



Mechanistic Effect Modelling for Ecological Risk Assessment of Chemicals SETAC Winter School Course

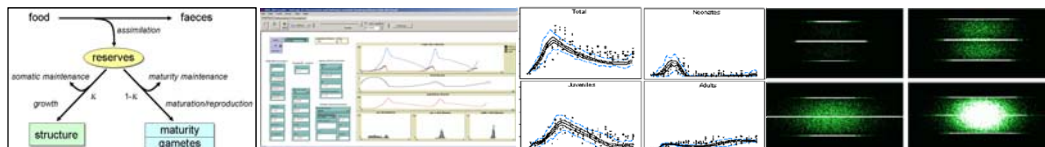


Helmholtz Centre for Environmental Research – UFZ, Leipzig, Germany
<http://cream-itn.eu>



GENERAL INFORMATION

This four-day course will be held from the 14th to the 17th January 2013 at the Helmholtz Centre for Environmental Research–UFZ, Leipzig, Germany. It introduces to (1) mechanistic effect modelling for ecological risk assessment of chemicals, with a focus on pesticides, and (2) the modelling documentation framework TRACE. The overall aim is to make scientists working in regulatory authorities, industry, or academia, and PhD students of ecology, ecotoxicology, environmental sciences, and related disciplines familiar with modelling for ecological risk assessment. The course will: introduce the scope and methods of ecological modelling; explain and demonstrate the different types of individual-level and population models relevant for risk assessment; demonstrate the role of model documentation; explain the need for Good Modelling Practice; introduce the TRACE documentation framework; provide examples. Exercises at the computer will include modification and analysis of existing models, writing TRACE documents, and assessing model-based risk assessments using existing TRACE documents.



THEMATICS

- Principles of modelling
- TK/TD and Dynamic Energy Budget models
- Individual-based simulation and matrix models
- Metapopulation models
- NetLogo (free software platform for simulations)
- Sensitivity, uncertainty, and robustness analysis
- TRANSPARENT and Comprehensive Ecological modelling documentation (TRACE)
- Good Modelling Practice
- Endpoints for ecological risk assessment

This course will comprise a combination of lectures and practical work in which hands-on experience will be gained.

Course Coordinators: Volker Grimm and Pernille Thorbek





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Lecturers:

Prof Volker Grimm is a senior scientist at the Department of Ecological Modelling–UFZ, and professor for Theoretical Ecology at the University of Potsdam. He is biologist and physicist by training and worked on ecological theory and concepts and on models of a wide range of ecological systems. He is a world-leading expert in agent-based modelling and co-authored both the first monograph on individual-based modelling in ecology and the first textbook on agent-based modelling. He gave more than 15 courses in ecological and agent-based modelling and organized a SETAC short course on mechanistic effect modelling in Milan, 2011. He currently coordinates the EU FP7 Initial Training Network **CREAM** (Mechanistic effect models for risk assessment of chemicals; <http://cream-itn.eu>). This course is a deliverable of the CREAM network.

Dr Pernille Thorbek is a senior ecological modeller at Syngenta where she uses mechanistic effects models to refine risk assessments of plant protection products. She is co-author on a number of papers about ecological models and is also involved in several research projects and supervises students and postdocs developing models for mammals, birds, fish, aquatic invertebrates and terrestrial invertebrates. She is work package leader for the Vertebrate Work Package in the CREAM project and on the organising committee of the SETAC workshop Modelink. She co-organized a SETAC short course on mechanistic effect modelling in Milan, 2011. She did her PhD on modelling of spiders in agricultural landscapes and MSc on forestry pests.

Dr Jürgen Groeneveld is project manager of CREAM, working at the Helmholtz Centre for Environmental Research–UFZ in Leipzig, Germany. He studied physics and developed a simulation model on plant succession on the desiccating Aral Sea during his Ph.D. He has been an EU Marie Curie Fellow at the University of Auckland, NZ, to work on plant meta-community models from 2007-2009. He has published and co-authored a number of papers on ecological simulation models especially in regard to questions of fire ecology, arid ecology, forest ecology and species distribution models.

Dr Andreas Focks works at Wageningen UR as PostDoc in the CREAM project where he investigates methods and effects of bringing aquatic population effect modelling to a landscape scale and to couple them with spatio-temporal exposure patterns of chemicals. He is experienced in scientific programming in various languages and application areas. He finished his PhD in February 2009 in a German Research Foundation research unit (DFG FOR566) with the topic of development of mechanistic mathematical models describing exposure and effect dynamics of veterinary medicine compounds in soil and worked additional two years as PostDoc in that research unit.





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Lecturers (continued)

Nika Galic is currently (spring 2012) finishing her PhD at Wageningen University where she investigates different factors contributing to the recovery process of aquatic macroinvertebrate populations after exposure to chemical stress. Besides developing population models, she also reviewed published modelling studies that might be of use in the ecological risk assessment of chemicals and published a paper on the role ecological models have in linking assessment of risk with the protection goals defined through the ecosystem services framework. For her MSc she developed a bioenergetics individual-based model of a horse population to assess its persistence when facing harsh winters. She co-organized a SETAC short course on mechanistic effect modelling in Milan, 2011.

Course Fees

SETAC members fee- 100 Euros

Non-members fee - 200 Euros

Travel to Leipzig

Flight directly to Leipzig/Halle airport: This airport is 15 minutes by train from Leipzig main station; trains go every 30 minutes (ca.6 Euros). All hotels in the centre that we will recommend are within walking distance from Leipzig main station.

Flight directly to Berlin-Schönefeld: A shuttle train goes directly to Berlin main station (30 min, ca. 3 Euros). Trains from Berlin main station to Leipzig take one hour (ca. 30 Euros).

Accommodation

Leipzig has many hotels, both nearby the UFZ and in the centre (12 minutes by tram from UFZ). UFZ has contracts with most hotels for reduced rates. Rates will be between 50 and 75 Euro/night.

Detailed recommendations will be provided on time.





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REGISTRATION FORM

Send by fax (00493412351473) or e-mail to Dr. Jürgen Groeneveld (juergen.groeneveld@ufz.de) by
October 31, 2012

Name: _____

Institution: _____

Address: _____

e-mail: _____

Country: _____

Course Fee:

SETAC members fee: 100 € Non-members Fee: 200 €
(please provide confirmation of membership)

Accommodation:

Yes, I am interested in having a room booked

Arrival date: ___/01/2013

Departure date: ___/01/2013

No, I will book a room myself

