

## Exposure Assessment in Epidemiological Studies of Cancer: importance and implications for hazard and risk evaluation

**Goal:** The quality of exposure assessment is a fundamental (yet often overlooked) consideration in the design and evaluation of human observational studies. The need for high quality exposure assessment is particularly relevant for outcomes with long latency periods, such as cancer, where detailed information on past exposures to a hazard are often missing and must be indirectly estimated or modelled. *The goal of this symposium* is to consider (and emphasize the importance of) high-quality exposure assessment in epidemiological studies of cancer, for various occupational hazards. Outputs will inform: 1) methods to evaluate exposure assessment quality in epidemiological studies (e.g., for use in hazard and risk assessment), and 2) strategies for individual researchers to consider in the design and conduct of future research.

**Summary:** An introductory speaker will present on the critical importance of exposure assessment quality in hazard and risk assessment activities, with a particular focus on examples from hazard assessments conducted within the IARC Monographs Programme. Subsequent presentations will focus on five different carcinogenic hazards. Each speaker will review typical methodologies and provide examples of “high quality” exposure assessment in epidemiological studies of their hazard, discuss challenges/barriers to achieving high quality EA, and provide suggestions for best practices (ranging from study design through to exposure assignment). Finally, a general discussion moderated by the symposium chairs will focus on challenges and opportunities when evaluating exposure assessment quality for the purposes of hazard and risk assessment.

*All proposed speakers have agreed to participate, should this symposium be accepted. Names and abstract titles are provided below.*

- 1. Introduction/rationale for the symposium, 3 minutes** – (Amy Hall & Mary Schubauer-Berigan)
- 2. Presentations, 6x12 minutes = 72 minutes:**
  - i. Why the quality of exposure assessment matters in human observational studies and consequent hazard and risk assessment - Hans Kromhout, The Netherlands
  - ii. From high-dose occupational to low-dose residential exposures in radon epidemiology: how high-quality exposure assessment ties it all together - Mary Schubauer-Berigan, France
  - iii. Evaluation of the exposure assessment methods used in benzene epidemiology - Deborah Glass, Australia
  - iv. Evaluation of exposure assessment methods in epidemiological studies: the welding example - Susan Peters, The Netherlands
  - v. Exposure assessment in agricultural settings – Laura Beane-Freeman, USA
  - vi. Defining shift work exposure in epidemiological studies of cancer: where have we been, and what comes next? - Amy Hall, France
- 3. Discussion, 15 minutes** (Mary Schubauer-Berigan & Amy Hall)

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