

**Tim Jarvis, Ph.D.**  
**Principal Scientist**

**Professional Profile**

Dr. Tim Jarvis is a Principal Environmental Fate Advisor in Exponent's Health Sciences Center for Chemical Regulation and Food Safety and has been in his current position since 2002. Dr. Jarvis has an international reputation as a pesticide and biocide environmental fate expert and has over 18 years experience working with research, regulatory, and consultancy organizations. He has a proven track record in summarizing environmental fate data and developing experimental strategies for addressing major regulatory issues such as compound leaching and metabolite exposure. He is able to implement these strategies on behalf of clients, monitor the resulting studies, and provide a scientific and regulatory view of the reports produced. Dr. Jarvis has written expert papers on various aspects of environmental fate for client submission during the latter stages of the EU regulatory process (91/414/EEC) and has represented clients in dealings with European regulatory Authorities. As an experienced environmental fate simulation modeler, he assists clients in foreseeing potential regulatory issues related to environmental exposures. He also undertakes standard (e.g., FOCUS groundwater and surface water scenario modeling, EUSES, ESDs) and higher tier exposure modeling (using PRZM, PELMO, MACRO, PEARL, GeoPEARL, TOXSWA, EXAMS, etc.), and provides exposure assessments as part of the regulatory requirements for environmental risk assessment of pesticides, biocides, and other chemicals.

Dr. Jarvis has also worked at the Pesticides Safety Directorate, the UK regulatory authority for pesticides. There he was responsible for evaluating data, writing monographs, and providing technical advice on environmental fate to a range of organizations and individuals. He represented the UK at the first ECCO meeting for environmental fate and wrote the guidelines for applicants wishing to submit environmental fate modeling studies to the Pesticides Safety Directorate.

**Academic Credentials and Professional Honors**

Ph.D., Biochemistry, University of Liverpool, 1991  
B.Sc., Biochemistry, Surrey University (honors), 1987

## **Publications**

Jarvis TD, Earley FG, Rees HH. Inhibition of the Ecdysteroid biosynthetic pathway in ovarian follicle cells of *Locusta migratoria*. *Pesticide Biochemistry and Physiology* 1994; 48:153–162.

Jarvis TD, Earley FG, Rees, HH. Ecdysteroid biosynthesis in larval testes of *Spodoptera littoralis*. *Insect Biochem Molec Biol* 1994; 24:531–537.

Clifford MN, Jarvis T. The chlorogenic acid content of green robusta coffee beans as a possible index of geographic origin. *Food Chemistry* 1988; 29:291-298.

## **Reports**

Kubiak R, Buerkle L, Cousins I, Hourdakias, A, Jarvis T, JeneB, Koch W, Kreuger J, Maier W-M, Millet M, Reinert W, Sweeny P, Tournayre J-C, Van den Berg F. Pesticides in air: Considerations for exposure assessment. Report of the FOCUS Working Group on Pesticides in Air, FOCUS 2006, EU document Reference SANCO/10553/2006.

Boesten JJTI, Businelli M, Delmas AB, Gottesburen B, Hanze K, Jarvis T, Jones RL, Klein M, Van der Linden AMA, Rekolainen S, Ressler H, Roquero C, Maier WM, Styczen M, Thorsen M, Travis KZ, Vanclooster M. FOCUS groundwater scenarios in the EU review of active substances. FOCUS 2000, EU document Reference SANCO/321/2000.

Adriaanse P, Allen R, Gouy V, Hollis J, Hosang J, Jarvis N, Jarvis T, Klein M, Layton R, Linders J, Schaefer H, Smeets L, Yon D. Surface water models and EU registration of plant protection products. FOCUS 1996, EU Document 6476/VI/96.

Jarvis TD, Griffin D. Guidance document for applicants wishing to submit computer simulation data to PSD to address the environmental fate of agricultural pesticides. The Registration Handbook Part 3/A3/Appendix 6.2. Pesticides Safety Directorate, York, UK, 1996.

## **Book Chapters**

Armstrong A, Jarvis T, Harris G, Catt J. The validation of pesticide leaching models for regulatory purposes. *Water Quality, Processes, and Policy*. Trudgill ST, Walling DE and Webb BW (eds), John Wiley and Sons, pp 73–84, Chichester, UK, 1999.

## **Selected Presentations**

Jarvis T. Movement of pesticides to groundwater—The experimental perspective. Presented at the AgChem Forum, Pesticides in Water—EU Perspectives. Hotel Okura, Amsterdam, April 2002.

Jarvis TD, Boesten JJTI, Businelli M, Delmas AB, Gottesburen B, Hanze K, Jones RL, Klein M, Van der Linden AMA, Rekolainen S, Ressler H, Roquero C, Maier WM, Styczen M,

Thorsen M, Travis KZ, Vanclooster M. A comparison of results obtained using the FOCUS groundwater scenarios. Presented at SETAC World Congress, Brighton, UK, May 2000.

Jarvis TD. The role of modeling in higher tier risk assessment. Presented at Predicting the Environmental Fate of Pesticides, Scientific Societies Lecture Theatre, London, May 1999.

Jarvis TD. An update on EU pesticide legislation. Presented to the Japanese Crop Protection Association, Tokyo, Japan, April 1998.

Jarvis TD. Toxicity and exposure: What causes the risk. Presented at the Registration of Agrochemicals in Europe, London, October 1997.

Jarvis TD. Leaching Assessments and Regulatory Implications: A UK Standpoint. IBC Conference, London, January 1997.

Jarvis TD. Simulation modelling and UK regulatory decision-making: Perfect partners or warring factions. British Crop Protection Council monograph No. 62: Pesticide Movement to Water. Walker A, Allen R, Bailey SW, Blair AM, Brown C, Günther P, Leake CR, Nichols PH (eds), BCPC, Farnham, Surrey 1995, pp. 357–362.

### **Prior Experience**

Senior Scientist, Environmental fate and modeling, JSC International Ltd, UK, 1997–2002

Senior Scientific Officer, Environmental Fate and Behaviour Branch, Pesticides Safety Directorate, UK, 1993–1997

Higher Scientific Officer, Rothamsted Experimental Station, UK, 1991–1993

### **Project Experience**

Conducted laboratory soil degradation experiments, sorption experiments, lysimeter experiments, and simulation modeling for two developmental pesticides in collaboration with a major Agrochemical company.

Written regulatory evaluations (monographs, evaluation documents, dossiers) of the environmental fate and environmental exposure of approximately twenty different pesticides under The Control of Pesticides Regulations in the UK and Directive 91/414/EEC. One of these evaluations was also defended to all fourteen other EU member states as a pilot project at the start of the joint EU evaluation process.

Monitored an experimental program for a client whose pesticide was initially proposed for revocation within EU by Rapporteur member state. The results of the experimental studies convinced the EU evaluation meeting to recommend Annex I listing for the pesticide.

Managed a large simulation modeling study for a client who had been asked to address the leaching concerns of their pesticide by the Rapporteur member state. The study that was

provided convinced the Rapporteur that leaching concerns were not significant and Annex I listing was recommended.

Written an expert paper for a client whose pesticide was subject to pH influenced degradation, which was submitted at one of the later states stages of the EU review process and was favorably received.

Represented a client company in their meetings with a European regulatory authority regarding the environmental fate and exposure of their pesticide.

Developed and implemented a strategy for a client to update their regulatory database of environmental fate studies for their compound and its relevant metabolites

Planned, organized, and ran a training workshop for the European Commission on the FOCUS groundwater scenarios. Regulators from all Member States attended, where they were first shown how to run the models and then provided with a customized regulatory submission to abstract the relevant input data, run the models, and interpret the results.

Visited South Korea on behalf of the International Atomic Energy Agency (IAEA) to advise a Research Institute on aspects of the Environmental fate of pesticides.