

**WORKSHOP ON INVERSE MODELLING,  
9<sup>TH</sup> /10<sup>TH</sup> MAY 2000, RESEARCH CENTER JÜLICH (GERMANY)**

Interested individuals from research institutes, industry and regulatory authorities from different European countries had been invited to broaden the discussion on Inverse Modelling as a research topic and a regulatory topic for pesticide behaviour in soils and water.

Experts with joint expertise of the combination of environmental fate modelling of pesticides and field/lysimeters studies met on May 9<sup>th</sup>/10<sup>th</sup> 2000 at the Institute of Radioagronomy in the Research Centre Jülich.

The Workshop on Inverse Modelling in 2000 covered scientific and regulatory aspects with the following topics:

- 1.) recent research and practical experiences with inverse modelling
- 2.) current status and expected development with the use of inverse modelling in the registration of pesticides

At the start of the workshop the results of previous workshops on inverse modelling were recalled and made public to those who did not participate.

In the follow-up recent research and practical experiences with inverse modelling at different institutions were presented. Then the requirements for modelling, optimisation and experimental design for inverse modelling were discussed.

An inventory was made on the current status and expected development with the use of inverse modelling in the registration of pesticides.

The workshop closed with an agreement on further activities to use a high quality data-set and perform a common modelling exercise to improve the promising technique of inverse modelling and its acceptance in the field of pesticide research and regulation.

On behalf of the participants

Bernhard Gottesbüren (BASF), Peter Burauel (Research Centre Jülich) and Harry Vereecken (Research Centre Jülich), Jos Boesten (ALTERRA), Nick Jarvis (SLU Uppsala)

## List of participants

First Name	Surname	Affiliation	Country
Karin	Aden	BBA	DE
Sabine	Beulke	SSLRC	UK
Jos	Boesten	ALTERRA	NL
Yves	Coquet	INRA	FR
Angelika	Dieses	Uni Heidelberg	DE
Igor	Dubus	SSLRC	UK
Martin	Dust	DU PONT	DE
Bernhard	Gottesbüren	BASF	DE
Christian D.	Hansen	DK EPA	DK
Andreas	Huber	NOVARTIS	CH
F.	Hupet	Uni Louvaine la Neuve	BE
Nick	Jarvis	SLU Uppsala	SE
M.	Javaux	Uni Louvaine la Neuve	BE
Bernhard	Jene	AVENTIS	DE
Andy	Massey	PSD	UK
Werner	Pol	CTB	NL
Stephanie	Roulier	SLU Uppsala	SE
Johannes	Schlöder	Uni Heidelberg	DE
Helmut	Schäfer	BAYER	DE
Paul	Sweeney	ZENECA	UK
Aaldrik	Tiktak	RIVM	NL
Ton	van der Linden	RIVM	NL
Marnik	Vanclooster	Uni Lovaine la neuve	BE
Anja	Verschoor	RIVM	NL
Harry	Vereecken	FZ Jülich	DE
Gerald	Reinken	AVENTIS	UK

## **Presentations and Papers:**

- |   |   |
|---|---|
| 0. Peter Burauel/Harry Vereecken                | Welcome   |
| 1. Bernd Gottesbüren                            | Introduction and Objectives for Inverse Modelling   |
| 2. Ton van der Linden                           | Summary Results of the preceeding workshops on inverse Modelling  |
| 3. Sabine Beulke, Igor Dubus and Colin Brown    | Investigations on inverse modelling as a tool for estimating degradation and sorption parameters for pesticides.  |
| 4. Bernd Gottesbüren                            | Estimation of the key e-fate parameters of pesticides from field and lysimeter trials by inverse modelling  |
| 5. Igor G. Dubus, Sabine Beulke, Colin D. Brown | A briefing document on the application of inverse modelling techniques to pesticide leaching models.  |
| 6. S. Lambot, M. Javaux and M. Vanclooster      | Characterising the vadose zone hydraulic properties by inverse modeling   |
| 7. Bernd Gottesbüren                            | Use of different model + shell combinations for Inverse Modelling with the same data set  |
| 8. Angelika Dienes                              | Numerical methods for parameter estimation  |
| 9. Karin Aden                                   | Estimation of the degradation parameters of Metazachlor from field trials by inverse modelling  |
| 10. Aaldrik Tiktak & Ton van der Linden         | PEARL The New Dutch Consensus Model<br>(No paper)   |
| 11. Jos Boesten                                 | Numerical accuracy of pesticide leaching calculations with PEARL.   |
| 12. Angelika Dienes                             | Optimal Experimental Design for Parameter Estimation in Column and Lysimeter Experiments  |
| 13. H. Vereecken and O. Nitzsche.               | Estimating solute transport properties from column experiments using inverse estimation techniques and asymptotic analysis<br>(No paper)                  |
| 14. Bernhard Jene                               | Presentation of a data set for a joint modelling exercise on inverse modelling<br>(No paper)  |
| 15. Regulators                                  | Statements of representatives of different national authorities on the current status of the use of inverse modelling in national pesticide registrations |