

SafeDrink publications and activities up to April 2017

Peer-reviewed scientific papers

1. **Kothawala D, Köhler SJ, Östlund A, Wiberg K, Ahrens L.** Influence of DOM concentration and composition on the removal efficiency of PFAS during drinking water treatment (GAC and AE). Accepted for publication in *Water Research*.
2. **McCleaf P, Englund S, Östlund A, Lindegren K, Wiberg K, Ahrens L.** Removal efficiency of multiple perfluoroalkyl substances (PFASs) in drinking water using granular activated carbon (GAC) and anion exchange (AE) column tests. *Water Research*, 120:77-87, **2017**.
3. **Lundqvist J, Hellman B., Oskarsson A.** Fungicide prochloraz induces oxidative stress and DNA damage *in vitro*. *Food and Chemical Toxicology* 91: 36-41, **2016**.
4. **Lundqvist J, Pekar H, Oskarsson A.** Microcystins activate nuclear factor erythroid 2–related factor 2 (Nrf2) in human liver cells *in vitro* – Implications for an oxidative stress induction by microcystins. *Toxicol*, **2017**.

Manuscripts, submitted and in prep.

1. **Tröger et al, Klöckner P, Ahrens L, Wiberg K.** Method development and application of target screening for micropollutants in drinking water with a source to tap approach, *in prep*.
2. **Dürig, Tröger et al.** Identification of organic pollutants for suspect screening in water and biota, *in prep*.
3. **Rosenmai et al.** Toxic responses - drinking water extracts, *in prep*.
4. **Rosenmai et al.** Toxic responses for PFASs, *submitted*
5. **Köhler et al.** Removal efficiency of per- and polyfluoroalkyl substances in Sweden's largest drinking water plant, *in prep*.
6. **Pekar et al.** Screening of pesticides in Lake Vomb using LC-MS/MS, GC-MS/MS and LC-QTOF and consequences for drinking water monitoring, *in prep*.
7. **Pekar et al.** Quality of raw water does not affect removal efficiency of cyanotoxins during membrane filtration for drinking water production, *in prep*.
8. **Dirks et al.** LC-MS/MS method for fecal source tracing, *in prep*.
9. **Olofsson et al.**, Sense-making of risks associated with drinking water, *in prep*.
10. **Gyllenhammar Irina Glynn A, Benskin J, Ahrens L, Lignell S, Wiberg K.** Biomonitoring PFASs. Determinants of perfluoroalkyl acids (PFAAs) in children and contribution from PFAA contaminated drinking water, *in prep*.

Conference and workshop presentations

2017

1. **Wiberg K.** Faran med de okända kemikalierna i våra vatten, *Forskarna på slottet: Uppsalaåsen och vår framtida dricksvattenförsörjning, May 16, 2017*.
2. **Köhler S.** Vad gör Sveriges längsta underjordiska vattenverk för oss Uppsalabor nu och i framtiden? *Forskarna på slottet: Uppsalaåsen och vår framtida dricksvattenförsörjning, May 16, 2017*.
3. **Tröger R.** Faran med de okända kemikalierna i våra vatten, *Dricksvattendagarna, February 7-8, 2017*.

4. **Tröger R., Ahrens L., Franke V., Glimstedt L., Klöckner P., Kothawala D., Köhler S., Wiberg K.** Tracing micropollutants in raw and drinking water in Sweden. *SETAC Europe 27th Annual Meeting, Brussels, Belgium, May 7–11, 2017.*

2016

1. **Wiberg K.** Säkert dricksvatten – så detekteras kemiska hälsorisker. *Senioruniversitetet Uppsala, November 15, 2016.* Invited speaker.
2. **Wiberg K.** SafeDrink - ett projekt med fokus på kemiska hälsorisker (Formas 2013-2017). *Kemiska risker, Svenskt Vatten o. Utveckling, Stockholm, October 27, 2016.* Oral presentation.
3. **Ahrens L.** Perfluoroalkyl substances in drinking water. *Kemiska risker, Svenskt Vatten o. Utveckling, Stockholm, October 27, 2016.* Oral presentation.
4. **Franke V.** Innovative treatment techniques for PFAS in drinking water. *Kemiska risker, Svenskt Vatten o. Utveckling, Stockholm, October 27, 2016.* Oral presentation.
5. **Köhler S.** Aktivt kol för borttagning av hälsofarliga ämnen - kunskapsläge i Frankrike
6. **Oskarsson A and Lundqvist J.** Bioassays for detection of toxic activities in water *Kemiska risker, Svenskt Vatten o. Utveckling, Stockholm, October 27, 2016.* Oral presentation.
7. **Tröger R.** Kemisk analys av miljöförorenande ämnen i dricksvatten. *Kemiska risker, Svenskt Vatten o. Utveckling, Stockholm, October 27, 2016.* Oral presentation.
8. **Glynn A.** Befolkningens exponering för PFAS - dricksvattnets betydelse. *Kemiska risker, Svenskt Vatten o. Utveckling, Stockholm, October 27, 2016.* Oral presentation.
9. **Wiberg K.** Kemisk förorening från källa till kran - Resultat från SafeDrink. *DRICKS seminar day chemical health risks associated to drinking water, Gävle, October 26, 2016.* Invited speaker.
10. **Wiberg K.** Hälsofarliga kemikalier i dricksvatten - resultat från SafeDrink. *Mälardalens långsiktiga dricksvattenförsörjning, Seminar Day arranged by Mälarens vattenvårdsförbund, Stockholm, May 31, 2016.* Invited speaker.
11. **Oskarsson A, Le Godec T, Rosenmai AK, Hellman B, Ahrens L, Tröger R, Wiberg K, Lundqvist J.** Nrf2 as an oxidative stress biomarker of drinking water from source to tap – association with AhR activity and chemical pollutants. *SETAC, Nantes, France, 2016.* Poster presentation.
12. **Lundqvist J, Hellman B, Oskarsson A.** Fungicide prochloraz induces oxidative stress and DNA damage in vitro. *SETAC, Nantes, 2016.* Poster presentation.
13. **Lundqvist J, von Brömssen C, Rosenmai AK, Le Godec T, Kreuger J, Oskarsson A.** Integrated chemical and toxicological profiling of surface water samples from Swedish agricultural areas. *SETAC, Nantes, 2016.* Poster presentation.
14. **Ahrens L, Tröger R, Klöckner P, Lundqvist J, Rosenmai AK, Le Godec T, Oskarsson A, Wiberg K.** Screening of organic contaminants in raw and drinking water from source to tap. *SETAC, Nantes, 2016.*
15. **Dürig W, Tröger R, Ahrens L, Wiberg K., Andersson P.** Identification of organic pollutants for suspect screening in water and biota. *6th International Network of Environmental Forensics conference, June 27-30 2016, Örebro University, Sweden.* Poster presentation.
16. **Dürig W, Tröger R, Ahrens L, Wiberg K, Andersson P.** Identification of organic pollutants for suspect screening in water and biota. *Non-target screening of organic chemicals for a comprehensive environmental risk assessment, May 29 - June 3, 2016 Ascona, Switzerland.* Poster presentation.
17. **McCleaf P, Englund S, Östlund A, Lindegren K, Ahrens L.** Comparison of removal efficiency of perfluoroalkyl substances (PFASs) using granular active carbon filtration and anion exchange. *Nordic drinking water conference, Reykjavik, September 28-30, 2016.* Oral presentation.
18. **McCleaf P, Ahrens L, Wiberg K.** PFAS i dricksvatten – förekomst och rening. *4th National Drinking Water Conference, Malmö, Sweden, April 19-20, 2016.* Invited speaker.
19. **Wiberg K.** SafeDrink – detektion av kemiska hälsorisker. Analys av vatten från källa till kran. *4th National Drinking Water Conference, Malmö, Sweden, April 19-20, 2016.* Invited speaker.

20. **Lundqvist J, Tröger R, Le Godec T, Ohlson-Andersson Å, Rosenmai AK, Ahrens A, Wiberg K, Oskarsson A.** *In vitro* bioassays and chemical analysis of drinking water from source to tap. Society of Toxicology 55th Annual Meeting in New Orleans, March 13-17, 2016.
21. **Rosenmai AK, Oskarsson A, Lundqvist J.** Alternative Flame Retardants and Related Compounds Activates Oxidative Stress Nrf2 Pathway and Aryl Hydrocarbon Receptor In Vitro, Society of Toxicology 55th Annual Meeting in New Orleans, March 13-17, 2016.
22. **Wiberg K.** Detektion av kemiska hälsorisker i dricksvatten. *Delegation from the network "Towards a non-toxic South-East Asia", coordinated by KemI, SLU Uppsala, February 11, 2016.* Invited speaker.
23. **Wiberg K.** SafeDrink - Bättre kontroll av hälsofarliga kemiska föroreningar i dricksvatten. *Förbundsträff Mälarens vattenvårdsförbund, Mälaren – en sjö för miljoner, Västerås, February 2-3, 2016.* Invited speaker.
24. **Wiberg K.** FoU för säkert dricksvatten – Kemiska hälsorisker. *DRICKS-externat in Allingsås, January 26-27, 2016.* Oral presentation.

2015

1. **Pekar H., Ahrens L., Dirks C., Persson K.M., Pott B.-M., Tröger R, Wiberg K.** Screening of pesticides in Lake Vomb using LC-MS/MS, GC-MS/MS and LC-QTOF and consequences for drinking water monitoring. *7th International Symposium on Recent Advances in Food Analysis (RAFA 2015), November 3-6, 2015, Prague, Czech Republic.* Poster presentation.
2. **Wiberg K.** FoU för säkert dricksvatten – så detekteras kemiska risker. *Svensk Vatten Utveckling 25 år – då, nu och framtid, Stockholm, December 2-3, 2015.* Invited speaker.
3. **Ahrens L, McCleaf P, Lundgren S, Englund S, Östlund A, Lindegren K, Persson C, Kothawala D, Köhler SJ, Wiberg K.** Removal efficiency of per- and polyfluoroalkyl substances in drinking water by using advanced treatment techniques *International Symposium on Halogenated Persistent Organic Pollutants, August 23-28, 2015, Sao Paolo, Brazil. Organoh.Comp.77, 2015.* Oral presentation.
4. **Ahrens L, Köhler S, Lundgren S, Englund S, Persson C, McCleaf P, Lavonen E, Keucken A, Ericsson P, Wiberg K** Removal efficiency of per- and polyfluoroalkyl substances by drinking water treatment processes and the role of natural organic matter. *NOM6, the 6th International Water Association (IWA) Specialist Conference on Natural Organic Matter in Water, September 7-10, 2015, Malmö, Sweden.*
5. **Ahrens L, Bergström S, Gustavsson J, Holmström K, Josefsson S, Ngyuen MA, Ribéli E, Wiberg K** Aqueous fire-fighting foams as a source of contamination of PFASs in ground and drinking water. *13th International UFZ-Deltares Conference on Sustainable Use and Management of Soil, Sediment and Water Resources (AquaConSoil), June 9-12, 2015, Copenhagen, Denmark.*
6. **Wiberg K** Högfluorerade kemikalier i yt- och grundvatten - Bör vi oroa oss? *Workshop on Screening och miljögiftsövervakning, Örebro, May 26-27, 2015.* Invited speaker.
7. **Wiberg K** Vattnets innehåll av hälsofarliga kemikalier Har Sverige bra dricksvatten? *Drinking water seminar at The Royal Swedish Academy of Engineering Sciences (IVA), Stockholm, May 27, 2015.* Invited speaker.
8. **Ahrens L, Bergström S, Holmström K, Ribéli E, Wiberg K** Tracing sources for contamination of per- and polyfluoroalkyl substances in ground and drinking water. *SETAC Europe 25th Annual Meeting, Barcelona, Spain, May 3-7, 2015.* Oral presentation.
9. **Ahrens L, Lundgren S, Englund S, Persson C, McCleaf P, Lavonen E, Keucken A, Ericsson P, Köhler SJ, Wiberg K** Performance assessment of advanced water treatment processes for the removal of per- and polyfluoroalkyl substances (PFASs). *SETAC Europe 25th Annual Meeting, Barcelona, Spain, May 3-7, 2015.* Oral presentation.

10. **Ahrens L, McCleaf P, Köhler SJ, Ericsson P, Tröger R, Wiberg K** Per- och polyfluoralkylerade ämnen (PFASs) i dricksvatten. *3rd National Drinking Water Conference, Uppsala, Sweden, April 14–15, 2015*. Oral presentation.
11. **McCleaf P, Ahrens L** Erfarenheter av reduktion av PFAA i dricksvatten med aktivtkolfiltrering, jonbyte, membrantechnik. *3rd National Drinking Water Conference, Uppsala, Sweden, April 14–15, 2015*. Oral presentation.
12. **Wiberg K, Ahrens L, Dirks C, Glynn A, Hellman B, Köhler SJ, Lundqvist J, McCleaf P, Oskarsson A, Pekar H, Tröger R, Wall E** SafeDrink – Ett projekt om metodik för detektion av hälsofarliga kemiska ämnen i dricksvatten. *3rd National Drinking Water Conference, Uppsala, Sweden, April 14–15, 2015*. Invited speaker.
13. **Dirks C, Ahrens L, Dryselius R, Wiberg K, Pekar H** An ESI and APCI LC-MS/MS-based multi-method for fecal source tracking in raw water: passive versus active sampling. *3rd National Drinking Water Conference, Uppsala, Sweden, April 14–15, 2015*. Poster presentation.

2014

1. **Ahrens L, Wiberg K** PFASs in the Swedish Environment - SLU's Ongoing and Future Research *Nätverksmöte kring högfluorerade ämnen, November 6, 2014, Uppsala, Sweden*. Invited speaker.
2. **Ahrens L, Oskarsson A, Köhler SJ, Hellman B, Wall E, Pekar H, Glynn A, McCleaf P, Tröger R, Wiberg K** Méthodes chimiques et toxicologiques intégrées pour la détection précoce de substances chimiques dangereuses dans l'eau potable *Journées Information Eaux Nov 4-6, 2014, ENSI Poitiers, France*. Poster presentation.
3. **Wiberg K, Ahrens L** PFASs i vattenmiljön – borde vi oroa oss? Seminariedag om PFASs i miljön, Föreningen Vatten, Linköping, Sept 4, 2014. Invited speaker.
4. **Wiberg K** SafeDrink - Integrated chemical and toxicological methods for early detection of hazardous chemicals in drinking water *The Chemical side of SLU 2+, Uppsala, Sweden, Aug19-20, 2014*. Oral presentation.
5. **Ahrens L, Oskarsson A, Köhler SJ, Hellman B, Wall E, Pekar H, Glynn A, McCleaf P, Tröger R, Wiberg K** Integrated chemical and toxicological methods for early detection of hazardous chemicals in drinking water *Nordic drinking water conference, Helsinki, June 2-4, 2014*. Poster presentation.
6. **Ahrens L, Lavonen E, Keucken A, Ericsson P, McCleaf P, Wiberg K, Köhler SJ** Performance assessment of advanced water treatment processes for the removal of perfluoroalkyl substances (PFASs) *Nordic drinking water conference, Helsinki, June 2-4, 2014*. Poster presentation.
7. **Ahrens L, Pekar H, Tröger R, Wiberg K** Passive samplers as a screening tool for organic micropollutants in drinking water *Nordic drinking water conference, Helsinki, June 2-4, 2014*. Poster presentation.
8. **Bruno O, Jansson D, Peterson E, Beckman Sundh U, Eriksson M, Pekar H** Methods for profiling microcystins from cyanobacterial blooms (blue-green algae) in Swedish waters used for drinking water production *Nordic drinking water conference, Helsinki, June 2-4, 2014*. Poster presentation.
9. **Ahrens L, Oskarsson A, Köhler SJ, Hellman B, Wall E, Pekar H, Glynn A, McCleaf P, Tröger R, Wiberg K** Integrated chemical and toxicological methods for early detection of hazardous chemicals in drinking water. *SETAC Europe 24th annual meeting, May 11-15, 2014, Basel*. Poster presentation.
10. **Dirks C, Ahrens L, Dryselius R, Wiberg K, Pekar H** An ESI and APCI LC-MS/MS-based multi-method for fecal source tracking in raw water: passive versus active sampling. *SETAC Europe 24th annual meeting, May 11-15, 2014, Basel, Switzerland*. Poster presentation.

11. **Oskarsson A, Tröger R, Kreuger J, Ahrens L, Wiberg K, Lundqvist J** Oxidative stress response in samples from surface water and a drinking water treatment plant. *Society of Toxicology's 53rd Annual Meeting, March 24–27, 2014, Phoenix, Arizona, US*. Oral presentation.

Reports

1. **Oskarsson A., Niss F., Tröger R.** Undersökning av toxisk aktivitet i vattenprover före och efter UV-behandling. Rapport till Sydsvatten, 2016.
2. **Glimstedt L., Ahrens L., Wiberg K.** Antropogena föroreningar i svenska vattentäkter. Rapport 2016:4, Sveriges lantbruksuniversitet, Institutionen för vatten och miljö, ISBN 978-91-576-9431-7, **2016**.
3. **Ahrens L., Hedlund J., Dürig W., Tröger R., Wiberg K.** Screening of PFASs in groundwater and surface water. Rapport 2016:2, Sveriges lantbruksuniversitet, Institutionen för vatten och miljö, ISBN 978-91-576-9386-0, **2016**.

Master theses

1. **Nadine Belkouteb**, Evaluation of the removal efficiency of per- and polyfluoroalkyl substances in drinking water *Supervisors: Lutz Ahrens and Philip McCleaf, 2017*.
2. **Johanna Hedlund**, Per- and polyfluoroalkyl substances (PFASs) in Swedish waters. *Supervisors: Lutz Ahrens, Wiebke Dürig, Karin Wiberg, 2016*.
3. **Klara Lindegren**, Evaluation of the removal efficiency of per- and polyfluoroalkyl substances in drinking water using nanofiltration membranes, active carbon and anion exchange. *Supervisor: Lutz Ahrens, 2015*.
4. **Philipp Klöckner**, From source to tap - a study of common contaminants in water. *Supervisors: Rikard Tröger, Lutz Ahrens and Karin Wiberg, 2015*.
5. **Anna Östman**, Removal efficiency of perfluoroalkyl substances (PFASs) in drinking water – Evaluation of granular activated carbon (GAC) and anion exchange (AE) using column tests and the effect of dissolved organic carbon. *Supervisor: Lutz Ahrens, 2015*.
6. **Caroline Persson**, Calibration and application of passive sampler in drinking water for perfluoroalkyl substances, collaboration with Per Ericsson, Norrvatten. *Supervisors: Lutz Ahrens and Stephan Köhler, 2014*.
7. **Sophie Englund**, Evaluation of the removal efficiency of perfluoroalkyl substances in drinking water using anion exchange and granular activated carbon, collaboration with Philip McCleaf, Uppsala Vatten. *Supervisor: Lutz Ahrens, 2014*.
8. **Sofia Bergström**, Transport of per- and polyfluoroalkyl substances in soil and groundwater in Uppsala, Sweden, Sponsors: Uppsala municipality and Structor. *Supervisors Lutz Ahrens and Karin Wiberg, 2014*.
9. **Sandra Lundgren**, Evaluation of the efficiency of treatment techniques in removing perfluoroalkyl substances from water. *Supervisor Lutz Ahrens, 2014*.

SafeDrink in media and popular science articles

- **Fischer S., Lilja K., Ahrens L., Wiberg K.** Poly- and perfluoroalkyl substances on the market and in the Swedish environment. *Norman Bulletin* 5:6-9, **2016**.
- **Svenskt Vatten**, FoU-special, Kemiska risker, p. 11, April 2016.
- **SafeDrink – det livsviktiga dricksvattnet**, artikel om SafeDrink i Resurs (SLU:s medarbetartidning), 2016-01-14

<http://www.anpdm.com/newsletterweb/44435F477148405F4371404B59/4145504A7245415E47724342504671>

- **Hotet mot Uppsalas dricksvatten**, Köhler m.fl., debattartikel publicerad i Uppsala Nya Tidning 2015-08-20 med uppföljande intervju i P4 Uppland.
<http://www.unt.se/asikt/debatt/dricksvattnet-hotas-3845672.aspx>
- **Förorenat vatten renas i Uppsala**, A. Digréus, Studio Ett, March 4, 2015
- **Dubbelrening ska få Uppsalas vatten drickbart**, Sveriges Radio, A. Digréus March 4, 2015
- **Everyone needs clean water**, <http://www.slu.se/newinsights>, March 2015
- **Så ska gifter stoppas**, Uppsala Nya Tidning, Dec 4, 2014,
<http://www.unt.se/uppland/uppsala/sa-ska-gifter-i-vattnet-stopas-3480464.aspx>
- **Krav på haverikommission**, Uppsala Nya Tidning, Oct 10,
<http://www.unt.se/uppland/uppsala/krav-pa-haverikommission-3406857.aspx>
- **Svenskt Vatten**, April 2014, FoU-special
- **SafeDrink**, www.youtube.com/watch?v=-B_-BWHbJA

Participants in SafeDrink

SLU:	Karin Wiberg, Agneta Oskarsson, Stephan Köhler, Lutz Ahrens, Dolly Kothawala, Johan Lundqvist, Anna Rosenmai, Rikard Tröger, Frida Niss
Uppsala universitet:	Björn Hellman
Mittuniversitetet:	Anna Olofsson, Jens Ljungdahl, Elin Montelius, Karin Simonsson
Livsmedelsverket:	Heidi Pekar, Caroline Dirks, Anders Glynn
Uppsala Vatten:	Philip McCleaf

The SafeDrink reference group

Livsmedelsverket	Per-Erik Nyström (ordf.), Kettel Svensson
Svenskt Vatten	Gullvy Hedenberg
SGU	Lars-Ove Lång
Norrsvatten	Per Ericsson (ersättare Kristina Dahlberg)
Sydsvatten	Britt-Marie Pott
Stockholm Vatten	Ulf Eriksson
Länsstyrelsen Kalmar	Liselotte Hagström
Havs och Vattenmyndigheten (HaV)	Susanna Hogdin (fr.o.m. 2015)