García E., Mastroianni N., **Postigo C.**, Barceló D., López de Alda M. 2018. A fully automated approach for the analysis of 37 psychoactive substances in raw wastewater based on on-line solid phase extraction-liquid chromatography-tandem mass spectrometry. *Journal of Chromatography A* 1576, 80-89.
19. Lüderwald S., Newton K., Heye K., Bitter K., Moeris S., Benner L., Böhm P., Koch J., **Feckler A.**, Castro M., Eriksson A. 2018. SETAC GLB and SETAC Europe SAC: a liaison promoting the next generation of ecotoxicologists and environmental chemists. *Environmental Science Europe* 30, 41.
20. Newton, K., Zubrod, J.P., Englert, D., Lüderwald, S., Schell, T., Baudy, P., Kanschak, M., **Feckler, A.**, Schulz, R. and **Bundschuh, M.** 2018. The evil within? Systemic fungicide application in trees enhances litter quality for an aquatic decomposer-detrivore system. *Environmental Pollution* 241, 549-556.
21. **Nguyen M.**, **Ahrens L.**, **Gustavsson J.**, **Josefsson S.**, Laudon H., **Wiberg K.** The role of spring flood and landscape type in the terrestrial export of polycyclic aromatic compounds (PACs) to stream water. *Environmental Science & Technology* 52, 6217-6225.
22. Nouhi S., **Ahrens L.**, Campos Pereira H., Hughes A.V., Campana M., Gutfreund P., Palsson G.K., Vorobiev A., Hellsing M.S. 2018. Interactions of perfluoroalkyl substances with a phospholipid bilayer studied by neutron reflectometry. *Journal of Colloid Interface Science* 511, 474–481.
23. Rimayi C, Odusanya D, **Weiss JM**, de Boer J, Chimuka L, Mbajjorgu F. 2018. Effects of environmentally relevant sub-chronic atrazine concentrations on African clawed frog (*Xenopus laevis*) survival, growth and male gonad development. *Aquatic Toxicology* 199, 1-11.

24. Rimayi C, Odusanya D, **Weiss JM**, de Boer J, Chimuka L. 2018. Contaminants of emerging concern in the Hartbeespoort Dam catchment and the uMngeni River estuary 2016 pollution incident, South Africa. *Science of the Total Environment* 627, 1008-1017.
25. Rosenmai A.K., **Ahrens L.**, le Godec T., Lundqvist J., Oskarsson A. 2018. Relationship between peroxisome proliferator-activated receptor alpha activity and cellular concentration of 14 perfluoroalkyl substances in HepG2 cells. *Journal of Applied Toxicology* 38, 219-226.
26. Rosenmai AK, Lundqvist J, Le Godec T, Ohlsson Å, **Tröger R**, Hellman B, Oskarsson A. 2018. In vitro bioanalysis of drinking water from source to tap. *Water Research* 139, 272-280.
27. **Rostvall A.**, Zhang W., **Dürig W.**, Renman G., **Wiberg K.**, **Ahrens L.**, **Gago-Ferrero P.** 2018. Removal of pharmaceuticals, perfluoroalkyl substances and other micropollutants from wastewater using lignite, Xylit, sand, granular activated carbon (GAC) and GAC+Polonite® in column tests - Role of physicochemical properties. *Water Research* 137, 97-106.
28. Ritscher A., Wang Z., Scheringer M., Boucher J.M, **Ahrens L.**, Berger U., Bintein S., Bopp S.K., Borg D., Buser A.M, Cousins I., DeWitt J. , Fletcher T., Green C., Herzke D., Higgins C., Huang J., Hung H., Knepper T., Lau C.S., Leinala E., Lindstrom A.B., Liu J. , Miller M., Ohno K., Perkola N. , Shi Y., Småstuen Haug L. , Trier X., Valsecchi S. , van der Jagt K., Vierke L. 2018. Zürich Statement on future actions on per- and polyfluoroalkyl substances (PFASs). *Environmental Health Perspectives* 126(8).
29. Sandin, M., Piikki, K., Jarvis, N., Larsbo, M., Bishop. K., **Kreuger, J.** 2018. Spatial and temporal patterns of pesticide concentrations in streamflow, drainage and runoff in a small Swedish agricultural catchment. *Science of the Total Environment* 610-611, 623-634.
30. Schell T., Goedkoop W., Zubrod J.P., **Feckler A.**, Lüderwald S., Schulz R., **Bundschuh M.** 2018. Assessing the effects of field-relevant pesticide mixtures for their compliance with the concentration addition model – an experimental approach with *Daphnia magna*. *Science of the Total Environment* 644, 342-349.
31. Schreiner V.C., **Feckler A.**, Fernandez D., Frisch K., Munoz K., Szöcs E., Zubrod J.P., **Bundschuh M.**, Rasmussen J.J., Kefford B.J., Axelsen J., Cedergreen N., Schäfer, R.B. 2018. Similar recovery time of microbial functions from fungicide stress across biogeographical regions. *Scientific Reports* 8, 17021.
32. Sha B, **Dahlberg A-K**, **Wiberg K**, **Ahrens L.** 2018. Fluorotelomer alcohols (FTOHs), brominated flame retardants (BFRs), organophosphorus flame retardants (OPFRs) and cyclic volatile methylsiloxanes (cVMSs) in indoor air from occupational and home environments. *Environmental Pollution* 241, 319-330.
33. Skaar, J.S., Ræder, E.M., Lyche, J.L., **Ahrens, L.**, Kallenborn, R. 2018. Elucidation of contamination sources for poly- and perfluoroalkyl substances (PFASs) on Svalbard (Norwegian Arctic). *Environmental Science and Pollution Research*, 1–8.
34. **Tröger R.**, Klöckner P., **Ahrens L.**, **Wiberg K.** 2018. Micropollutants in drinking water from source to tap - method development and application of a multiresidue screening method. *Science of the Total Environment* 627, 1404-1432.

35. **Weiss JM**, Gustafsson Å, Gerde P, Bergman Å, Lindh CH, Kraus AM. 2018. Daily intake of phthalates, MEHP, and DINCH by ingestion and inhalation. *Chemosphere* 208, 40-49.
36. Wicczorek M.V., Bakanov N., Bilancia D., Szöcs E., Stehle S., **Bundschuh M.**, Schulz R. 2018. Structural and functional effects of a short-term pyrethroid pulse exposure on invertebrates in outdoor stream mesocosms. *Science of the Total Environment* 610–611, 810–819.
37. Zhang W., Blum K., **Gros M.**, **Ahrens L.**, **Jernstedt H.**, **Wiberg K.**, Andersson P.L., Björlenius B., Renman G. 2018. Removal of micropollutants and nutrients in household wastewater using organic and inorganic sorbents. *Desalination and Water Treatment* in press
38. Zhai Y., Brun N.R., **Bundschuh M.**, Schrama M., Hin E., Vijver M.G., Hunting E.R. 2018. Microbial-mediated indirect effects of silver nanoparticles on aquatic invertebrates. *Aquatic Sciences* 80:44.

Book chapters

1. Schäfer, R.B., **Bundschuh, M.** 2018. Ecotoxicology. In: Schmutz S, Sendzimir J, editors. Riverine Ecosystem Management - Science for Governing Towards a Sustainable Future. Springer.

Reports and popular science publications

1. **Ahrens L., Vogel L., Wiberg K.** 2018. Analysis of per- and polyfluoroalkyl substances (PFASs) and phenolic compounds in Swedish rivers over four different seasons (Analys av PFAS och fenolära ämnen i flodmynningar). Report to the Swedish Environmental Protection Agency (Naturvårdsverket), contract no. NV-2213-16-011.
2. **Assefa A,** Tysklind M, Josefsson S, **Wiberg K.** 2018. Sources of dioxins in Baltic Sea herring - A modeling study for identification of dioxin sources and quantification of their temporal and spatial impacts. Report 2018:6. Swedish University of Agricultural Sciences (SLU), Department of Aquatic Sciences and Assessment. ISBN 978-91-576-9565-9.
3. **Franke V., McCleaf P., Wiberg K., Ahrens L.** 2017. Removal of per- and polyfluoroalkyl substances (PFASs) in drinking water: review of treatment techniques and their practical application (Swe: Hur kan PFAS-ämnen avlägsnas i vattenverken? En granskning av nya och befintliga reningstekniker). Svenskt Vatten Utveckling, Report 2017-20, pp. 1-62.
4. Fredricsson, M., Brorström-Lundén, E., Danielsson, H., Hansson, K., Pihl Karlsson, G., Nerentorp, M., Potter, A., Sjöberg, K., **Kreuger, J., Nanos, T., Areskoug, H., Krejci, R., Alpfjord Wylde, H., Andersson, C., Andersson, S. Carlund, T., Josefsson, W. & Leung, W.** 2018. Nationell luftövervakning - Sakrapport med data från övervakning inom Programområde Luft t.o.m. 2017. IVL Rapport C 360. 158 pp + bilagor.

5. **Gustavsson J., Karlsson H., Ahrens L., Wiberg K.** 2018. Screening of replacement substances for the brominated flame retardants PBDE, HBCDD and TBBPA. Report to the Swedish EPA. Project number NV-05635-17.
6. Jarvis N., **Gönczi M., Kreuger J.** 2018. Identifiering av vattenskyddsområden med låg risk för påverkan av växtskyddsmedel. CKB Rapport 2018:1. (HaV rapport 2018:14.) 20 pp. CKB, Sveriges lantbruksuniversitet, Uppsala. ISBN: 978-91-576-9558-1.
7. **Kikuchi J., Wiberg K.,** Stendahl J., **Ahrens L.** 2018. Analysis of per- and polyfluoroalkyl substances (PFASs) in soil from Swedish background sites (Analys av PFAS i mark från bakgrundsområden). Report to the Swedish Environmental Protection Agency (Naturvårdsverket), contract no. NV-2219-17-003.

Peer-reviewed publications – up and coming 2019

1. **Assefa A.,** Tysklind M., Bignert A., Josefsson S., **Wiberg K.** 2019. Sources of polychlorinated dibenzo-*p*-dioxins and dibenzofurans to Baltic Sea herring. *Chemosphere* 218, 493-500.
2. Barbieri M.V., **Postigo C.,** Guillem-Argiles N., Monllor-Alcaraz L.S., Simionato J.I., Stella E., Barceló D., López de Alda M. 2019. Analysis of 52 pesticides in fresh fish muscle by QuEChERS extraction followed by LC-MS/MS determination. *Science of the Total Environment* 653, 958-967.
3. Ganser B., **Bundschuh M.,** Werner I., Homazava N., Vermeirssen E., Moschet C., Kienle C. 2019. Wastewater alters feeding rate but not vitellogenin level of *Gammarus fossarum* (Amphipoda). *Science of the Total Environment* 657, 1246-1252.
4. Gao Q., Blum K.M., **Gago-Ferrero P., Wiberg K., Ahrens L.,** Andersson P.L. 2019. Impact of on-site wastewater infiltration systems on organic contaminants in groundwater and recipient waters. *Science of the Total Environment* 651, 1670-1679.
5. **Jonsson, O., Paulsson, E., Kreuger, J.** 2019. The TIMFIE Sampler – a New Time-integrating, Active, Low-tech Sampling Device for Quantitative Monitoring of Pesticides in Whole Water. *Environmental Science & Technology* 53, 279-286.
6. Kanschak M., Zubrod J.P., Baudy P., Englert D., Herrmann B., Schulz R., **Bundschuh, M.** 2019. Waterborne and diet-related effects of inorganic and organic fungicides on the insect leaf shredder *Chaetopteryx villosa* (Trichoptera). *Aquatic Toxicology* 206, 33-42.
7. Köck-Schulmeyer M., **Postigo C.,** Farré, M., Barceló D., López de Alda M. 2019. Medium to highly polar pesticides in seawater: Analysis and fate in coastal areas of Catalonia (NE Spain). *Chemosphere* 215, 515-523.
8. **Lai F.,** Rauert C., **Gobelius L., Ahrens L.** 2019. A critical review on passive sampling in air and water for per- and polyfluoroalkyl substances (PFASs). *TrAC Trends in Analytical Chemistry*, **accepted**.
9. **Postigo C.,** Zonja B. 2019. Iodinated disinfection byproducts: Formation and concerns. *Current Opinion on Environmental Science and Health*, **in press**.
10. Rosenmai A.K., Lundqvist J., **Gago-Ferrero P.,** Mandava G., **Ahrens L., Wiberg K.,** Oskarsson A. 2019. Effect-based assessment of recipient waters impacted by on-site, small scale, and large scale waste water treatment facilities – combining passive sampling with in vitro bioassays and chemical analysis. *Scientific Reports*, **accepted**.

11. Spaan K., Haigis A-C., **Weiss J.**, Legradi J. 2019. Effects of 25 thyroid hormone disruptors on zebrafish embryos: A literature review of potential biomarkers. *Science of the Total Environment* 656, 1238-1249.