

## Editorial



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Welcome to the first newsletter of our project. HEROIC stands for ‘**Health and Environmental Risks: Organisation, Integration and Cross-fertilisation of Scientific Knowledge**’, and our objectives are

- to contribute to the harmonisation of tools and methods in human and environmental risk assessment,
- to develop a framework for integrated approaches and methodologies for human and environmental risk assessment, and
- to facilitate better understanding and co-operation between all stakeholders.

In this newsletter we would like to introduce ourselves and our project, provide you with some background material, explain our ways of working and update you on the activities which have taken place so far. Most importantly, we would like to encourage all interested parties to support us in our endeavour and to constructively collaborate in achieving these results for the benefit of society as a whole.

We hope that you find this information useful, and we are looking forward to hearing your feedback.

*Prof Martin F Wilks  
Project Coordinator*

## HEROIC – An Introduction

### Background to the project

Today, human risk assessment and environmental risk assessment are usually entirely separate and both face the same type of shortcomings and limitations. Current risk assessment (RA) procedures are designed to assess individual stressors one at a time while in the real world, reality is much more complex, and RA is facing major challenges. On the one hand the areas in which a human and/or environmental RA is required will

continue to increase substantially (see e.g. REACH<sup>1</sup>); additional complexity is added with the vision of integrated RAs as well as the assessment of the impacts of multiple stressors and toxicity of mixtures. On the other hand there is political and public pressure to reduce or eliminate animal testing. All these aspects together create the need for more cost effective, predictive and rapid tests for high quality sustainable RA including the better exploitation of existing data.

There is a lack of harmonisation in terminology and methodology used across individual disciplines. This leads to diverging approaches for the expression of risk, acceptability, uncertainty etc. and creates a major barrier for integrated RA. Data from toxicological and eco-toxicological studies are not readily accessible by risk assessors across disciplines.

The challenge the society is setting for those involved in the RA is to ensure more transparency, both on input data quality, assessment procedures and resulting uncertainty. This should allow better risk communication with the aim to regain consumer/public trust and to give unambiguous guidance for improved risk management. Also, scientific RA plays an increasing role in the global risk governance as a tool to support sustainable trade practices and avoid divergences generated by different approaches.

## The HEROIC Approach

The stepwise approach chosen by the consortium implementing this EU funded research project includes:

1. Consolidation and assessment of existing regulatory procedures for RA including the identification of current gaps and future needs to close those gaps.
2. Consolidation and quality assessment of all relevant toxicity data applied for RA; potential new types of data generated by new technologies will be identified and evaluated.

In each of these steps the partners in the consortium will engage in initial data mining, data consolidation and evaluation, definition of key challenges and documentation. We also envisage establishing a structured dialogue with an extended RA expert network to check for data consistency and completeness. The general outcome of this approach can serve as an input for the development of a policy framework for integrated RA.

We envisage that the results of this project will have a positive impact on the:

- coordination and exploitation of resources through a common framework for human and environmental RA,
- quality of human and environmental RAs based on novel integrated testing strategies in data-poor situations,

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<sup>1</sup> REACH is a new European regulation on chemicals and their safe use (EC 1907/2006). It deals with the **Registration, Evaluation, Authorisation and Restriction of Chemical substances**. The new regulation entered into force on 1 June 2007

- capacity building for risk assessors across EU member states, through the internet platform “Tox-Hub”,
- stakeholder and public understanding and acceptance of integrated RA.

## We are HEROICs



**The Consortium** that initiated this complex project comprises 9 Partners (from 7 countries) each of them with specific expertise to contribute to the achievement of the objectives of the project:

- Universität Basel, SCAHT - Swiss Centre for Applied Human Toxicology (Switzerland)
- Università Cattolica del Sacro Cuore (Italy)
- Electricité de France S.A. (France)
- The Food and Environment Research Agency (United Kingdom)
- Institut National de l'Environnement Industriel et des Risques (France)
- Helmholtz Centre for Environmental Research - UFZ (Germany)
- Benaki Phytopathological Institute (Greece)
- Agencia Estatal Consejo Superior de Investigaciones Científicas (Spain)
- Faust & Backhaus Environmental Consulting (Germany)

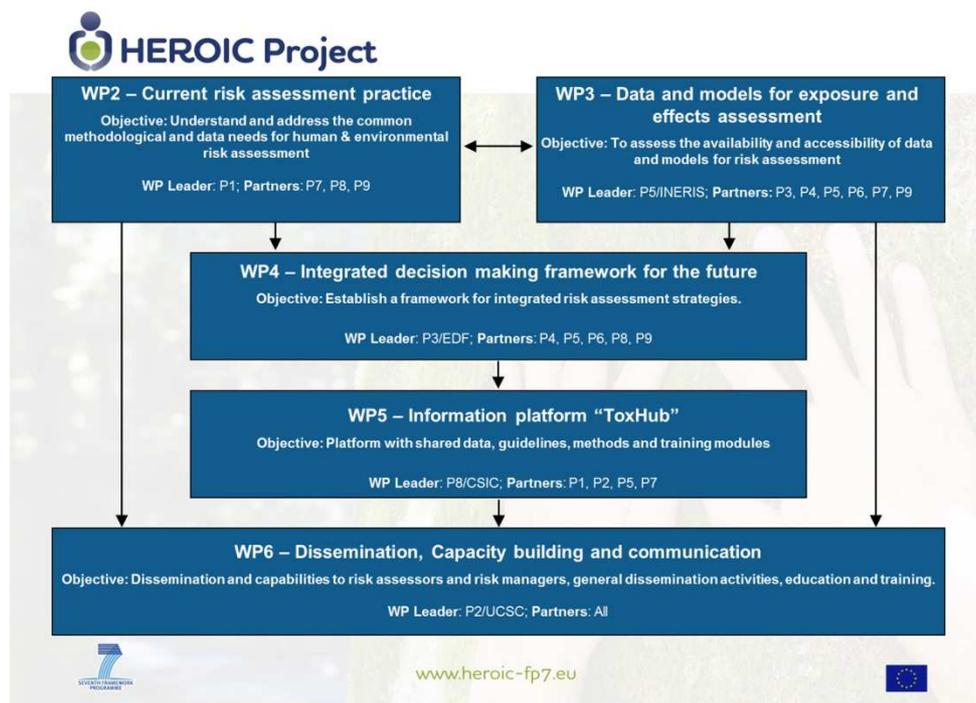
## How we work

The HEROIC project structure was built to stimulate efficient bottom-up exchange of information and data between individual work packages so as to build a solid process to develop new approaches.

While the first work package (WP) in the project is dedicated to the general coordination and management of the project, WP2 and WP3 will address the issues of current risk assessment practices and, respectively, their data gaps and needs and the exposure models used. Building on the information produced in these two WPs, WP4 will develop a proposal for a framework which would allow the development of integrated assessment strategies.

The tasks of WP5 and WP6 are mainly to communicate outside the project. WP5 will establish an internet platform that will facilitate the access to relevant toxicological data and information, with the aim of improving communication and collaboration in risk assessment as well as supporting capacity building for the professionals involved in

human and environmental risk assessment. Disseminating the results and raising awareness about the results and resources of the project is the task of WP6.



### Focus on HEROIC partners

Our newsletter also gives us the opportunity to introduce the HEROIC partners, starting in this first edition with the Swiss Centre for Applied Human Toxicology which coordinates the HEROIC project.

	<p>The Swiss Centre for Applied Human Toxicology (SCAHT, <a href="http://www.scaht.org">www.scaht.org</a>) was created in 2009 with the vision to contribute to public health and safety by advancing the science of human toxicology in Switzerland. Supported by the Swiss Confederation and the universities of Basel, Geneva and Lausanne, the SCAHT is a network of scientific professionals who bring insight, skill and experience to critical questions related to human safety of xenobiotics.</p>
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The directorate and the regulatory toxicology group are based at the University of Basel (UNIBAS) with research and teaching located at the partner universities. The Centre's Director is Prof. Martin F. Wilks, a medical toxicologist with an M.D. from the Medical School Hannover, Germany, and a Ph.D. from the University of Surrey, UK.

The Centre has four core fields of activity covering regulatory toxicology, applied research, education and third party services. As an expert resource we provide regulatory toxicology assessments of scientific data to support the federal and local authorities in risk assessment and risk management decisions, and to anticipate new trends in human toxicology which may need to be incorporated into a regulatory framework. SCAHT promotes applied research in human toxicology, with a focus on areas relevant to public health. Our toxicology network consists of research groups based in four Swiss universities and covers key problem areas in human toxicology. Over the last 3 years, the SCAHT's research programme has focused on core research projects related to exposure and effect biomarkers of toxicity, endocrine disruptors and male infertility, and drug-induced allergic and non-allergic toxicity. The Centre organises and contributes to education and training in human toxicology, in particular undergraduate and advanced postgraduate level education programmes in Toxicology (MSc, MAS), in Food Safety (MAS) and in Regulatory Sciences (CAS). We closely collaborate with other risk-related institutions such as the Swiss Centre for Applied Ecotoxicology and the Centre for Xenobiotic Risk Research, particularly in the area of continuing professional development. SCAHT also provides independent toxicology services to support third parties in their risk assessment and risk management decisions related to human safety.

## Events

### First HEROIC workshop



The first HEROIC expert workshop was organized at INERIS in Verneuil-en-Halatte (France) on 12 - 13 April 2012.

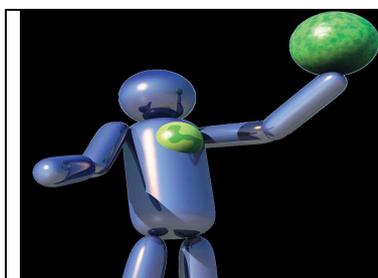
More than 60 representatives from public institutes, academia and industry discussed how an integrated approach to risk assessment (IRA) could improve the efficiency and accuracy of current risk assessment procedures

The objective of the first HEROIC workshop was to provide a consolidated overview of today's risk assessment procedures and data requirements and to stimulate a discussion on how existing strengths could be further exploited and weaknesses could be overcome.

The workshop combined plenary sessions for information sharing along with individual breakout sessions where experts provided input according to their area of expertise. There were five working groups, on risk assessment, hazard assessment for single compounds, hazard assessment for mixtures, exposure assessment and socio-economic aspects.

Download the executive summary of the workshop or go to <http://heroic-fp7.eu/en/events/>

### Participation to the SETAC world congress in Berlin



The 6<sup>th</sup> SETAC World Congress/SETAC Europe 22<sup>nd</sup> annual meeting "Securing a sustainable future: Integrating science, policy and people" was organized in Berlin from May 20 - 24, 2012.

The congress focus was "on integrating different views and disciplines, on balancing the conflicting interests of stakeholders and on addressing societal needs of the future".

HEROIC was present with a poster during the session "Approaches for comparative hazard and risk assessment of chemicals".

SETAC is a non-profit, global professional organisation comprised of some 6,000 individual members and institutions from academia, business and government. The congress provided an opportunity to get the project and the objectives of HEROIC to a wide audience.

Download the poster or visit the <http://heroic-fp7.eu>, in the news section.

### HEROIC participation in AMORE project meeting

Some experts of the HEROIC consortium were invited to participate in the AMORE meeting that was held at EDF, Chatou (France), on January 12 - 13, 2012.

AMORE is a 3 years project (2009 - 2012) funded by the French National Research Academy. Its main objective is "the development of a decision support system based on a tiered risk assessment procedure, able to integrate all the available information (related to contaminated aquatic systems) by means of multi-criteria analysis methods and to provide stakeholders with reliable information on the uncertainties in the performed evaluation".

The objective of the meeting was "to rank criteria, to define veto criteria, to define over-criteria and finally to define a hierarchical scoring system for quantitatively determining data quality".

HEROIC experts were involved and asked to contribute with their experience to the questionnaire on "reliability/relevance criteria in ecotoxicology" that is under development. For further information please contact us: <http://heroic-fp7.eu/en/contact/>.



N E W S L E T T E R

## HEROIC Consortium and Scientific Advisory Board meeting

The HEROIC Consortium and Scientific Advisory Board meeting took place at the University of Basel on September 20 - 21, 2012.

The purpose of this joint meeting was to analyse and reflect on the progress of the project and evaluate the results of each WP to define future priorities.

It was a great opportunity for the members of the Consortium to share the work during the first year of the project and to discuss the upcoming challenges. The members of the Science Advisory Board provided extremely valuable input for the continuing work of the project. All participants are grateful to Martin Wilks, Barbara Intelmann, Lothar Aicher and Nicolas Roth of the Swiss Centre for Applied Human Toxicology (SCAHT) for the hospitality and organisation of the meeting.

## Next Issue

The next issue will feature a report from the recent Consortium and Science Advisory Board meeting as well as other news and documents developed by the HEROIC Consortium.

## Contact us

**For more info**

<http://www.heroic-fp7.eu>

[info@heroic-fp7.eu](mailto:info@heroic-fp7.eu)

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