

IVM/OMK PUBLICATIONS DURING 2020

1. **Söregård M., Franke V., Tröger R., Ahrens L.** 2020. Losses of poly- and perfluoroalkyl substances (PFASs) to syringe filter materials. *Journal of Chromatography A*, 1609:460430.
2. **Feckler A., Bundschuh M.** 2019. Stable microbial functioning despite adverse structural effects: a potential hurdle for the monitoring of streams' ecological integrity? *Freshwater Science* **pending EICs final decision**.
3. Audet J., Bastviken D., **Bundschuh M.**, Buffame I., **Feckler A.**, Klemedtsson L., Laudon, H., Löfgren S., Natchimuthu S., Öquist M., Peacock M., Wallin, M.B. 2019. Forest streams are important sources for nitrous oxide emissions. *Global Change Biology* **in press**.
4. **Ren H., Tröger R., Ahrens L., Wiberg K., Yin D.** Screening of organic micropollutants in raw and drinking water in the Yangtze River Delta, China. *Environmental Sciences Europe*, 32:67, **2020**. <https://doi.org/10.1186/s12302-020-00342-5>
5. **Dahlberg A.-K., Apler A, Vogel L., Wiberg K., Josefsson S.** Persistent organic pollutants in wood fiber contaminated sediments from the Baltic Sea, *Journal of Soils and Sediments*, 20:2471–2483, **2020**. <https://doi.org/10.1007/s11368-020-02610-6>
6. **Tröger R., Köhler S.J., Franke V., Bergstedt O., Wiberg K.** A case study of organic micropollutants in a major Swedish water source - Removal efficiency in seven drinking water treatment plants and influence of operational age of granulated active carbon filters. *Science of the Total Environment*, 706:135680, **2020**. <https://doi.org/10.1016/j.scitotenv.2019.135582>
7. **Volchko Y., Berggren Kleja D., Back P.-E., Tiberg C., Enell A., Larsson M., Jones C.M., Taylor A., Viketoft M., Åberg A., Dahlberg A.-K., Weiss J., Wiberg K., Rosén L.** Assessing costs and benefits of improved soil quality management in remediation projects: A study of an urban site contaminated with PAHs and metals. *Science of the Total Environment*, 703:135530, **2020**.
8. Volchko Y. Berggren Kleja D., Back P.-E., Tiberg C. Enell A., Larsson M., Jones C.M., Taylor A., Viketoft M., Åberg A., **Dahlberg A.-K., Weiss J., Wiberg K., Rosén L.** 2020. Assessing costs and benefits of improved soil quality management in remediation projects: A study of an urban site contaminated with PAHs and metals. *Science of the Total Environment* 703:135530.

IVM/OMK PUBLICATIONS DURING 2019

Peer-reviewed publications

1. **Ahrens, L.,** Benskin, J.P., Cousins, I.T., Crimi, M., Higgins, C.P. 2019. Themed issues on per- and polyfluoroalkyl substances. *Environ Science: Processes Impacts* 21, 1797–1802.
2. **Ahrens, L.,** Benskin, J.P., Cousins, I.T., Crimi, M., Higgins, C.P. 2019. Themed issues on per- and polyfluoroalkyl substances. *Environmental Science: Water Research & Technology* 5, 1808–1813.

3. **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.
4. Baduel C., **Lai F.Y.**, van Nuijs A.L.N., Covaci A. 2019. Suspect and nontargeted Strategies to investigate in vitro human biotransformation products of emerging environmental contaminants: The benzotriazoles. *Environmental Science & Technology* 53, 10462-10469. ACS Editors' Choice AND choice of cover paper for September!!
5. 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.
6. Baudy P., Zubrod J.P., Röder N., Baschien C., **Feckler A.**, Schulz R., **Bundschuh M.** 2019. A glance into the black box: Novel species-specific quantitative real-time PCR assays to disentangle aquatic hyphomycete community composition. *Fungal Ecology* 42, 100858.
7. **Boye, K., Lindström, B., Boström, G., Kreuger, J.** 2019. Long-term data from the Swedish national environmental monitoring program of pesticides in surface waters. *Journal of Environmental Quality* 48, 1109-1119.
8. **Bundschuh M.**, Englert D., Rosenfeldt R.R., Bundschuh R., **Feckler A.**, Lüderwald S., Seitz F., Zubrod J.P., Schulz R. 2019. Nanoparticles transported from aquatic to terrestrial ecosystems via emerging aquatic insects compromise subsidy quality. *Scientific Report* 9:15676.
9. Bundschuh R., **Bundschuh M.**, Otto M., Schulz R. 2019: Food-related exposure to systemic pesticides and pesticides from transgenic plants – evaluation of aquatic test strategies. *Environmental Science Europe* 31:87.
10. **Dalahmeh S.S., Alziq N., Ahrens L.** 2019. Potential of biochar filters for on-site wastewater treatment: Effects of active and inactive biofilms on adsorption of per- and polyfluoroalkyl substances in laboratory column experiment. *Environmental Pollution* 14, 155-164.
11. **Dürig W., Tröger R.**, Andersson P.L., Rybacka A., Fischer S., **Wiberg K., Ahrens L.** 2019. Development of a suspect screening prioritization tool for organic compounds in water and biota, *Chemosphere* 222, 904-912.
12. Fernandes Lima E., **Bundschuh M.**, Bakanov N., Englert D., Schulz R., Schäfer R.B. 2019. Effects of a systemic pesticide along an aquatic tri-trophic food chain. *Bulletin of Environmental Contamination and Toxicology* 103, 507–514.
13. **Franke V.**, McCleaf P., Lindegren K., **Ahrens L.** 2019. Efficient Removal of Per- and Polyfluoroalkyl Substances (PFASs) in Drinking Water Treatment: Nanofiltration combined with Active Carbon or Anion Exchange. *Environmental Science: Water Research & Technology* 5, 1836-1843.
14. **Franke V.**, Schäfers M.D., Joos-Lindberg J., **Ahrens L.** 2019. Removal of per- and polyfluoroalkyl substances (PFASs) from tap water using heterogeneously catalyzed ozonation. *Environmental Science: Water Research and Technology* 5, 1887-1896.

15. 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.
16. 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.
17. Gimsing, A.L., Agert, J., Baran, N., Boivin, A., Ferrari, F., Gibson, R., Hammond, L., Hegler, F., Jones, R.L., König, W., **Kreuger, J.**, Linden, T. van der, Liss, D., Loiseau, L., Massey, A., Miles, B., Monrozies, L., Newcombe, A., Poot, A., Reeves, G.L., Reichenberger, S., Rosenbom, A.E., Staudenmaier, H., Sur, R., Stemmer, M., Tüting, W., Ulrich, U. 2019. Conducting groundwater monitoring studies in Europe for pesticide active substances and their metabolites in the context of Regulation (EC) 1107/2009. *Journal of Consumer Protection and Food Safety* 14, 1-93.
18. Gobelius, L., Persson, C., **Wiberg, K.**, **Ahrens, L.** 2019. Calibration and application of passive sampling for per- and polyfluoroalkyl substances in a drinking water treatment plant. *Journal of Hazardous Materials* 362, 230–7.
19. **Gros M.**, **Ahrens L.**, Levén L., Koch A., Dalahmeh S., Ljung E., Lundin G., Jönsson H., Eveborn D., **Wiberg K.** 2019. Pharmaceuticals in source separated sanitation systems: fecal sludge and blackwater treatment. *Science of the Total Environment* 692:259-266.
20. **Gustavsson, J.**, **Wiberg, K.**, **Nguyen, M.A.**, **Josefsson, S.**, Laudon, H., **Ahrens, L.** 2019. Seasonal trends of legacy and alternative flame retardants in river water in a boreal catchment. *Science of the Total Environment* 692, 1097–105.
21. Gyllenhammar I., Benskin J., Sandblom O., Berger U., **Ahrens L.**, Lignell S., **Wiberg K.**, Glynn A. 2019. Perfluoroalkyl acids (PFAAs) in children’s serum and contribution from PFAA-contaminated drinking water. *Environmental Science & Technology* 53, 11447-11457.
22. Hunting E.R., **Bundschuh M.**, Schrama M. 2019. Multiple stressors across ecosystem boundaries (editorial). *Frontiers in Environmental Science*, 7, 96.
23. **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.
24. 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.
25. 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.
26. **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* 121,115311.
27. Land M., **Bundschuh M.**, Hopkins R.J., Poulin R., McKie, B.G. 2019. What are the effects of control of mosquitoes and other nematoceran Diptera using the microbial

- agent *Bacillus thuringiensis israelensis* (Bti) on aquatic and terrestrial ecosystems? A systematic review protocol. *Environmental Evidence* 8, 32.
28. López-Serna R., García D., Bolado S., Jiménez J.J., **Lai F.Y.**, **Golovko O.**, Gago-Ferrero P., **Ahrens L.**, **Wiberg K.**, Muñoz R. 2019. Photobioreactors based on microalgae-bacteria and purple phototrophic bacteria consortia: A promising technology to reduce the load of veterinary drugs from piggery wastewater. *Science of the Total Environment* 692, 259-266.
 29. Lüderwald S., Dackermann V., Seitz F., Adam E., **Feckler A.**, Schilde C., Schulz R., **Bundschuh M.** A blessing in disguise? 2019. Natural organic matter reduces the UV light-induced toxicity of nanoparticulate titanium dioxide. *Science of the Total Environment* 663, 518-526.
 30. Lüderwald S., Schell T., Newton K., Salau R., Seitz F., Rosenfeldt R.R., Dackermann V., Metreveli G., Schulz R., **Bundschuh M.** 2019. Exposure pathway dependent effects of titanium dioxide and silver nanoparticles on the benthic amphipod *Gammarus fossarum*. *Aquatic Toxicology* 212, 47-53.
 31. Lundqvist, J., von Brömssen, C., Rosenmai, A.K., Ohlsson, Å., Le Godec, T., **Jonsson, O.**, **Kreuger, J.**, Oskarsson, A. 2019. Assessment of pesticides in surface water samples from Swedish agricultural areas by integrated bioanalysis and chemical analysis. *Environmental Sciences Europe* 31:53.
 32. Lundqvist J., Mandava G., Lungu-Mitea S., **Lai F.Y.**, **Ahrens L.** 2019. In vitro bioanalytical evaluation of removal efficiency for bioactive chemicals in Swedish wastewater treatment plants. *Scientific Reports* 9, 7166.
 33. Mussabek D., **Ahrens L.**, Persson K.M., Berndtsson R. 2019. Temporal trends and sediment–water partitioning of per- and polyfluoroalkyl substances (PFASs) in lake sediment. *Chemosphere* 227, 624-629.
 34. Nilsen E., Smalling, K. L., **Ahrens L.**, Gros M., Miglioranza K. S. B., Pico Y., Schoenfuss H. L. 2019. Critical review: Grand challenges in assessing the adverse effects of contaminants of emerging concern on aquatic food webs. *Environmental Toxicology and Chemistry* 38, 46-60.
 35. O'Brien J.W., Grant S., Banks A.P.W., Bruno R., Carter S., Choi P.M., Covaci A., Crosbie N.D., Gartner C., Hall W., Jiang G., Kaserzon S., Kirkbride K.P., **Lai F.Y.**, Mackie R., Marshall J., Ort C., Paxman C., Prichard J., Thai P., Thomas K.V., Tschärke B., Mueller J.F. 2019. A national wastewater monitoring program for a better understanding of public health: A case study using the Australian Census. *Environment International* 122, 400-411.
 36. Osterman J., Wintermantel D., Locke B., **Jonsson O.**, Semberg E., Onorati P., Forsgren E., Rosenkranz P., Rahbek-Pedersen T., Bommarco R., Smith H.G., Rundlöf M. & de Miranda J.R. 2019. Clothianidin seed-treatment has no detectable negative impact on honeybee colonies and their pathogens. *Nature Communications* 10:692.
 37. Pohl J., **Ahrens L.**, Carlsson G., **Golovko O.**, Norrgren L., **Weiss J.**, Örn S. 2019. Embryotoxicity of ozonated diclofenac, carbamazepine, and oxazepam in zebrafish (*Danio rerio*). *Chemosphere* 255, 191-199.
 38. **Postigo C.**, Zonja B. 2019. Iodinated disinfection byproducts: Formation and concerns. *Current Opinion on Environmental Science and Health* 7, 19-25.

39. 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.
40. Skaar J.S., Ræder E.M., Lyche J.L., **Ahrens L.**, Kallenborn R. 2019. Elucidation of contamination sources for poly- and perfluoroalkyl substances (PFASs) on Svalbard (Norwegian Arctic), *Environmental Science and Pollution Research* 26, 7356–7363.
41. **Sörengård M.**, Berggren Kleja D., **Ahrens L.** 2019. Stabilization and solidification remediation of soil contaminated with poly- and perfluoroalkyl substances (PFASs). *Journal of Hazardous Materials* 367, 639-646.
42. **Sörengård M.**, Berggren Kleja D., **Ahrens L.** 2019. Stabilization of per- and polyfluoroalkyl substances (PFASs) with colloidal activated carbon (PlumeStop®) as a function of soil clay and organic matter content. *Journal of Environmental Management* 249, 109345.
43. **Sörengård M.**, Campos-Pereira H., **Ullberg M.**, **Lai F.Y.**, **Golovko O.**, **Ahrens L.** 2019. Mass loads, source apportionment, and risk estimation of organic micropollutants from hospital and municipal wastewater in recipient catchment, *Chemosphere* 234, 931-941.
44. **Sörengård M.**, Niarchos G., Jensen, P.E., **Ahrens L.** 2019. Electrodealytic per- and polyfluoroalkyl substances (PFASs) removal mechanism for contaminated soil. *Chemosphere* 232, 224–231.
45. Truchy A., Göthe E., Angeler D.G., Ecke F., Sponseller R.A., **Bundschuh M.**, Johnson R.K., McKie, B.G. 2019. Partitioning spatial, environmental, and community drivers of ecosystem functioning. *Landscape Ecology* 34, 2371–2384.
46. Weil M., Mackenzie K., Foit K., Kühnel D., Busch W., **Bundschuh M.**, Schulz R., Duis K. 2019. Environmental risk or benefit? Comprehensive risk assessment of groundwater treated with nano Fe⁰-based Carbo-Iron®. *Science of the Total Environment* 677, 156-166.
47. Zhang W., **Gago-Ferrero P.**, Gao Q., **Ahrens L.**, Blum K., **Rostvall A.**, Björnelius B., Andersson P.L., **Wiberg K.**, Haglund P., Renman G. Evaluation of five filter media in column experiment on the removal of selected organic micropollutants and phosphorus from household wastewater *Journal of Environmental Management* 246, 920-928.
48. Zubrod, J.P., **Bundschuh, M.**, Arts, G., Brühl, C.A., Imfeld, G., Knäbel, A., Payraudeau, S., Rasmussen, J., Rohr, J., Scharmüller, A., Smalling, K., Stehle, S., Schulz, R., Schäfer, R. 2019. Fungicide - an overlooked pesticide class? *Environmental Science & Technology* 53, 3347-3365.
49. Zubrod J.P., Englert D., **Feckler A.**, Rosenfeldt R.R., Pasternack H., Hollert H., Seiler T.-B., Schulz R., **Bundschuh M.** 2019. *Hyalella azteca* a suitable model leaf-shredding benthic crustacean for testing the toxicity of sediment-associated metals in Europe? *Bulletin of Environmental Contamination and Toxicology* 102, 303-309.

Peer-reviewed publications – from 2018 (not incl. in last year’s list)

1. Rosenmai A.K., Lundqvist J., **Gago-Ferrero P.**, Mandava G., **Ahrens L.**, **Wiberg K.**, Oskarsson A. 2018. 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* 8, 17200.

Book chapters

1. **Bundschuh, M.**, Schulz, R. *In situ* exposure of aquatic invertebrates to detect the effects of point and non-point source-related chemical pollution in aquatic ecosystems. In: Seiler T-B, Brinkmann M, editors. *Methods in Pharmacology and Toxicology: In Situ Bioavailability and Toxicity of Organic Chemicals in Aquatic Systems*. Springer Science+Business Media, New York **in press**.

Reports, popular science publications and policy briefs

1. **Boström, G.**, Jarvis, N., **Gönczi, M.**, **Kreuger, J.** 2019. Förslag till ny beräkningsmetod för predikterade miljökoncentrationer (PEC) för växtskyddsmedel i ytvatten. Underlagsrapport till Växtskyddsrådet 2019. 25 pp + bilagor. CKB, Sveriges lantbruksuniversitet, Uppsala.
2. **Jonsson, O.**, **Berggren, K.**, **Boström, G.**, **Gönczi, M.**, **Kreuger, J.** 2019. Screening av bekämpningsmedel i dagvatten från bostadsområden – med fokus på glyfosat. CKB rapport 2019:2. 20 pp + bilagor. CKB, Sveriges lantbruksuniversitet, Uppsala. ISBN: 978-91-576-9655-7.
3. **Kreuger, J.**, **Jonsson, O.**, Löfkvist, K., Hansson, T., **Boström, G.**, **Gutfreund, C.**, **Lindström, B.**, **Gönczi, M.** 2019. Screening av växtskyddsmedel i vattendrag som avvattnar växthusområden i södra Sverige. CKB rapport 2019:1. 47 pp + bilagor. CKB, Sveriges lantbruksuniversitet, Uppsala. ISBN: 978-91-576-9639-7.
4. **Nanos, T.**, **Kreuger, J.** 2019. Resultat från miljöövervakningen av bekämpningsmedel (växtskyddsmedel). Årssammanställning 2017. Rapport 2019:1. 43 pp + bilagor. Institutionen för vatten och miljö, Sveriges lantbruksuniversitet, Uppsala.
5. **Water JPI.** Policy Brief from Water JPI Knowledge Hub on Contaminants of Emerging Concern, 2019.
6. **Water JPI.** Who's who? Experts in Water JPI Knowledge Hub for Contaminants of Emerging Concern, 2019.
7. **Weiss J.**, **Franke V.**, Gustafsson Å. 2019. Screening of polyfluoroalkyl substances (PFASs), including fluorinated organophosphates in Skellefteå municipality. *Report to the Swedish EPA (överenskommelse NV-01625-17)*, 2019-01-15.
8. **Wiberg K.**, **Josefsson S.** 2019. Dioxindetektiver spårar källorna. *Havsutsikt* 1, 18-19.

Peer-reviewed publications – up and coming 2020

1. Bachoura, R-L., **Golovko, O.**, Kellner, M., Pohl, J. 2020. Behavioral effects of citalopram, tramadol, and binary mixture in zebrafish (*Danio rerio*) larvae. *Chemosphere* 238, 124587.

2. Šauer, P., Tumová, J., Steinbach, C., **Golovko, O.**, Komen, H., Maillot-Maréchal, E., Máchová, J., Grabic, R., Aït-Aïssa, S., Kocour Kroupová, H. 2020. Chronic simultaneous exposure of common carp (*Cyprinus carpio*) from embryonic to juvenile stage to drosiprenone and gestodene at low ng/L level caused intersex. *Ecotoxicology and Environmental Safety* 188, 109912.
3. González-Mariño I., Baz-Lomba J.A., Alygizakis N.A., Andrés-Costa M.J., Bade R., Barron L.P., Been F., Berset J.D., Bijlsma L., Bodík I., Brenner A., Brock A.L., Burgard D.A., Castrignanò E., Christophoridis C.E., Covaci A., de Voogt P., Devault D.A., Dias M.J., Emke E., Fatta-Kassinos D., Fedorova G., Fytianos K., Gerber C., Grabic R., Grüner S., Gunnar T., Hapeshi E., Heath E., Helm B., Hernández F., Kankaanpaa A., Karolak S., Kasprzyk-Hordern B., Krizman-Matasic I., **Lai F.Y.**, Lechowicz W., Lopes A., López de Alda M., López-García E., Löve A.S.C., Mastroianni N., McEneff G.L., Montes R., Munro K., Nefau T., Oberacher H., O'Brien J.W., Olafsdottir K., Picó Y., Plósz B.G., Polesel F., Postigo C., Quintana J.B., Ramin P., Reid M.J., Rice J., Rodil R., Senta I., Simões S.M., Sremacki M.M., Styszko K., Terzic S., Thomaidis N.S., Thomas K.V., Tschärke B.J., van Nuijs A.L.N., Yargeau V., Zuccato E., Castiglioni S., Ort C. Spatio-temporal assessment of illicit drug use at large scale: evidence from 7 years of international wastewater monitoring. *Addiction*, **in press**. Link: <https://onlinelibrary.wiley.com/doi/full/10.1111/add.14767>
4. **Tröger R.**, Köhler S.J., **Franke V.**, Bergstedt O., **Wiberg K.** A case study of organic micropollutants in a major Swedish water source - Removal efficiency in seven drinking water treatment plants and influence of operational age of granulated active carbon filters, *Science of the Total Environment*, **in press** <https://doi.org/10.1016/j.scitotenv.2019.135582>
5. van den Ameele S., van Nuijs A.L., **Lai F.Y.**, Schuermans J., Verkerk R., van Diermen L., Coppens V., Fransen E., de Boer P., Timmers M., Sabbe B., Morrens M. A mood state-specific interaction between kynurenine metabolism and inflammation is present in bipolar disorder. *Bipolar Disorders*, **in press**. Link: <https://onlinelibrary.wiley.com/doi/full/10.1111/bdi.12814>