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Engineering & Scientific Consulting

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Professional Profile

Dr. Weber holds a diploma in bioinformatics and a Ph.D. This included the development of a higher-tier test system for the assessment of pulsed exposure effects on algae together with the development of an algae population model.

Dr. Weber has more than 15 years of experience with the performance of environmental exposure and risk assessments within the registration process for plant protection products, in close cooperation with ecotoxicology and regulatory affairs. In addition, he has wide experience in software programming.

Dr. Weber works in the area of environmental, ecological and effect modelling as part of the regulatory requirements for environmental risk assessments of plant protection products. The working areas range from standard exposure modelling with regulatory required models and derivation of modelling endpoints, to higher-tier risk assessments for aquatic organisms, analysis and evaluation of pesticide exposure patterns in surface waters and design of study profiles, design of aquatic higher-tier ecotoxicological studies and more. In addition, he develops software tools for automation and simulation models as supporting tools for higher-tier risk assessments.

Academic Credentials & Professional Honors

Ph.D., Natural Sciences, RWTH Aachen University, Germany, 2009

Prior Experience

Senior Expert, Environmental and Ecological Modelling, Eurofins Regulatory AG, Switzerland, 2012-2018

Expert, Environmental Modelling, RCC/Harlan, Switzerland, 2010-2012

PhD student, RWTH Aachen University / Bayer Crop Science AG, Germany, 2006-2009

Diploma thesis, Internship, Bayer Crop Science AG, 2005-2006

Professional Affiliations

SETAC Member (Society of Ecotoxicology and Chemistry) since 2006

ACS Member (American Chemical Society) since 2013

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Languages

English

German

Publications

Weber D, Weyman G, Fruhmann T, Gagniarre M, Minten B, Memmert U. Time-variable exposure experiments in conjunction with higher tier population and effect modeling to assess the risk of chlorotoluron to green algae. Environmental Toxicology and Chemistry 2019; 38(11):2520–2534.

Weber D, Schäfer D, Dorgerloh M, Bruns E, Görlitz G, Preuss TG, Ratte HT. Combination of a higher-tier flow-through system and population modelling to assess the effects of time-variable exposure of isoproturon on the green algae Desmodesmus subspicatus and Pseudokirchneriella subcapitata. Environmental Toxicology and Chemistry 2012; 31(4): 899–908.

Presentations

Weber D, Brauer M, Evans J, Hingston J, Jarvis T. MACRO Multithreading for the HSE CRD UK higher-tier drainflow tool. Platform/oral presentation, XVII Symposium on Pesticide Chemistry, Piacenza, 05 September 2024.

Weber D, Brauer M, Patterson D, Erzgraeber B, Spickermann G, Schaefer D, Jarvis T. Impact of 20-year FOCUS SW simulations on data storage capacity –practical solutions for data reduction. Platform/oral presentation, SETAC Europe 30th Annual Meeting (Virtual Meeting), Dublin, Ireland, 03-07 May 2020.

Weber D, Weyman G, Schäfer D, Wais A. Flow-through experiments and algae population modelling as supporting tools within the pesticide risk assessment - results of case studies. American Chemical Society (ACS) National Meeting 2016, Philadelphia, PA, USA, 21-25 August 2016.

Weber D, Weyman G, Schäfer D. Algae flow-through experiments and population modelling as supportive approach in higher-tier aquatic risk assessments of pesticides - results of case studies. The International Society for Ecological Modelling Global Conference 2016, Towson University, Baltimore, Maryland, USA, 2016.

Weber D, Schäfer D, Dorgerloh M, Bruns E, Görlitz G, Preuss TG, Ratte HT. Effects of time-variable exposure of isoproturon on green algae under flow-through conditions. SETAC Europe 21st Annual Meeting, Milan, Italy, 2011.

Weber D, Schäfer D, Dorgerloh M, Bruns E, Görlitz G, Preuss TG, Ratte HT. Effects of time-variable exposure of pesticides on algae populations. SETAC GLB Annual Meeting, Munich, Germany, 2009.

Weber D, Schäfer D, Dorgerloh M, Bruns E, Görlitz G, Preuss TG, Ratte HT. Modellierung der Effekte von Pflanzenschutzmitteln auf ausgewählte Phytoplankter. SETAC GLB Annual Meeting, Leipzig, Germany, 2007.

Poster Presentations

Weber D, Brauer M, Evans J, Hingston J, Jarvis T. MACRO Multithreading for the HSE CRD UK higher-tier drainflow tool. Poster presentation, SETAC Europe 34th Annual Meeting Seville, Spain, 05-09 May 2024.

Reinken G, Kehrein N, **Weber D**, Mamouni A. Application of spatially distributed leaching modelling to quantify FOCUS tier 3b reduction factors for the National Situation in UK, FR and NL. Poster presentation, SETAC Europe 33rd Annual Meeting, Dublin, Ireland, 30 April-04 May 2023.

Weber D, Brauer M, Jarvis T, Rainbird P, Schaefer D, Reinken G, Mackay N. FOCUS SW REPAIR – Stage 2 testing, Test design and purpose. 10th European Modelling Workshop, Pesticide Behaviour in Soils, Water and Air, York, 31 August-02 September 2022, P-39.

Focks A, Axelman J, Barsi A, Becker J, Chaideftou E, Charles S, Duquesne S, Goussen B, Hommen U, Jakoby O, Kattwinkel M, Klein J, Koch J, Preuss TG, Reed M, Reichenberger S, Rendal C, Strauss T, Thorbek P, Vermeiren P, Wang M, **Weber D**. The SETAC working group "Model Acceptability, version control and scenario Development MAD." Poster presentation, SETAC Europe 31st Annual Meeting (Virtual Meeting), 03-06 May 2021.

Brauer M, **Weber D**, Jarvis T. Enhanced FOCUS MACRO groundwater calculations. Poster presentation, SETAC Europe 30th Annual Meeting (Virtual Meeting), Dublin, Ireland, 03-07 May 2020.

Brauer M, **Weber D**, Jarvis T. Development of a software tool to improve environmental exposure modelling of pesticides in the EU. Poster presentation, Exponent Managers Meeting, Washington D.C., 26-28 September 2019.

Weber D, Brauer M, Patterson D, Erzgraeber B, Spickermann G, Schaefer D, Jarvis T. Influence of 26-year FOCUS SW simulations on calculations times and hardware requirements. Poster presentation, XVI Symposium on Pesticide Chemistry, Piacenza, 03-05 September 2019.

Weber D, Brauer M, Bolekhan A, Spickermann G, Schäfer D. Multi-year evaluations in the FOCUS Surface Water assessment – results of beta testing. SETAC Europe 28th Annual Meeting, Rome, Italy, 13-17 May 2018.

Weber D, Brauer M, Bolekhan A, Ranke J, Spickermann G, Schäfer D, Wais A. Multi-Year evaluations in the FOCUS surface water assessment. Pesticide Behaviour in Soils, Water and Air, University of York, UK, 30 August-01 September 2017.

Weber D, Weyman G, Schäfer D, Wais A. Population modelling and algae flow-through toxicity tests as higher-tier option in pesticide risk assessment - results for different compounds. SETAC Orlando, 7th SETAC World Congress, Orlando, FL, USA, 06-10 November 2016.

Weber D, Eck G. MixTox SW – a software tool for Mixture-Toxicity exposure assessments in FOCUS surface water scenarios. American Chemical Society (ACS) National Meeting 2015, Boston, MA, USA, 16-20 August 2015.

Weber D, Eck G. Mixture-toxicity exposure assessment in FOCUS surface water scenarios - development of a software tool and implementation of a promising risk assessment approach into a user-friendly interface. SETAC Europe 25th Annual Meeting, Barcelona, Spain, 2015.

Eck G, Spickermann G, **Weber D**. Time-dependent Mixture-Toxicity Assessment for Aquatic Organisms. SETAC Europe 24th Annual Meeting, Basel, Switzerland, 2014.

Weber D, Eck G, Wais A. Higher-tier assessment of exposure and effects of pesticides on aquatic non-target organisms. SETAC World Congress / SETAC Europe 22nd Annual Meeting, Berlin, Germany, 2012.

Weber D, Ranke J, Schäfer D, Görlitz G, Dorgerloh M, Bruns E, Preuss TG, Ratte HT. SAM-X (R) – R implementation of an algae population model for application in the risk assessment of pesticides. SETAC Europe 21th Annual Meeting, Milan, Italy, 2011.

Ranke J, **Weber D**. Further development of open source routines for fitting kinetic models to chemical degradation data. SETAC Europe 21th Annual Meeting, Milan, Italy, 2011.

Weber D, Schäfer D, Görlitz G, Dorgerloh M, Bruns E, Preuss TG, Ratte HT. Combination of an innovative experimental approach and mechanistic modelling for higher tier effects assessments of algae: exposure of D. subspicatus and P. subcapitata under continuous conditions (1). SETAC Europe 19th Annual Meeting, Göteborg, Sweden, 2009.

Weber D, Schäfer D, Görlitz G, Dorgerloh M, Bruns E, Preuss TG, Ratte HT. Development of a higher tier flow-through system to assess time-variable exposure on algae (2). SETAC Europe 19th Annual Meeting, Göteborg, Sweden, 2009.

Weber D, Schäfer D, Görlitz G, Dorgerloh M, Bruns E, Preuss TG, Ratte HT. Time-variable exposure effects on green algae under flow-through conditions - Modelling and experimental results (3). SETAC Europe 19th Annual Meeting, Göteborg, Sweden, 2009.

Weber D, Schäfer D, Görlitz G, Dorgerloh M, Bruns E, Preuss TG, Ratte HT. Time-variable exposure effects on green algae under flow-through conditions. SETAC North America 29th Annual Meeting, Tampa, FL, USA, 2008.

Weber D, Schäfer D, Görlitz G, Dorgerloh M, Bruns E, Preuss TG, Ratte HT. Modelling of the effects of time-variable pesticide exposure on different algae species. SETAC GLB Annual Meeting, Frankfurt am Main, Germany, 2008.

Weber D, Schäfer D, Görlitz G, Dorgerloh M, Bruns E, Preuss TG, Ratte HT. Modelling of the effects of pesticides on relevant plankton communities. SETAC Europe 18th Annual Meeting, Warsaw, Poland, 2008.

Weber D, Görlitz G, Reinken G, Schäfer D. Kopplung von Expositionsmodellen mit Modellen aquatischer Ökosysteme. SETAC GLB Annual Meeting, Leipzig, Germany, 2007.

Weber D, Görlitz G, Reinken G, Schäfer D. Coupling of Exposure Models and Ecological Model Systems for Aquatic Environments. SETAC Europe 17th Annual Meeting, Porto, Portugal, 2007.

Peer Reviews

Environmental Toxicology and Chemistry