# AIMMS publication report for: 2020-08-10

1. Toddler behavior, the home environment, and flame retardant (2020-8)
2. Development of a high-throughput bioassay for screening of a (2020-8)
3. Human exposure to synthetic endocrine disrupting chemicals ( (2020-8)
4. Human exposure to synthetic endocrine disrupting chemicals ( (2020-8)
5. *A dual attack on the peroxide bond. The common principle of (2020-7)*
6. *Double hybrid DFT calculations with Slater type orbitals (2020-7)*
7. *Regioselectivity of Epoxide Ring-Openings via SN2 Reactions (2020-7)*
8. *The energetic basis of population growth in animal kingdom (2020-7)*
9. *Acetylene containing cyclo(L-Tyr-L-Tyr)-analogs as mechanism (2020-7)*
10. *Fragmentation of plastic objects in a laboratory seawater mi (2020-7)*
11. *Learning strategies in sustainable energy demonstration proj (2020-7)*
12. *The EU-Tox (2020-7)*
13. *Putative adverse outcome pathways for female reproductive di (2020-7)*
14. *Assessing anti-estrogenic effects of AHR ligands in primary (2020-7)*
15. *The NORMAN Association and the European Partnership for Chem (2020-7)*
16. *Pesticide residue levels in vegetables and surface waters at (2020-7)*
17. *Time integrative sampling properties of Speedisk and silicon (2020-7)*
18. *Four-step approach to efficiently develop capillary gel elec (2020-7)*

### 1) Toddler behavior, the home environment, and flame retardant exposure

* Sugeng, E. J., de Cock, M., Leonards, P. E., van de Bor, M.
* Environmental Health and Toxicology, AIMMS, Environmental Bioanalytical Chemistry, Environment and Health
* Chemosphere
* https://doi.org/10.1016/j.chemosphere.2020.126588
* Corresponding author: Sugeng, E. J.
* Published Aug 2020 (early online 23 Mar 2020)
* Processed: 2020-8

Toddlers are at increased risk of dust ingestion and subsequently flame retardant (FR) exposure because they often play close to the floor and mouth hands and objects. Exposure to some FRs have been associated to endocrine disruption and neurodevelopmental disorders. Previous research has shown higher FR concentrations in toddlers’ serum and urine, but which toddler-behaviors influence exposure levels remains to be determined. We investigated how toddler-behaviors are associated to FRs in hand wipes (HWs) and saliva. Fifty 8-18 month-old children from the Linking EDCs in maternal Nutrition to Child health study, were visited at home. The child's behavior was observed and assessed using a questionnaire. Hand-to-object behavior frequency was associated with HW tris(chloroethyl) phosphate (TCEP), tris(1,3-dichloroisopropyl) phosphate (TDCIPP), tris(phenyl) phosphate, tris(methylphenyl) phosphate, and resorcinol bis(diphenyl phosphate) levels above the detection limit. Children playing with electronics multiple times per week had higher TDCIPP HW levels compared to children playing with electronics once per month or never (p = 0.032 and p = 0.046). Frequent mouth-to-object and frequent mouthing a pacifier were associated with lower TDCIPP (p = 0.019) and tris(2-chloroisopropyl) phosphate (TCIPP) HW levels, respectively (p = 0.002–0.019). Exposure estimates based on hand-to-mouth behavior did not exceed the available reference doses. This is the first study investigating toddler-behavior in relation to FR hand loadings. Although a range of behaviors was investigated, only a few showed a relation with FR HW levels, suggesting that toddler-behavior might not alone be responsible for the elevated FR levels in children. It is therefore important to explore other pathways including dermal absorption and inhalation.

### 2) Development of a high-throughput bioassay for screening of antibiotics in aquatic environmental samples

* Jonkers, T. J., Steenhuis, M., Schalkwijk, L., Luirink, J., Bald, D., Houtman, C. J., Kool, J., Lamoree, M. H., Hamers, T.
* AIMMS, Environmental Chemistry and Toxicology, Molecular Microbiology, LaserLaB - Molecular Biophysics, Structural Biology, BioAnalytical Chemistry, Environmental Health and Toxicology, VU University, The Water Laboratory
* Science of the Total Environment
* https://doi.org/10.1016/j.scitotenv.2020.139028
* Corresponding author: Jonkers, T. J.
* Published 10 Aug 2020 (early online 28 Apr 2020)
* Processed: 2020-8

The goal of the present study was to select a Gram-positive (Gram+) and Gram-negative (Gram−) strain to measure antimicrobial activity in environmental samples, allowing high-throughput environmental screening. The sensitivity of eight pre-selected bacterial strains were tested to a training set of ten antibiotics, i.e. three Gram+ Bacillus subtilis strains with different read-outs, and five Gram− strains. The latter group consisted of a bioluminescent Allivibrio fischeri strain and four Escherichia coli strains, i.e. a wild type (WT) and three strains with a modified cell envelope to increase their sensitivity. The WT B. subtilis and an E. coli strain newly developed in this study, were most sensitive to the training set. This E. coli strain carries an open variant of an outer membrane protein combined with an inactivated multidrug efflux transport system. The assay conditions of these two strains were optimized and validated by exposure to a validation set of thirteen antibiotics with clinical and environmental relevance. The assay sensitivity ranged from the ng/mL to μg/mL range. The applicability of the assays for toxicological characterization of aquatic environmental samples was demonstrated for hospital effluent extract. A future application includes effect-directed analysis to identify yet unknown antibiotic contaminants or their transformation products.

### 3) Human exposure to synthetic endocrine disrupting chemicals (S-EDCs) is generally negligible as compared to natural compounds with higher or comparable endocrine activity. How to evaluate the risk of the S-EDCs?

* Autrup, H., Barile, F. A., Berry, S. C., Blaauboer, B. J., Boobis, A., Bolt, H., Borgert, C. J., Dekant, W., Dietrich, D., Domingo, J. L., Gori, G. B., Greim, H., Hengstler, J., Kacew, S., Marquardt, H., Pelkonen, O., Savolainen, K., Heslop-Harrison, P., Vermeulen, N. P.
* Chemistry and Pharmaceutical Sciences, AIMMS, Aarhus University, St. John's University, Queen Mary University of London, Utrecht University, Imperial College London, Dortmund University, Applied Pharmacology and Toxicology, Inc. Gainesville, University of Würzburg, University of Konstanz, Pere Virgili Health Research Institute, The Health Policy Center, University of Ottawa, Toxicology, University of Oulu, Finnish Institute of Occupational Health, University of Leicester
* Environmental Toxicology and Pharmacology
* https://doi.org/10.1016/j.etap.2020.103396
* Corresponding author: Dekant, W.
* Published Aug 2020 (early online 29 Apr 2020)
* Processed: 2020-8

Theoretically, both synthetic endocrine disrupting chemicals (S-EDCs) and natural (exogenous and endogenous) endocrine disrupting chemicals (N-EDCs) can interact with endocrine receptors and disturb hormonal balance. However, compared to endogenous hormones, S-EDCs are only weak partial agonists with receptor affinities several orders of magnitude lower than S-EDCs. Thus, to elicit observable effects, S-EDCs require considerably higher concentrations to attain sufficient receptor occupancy or to displace natural hormones and other endogenous ligands. Significant exposures to exogenous N-EDCs may result from ingestion of foods such as soy-based diets, green tea and sweet mustard. While their potencies are lower as compared to natural endogenous hormones, they usually are considerably more potent than S-EDCs. Effects of exogenous N-EDCs on the endocrine system were observed at high dietary intakes. A causal relation between their mechanism of action and these effects is established and biologically plausible. In contrast, the assumption that the much lower human exposures to S-EDCs may induce observable endocrine effects is not plausible. Hence, it is not surprising that epidemiological studies searching for an association between S-EDC exposure and health effects have failed. Regarding testing for potential endocrine effects, a scientifically justified screen should use in vitro tests to compare potencies of S-EDCs with those of reference N-EDCs. When the potency of the S-EDC is similar or smaller than that of the N-EDC, further testing in laboratory animals and regulatory consequences are not warranted.

### 4) Human exposure to synthetic endocrine disrupting chemicals (S-EDCs) is generally negligible as compared to natural compounds with higher or comparable endocrine activity. How to evaluate the risk of the S-EDCs?

* Autrup, H., Barile, F. A., Berry, S. C., Blaauboer, B. J., Boobis, A., Bolt, H., Borgert, C. J., Dekant, W., Dietrich, D., Domingo, J. L., Gori, G. B., Greim, H., Hengstler, J., Kacew, S., Marquardt, H., Pelkonen, O., Savolainen, K., Heslop-Harrison, P., Vermeulen, N. P.
* Chemistry and Pharmaceutical Sciences, AIMMS, Aarhus University, St. John's University, Queen Mary University of London, Utrecht University, Imperial College London, Dortmund University, Applied Pharmacology and Toxicology, Inc., University of Würzburg, University of Konstanz, Pere Virgili Health Research Institute, The Health Policy Center, Technical University of Munich, University of Ottawa, Toxicology, University of Oulu, Finnish Institute of Occupational Health, University of Leicester
* Chemico-Biological Interactions
* https://doi.org/10.1016/j.cbi.2020.109099
* Corresponding author: Greim, H.
* Published 1 Aug 2020 (early online 1 May 2020)
* Processed: 2020-8

Theoretically, both synthetic endocrine disrupting chemicals (S-EDCs) and natural (exogenous and endogenous) endocrine disrupting chemicals (N-EDCs) can interact with endocrine receptors and disturb hormonal balance. However, compared to endogenous hormones, S-EDCs are only weak partial agonists with receptor affinities several orders of magnitude lower. Thus, to elicit observable effects, S-EDCs require considerably higher concentrations to attain sufficient receptor occupancy or to displace natural hormones and other endogenous ligands. Significant exposures to exogenous N-EDCs may result from ingestion of foods such as soy-based diets, green tea and sweet mustard. While their potencies are lower as compared to natural endogenous hormones, they usually are considerably more potent than S-EDCs. Effects of exogenous N-EDCs on the endocrine system were observed at high dietary intakes. A causal relation between their mechanism of action and these effects is established and biologically plausible. In contrast, the assumption that the much lower human exposures to S-EDCs may induce observable endocrine effects is not plausible. Hence, it is not surprising that epidemiological studies searching for an association between S-EDC exposure and health effects have failed. Regarding testing for potential endocrine effects, a scientifically justified screen should use in vitro tests to compare potencies of S-EDCs with those of reference N-EDCs. When the potency of the S-EDC is similar or smaller than that of the N-EDC, further testing in laboratory animals and regulatory consequences are not warranted.

### *5) A dual attack on the peroxide bond. The common principle of peroxidatic cysteine or selenocysteine residues*

* Dalla Tiezza, M., Bickelhaupt, F. M., Flohé, L., Maiorino, M., Ursini, F., Orian, L.
* Chemistry and Pharmaceutical Sciences, AIMMS, University of Padova, Universidad de la República
* Redox Biology
* https://doi.org/10.1016/j.redox.2020.101540
* Corresponding author: Orian, L.
* Published Jul 2020 (early online 14 Apr 2020)
* Processed: 2020-7

The (seleno)cysteine residues in some protein families react with hydroperoxides with rate constants far beyond those of fully dissociated low molecular weight thiol or selenol compounds. In case of t ...

### *6) Double hybrid DFT calculations with Slater type orbitals*

* Förster, A., Visscher, L.
* Theoretical Chemistry, AIMMS
* Journal of Computational Chemistry
* https://doi.org/10.1002/jcc.26209
* Corresponding author: Förster, A.
* Published 5 Jul 2020 (early online 16 Apr 2020)
* Processed: 2020-7

On a comprehensive database with 1,644 datapoints, covering several aspects of main-group as well as of transition metal chemistry, we assess the performance of 60 density functional approximations (D ...

### *7) Regioselectivity of Epoxide Ring-Openings via SN2 Reactions Under Basic and Acidic Conditions*

* Hansen, T., Vermeeren, P., Haim, A., van Dorp, M. J., Codée, J. D., Bickelhaupt, F. M., Hamlin, T. A.
* Chemistry and Pharmaceutical Sciences, Theoretical Chemistry, AIMMS, VU University, Leiden University
* European Journal of Organic Chemistry
* https://doi.org/10.1002/ejoc.202000590
* Corresponding author: Bickelhaupt, F. M.
* Published 7 Jul 2020 (early online 28 May 2020)
* Processed: 2020-7

We have quantum chemically analyzed the ring-opening reaction of the model non-symmetrical epoxide 2,2-dimethyloxirane under basic and acidic conditions using density functional theory at OLYP/TZ2P. F ...

### *8) The energetic basis of population growth in animal kingdom*

* Kooijman, S. A., Lika, K., Augustine, S., Marn, N., Kooi, B. W.
* Molecular Cell Biology, Theoretical Life Sciences, AIMMS, University of Crete, Foundation for Research and Technology-Hellas, Norwegian Institute for Water Research
* Ecological Modelling
* https://doi.org/10.1016/j.ecolmodel.2020.109055
* Corresponding author: Kooijman, S. A.
* Published 15 Jul 2020 (early online 15 May 2020)
* Processed: 2020-7

Population growth, and other population characteristics, have been computed and made available online for over 2000 animal species in the Add-my-Pet (AmP) collection, assuming constant food and temper ...

### *9) Acetylene containing cyclo(L-Tyr-L-Tyr)-analogs as mechanism-based inhibitors of CYP121A1 from Mycobacterium tuberculosis*

* Ortega Ugalde, S., Wallraven, K., Speer, A., Bitter, W., Grossmann, T. N., Commandeur, J. N.
* Molecular and Computational Toxicology, Organic Chemistry, Molecular Microbiology, AIMMS, Amsterdam UMC
* Biochemical Pharmacology
* https://doi.org/10.1016/j.bcp.2020.113938
* Corresponding author: Grossmann, T. N.
* Published Jul 2020 (early online None)
* Processed: 2020-7

Tuberculosis (TB) is a globally significant infective disease that is caused by a single infectious agent, Mycobacterium tuberculosis (Mtb). Because of the rise in the number of multidrug-resistant (M ...

### *10) Fragmentation of plastic objects in a laboratory seawater microcosm*

* Gerritse, J., Leslie, H. A., de Tender, C. A., Devriese, L. I., Vethaak, A. D.
* Environmental Chemistry and Toxicology, AIMMS, Deltares, Ghent University, Animal Sciences Unit - Aquatic Environment and Quality, Flanders Marine Institute
* Scientific Reports
* https://doi.org/10.1038/s41598-020-67927-1
* Corresponding author: Gerritse, J.
* Published 1 Dec 2020 (early online 2 Jul 2020)
* Processed: 2020-7

We studied the fragmentation of conventional thermoplastic and compostable plastic items in a laboratory seawater microcosm. In the microcosm, polyurethane foams, cellulose acetate cigarette filters, ...

### *11) Learning strategies in sustainable energy demonstration projects: What organizations learn from sustainable energy demonstrations*

* Bossink, B.
* Science & Business Innovation, AIMMS
* Renewable and Sustainable Energy Reviews
* https://doi.org/10.1016/j.rser.2020.110025
* Corresponding author: None
* Published Oct 2020 (early online 5 Jul 2020)
* Processed: 2020-7

This literature review study presents and discusses the learning strategies of organizations participating in sustainable energy demonstration projects. It finds that academic, commercial, and governm ...

### *12) The EU-Tox*

* Krebs, A., van Vugt-Lussenburg, B. M. A., Waldmann, T., Albrecht, W., Boei, J., Ter Braak, B., Brajnik, M., Braunbeck, T., Brecklinghaus, T., Busquet, F., Dinnyes, A., Dokler, J., Dolde, X., Exner, T. E., Fisher, C., Fluri, D., Forsby, A., Hengstler, J. G., Holzer, A., Janstova, Z., Jennings, P., Kisitu, J., Kobolak, J., Kumar, M., Limonciel, A., Lundqvist, J., Mihalik, B., Moritz, W., Pallocca, G., Ulloa, A. P. C., Pastor, M., Rovida, C., Sarkans, U., Schimming, J. P., Schmidt, B. Z., Stöber, R., Strassfeld, T., van de Water, B., Wilmes, A., van der Burg, B., Verfaillie, C. M., von Hellfeld, R., Vrieling, H., Vrijenhoek, N. G., Leist, M.Pages:2435-2461
* Molecular and Computational Toxicology, AIMMS, Department of Chemistry, Zukunftskolleg, and Konstanz Research School Chemical Biology, University of Konstanz , 78457 Konstanz, Germany., BioDetection Systems BV, Science Park 406, Amsterdam 1098 XH, The Netherlands., trenzyme GmbH, Byk-Gulden-Str. 2, 78467, Konstanz, Germany., Leibniz-Institut für Arbeitsforschung an der TU Dortmund, Leibniz Research Center for Working Environment and Human Factors (IfADo), Ardeystraße 67, 44139, Dortmund, Germany., Department of Rehabilitation Medicine, Leiden University Medical Center, P.O. Box 2300, 9600 RC Leiden, The Netherlands., Division of Drug Discovery and Safety, Leiden Academic Center for Drug Research, Leiden University, Einsteinweg 55, 2333 CC, Leiden, The Netherlands., Edelweiss Connect GmbH, Technology Park Basel, Hochbergerstrasse 60C, 4057, Basel, Switzerland., Aquatic Ecology and Toxicology Group, Center for Organismal Studies, University of Heidelberg, Im Neuenheimer Feld 504, 69120, Heidelberg, Germany., CAAT Europe, University of Konstanz, Steinbeis SU-1866, 78457, Konstanz, Germany., BioTalentum Ltd., Aulich Lajos str. 26, Gödöllő, 2100, Hungary., In Vitro Toxicology and Biomedicine, Department inaugurated by the Doerenkamp-Zbinden Foundation, University of Konstanz, Box 657, Universitaetsstr. 10, 78457, Konstanz, Germany. marcel.leist@uni-konstanz.de., Simcyp Division, Certara UK Limited, Level 2-Acero, 1 Concourse Way, Sheffield, S1 2BJ, UK., InSphero AG, Wagistrasse 27, CH-8952, Schlieren, Switzerland., Department of Biochemistry and Biophysics, Stockholm University, 10691, Stockholm, Sweden., Department of Development and Regeneration, Stem Cell Biology and Embryology, Stem Cell Institute Leuven, KU Leuven, O&N IV Herestraat 49, 3000, Leuven, Belgium., Unit of Toxicology Sciences, Swedish Toxicology Sciences Research Center (Swetox), Karolinska Institutet, Forskargatan 20, 151 36, Södertälje, Sweden., Department of Experimental and Health Sciences, Research Programme on Biomedical Informatics (GRIB), Institut Hospital del Mar d'Investigacions Mèdiques (IMIM), Universitat Pompeu Fabra, 08003, Barcelona, Spain., European Molecular Biology Laboratory, European Bioinformatics Institute (EMBL-EBI), Wellcome Genome Campus, Cambridge, UK., Leiden Academic Center for Drug Research, LACDR/Toxicology, Leiden University, PO Box 9500, 2300 RA, Leiden, The Netherlands., Switch Laboratory, Department of Cellular and Molecular Medicine, VIB-KU Leuven Center for Brain and Disease Research, KU Leuven, Herestraat 49, 3000, Leuven, Belgium., CAAT Europe, University of Konstanz, Steinbeis SU-1866, 78457, Konstanz, Germany. marcel.leist@uni-konstanz.de.
* Archives of Toxicology
* https://doi.org/10.1007/s00204-020-02802-6
* Corresponding author: None
* Published 6 Jul 2020 (early online None)
* Processed: 2020-7

Risk method documentation, data processing and chemical testing pipeline for the regulatory use of new approach methodsHazard assessment, based on new approach methods (NAM), requires the use of batte ...

### *13) Putative adverse outcome pathways for female reproductive disorders to improve testing and regulation of chemicals*

* Johansson, H. K., Damdimopoulou, P., van Duursen, M. B., Boberg, J., Franssen, D., de Cock, M., Jääger, K., Wagner, M., Velthut-Meikas, A., Xie, Y., Connolly, L., Lelandais, P., Mazaud-Guittot, S., Salumets, A., Draskau, M. K., Filis, P., Fowler, P. A., Christiansen, S., Parent, A. S., Svingen, T.
* Environmental Health and Toxicology, AIMMS, Technical University of Denmark, Karolinska Institutet, University of Liege, Competence Centre on Health Technologies, Tallinn University of Technology, Queen's University Belfast, Institut national de la santé et de la recherche médicale, University of Tartu, University of Helsinki, University of Aberdeen
* None
* https://doi.org/10.1007/s00204-020-02834-y
* Corresponding author: Svingen, T.
* Published 7 Jul 2020 (early online None)
* Processed: 2020-7

Modern living challenges female reproductive health. We are witnessing a rise in reproductive disorders and drop in birth rates across the world. The reasons for these manifestations are multifaceted ...

### *14) Assessing anti-estrogenic effects of AHR ligands in primary human and rat endometrial epithelial cells*

* van den Brand, A. D., Rubinstein, E., de Jong, P. C., van den Berg, M., van Duursen, M. B.
* Environmental Health and Toxicology, AIMMS, Utrecht University, Teva Pharmaceutical Industries Ltd., St. Antonius Ziekenhuis
* Reproductive Toxicology
* https://doi.org/10.1016/j.reprotox.2020.07.00310.1016/j.reprotox.2020.07.003
* Corresponding author: van den Brand, A. D.
* Published Sep 2020 (early online 12 Jul 2020)
* Processed: 2020-7

Unopposed estrogenic action in the uterus can lead to the development of endometrial cancer in both humans and rats. Aryl hydrocarbon receptor (AHR) activation gives rise to anti-estrogenic actions an ...

### *15) The NORMAN Association and the European Partnership for Chemicals Risk Assessment (PARC): let’s cooperate!The Partnership for Chemicals Risk Assessment (PARC) is currently under development as a joint research and innovation programme to strengthen the scientific basis for chemical risk assessment in the EU. The plan is to bring chemical risk assessors and managers together with scientists to accelerate method development and the production of necessary data and knowledge, and to facilitate the transition to next-generation evidence-based risk assessment, a non-toxic environment and the European Green Deal. The NORMAN Network is an independent, well-established and competent network of more than 80 organisations in the field of emerging substances and has enormous potential to contribute to the implementation of the PARC partnership. NORMAN stands ready to provide expert advice to PARC, drawing on its long experience in the development, harmonisation and testing of advanced tools in relation to chemicals of emerging concern and in support of a European Early Warning System to unravel the risks of contaminants of emerging concern (CECs) and close the gap between research and innovation and regulatory processes. In this commentary we highlight the tools developed by NORMAN that we consider most relevant to supporting the PARC initiative: (i) joint data space and cutting-edge research tools for risk assessment of contaminants of emerging concern; (ii) collaborative European framework to improve data quality and comparability; (iii) advanced data analysis tools for a European early warning system and (iv) support to national and European chemical risk assessment thanks to harnessing, combining and sharing evidence and expertise on CECs. By combining the extensive knowledge and experience of the NORMAN network with the financial and policy-related strengths of the PARC initiative, a large step towards the goal of a non-toxic environment can be taken.General information*

* Dulio, V., Koschorreck, J., van Bavel, B., van den Brink, P., Hollender, J., Munthe, J., Schlabach, M., Aalizadeh, R., Agerstrand, M., Ahrens, L., Allan, I., Alygizakis, N., Barcelo’, D., Bohlin-Nizzetto, P., Boutroup, S., Brack, W., Bressy, A., Christensen, J. H., Cirka, L., Covaci, A., Derksen, A., Deviller, G., Dingemans, M. M., Engwall, M., Fatta-Kassinos, D., Gago-Ferrero, P., Hernández, F., Herzke, D., Hilscherová, K., Hollert, H., Junghans, M., Kasprzyk-Hordern, B., Keiter, S., Kools, S. A., Kruve, A., Lambropoulou, D., Lamoree, M., Leonards, P., Lopez, B., López de Alda, M., Lundy, L., Makovinská, J., Marigómez, I., Martin, J. W., McHugh, B., Miège, C., O’Toole, S., Perkola, N., Polesello, S., Posthuma, L., Rodriguez-Mozaz, S., Roessink, I., Rostkowski, P., Ruedel, H., Samanipour, S., Schulze, T., Schymanski, E. L., Sengl, M., Tarábek, P., Ten Hulscher, D., Thomaidis, N., Togola, A., Valsecchi, S., van Leeuwen, S., von der Ohe, P., Vorkamp, K., Vrana, B., Slobodnik, J.
* Environmental Chemistry and Toxicology, AIMMS, Environmental Bioanalytical Chemistry, Institut national de l'environnement industriel et des risques, Federal Environmental Agency, Germany, Norwegian Institute for Water Research, Wageningen University & Research, Swiss Federal Institute of Aquatic Science and Technology, IVL Svenska Miljoinstitutet, Norwegian Institute for Air Research, National and Kapodistrian University of Athens, Stockholm University, Swedish University of Agricultural Sciences, Environmental Institute (EI), CSIC, Aarhus University, Helmholtz Centre for Environmental Research, Goethe University Frankfurt, Université Paris-Est Créteil, University of Copenhagen, University of Antwerp, AD eco advies, DERAC-Environmental risk assessment of chemicals, KWR Water Research Institute, Utrecht University, SWACCS, Örebro University, University of Cyprus, Catalan Institute for Water Research, Jaume I University, Masaryk University, University of Bath, Aristotle University of Thessaloniki, Bureau de recherches géologiques et minières, Luleå University of Technology, Middlesex University, Water Research Institute, University of the Basque Country, Marine Institute Ireland, INRAE, Environmental Protection Agency, Finnish Environment Institute, National Research Council of Italy, National Institute of Public Health and the Environment, Radboud University Nijmegen, Fraunhofer Institute for Molecular Biology and Applied Ecology, University of Amsterdam, University of Luxembourg, Bavarian Environment Agency, RWS
* Environmental Sciences Europe
* https://doi.org/10.1186/s12302-020-00375-w
* Corresponding author: Dulio, V.
* Published 1 Dec 2020 (early online 20 Jul 2020)
* Processed: 2020-7

The NORMAN Association and the European Partnership for Chemicals Risk Assessment (PARC): let’s cooperate!The Partnership for Chemicals Risk Assessment (PARC) is currently under development as a joint ...

### *16) Pesticide residue levels in vegetables and surface waters at the Central Rift Valley (CRV) of Ethiopia*

* Loha, K. M., Lamoree, M., De Boer, J.
* AIMMS, Environmental Chemistry and Toxicology, Environment and Health
* Environmental Monitoring and Assessment
* https://doi.org/10.1007/s10661-020-08452-6
* Corresponding author: None
* Published 27 Jul 2020 (early online None)
* Processed: 2020-7

Seven pesticides, profenofos, metalaxyl, λ-cyhalothrin, 4,4′-DDT, 4,4′-DDE, and α- and β-endosulfan, were determined in vegetables (tomato, onion) from 20 locations and surface waters from 12 location ...

### *17) Time integrative sampling properties of Speedisk and silicone rubber passive samplers determined by chemical analysis and in vitro bioassay testing*

* de Weert, J., Smedes, F., Beeltje, H., de Zwart, D., Hamers, T.
* Environmental Health and Toxicology, AIMMS, Deltares, Masaryk University, Netherlands Organisation for Applied Scientific Research, National Institute of Public Health and the Environment, DdZ Ecotox
* Chemosphere
* https://doi.org/10.1016/j.chemosphere.2020.127498
* Corresponding author: Hamers, T.
* Published Nov 2020 (early online 29 Jul 2020)
* Processed: 2020-7

Compared to grab samples, passive samplers have the advantage that they sample over a longer time period and can detect lower compound concentrations in water quality monitoring campaigns. To allow th ...

### *18) Four-step approach to efficiently develop capillary gel electrophoresis methods for viral vaccine protein analysis*

* Geurink, L., van Tricht, E., Dudink, J., Pajic, B., van de Griend, C. E. S.
* BioAnalytical Chemistry, AIMMS, Uppsala University, Faculty of Pharmacy, Department of Medicinal Chemistry, Division of Analytical Pharmaceutical Chemistry, Biomedical Centre PO Box 574, SE-751 23, Uppsala, Sweden, Janssen Vaccines and Prevention B.V., Archimedesweg 4, 2333 CN, Leiden, The Netherlands.
* None
* https://doi.org/10.1002/elps.202000107
* Corresponding author: None
* Published 8 Jul 2020 (early online None)
* Processed: 2020-7

Vaccines against infectious diseases are urgently needed. Therefore, modern analytical method development should be as efficient as possible to speed up vaccine development. The objectives of the stud ...