### **CURRICULUM VITAE**

### **Personal Information**

Full name: Michiel Adriaan Daam

Profession: Research Scientist in Ecotoxicology

Nationality:

Place of birth: Elst (GLD), The Netherlands

Date of birth: 3 February 1976

### **Contact Details**

Employer: Instituto Superior de Agronomia (ISA)

Technical University of Lisbon (UTL)

Research centre: **CEER Biosystems Engineering** 

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#### Education

Year Academic degree Institution Scientific area 2008

PhD University of Aveiro (PT) Biology

2001 MSc University of Nijmegen (NL) **Biomedical Health Sciences** 2001 MSc University of Nijmegen (NL) **Environmental Sciences** 

2002 International postgraduate training "Higher tier aquatic risk assessment of

pesticides for national and EU registration: tools and scientific background". 3 -

7 November 2002, Wageningen, the Netherlands

# **Employment**

Period Position Institution 2008-present **Research Scientist** ISA/UTL - CEER

2002-2008 PhD student University of Aveiro (PT) in coll. with Alterra

> (Wageningen University and Research Centre; NL) & the Asian Institute of

Technology (AIT), Bangkok (TH)

Junior Research Scientist 2001-2002 Alterra (NL)

## **Bibliography**

Michiel Daam works at the research centre CEER (Biosystems Engineering) and is physically based at Instituto Superior de Agronomia (ISA) of the Technical University of Lisbon (UTL). He has been involved in various studies into the scientific underpinning of ecological risk assessment procedures, including the influence of model ecosystem setup and climatic conditions on pesticide fate and effects. For this, he conducted and has been involved in various microcosm studies under temperate as well as tropical conditions and is currently installing an outdoor microcosm facility under Mediterranean climatic conditions at ISA in Lisbon.

### Scientific activities

## Research interests

Present research topics include the spatial and temporal extrapolation of results from higher tier risk assessment studies; Tropical ecotoxicology; Ecological risk assessment on the soil-water interface; Combined effects of pesticide mixtures; Fate modelling and effects of pesticides in groundwater.

## Participation in R&D projects

2010-2013	Spatial extrapolation of results from model ecosystem studies within
	the European Union. Funded by the Fundação para a Ciência e
	Tecnologia (FCT; Portuguese funding organization), PTDC/AGR-
	AAM/105459/2008 - Principle Investigator

- 2010-2012 WUSSIAAME Water use, survival strategies and impact of agrochemicals on water resources in agricultural Mediterranean ecosystems. Funded by the Fundação para a Ciência e Tecnologia (FCT; Portuguese funding organization), PTDC/AAC-AMB/100635/2008.
- 2010-2012 Metodologias de análisis y aplicación de tecnologías para el manejo sostenible de acuíferos en zonas rurales (Red AQUIFERURAL; "Analytical methodologies and application of technologies for the sustainable management of aquifers in rural areas). Funded by the Latin American Science & Technology Development Programme (CYTED).
- 2008-2012 O nemátode da madeira do pinheiro (NMP), Bursaphelenchus xylophilus ("The pinewood nematode Bursaphelenchus xylophilus"). Funded by Autoridade Florestal Nacional (AFN; "National Forest Authority") of the Portuguese Ministry of Agriculture. Protocol AFN/ISA.
- 2002-2006 Managing Agrochemicals in Multi-Use Aquatic Systems (MAMAS). Funded by EU 5th Framework INCO-DEV programme (Contract no. ICA4-2000-10247).
- 2003 Microcosm experiments for the chemical industry (confidential) at Alterra. Effects of pesticides on the ecology of aquatic ecosystems. Funded by the Chemical industry.
- 2000-2002 Effects of the herbicide 2,4-D on the growth of nine aquatic macrophytes, 2000-2002. Funded by UK Department of Environment, Food and Rural Affairs (DEFRA) and Dutch Ministry of Agriculture Nature and Food. Safety (DLO/PO research programme 416).
- 2000-2001 Effects of three pesticides that differ in mode of action on the ecology of small indoor aquatic microcosms. Funded by the Dutch Ministry of Agriculture Nature and Food Safety (DLO Research programme 359).

## Other scientific activities

- Regular article reviewing for the journals "Environmental Toxicology and Chemistry", "Ecotoxicology", and "Ecotoxicology and Environmental Safety" Total number of reviews: 17
- Co-chaired the session entitled "Indirect effects in ecotoxicology" (chair: Dr. Theo Brock, Alterra, NL) at the 20th SETAC Europe Annual Meeting, 23 – 27 May 2010, Seville, Spain
- Included in EFSA's (European Food Safety Authority) expert database as of 6 May 2009

## **Academic activities**

# Lecturing

- Collaboration in various bachelor and master courses at ISA since academic year 2008-2009, which includes giving lectures (by invitation), practical classes, and assistance in ongoing evaluation of students
- Daam MA (2009). The model ecosystem approach to evaluate side-effects of pesticides on freshwater life. Lecture at the international short course "Environmental Risk Assessment of Plant Protection Products: Tools, Legislation and Recent Developments", ISA/UTL, 21 April 2009.
- Daam MA (2009). Spatial Extrapolation in Ecotoxicology: Use of Temperate Toxicity
  Data for the Risk Assessment of Pesticides in Tropical Areas. Lecture at the
  international short course "Environmental Risk Assessment of Plant Protection
  Products: Tools, Legislation and Recent Developments", ISA/UTL, 21 April 2009.

## Thesis (co-)supervision

- Damiano Vesentini (2010). Risk Assessment of Pesticides in the Almonda Subriver Basin. M.Sc. in Environmental Management, University of Ulster, UK. 28 June 2010
- M.Sc. thesis co-supervision in progress: 3

# Participation in thesis defense jury

Joana Coelho Roma (2010). Optimização de Culturas de Microalgas e Copépodes Marinhos para Utilizar Como Presas em Larvicultura de Sardinhas ("optimalization of microalgae and marine copepod cultures for utilization as prey in sardine larave culture"). Thesis defense to obtain B.Sc. degree in Biology, ISA/UTL, Lisbon, 7 July 2010.

## Other academic activities

- Training in pesticide risk assessment procedures and analytical protocols as well as supervision of the MAMAS project team at AIT in Thailand (in 2005).
- Organized (in coll. with Maria José Cerejeira; ISA/UTL) the International Invited Lectures by Lourival Costa Paraíba & Sônia Cláudia Nascimento de Queiroz (Embrapa, Brazil): "Exposure of Food and Environment to Pesticides", ISA/UTL, 20 May 2010
- Organized (in coll. with Maria José Cerejeira; ISA/UTL) the international short course "Environmental Risk Assessment of Plant Protection Products: Tools, Legislation and Recent Developments", ISA/UTL, 21 April 2009

## Language skills

Dutch: Mother-tongue

English: Good Portuguese: Good

Spanish: Moderate (only reading)

German: Moderate

#### Scientific communications

Oral communications as presenter

Daam MA, Silva E, Leitão S, Cerejeira MJ (2010). Challenges in the environmental risk assessment of pesticides in Mediterranean Portugal. Platform presentation at the 28th International Horticultural Congress (IHC), 22-27 August, Lisbon, Portugal.

Daam MA, Van den Brink (2010). Aquatic model ecosystem studies in tropical Thailand: methodology and impact of chlorpyrifos, carbendazim and linuron. Platform presentation at the 20th SETAC Europe Annual Meeting, 23 – 27 May 2010, Seville, Spain.

Daam MA (2010). Destino e efeitos dos produtos fitofarmacêuticos nos ecossistemas aquaticos através climas ("Fate and effects of plant protection products in aquatic ecosystems over climates"). Invited oral presentation at the Sociedade de Ciências Agrárias de Portugal (SCAP; "Agicultural science society of Portugal"), 24 de Junho de 2010.

Daam MA (2010). Avaliação de risco ambiental de pesticidas em ecossistemas experimentais ("Environmental risk evaluation of pesticides in experimental ecosystems"). Platform presentation at the 1st seminar of the research centre CEER - Biosystems engineering, 18 June 2010, Lisbon, Portugal.

Daam MA, Van den Brink (2009). Implications of differences between temperate and tropical freshwater ecosystems for the ecological risk assessment of pesticides. Poster corner presentation at the 30th SETAC North America meeting, 19 - 23 November 2009, New Orleans, Louisiana, USA.

Daam MA, Nogueira AJA, Van den Brink PJ (2009). Comparison of fate and ecological effects of pesticides in freshwater model ecosystems between tropical and temperate regions. Poster spotlight presentation at the 19th SETAC Europe Annual Meeting, 31 May – 4 June 2009, Göteborg, Sweden.

Daam MA, Nogueira AJA, Van den Brink PJ, Yakupitiyage A, Satapornvanit K (2004). Fate and effects of the insecticide chlorpyrifos; a comparison between temperate and tropical conditions. Platform presentation at the 4th International SETAC world congress, 14-18 November 2004, Portland, Oregon, USA.

## Oral communications as co-presenter

Van den Brink PJ, Daam MA (2010). Implications of differences between temperate and tropical freshwater ecosystems for the ecological risk assessment of pesticides. Platform presentation at the SETAC Asia/Pacific 2010 meeting, 4 - 7 June 2010, Guangzhou, China.

Cerejeira MJ, Daam MA, Silva E (2010). Ecotoxicologia na protecção da biodiversidade ("Ecotoxicology in biodiversity protection". Platform presentation at the Semana da Biodiversidade e Conservação da Natureza ("week of biodiversity and nature conservation"), 17 -21 May 2010, Lisbon, Portugal.

Brink PJ, Daam MA (2009). Implications of differences between temperate and tropical freshwater for the ecological risk assessment of pesticides. Platform presentation at the 4th SETAC Africa meeting, 2 - 5 November 2009, Kampala, Uganda.

Satapornvanit K, Daam MA, Baird D, Little DC (2008). Deployment of the Macrobrachium rosenbergii Bioassay in Microcosm. Platform presentation at the 1st National Conference in Toxicology, 17 - 18 November 2008, Bangkok, Thailand.

Van den Brink PJ, Sureshumar N, Daam MA, Domingues I, Milwain GK, Beltman WHJ, Perera MWP, Satapornvanit K (2003). Preliminary ecological and human risk assessment of pesticide-use in multi-use aquatic systems in the tropics. Platform presentation at the 13th SETAC Europe annual meeting, 27 April - 1 May 2003, Hamburg, Germany.

Satapornvanit K, Van den Brink PJ, Sureshkumar N, Daam MA, Domingues I, Millwain GK, Beltman WHJ, Perera MWP (2003). Preliminary risk assessment of pesticide-use in Thailand: an environmental focus. Platform presentation at the SETAC ASE Asia Pacific meeting, 28 September - 1 October 2003, Christchurch, New Zealand.

Posters in conferences (only as presenter)

Daam MA, Silva E, Leitão S, Trindade MJ, Cerejeira MJ (2010). Ecotoxicological approach for the evaluation of the current groundwater standard for plant protection products. Poster at the 28th International Horticultural Congress, 22 - 27 August 2010, Lisbon, Portugal.

Daam MA, Silva E, Leitão S, Cerejeira MJ (2010). Pesticide risk assessment in Mediterranean Portugal: status and research needs. Poster at the 20th SETAC Europe Annual Meeting, 23 - 27 May 2010, Seville, Spain.

Daam MA, Silva E, Leitão S, Trindade MJ, Cerejeira MJ (2010). Preliminary assessment of the need for an ecotoxicological risk assessment of plant protection products to protect groundwater ecosystems. Poster at the 20th SETAC Europe Annual Meeting, 23 - 27 May 2010, Seville, Spain.

Daam MA, Van den Brink PJ (2009). Biodiversity, succession and seasonality of tropical freshwater plankton communities under semi-field conditions in Thailand. Poster at the 30th SETAC North America Annual Meeting, 19-23 November, New Orleans, Louisiana, USA.

Daam MA, Van den Brink PJ (2009). Implications of differences between temperate and tropical freshwater ecosystems for the ecological risk assessment of pesticides. Poster at the 30th SETAC North America Annual Meeting, 19-23 November, New Orleans, Louisiana, USA.

Daam MA, Nogueira AJA, Van den Brink PJ (2009). Comparison of fate and ecological effects of pesticides in freshwater model ecosystems between tropical and temperate regions. Poster at the 19th SETAC Europe Annual Meeting, 31 May-4 June 2009, Göteborg, Sweden.

Daam MA, Nogueira AJA, Van den Brink PJ (2009). Impact of single and repeated applications of the insecticide chlorpyrifos on tropical freshwater plankton communities. Poster at the 19th SETAC Europe Annual Meeting, 31 May-4 June 2009, Göteborg, Sweden.

#### **Publications**

### PhD thesis

Daam MA (2008). Influence of climatic factors and microcosm complexity on the fate and effects of pesticides. Doctoral thesis University of Aveiro, Aveiro, Portugal

# Peer reviewed papers

Daam MA, Van den Brink PJ (submitted). Conducting model ecosystem studies in tropical climate zones: lessons learned from Thailand and way forward.

Daam MA, Cerejeira MJ, Van den Brink PJ, Brock TCM (revisions pending). Is it possible to extrapolate results of aquatic microcosm and mesocosm experiments with pesticides between climate zones in Europe? Environmental Science and Pollution Research.

Miranda GRB, Raetano CG, Silva E, Daam MA, Cerejeira MJ (accepted). Environmental Fate of Neonicotinoids and Classification of Their Potential Risks to Hypogean, Epygean and Surface Water Ecosystems in Brazil. Accepted by Human and Ecological Risk Assessment.

Daam MA, Silva E, Leitão S, Trindade MJ, Cerejeira MJ (2010). Does the actual standard of  $0.1~\mu g/L$  overestimate or underestimate the risk of plant protection products to groundwater ecosystems? Ecotoxicology and Environmental Safety 73: 750-756.

- Published as highlighted article
- Appeared in the news alert of Science for Environment Policy a service of the European Commission's DG Environment, issue 207, 2 September 2010.

Daam MA, Satapornvanit K, Van den Brink PJ, Nogueira AJA (2010). Direct and indirect effects of the fungicide carbendazim in tropical freshwater microcosms. Archives of Environmental Contamination and Toxicology 58: 315–324.

Daam MA, Van den Brink (2010). Implications of differences between temperate and tropical freshwater ecosystems for the ecological risk assessment of pesticides. Ecotoxicology 19: 24-37.

Daam MA, Satapornvanit K, Van den Brink PJ, Nogueira AJA (2009). Sensitivity of macroinvertebrates to carbendazim under semi-field conditions in Thailand: Implications for the use of temperate toxicity data in a tropical risk assessment of fungicides. Chemosphere 74: 1187-1194.

Daam MA, Rodrigues AMF, Van den Brink PJ, Nogueira AJA (2009). Ecological effects of the herbicide linuron in tropical freshwater microcosms. Ecotoxicology and Environmental Safety 72: 410-423.

Daam MA, Van den Brink PJ, Nogueira AJA (2009). Comparison of fate and ecological effects of the herbicide linuron in freshwater model ecosystems between tropical and temperate regions. Ecotoxicology and Environmental Safety 72: 424-433.

Daam MA, Crum SJH, Van den Brink PJ, Nogueira AJA (2008). Fate and effects of the insecticide chlorpyrifos in outdoor plankton-dominated microcosms in Thailand. Environmental Toxicology and Chemistry 27: 2530-2538.

Daam MA, Van den Brink PJ, Nogueira AJA (2008). Impact of single and repeated application of the insecticide chlorpyrifos on freshwater plankton communities under tropical conditions. Ecotoxicology 17: 756-771.

Daam MA, Van den Brink PJ (2007). Effects of chlorpyrifos, carbendazim and linuron on the ecology of a small indoor aquatic microcosm. Archives of Environmental Contamination and Toxicology 53(1): 22-35.

Satapornvanit K, Baird DJ, Little DC, Milwain GK, Van den Brink PJ, Beltman WHJ, Nogueira AJA, Daam MA, Domingues I, Kodithuwakku SS, Perera MWP, Yakupitiyage A, Sureshkumar SN, Taylor GJ (2004). Risks of pesticide use in aquatic ecosystems adjacent to mixed vegetable and monocrop areas in Thailand. Australasian Journal of Ecotoxicology 10: 85-95.

## Chapters in books

Daam MA, Silva E, Leitão S, Cerejeira MJ (accepted). Environmental risk assessment of pesticides in Mediterranean Portugal: Status and research needs. In: Daniels JA (ed.). Advances in Environmental Research. Volume 9. Nova Science Publishers Nova, New York.

Daam MA, Satapornvanit K, Van den Brink PJ (accepted). Applicability of ecotoxicological methodologies developed in temperate regions for the risk assessment of pesticides in tropical Thailand: From laboratory to (semi-) field. In: Visser JE (ed.). Ecotoxicology around the Globe. Nova Science Publishers Nova, New York.

Daam MA, Van den Brink PJ (2010). Biodiversity, succession and seasonality of tropical freshwater plankton communities under semi-field conditions in Thailand. In: De Carlo F, Bassano A (eds.). Freshwater Ecosystems and Aquaculture Research. Nova Science Publishers Nova, New York. pp. 225-248.

# Reports and other publications

Daam MA, Van den Brink PJ (2003). Effects of three pesticides that differ in mode of action on the ecology of small indoor aquatic microcosms. An evaluation of the effects of the insecticide chlorpyrifos, the herbicide linuron and the fungicide carbendazim. Alterra report 788, Wageningen, The Netherlands. 65 pp.

Van den Brink PJ, Sureshkumar SN, Daam MA, Domingues I, Milwain GK, Beltman WHJ, Perera MWP, Satapornvanit K (2003). Environmental and human risks of pesticide use in Thailand and Sri Lanka. Results of a preliminary risk assessment. Alterra report 789, Wageningen, The Netherlands. 89 pp.

Dang ZC, Lock RAC, Daam MA, Hogstrand C, Flik G, Wendelaar Bonga SEW (2000). Evidence that cortisol does not mediate metallothionein expression in tilapia gills. In Dang ZC. Adaptive stress responses in fish gills. Doctoral thesis University of Nijmegen, Nijmegen, The Netherlands. pp. 93-106.

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