

## Pesticide Behaviour in Soils, Water and Air - Programme

### Wednesday 31st August

<b>12.00-13.00</b>	<b>Lunch</b>			
<b>13.00-13.10</b>	<b>Conference opening</b>			
<b>13.10-14.50</b>	<b>Session 1</b>	<b>Laboratory-scale investigations of fate in soil, water and air</b>		
13.10-13.30	O-05	Potential removal of pesticide active ingredients by common water treatment processes	Anja Liedtke	Arcadis Schweiz AG, Switzerland
13.30-13.50	O-03	Mechanistic explanation of biphasic dissipation kinetics by FOCUS TOXSWA	Alexander Dorn	RWTH Aachen University, Germany
13.50-14.10	O-01	Size matters: the effect of scale in chemical biodegradation studies.	Andris Grigorjevs	University of Warwick, UK
14.10-14.30	O-02	Biodegradation of metaldehyde: from elucidation of bacterial degrading genes to pilot scale removal from drinking water	Victor Castro-Gutiérrez	University of Costa Rica, Costa Rica
14.30-14.50	O-04	Understanding the effects of formulations on the e-fate of pesticides	Reza Zolfaghari	Bayer AG, Germany
<b>14.50-15.20</b>	<b>Coffee break</b>			
<b>15.20-17.00</b>	<b>Session 2</b>	<b>Field-scale investigations of fate in soil, water and air</b>		
15.20-15.40	O-06	Transport of water and pesticides through sloping vegetated filter strips on macroporous soil	Roger Holten	Norwegian Institute of Bioeconomy Research, Norway
15.40-16.00	O-07	Aging reduces bioaccessibility and explains persistence of triazol-fungicides accumulated in agricultural topsoil	Anders Johnsen	Geological Survey of Denmark and Greenland, Denmark
16.00-16.20	O-08	Long-range atmospheric transport of pesticides over Europe – a snapshot	Ludovik Mayer	RECETOX, Masaryk University, Czech Republic
16.20-16.40	O-09	High-frequency monitoring of pesticide dynamics to reveal the unexpected?	Daniele la Cecilia	Eawag, Switzerland
16.40-17.00	O-10	Pesticide reduction using friendly and environmentally controlled technologies	Héctor Calvete-Sogo	CEAM Foundation, Spain
<b>17.00-18.30</b>	<b>Poster Session A</b>			
<b>18.30+</b>	<b>Social/Dinner at the conference venue</b>			

## **Thursday 1st September**

<b>09.00-10.40</b>	<b>Session 3</b>	<b>Landscape studies into pesticide fate and exposure</b>		
09.00-09.20	O-11	Plant protection products and their transformation products in kettle holes – temporal dynamics and influence of different input pathways	Lukas Paul Loose	Institute for Natural Resource Conservation, CAU Kiel, Germany
09.20-09.40	O-12	Temporally highly resolved in-situ monitoring of pesticide dynamics in a karst spring in the Swiss Jura reveals threshold exceedances	Johannes Schorr	Eawag, Switzerland
09.40-10.00	O-13	The overlooked pathway: Hydraulic shortcuts and their influence on pesticide transport in agricultural areas	Urs Schönenberger	Eawag, Switzerland
10.00-10.20	O-14	Aquatic risks at landscape scale - example using a case study of pyrethroid use in pome orchards in Belgium	Wim Beltman	Wageningen Environmental Research, Netherlands
10.20-10.40	O-15	A Tiered landscape level approach to derive generic dilution factors for PPPs at drinking water abstraction locations	Shangua Li	BASF SE, Germany
<b>10.40-11.10</b>	<b>Coffee break</b>			
<b>11.10-12.30</b>	<b>Session 4</b>	<b>Mitigation and management for sustainable use of pesticides</b>		
11.10-11.30	O-23	Use of wood chips in a reactive ditch for mitigation of pesticides into receiving waters -experiences & challenges -	Uta Ulrich	Kiel University, Germany
11.30-11.50	O-24	Complex runoff remobilization of residues trapped in vegetative buffers during long-term exposure assessments	Rafael Muñoz-Carpena	University of Florida, USA
11.50-12.10	O-25	Parameterization of PRZM for the mitigation of run-off and erosion by in-field measures	Stephan Sittig	Knoell Germany, Germany
12.10-12.30	O-26	Use of catchment studies to calibrate and develop a risk map for grower use and improved stewardship for bentazone.	Richard Andrews	Ramboll UK, United Kingdom
<b>12.30-13.15</b>	<b>Lunch</b>			
<b>13.15-14.45</b>	<b>Poster Session B</b>			
<b>14.45-15.00</b>	<b>Coffee break</b>			
<b>15.00-17.00</b>	<b>Session 5</b>	<b>Innovative approaches in mathematical modelling</b>		
15.00-15.20	O-17	Synoptic determination of the plant uptake factor (TSCF) of trifluoroacetic acid from soil container and field rotational crop studies by inverse modelling	Klaus Hammel	Bayer AG, Germany

15.20-15.40	O-18	Field test of the TOXSWA pesticide fate model: comparison of simulated and observed chlorpyrifos in water, sediment and macrophytes in four stagnant ditches	Paulien Adriaanse	Wageningen Environmental Research, Netherlands
15.40-16.00	O-19	Evidence for aged sorption to be used in combination with field degradation studies in regulatory assessments	Bernhard Jene	BASF SE, Germany
16.00-16.20	O-20	A comprehensive model for simulating aerial pesticide spray drift at the field scale, and its application in vineyards	Meriem Djouhri	LISAH, University of Montpellier, France
16.20-16.40	O-21	Probabilistic exposure assessment for edge-of-field watercourses next to fruit orchards and avenue tree nurseries in The Netherlands	Henk Jan Holterman	Wageningen Environmental Research, Netherlands
16.40-17.00	O-22	The Casanova drift model: an arable crop boom spray drift model	Andrew Chappell	Bayer AG, USA
<b>17.00-19.00</b>	<b>Break</b>			
<b>19.00+</b>	<b>Social/Dinner at the NRM, York City Centre</b>			

## **Friday 2nd September**

<b>9.00-10.40</b>	<b>Session 6</b>	<b>Advances in design and interpretation of pesticide monitoring programmes</b>		
09.00-09.20	O-27	Monitoring atmospheric contamination by pesticides: a single multiresidue analytical method on air and rainwater pesticide concentrations	Carole Bedos	INRAE ECOSYS, France
09.20-09.40	O-28	Estimation of annual maximum herbicide concentrations from sparse monitoring data with the statistical model SEAWAVE-QEX in a high agricultural intensity catchment in Western Europe	Hendrik Rathjens	Stone Environmental, USA
09.40-10.00	O-29	Approaches for cumulative risk assessment of pesticide monitoring data	Marianne Stenrød	Norwegian Institute of Bioeconomy Research, Norway
10.00-10.20	O-30	The impact of pesticides on groundwater status in Denmark	Lærke Thorling	Geological Survey of Denmark and Greenland, Denmark
10.20-10.40	O-31	Post registration groundwater monitoring studies – experiences and developments in Germany	Wolfram König	German Environment Agency (UBA), Germany
<b>10.40-11.10</b>	<b>Coffee break</b>			
<b>11.10-12.30</b>	<b>Session 7</b>	<b>New challenges for the environmental behaviour of pesticides</b>		
11.10-11.30	O-32	Environmental behaviour of nanopesticides	Mélanie Kah	University of Auckland, New Zealand
11.30-11.50	O-33	Controlling leaching of soluble herbicides in soils using eco-compatible nanocarriers: from laboratory to field scale	Monica Granetto	DIATI – Politecnico di Torino, Italy
11.50-12.10	O-34	Modeling the atmospheric concentrations of pesticides with an air quality model: toward the determination of population exposure at a regional/national scale	Florian Couvidat	INERIS, France
12.10-12.30	O-35	Probabilistic risk assessment of pesticides under present and future agricultural and climate scenarios using a Bayesian Network: A Northern European case study	Sophie Mentzel	Norwegian Institute for Water Research, Norway
<b>12.30-12.40</b>	<b>Conference closing</b>			
<b>12.40-13.40</b>	<b>Lunch and depart</b>			

## Poster presentations

### Poster session A: Wednesday 31st August 17.00-18.30

#### Session 1 Laboratory-scale investigations of fate in soil, water and air

P-01	Effects of the metazachlor and flufenacet on phytoplankton communities - a microcosm approach	Uta Ulrich	Kiel University, Germany
P-02	New resources and advanced prediction features in enviPath - the Environmental Contaminant Biotransformation Pathway Resource	Jörg Wicker	enviPath, Germany
P-03	Considering pH-dependent degradation and adsorption in soil for groundwater leaching assessment – a guidance under development	Janina Wöltjen	Umweltbundesamt, Germany
P-04	Use of alginate and chitosan as support in the preparation of controlled release formulations of essential oil ( <i>Ruta Graveolens</i> L.). Biocidal properties of essential oil in the control of nematodes	Martha Isabel Paéz	Universidad del Valle, Colombia
P-05	Environmental fate of metaldehyde: modelled vs measured	Carmel Ramwell	Fera Science Ltd, UK
P-06	Development of a harmonized study design for the measurement of a foliar wash-off coefficient : influence of crop type	Laurence Hand	Syngenta, UK
P-07	Movement of insecticide (chlorantraniliprole, imidacloprid, pirimicarb and thiametoxam) residues and their main reaction intermediates in soil	Carmen María Martínez	IMIDA, Spain
P-08	Degradation and sorption of the herbicide pelargonic acid in agricultural topsoils and in subsoils below railway tracks	Thomas Poiger	Agroscope, Switzerland
P-09	Sorption of three pesticides to the seaweeds <i>Ulva lactuca</i> and <i>Sargassum muticum</i>	Wim Beltman	Wageningen Environmental Research, Netherlands
P-10	Seed dressing with triazole fungicides – an additional source for 1,2,4-triazole?	Ulla E. Bollmann	Geological Survey of Denmark and Greenland, Denmark
P-69	Lessons learned: a regulators experience of applying the OECD 106 evaluators checklist	Andy Massey	HSE: Chemicals Regulation Division, UK

**Session 2 Field-scale investigations of fate in soil, water and air**

P-12	Biocide or pesticide as source of groundwater contaminants? – an example of two very different sources leading to a widespread contamination of the fungicidal degradation product N,N-dimethylsulfamide	Christian Albers	Geological Survey of Denmark and Greenland, Denmark
P-13	Spatial trends of the level of organochlorine pesticides in the Ethiopian Rift Valley lakes using semipermeable membrane devices	Ermias Deribe Weldemariam	Kotebe Metropolitan University, Ethiopia
P-14	Monitoring groundwater in Italy – site selection strategy and validation of vulnerability using GeoPEARL and GIS overlay methods	Cecilia Mucha Hirata	FMC Corporation, USA
P-15	Triazole fungicide transformation products – are we missing something? A combined target and non-target field scale leaching study	Nora Badawi	Geological Survey of Denmark and Greenland, Denmark
P-16	Effect of mycorrhizal fungus on thiamethoxam, azoxystrobin and fludioxonil behavior on maize rhizosphere under field conditions	Zisis Vryzas	Democritus University of Thrace, Greece
P-17	Occurrences and sources of Glyphosate, glufosinate ammonium, and AMPA in groundwater of hilly vineyards	Nicoleta Suciu	Università Cattolica del Sacro Cuore, Italy

**Session 3 Landscape studies into pesticide fate and exposure**

P-18	Evaluation of monitoring data to assess the groundwater vulnerability to pesticides	Anne-Karin Cooke	Bundesanstalt für Geowissenschaften und Rohstoffe, Germany
P-19	A pragmatic approach to derive greenhouse scenarios for emissions to groundwater and surface water for soil-bound cultivation in Southern Europe	Klaus Hammel	Bayer AG, Crop Science Division, Germany
P-20	High resolution exposure modelling at landscape-level – on the development of a mechanistic drift module for SWAT+	Sebastian Gebler	BASF SE, Germany
P-21	Determination of transfer factors for solute concentrations from agricultural fields to drinking water abstraction points	Robin Sur	Bayer AG, Germany
P-22	Collation and analysis of regulatory field trial data for the validation and refinement of crop development dates used in pesticide exposure modelling and risk assessment	Greg Hughes	CEA, United Kingdom
P-68	Evaluating aquatic pesticide pollution in the Western Cape, South Africa	Reynold Chow	Stellenbosch University, South Africa

**Session 4 Innovative approaches in mathematical modelling**

P-24	Two-dimensional model for the fate of pesticides applied to potatoes: theory and application	Colin Brown	University of York, UK
P-25	Development of new objective functions to improve visual acceptability of first order kinetic optimisations to soil residue data	Edna Roedig	Syngenta, United Kingdom
P-26	Evaluating groundwater – surface water interactions using data-driven and integrated modeling approaches	Reza Zolfaghari	Bayer AG, Germany
P-28	Improved GEM scenarios for aquatic risk assessment for plant protection products applied to soil-bound crops grown in greenhouses	Erik van den Berg	Wageningen Environmental Research, Netherlands
P-29	Biotransformation pathway data and prediction - current challenges in industrial applications	Sebastian Schmidt	Bayer AG, Germany
P-30	SorpKinAnalysis - Implementation of a two-site aged sorption model in accordance with EFSA PPR Panel (2018)	Judith Klein	Fraunhofer Institute for Molecular Biology and Applied Ecology IME, Germany
P-31	Determination of the plant uptake factor (TSCF) of trifluoroacetic acid from field rotational crop studies by inverse modelling	Gerald Reinken	Bayer AG, Germany
P-32	A DFOP-based PRZM model to predict non-first order degradation and subsurface transport in soil and groundwater	Mark Cheplick	Waterborne Environmental, Inc., USA
P-33	Development of a surface- and groundwater modelling risk assessment tool for predicting exposure from pesticides used in major crops in Norway	Roger Holten	Norwegian Institute of Bioeconomy Research, Norway

**Session 5 Mitigation and management for sustainable use of pesticides**

P-46	Impact of a new sediment parameterization method in VFSSMOD on PEC <sub>sw/sed</sub> in FOCUS step4	Stephan Reichenberger	Knoell France SAS, France
P-44	Groundwater catchment study findings to contextualise the sources of detected concentrations of bentazone in drinking water wells	Richard Andrews	Ramboll UK, United Kingdom

**Session 6 Advances in design and interpretation of pesticide monitoring programmes**

P-70	Building the foundation to improve risk assessments of pesticide use in Aotearoa/New Zealand	Karin Mueller	Plant & Food Research, New Zealand
------	--	---------------	------------------------------------

## **Poster session B: Thursday 1st September 13.15-14.45**

### **Session 1 Laboratory-scale investigations of fate in soil, water and air**

P-11 Remediation of soils polluted with triazole residues by ozonation technology at laboratory and field scale Carmen María Martínez IMIDA, Spain

### **Session 3 Landscape studies into pesticide fate and exposure**

P-23 Factors affecting spring pesticide spray operations in Central Sweden: Towards refining the FOCUSsw D1 scenario pesticide application timing. Greg Hughes CEA, United Kingdom

### **Session 4 Innovative approaches in mathematical modelling**

P-34 efam: automated modeling software for environmental risk assessment Frank Voss Knoell Germany, Germany

P-35 Prototype of amphibian breeding pond scenario to predict pesticide exposure Wim Beltman Wageningen Environmental Research, Netherlands

P-36 A new approach to simplify degradation kinetics Janina Wöltjen Umweltbundesamt, Germany

P-37 Consideration of pH dependent adsorption and degradation in FOCUS Tier2a leaching assessments Gerald Reinken Bayer AG, Germany

P-38 The WUR Drift Calculator for estimating downwind deposits of spray drift Henk Jan Holterman Wageningen University & Research, Netherlands

P-39 FOCUS SW REPAIR – Stage 2 testing – first outcomes Denis Weber Exponent International Ltd., Switzerland

P-40 Initiative to develop a harmonised framework for spatially distributed leaching modelling of pesticides - status update 2022 Gerco Hoogeweg Waterborne Environmental Inc, USA

P-41 Holistic approach for a sustainable plant protection transition Nicoleta Suciù Università Cattolica del Sacro Cuore, Italy

P-42 To what extent can European pesticide risk assessments be employed in Latin America? Carmel Ramwell Fera Science Ltd, UK

P-66 New tools for predicting environmental concentrations in soil in regulatory context - an impact assessment Sebastian Multsch BASF SE, Germany

P-67 New tools for predicting environmental concentrations in soil in a regulatory context - potential implications for the soil organism risk assessment of Plant Protection Products Agnes Schimera ADAMA Deutschland GmbH, Germany



**Session 5 Mitigation and management for sustainable use of pesticides**

P-43	Encapsulation and controlled release of carbofuran from chitosan microparticles for controlling nematodes in tomato crops and a way to diminish the environmental impact	Rubén Sánchez-Andica	Universidad del Valle, Colombia
P-45	Development of an open-access stewardship risk map to assist growers in management of bentazone	Richard Andrews	Ramboll UK, UK
P-47	Evaluation of the effectiveness of mitigation measures to reduce pesticide inputs into surface water bodies via surface runoff and erosion	Stephan Reichenberger	Knoell France SAS, France
P-48	Field-specific modelling and assessment of runoff mitigation in the Netherlands	Wim Beltman	Wageningen Environmental Research, Netherlands
P-49	Does redistribution of pesticide residues during soil cultivation affect subsequent transport to drains?	Lily Summerton	University of York, UK
P-50	Developing a data table tool for farmers to assess the leaching potential of pesticides under different soil and climate conditions in Norway.	Roger Holten	Norwegian Institute of Bioeconomy Research, NIBIO, Norway
P-51	Effect of tillage system on pesticide leaching to drains	Martha Villamizar	University of York, UK
P-52	Mobility of maize herbicides at field scale: conservation vs. conventional agriculture	Jesús M. Marín-Benito	Instituto de Recursos Naturales y Agrobiología de Salamanca, Spain
P-53	Investigation of innovative irrigation options for the reduction of water consumptions and environmental impacts.	Diego Voccia	Università Cattolica del Sacro Cuore, Italy
P-54	Environmental risk assessment and identification of mitigation measures in MiMERA tool	Andrea Di Guardo	Università di Milano Bicocca, Italy

**Session 6 Advances in design and interpretation of pesticide monitoring programmes**

P-55	Contextualisation of publicly available groundwater monitoring data for chlorantraniliprole in the European Union	Stuart Leslie	FMC Agricultural Solutions, UK
P-56	The challenges and benefits of large-scale multi-country monitoring studies	Joseph White	Arcadis, UK
P-57	Environmental fate of glyphosate used on Swedish railways - results from environmental monitoring conducted between 2007–2010 and 2015–2019.	Harald Cederlund	Swedish University of Agricultural Sciences, Sweden
P-58	Collation and analysis of public environmental monitoring datasets for regulatory submissions	Simon Mayer	Bayer AG Crop Science Division, Germany

P-59	List of items to characterise publicly available monitoring data	Wolfram König	German Environment Agency (UBA), Germany
P-60	Using LC-Q-Orbitrap for the screening of 850 pesticides in soil, water and food of plant origin	Marit Almvik	Norwegian Institute of Bioeconomy Research, Norway
P-61	Design and construction of a calibration chamber for determining the sampling rate of pesticides for atmospheric monitoring using passive poly (ethylene-co-vinylacetate) samplers.	Santiago Rivera-Alba	Universidad del Valle, Colombia
P-62	Analysis of flow and transport dynamics in field systems using the numerical model MACRO subject to different calibration methodologies.	Sachin Karan	Geological Survey of Denmark and Greenland, Denmark
P-63	Public monitoring data gathering and compilation across the EU: a summary of challenges	Virginia Houck	Arcadis US, USA
P-64	Conduct of an intensive surface water monitoring study to capture potential acaricide run-off from treated citrus groves and vegetable and cotton crops in Spain	Paul Hamer	Arcadis (UK) Ltd., UK
<b>Session 7 New challenges for the environmental behaviour of pesticides</b>			
P-65	Registration of 'low risk' actives: Idiosyncrasies and pragmatic solutions.	Neil Graham	Enviresearch Ltd., UK