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CO-ORDINATION ACTION on Indoor Air Quality and health effects

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DG JOINT RESEARCH CENTRE
Institute for Health & Consumer Protection
Dr. S. Kephalopoulos
stylianos.kephalopoulos@jrc.it
ihcp.jrc.it

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  The Directorate General (**DG**)
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- **GEEL (BE)**
  The Institute for Reference Materials and Measurements (**IRMM**)
- **KARLSRUHE (DE)**
  The Institute for Transuranium Elements (**ITU**)
- **ISPRA (IT)**
  The Institute for the Protection and the Security of the Citizen (**IPSC**)
  The Institute for Environment and Sustainability (**IES**)
  The Institute for Health and Consumer Protection (**IHCP**)
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- **PETTEN (NL)**
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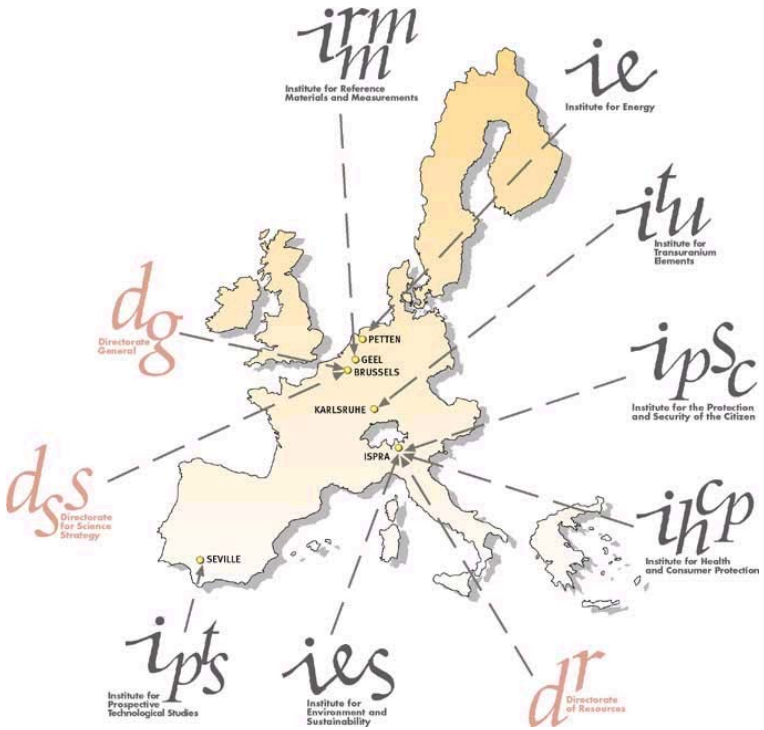

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The **mission** of the IHCP is to support EU policies for protecting the health of EU consumers. IHCP carries out research to improve the understanding of the health risk posed by the food chain, chemicals, drugs, and biochemical systems in order to support the development and implementation of Community policies designed to alleviate that risk.

The Institute for Health and Consumer Protection (IHCP) was established on 1 October, 1998, in recognition of the importance of health and consumer protection issues. The IHCP is one of the seven Institutes of the Directorate General Joint Research Centre (DG JRC) of the European Commission. IHCP has around 240 staff organized around the following five scientific units:

- Biotechnology & GMOs (B&GMOs)
- Biomedical Materials and Systems (BMS)
- European Chemicals Bureau (ECB)
- European Centre for the Validation of Alternative Testing Methods (ECVAM)
- **Physical and Chemical Exposure (PCE)**

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The Physical & Chemical Exposure Unit (PCE)

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- The **aim** of the PCE is to combine efforts and provide scientific understanding, information and assessment tools to assist Commission services in evaluating and quantifying exposure and risk assessments for environmental stressors (such as chemicals, biological contaminants, radiation and noise).

  In this context, the Physical and Chemical Exposure Unit develops methods for improving the monitoring and assessment of human exposure to chemicals, with research activities in areas such as release of chemicals from products, indoor air quality, toxicology, contact materials, UV radiation, electromagnetic fields and noise, including risk assessment studies on possible (combined) effects on human health. These activities are grouped into two main action themes, Total Human Exposure Assessment Studies - Chemical agents (**THEXAS-CHEM**) and Total Human Exposure Assessment Studies - Physical agents (**THEXAS-PHYS**). The European Office of Beverages and Alcohol (**BEVABS**) is the third action theme of the Unit.

The Physical & Chemical Exposure Unit (PCE)

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Total Human Exposure Assessment Studies - Chemical Agents (THEXAS-CHEM)

The EU Environment Council has requested the European Commission to take action in order to eliminate existing deficiencies in data on human exposure to chemicals. This gives the IHCP a clear mandate to accurately evaluate the risk for European citizens deriving from overall exposure to chemicals through different routes (food intake, air inhalation, skin contact, etc.) occurring in indoor and occupational environments. Therefore, it is important to develop, test, and implement:

- ➔ Consumer exposure models
- ➔ Common measurement methods and protocols
- ➔ Exposure guidelines

The work in this area is carried out in a co-ordinated way in laboratories that are specialised in the different types of exposure measurement and assessment methods for chemical substances. This action is separated into four sub-areas:

1. Exposure measurements

In the Indoortron Laboratory of PCE, research is conducted on inhalation exposure of indoor pollutants and chemicals released from consumer products/articles (textiles, computer devices, cleaning products, automotive components, building materials, etc.). A particular focus is placed on the determination of chemicals released from consumer products in indoor and occupational environments.

The INDOORTRON laboratory is a unique, 30m^3 volume walk-in environmental chamber featuring controlled temperature, relative humidity, air quality, and air exchange rate.

2. Exposure modelling

Exposure measurements need to be complemented by data obtained via modelling human exposure. In this domain, the Exposure Modeling Group is inventorying, comparing and validating the performances of existing models. This is done through the:

- ➔ Development, harmonisation and validation of consumer exposure models to chemical substances from different routes (inhalation, ingestion, dermal).
- ➔ Development of models to describe exposure to chemical substances in indoor environments

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Main activities of JRC-IHCP/PCE in the field of indoor air quality

- The scientific secretariat of the **European Collaborative Action (ECA)** on «Urban Air, Indoor Environment and Human Exposure» since 1987. Twenty three reports have been issued so far, two more are in preparation.
- Partner of the **VOCEM** project (1996-1998) partly funded by DG XII under the Frame of the Standard Measurement and Testing (SMT) programme and dealing with material Volatile organic compounds emission testing.
- Partner of the **PICADA** project (Photo-catalytic Innovative Covering Applications for De-Pollution Assessment) / DG Research funded project (2002-2004)
- Co-ordinator of the **INDEX** (Critical Appraisal of the Setting and Implementation of Indoor Exposure Limits in the EU) / DG SANCO funded project (2003-2004)

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JRC-IHCP/PCE contribution to EnVIE

The JRC-IHCP/PCE will contribute to the following EnVIE Workpackages:

- ➔ **WP0 on « management » and**
- ➔ **WP5 on « network support and dissemination activities »**

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