

HOW DO CHEMICALS INFLUENCE THE ENVIRONMENT AND HUMAN HEALTH?

Scientists within the PEER institutes represent a significant expertise in risk assessment of toxicants within Europe. They permanently exchange information in order to specify challenges and research needs in landscape-oriented ecotoxicological risk assessment and participate in joint research. They have identified imminent research needs in three areas: **1.** the impact of climate change on risk assessment of toxicants, **2.** the spatio-temporal heterogeneity in environmental risk assessment and **3.** the role of soil biodiversity for ecosystem services taking into account the impact of toxicants.





The results from NoMiracle include new concepts, experimental methods and models for risk assessment of threats to the environment and human health.

NoMiracle* is an EU integrated research project, with 38 partners from 17 countries. PEER is heavily involved in the project, NERI being the coordinator. Other PEER partners are CEH, UFZ, JRC-IES, SYKE and Alterra. Approximately 50% of the 14.4 million € NoMiracle budget is allocated to PEER-partners.

NoMiracle will increase knowledge on the transfer of pollutants between different environmental compartments, and on the impact of cumulative stressors, including chemical mixtures. This will facilitate human and ecosystem health monitoring by providing the link with information concerning the condition of air, water, soil and the built environment.

NoMiracle will quantify and aim at reducing uncertainty in current risk assessment and screening methodologies, by developing and using improved assessment tools and novel models. The scientific basis for setting safety factors will be improved. The new methods will take into account geographical, ecological, social and cultural differences across Europe.

There are four distinct research pillars and a management pillar, communicating and collaborating with each other.

RISK SCENARIOS

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Work packages:

- Establishment of data background for scenario selection: Alberto Pistocchi, alberto.pistocchi@jrc.it (JRC-IES)
- Scenario selection and ranking: Peter Borgen Sørensen, pbs@dmu.dk (NERI)

EXPOSURE ASSESSMENT

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Work packages:

- Matrix-compound interaction: Gerrit Schüürmann, gerrit.schuurmann@ufz.de (UFZ)
- Available exposure: Philipp Mayer, p hm@dmu.dk (NERI)
- Metabolic fate: Ovanes Mekenyan, omekenya@btu.bg (LMC)
- Region-specific environmental fate: Mark Huijbregts, m.huijbregts@science.ru.nl (RU)

EFFECT ASSESSMENT

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Work packages:

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- Combined effects of natural stressors and chemicals: M. Holmstrup, mho@dmu.dk (NERI)
- Toxicokinetic modelling: Kees van Gestel, kees.van.gestel@ecology.falw.vu.nl (VU)
- Mechanisms of mixture toxicity: Prof. A. Viarengo, viarengo@unipmn.it (DISAV)

RISK ASSESSMENT

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Work packages:

- New concepts and techniques for probabilistic risk assessment: Ad Ragas, a.ragas@science.ru.nl (RU)
- Explicit modelling of exposure and risk in space and time: Uwe Schlink, uwe.schlink@ufz.de (UFZ)
- Dealing with multiple and complex risks in a management context: Mikael Hildén, mikael.hilden@ymparisto.fi (SYKE)
- Risk presentation and visualization: Joost Lahr, Joost.Lahr@wur.nl (ALTERRA)

MANAGEMENT

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CONTACT

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On the website, you can for example ask questions about risk scenarios, exposure assessment, and environment & human health and a NoMiracle expert will answer it.

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