Integrated Exposure For Risk Assessment In Indoor Environments

THE INTERA PROJECT

INTERA - **INT**egrated **E**xposure for **R**isk **A**ssessment in indoor environments - is a research project that seeks to improve our understanding of human exposure to air pollutants in residential settings across Europe. The project began in January 2010 and aims to be completed by December 2011.

Led by THL in Finland, the INTERA project is sponsored by the CEFIC Long-range Research Initiative programme and involves partners in the UK (IOM and the University of Aberdeen), Belgium (VITO) and Greece (CERTH).

The main objective of INTERA is to define optimal methodologies for predicting indoor exposure to chemical contaminants.

Results of, and tools developed by, INTERA will be of use to experts and those who give technical support to policy makers, with the ultimate goal of informing research and policy, as well as communicating with the public.

The project is organised into 6 work packages which will:

- Review and collate existing exposure data, and determine the main parameters influencing exposure.
- Collate the above into a comprehensive database/knowledge management system.
- Develop an integrated computational platform for "full chain" indoor exposure assessment using exposure reconstruction algorithms to fill data gaps and support refined exposure assessment.
- Display exposure predictions at different spatial and temporal scales.
- Implement the integrated approach in three case studies:
  a) Dimethyl fumarate through dermal exposure
  b) Phthalates through multi-pathway exposures
  c) BTEX (benzene, toluene, ethylbenzene, and xylenes) through inhalation and taking into account the interaction effects between the substances.

EXPERT WORKSHOPS

Three INTERA expert Webinars were held during June and July 2010 in order to present our ideas for the project and discuss them with key experts in indoor exposures.

The first workshop, 21st June 2010, dealt with the Knowledge Management System. The main findings were:

- A dynamic model, rather than a steady state, is essential for this type of exposure.
- There is currently a paucity in source emission strength models for the indoor environment, although perhaps certain occupational models could be adapted.

The second workshop, 29th June 2010, dealt with the identification of indoor exposure determinants and found that:

- INTERA should ideally focus on exposure to chemicals from consumer products, where, the indoor environment has a significant role in the exposures.
- The modeling process should involve mapping time-activity data onto concentration data to produce personal exposure information.

The third workshop, 2nd July 2010, dealt with the computational platform of the models. The main findings were that:

- A web-based user interface is preferable.
- Main datasets should ideally be managed in a central place.
- INTERA needs to ensure results can be extrapolated to wider population groups.
- A document outlining the methodological solutions used in the platform is needed.
- Uncertainty should be explicitly evaluated across the full chain.

THE NEXT SIX MONTHS

INTERA will continue with the development of the methodology and tools for the integrated assessment for exposure to chemicals in the indoor environment. The methodology for the case studies will also be developed. If you would like more information on INTERA, please contact Arja Asikainen at THL: ✉ arja.asikainen@thl.fi or ☎ +358 206 106 469.

The next INTERA newsletter is out Spring 2011. Please visit the INTERA website
http://intera-home.eu/