

NoMiracle Ph.D. programme – courses offered 2007

By Morten Strandberg, NoMiracle Secretariat

In 2007 four Ph.D.-short courses are offered by partners of the EU-FP6 integrated project NoMiracle. The courses will take place at the University of Salzburg, 3-4th September 2007 and addresses young scientists (PhD students and young post-docs). In case of overbooking, Ph.D. students from the NoMiracle project will have first priority. The courses are free of charge for participants.

Registration:

Applicants are requested to send applications to the NoMiracle Secretariat (NoMiracle@dmu.dk) and provide:

- Information about their own discipline and degree
- An abstract of half a page about their research and why they are interested in the course
- A short CV including scientific education.

The deadline for registration is Friday 10th August 2007. Please refer to "Ph.D. course Salzburg" in the subject line. For more information on the courses please contact the teachers. After registration deadline more information will be send to those who have registered.

Members of the NoMiracle Consortium are also involved in a summer school together with the RAISEBIO and AXIOM projects. This school takes place in Leipzig, 24th – 27th September 2007. See announcement in this Newsletter and visit www.ufz.de/summerschool2007



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NoMiracle Ph.D. courses in Salzburg, September 3-4, 2007

Course 1.

Mixture toxicity within a DEB context, Experimental design and Data analysis

Duration	Date	Time	Room	Teachers
1-day	3. Sep.	10-17	105	Dr. Jan Baas Dr. Tjalling Jager

jan.baas@falw.vu.nl
tjalling.jager@falw.vu.nl

To attend this course you will have to bring a laptop, with Windows and at least 10 Gb free disk space.
Excel will be an advantage.

Course 2.

Passive sampling and analysis of polar organic compounds in water

Duration	Date	Time	Room	Teachers
1-day	3. Sep.	10-17	107	Dr. Tomas Alsberg Dr. Jörgen Magnér

tomas.alsberg@itm.su.se
jorgen.magner@itm.su.se

Course 3.

Prediction methods for fate relevant properties of organic compounds

Duration	Date	Time	Room	Teachers
1-day	4. Sep.	10-17	105	Prof. Gerrit Schüürmann Dr. Ralph Kühne

gerrit.schuurmann@ufz.de
ralph.kuehne@ufz.de

Course 4.

Training Course on risk perception and communication of cumulative stressors

Duration	Date	Time	Room	Teachers
1-day	4. Sep.	10-16:30	107	Dr. Christina Benighaus Dr. Ludger Benighaus

Christina.Benighaus@sowi.uni-stuttgart.de
benighaus@t-online.de



Dr. Jan Baas
Dr. Tjalling Jager

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Descriptions of courses

Course 1

Mixture toxicity within a DEB context, Experimental design and Data analysis

General

This course will be teaching the basic concepts of how toxic effects build up over time and build this to an understanding of the processes behind the observed effect patterns. You will learn basic concepts of how the physiology of organisms is affected by toxicants, how to use models for data interpretation and what experimental design issues are important to consider before starting your experiments.

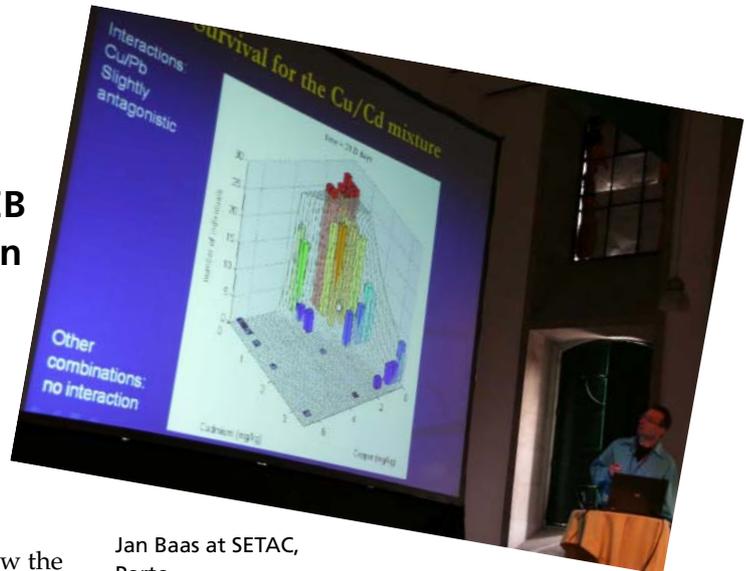
Course objectives

After taking this course you are expected to:

- Get a better understanding of how effects build up in time
- Understand and use the DEBTOX model for data analysis
- Interpret different effect patterns
- Critically evaluate existing data sets and design experiments.

Course content

- Uptake and elimination kinetics
- Basic concepts of the survival model
- Modelling survival for single compounds and for mixtures
- Basic concepts of the framework for the interpretation of growth and reproduction data
- Modeling growth and reproduction
- Experimental design: How to ensure the experiments can address your question?
- Case studies (The DEBTOX model practical PC work).



Jan Baas at SETAC, Porto

Teaching methods

The course will comprise a combination of lectures and a computer workshop in which hands-on experience will be gained in using modelling tools and solving problems.

References

- Nisbet, R.M., Muller, E.B., Lika, K. and Kooijman, S.A.L.M. (2000) From molecules to ecosystems through dynamic energy budget models. *J. Anim. Ecol.* 69: 913 - 926
- Baas J., B.P.P. Van Houte, C.A.M. Van Gestel and S.A.L.M. Kooijman (2007) Modeling The Effects Of Binary Mixtures On Survival In Time, *Environ. Toxicol. Chem.* 26: 1320–1327

Contact: jan.baas@falw.vu.nl



Dr. Tomas Alsberg, Dr. Jörgen Magnér

Course 2

Passive sampling and analysis of polar organic compounds in water

General

This course will be teaching the basic concepts of passive sampling and analysis of polar pesticides and pharmaceuticals in aquatic environments. Different concepts for passive sampling, e.g. kinetic and equilibrium sampling will be presented, and compared with active sampling e.g. Solid Phase Extraction (SPE). Inherent differences between the different modes of sampling will be pointed out in relation to their applicability. Also different analytical techniques will be presented and compared. The emphasis will be on modern mass spectrometric (MS) techniques combined with HPLC.

Course objectives

After taking this course you are expected to:

- Understand the different modes of sampling with their benefits and shortcomings
- Understand the coupling between sampling, extraction, clean-up and analysis
- Understand the differences between mass-spectrometric techniques
- Be able to select sampling and analytical techniques for a given problem

Course content

- Basic concepts of active and passive sampling, with special reference to polar organic compounds
- Passive sampling in kinetic vs. equilibrium mode
- Different formats for passive sampling, e.g. SPME, silicone tubing, solid sorbents
- Different LC/MS systems
- Different MS data acquisition modes
- High vs. Low Mass Resolution
- Quantitation

Teaching methods

The course will comprise a combination of lectures and computer demonstrations.

References

- Reichenberg, F. and Mayer, P. (2006) Two complementary sides of bioavailability: Accessibility and chemical activity of organic contaminants in sediments and soils. *Environ. Toxicol. Chem.* 25: 1239-1245
- Stolker AAM, Niesing W, Hogendoorn EA, Versteegh JFM, Fuchs R, Brinkman UAT (2004). Liquid chromatography with triple-quadrupole or quadrupole-time of flight mass spectrometry for screening and confirmation of residues of pharmaceuticals in water, *Anal. Bioanal. Chem.* 378: 955-963

Contact: tomas.alsberg@itm.su.se



Prof. Gerrit Schüürmann
Dr. Ralph Kühne



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Cumulative stressors in Europe

Course 3

Prediction methods for fate relevant properties of organic compounds

The course combines

1. Theoretical teaching in compound property estimation from chemical structure with theoretical background on model types and selected properties, respective model examples.
2. Computer exercises with in-house and web resources to obtain compound properties from estimation methods and database retrieval.

Contact: ralph.kuehne@ufz.de



Dr. Ludger Benighaus
Dr. Christina Benighaus

Course 4

Risk perception and communication of cumulative stressors

Why communicating Risks?

“Why should politicians, stakeholders or researchers communicate risks to the public? How can we make sure that the intended message on risk is well understood by the targeted audiences? What is so special about risk communication? How and to what degree can scientific researchers contribute to successful risk communication?”

Responses to these questions are addressed in the:

“Training Course on risk perception and communication of cumulative stressors”

Course Description

Communicating risk to the public is often an end-of-pipe-product informing the public of what a researcher has assessed and found. Methods such as risk scenarios, risk classification, dose-response modelling, exposure assessments, and probabilistic risk assessment provide scientific insights. These assist industrial risk managers and public regulators to handle and administrate hazardous chemicals. All these methods have one target: to protect the public from undue risks to human health and the ecosystem. The methods themselves as well as the results are often difficult to understand and even more difficult to communicate to individuals untrained in toxicology, epidemiology and risk analysis. Therefore, there is a need for risk professionals to develop skills and proficiency in communicating scientific results to a variety of different audiences.

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Course objectives

This course will focus on improving communication skills with respect to chemical risks, especially cumulative stressors. The participants will learn how to think like their customers, e.g. consumers, stakeholders, politicians.

After taking this course you are expected to learn:

- How stakeholders and consumers perceive these risks
- How communication programmes can be designed to meet the demands of the targeted audience
- How stakeholders and representatives of the public can be involved in the risk assessment and management process
- How different methods of communication and participation can be used in risk assessment.

The course is designed for Ph.D. students from all disciplines. Natural, technical and social science are welcome.

Content

The training-course contains four modules which are important parts of the risk governance concepts, e.g. WHO, IRGC or OECD (combined references IRGC 2005 and OECD 2002). The modules are:

- Module 1:** Risk perception of multiple stressors
- Module 2:** Risk communication to other professionals within the risk analysis process
- Module 3:** Risk communication to external stakeholders and the general public
- Module 4:** Methods to involve stakeholders and the public

The course will give an idea of how scientific risk information and in particular information on uncertainty is perceived by the public and how risk communication can address the nature of the perceptions and concerns. Module 1 will familiarize participants with the major results of risk perception studies and what these studies mean for designing more audience-sensitive communication programmes. Module 2 will address the often neglected part of facilitating risk communication among risk professionals and other experts working in assessment, management and regulation. Module 3 will provide some guidelines for

communicating risks to interest groups and the general public. Module 4 will provide models and approaches of how the public could be involved in risk assessment and what kind of methods could be part of the exposure assessment or risk assessment.

The training course is conducted in the framework of the integrated project NoMiracle (Novel Methods for Integrated Risk Assessment of Cumulative Stressors in Europe) of the European Sixth Framework Programme "Global Change and Ecosystems".

Format

The course will combine brief impulse statements, practical skill training sessions, and an exercise on one case study of chemical risk. The programme will include plenary sessions and small group workshops.

References

- IRGC [International Risk Governance Council] (2005) White Paper on Risk Governance: Towards an Integrative Framework. Geneva: International Risk Governance Council 2005, p. 19. [Download: [www.irgc.org/irgc/projects/risk_characterisation/_b/contentFiles/IRGC_WP_No_1_Risk_Governance_\(reprinted_version\).pdf](http://www.irgc.org/irgc/projects/risk_characterisation/_b/contentFiles/IRGC_WP_No_1_Risk_Governance_(reprinted_version).pdf)]
- Klinke, A. and Renn, O. (2002) A New Approach to Risk Evaluation and Management: Risk-Based, Precaution-Based and Discourse-Based Management. *Risk Anal.* 22: 1071-1994
- Renn, O. and Benighaus, C. (2006) Framing the perception of combined chemical risks. Deliverables 4.3.2 in the Project, Part DIA, <http://nomiracle.jrc.it/Categories/deliverables> [Download: <http://nomiracle.jrc.it/Documents/PublicDeliverables/D.4.3.2.,%20part%20DIA%20Report%20on%20approaches%20to%20the%20characterization%20of%20knowledge%20of%20risks.doc>]
- OECD (2002) Guidance Document on Risk Communication for Chemical Risk Management. Authors: O. Renn, H. Kastenholtz and W. Leiss. Paris

Contact:

Christina.Benighaus@sowi.uni-stuttgart.de



RAISEBIO – AXIOM – NOMIRACLE Summer School

Chemicals in Soil: Interactions, Availability and Residue Formation

Leipzig, September 24th-27th, 2007

Topics

The summer school aims at bringing together young and established scientists in the frame of an interdisciplinary course related to the fate of chemicals in soil. The lectures will cover a variety of aspects in this field including the properties of chemicals, their mobility and interactions with the matrix, transformation of compounds and the conditions influencing these processes. Detection and modelling of the related phenomena will also be considered.

Topics and speakers: Chemicals in Environmental Systems (J. Harmsen, K.-U. Goss, M. Elsner), **Interactions** (P. Mayer, J. Kärger), **Bioavailability** (J. Pignatello, P. Grathwohl, K. Semple), **Compounds and solid state matrix** (G. Schüürmann, B. van Breukelen), **Water potential and reactive transport** (B. Smets, K.U. Totsche), **Humic compounds and bioavailability** (A. Piccolo, P. Burauel)

Attendance

All Ph.D students and early post-doctoral researchers working on problems related to the summer school topics are invited to participate in the school. The number of participants is limited to 50 Ph.D students. Workshop language will be English.

All applicants should submit an abstract and full curriculum vitae (in English) via our registration website <http://www.ufz.de/summerschool2007>. The participants are required to present a poster (max. 120 cm x 85 cm size) describing their current work.

Organizers

The school is organized by members of the Departments Bioremediation, Environmental Microbiology, and Environmental Technology of the Helmholtz Centre for Environmental Research – UFZ as a part of the three European projects. It takes place in the KUBUS conference and training facility related to the UFZ.

Contact and additional information

RAISEBIO-summerschool@ufz.de
www.ufz.de/summerschool2007

Registration fee (includes all materials, lunch, coffee during breaks, a reception and a common dinner)

Early registration (until August 15 th)	150,- €
Regular registration (after August 15 th)	200,- €

Deadlines

Abstract submission and application	June 30 th , 2007
Acceptance letters	July 31 th , 2007
Early registration deadline	August 15 th , 2007



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NoMiracle co-ordination

Visit NoMiracle and subscribe to
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