

International Conference on Uncertainty in Risk Analysis

Nicole Gollnick



Background

- Consensus among scientific experts that uncertainties affecting the risk assessment should be identified, assessed, and communicated
- → EFSA has recently updated their guidance on uncertainty, BfR is revising a guideline on uncertainty in exposure assessments
- Previously, EFSA and BfR have engaged in a comparison of their respective uncertainty guidance documents
- Discussion of the topic uncertainty in a broader context necessary
- → EFSA and BfR decided to jointly organise the International Conference on Uncertainty in Risk Analysis

Aims and Objective

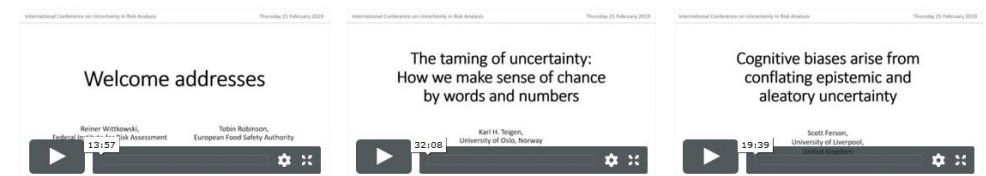
- Bringing together world leading professionals in theoretical and applied uncertainty analysis with focus in the remit of EFSA's work fields
- Providing show cases of good practices in conducting and communicating uncertainty analysis as well as accounting for uncertainty in risk management
- Identifying fruitful areas for further developments to support uncertainty analysis practice

Organisational Details

- 20.02.2019: Parallel workshop sessions
- 21-22.02.2019: Talks, poster presentations (with guided poster tour), panel discussion
- Most talks were livestreamed



BFR WEBCAST CENTER



Workshops

- Preconference workshops at February, 20
- Four parallel workshops

Name of workshop organisers	Title of workshop
Anca Hanea, Victoria Hemming, Tina Nane	Quantifying uncertainty with structured expert judgement
Catherine Leclercq, Laura Martino, Giorgia Nicolo', Anthony Smith, Domagoj Vrbos	Let's play at giving uncertainty a protagonist role in science stories! – A Dubitarte workshop making use of ludo-pedagogy
Alberto Mantovani	Accounting for uncertainty in data-poor scenarios: case studies on risk analysis in food safety
Ullrika Sahlin, Scott Ferson	Quantification and communication of epistemic uncertainty by precise and bounded probability

Topics of the conference

The conference was structured into 5 topics

- Topic I: Uncertainty from a cognitive point of view
- Topic II: Methods of uncertainty analysis
- Topic III: Communication of uncertainties
- Topic IV: Accounting for uncertainty in decision making
- Topic V: Dialogues on uncertainty in an open society

Topic I: Uncertainty from a cognitive point of view

Name	Title of presentation
Karl H. Teigen	The taming of uncertainty: How we make sense of words and numbers
Scott Ferson	Cognitive biases arise from conflating epistemic and aleatory uncertainty
Ullrika Sahlin	Using games to train or test our ability to express epistemic uncertainty

Topic II: Methods of Uncertainty analysis

Name	Title of presentation
Zora Kovacic	Uncertainty with and beyond the data: approaches to deal with different types of data
James Rathman	Application of Dempster-Shafer theory to estimate uncertainty and combine diverse sources of evidence in chemical risk assessments
Jukka Ranta	Uncertainty and variability in Bayesian inference for dietary risk: <i>Listeria</i> in RTE fish
Bas Bokkers	APROBA-Plus A probabilistic tool to evaluate and express uncertainty in hazard characterisation and exposure assessment of substances
John Paul Gosling	Uncertainty quantification in next generation risk assessment
Victoria Hemming	Performance weighting and the IDEA Protocol for expert elicitation
Natalie von Goetz	Uncertainty assessment for interdependent parameters, exemplified by PBPK modelling for risk assessment
Juliana De Oliveira Mota	Managing uncertainty and variability when assessing beneficial source of iron brought by red meat consumption in France
Alberto Garre	Quantifying the bias of the viable cell enumeration process and its impact on microbial inactivation
Sebastian Hoffmann	How evidence-based methodology can contribute to uncertainty assessment
Silke Gabbert	Assessing the borderline range of prediction models: Method and implications for decision-making
Laura Urso	Characterisation of the conceptual model uncertainty in radioecology

Topic III: Communication of uncertainties

Name	Title of presentation
Michael Siegrist	Uncertainties about the communication of uncertainties
Scott Ferson	Communicating probability with natural frequencies and the equivalent binomial count
Terje Aven	Representing and expressing uncertainties and risk in a scientific context

Topic IV: Accounting for uncertainty in decision making

Name	Title of presentation
M. Granger Morgan	Reflections on framing and making decisions in the face of uncertainty
Eduardo Tosoni	Scenario comprehensiveness in risk analysis
Frederik Verdonck	Accounting for uncertainty under REACH registration versus authorization decision making processes
Andrea Richarz	Uncertainty characterisation in Integrated Approaches to Testing and Assessment (IATA) for chemical risk assessment – mapping of available guidance and identification of gaps
Karen Luyckx	Residual food as animal feed: risks, benefits and uncertainties

Topic V: Dialogues on uncertainty in an open society

Name	Title of presentation
Piet Sellke	Governing and communicating risks in a post-truth era
Sabine Hoffmann	The multiplicity of possible analysis strategies and how it is handled across scientific disciplines

Participation and Resources

- In total, **296** participants attended the conference coming from **37** countries
- The presentation slides and book of abstract can be found online:
<https://www.bfr-akademie.de/english/archive/2019/uncertainty-conference.html>
- The livestreamed presentations are available too:
<http://bfr.westream.biz/riskanalysis/en/>

Region	Country	Number of participants
EU	Germany	116
	Italy	34
	United Kingdom	18
European countries outside of the EU	Norway	13
	Switzerland	8
	Armenia	3
Non-European countries	Australia	5
	Canada	4
	China	3

Members of the Scientific/Organising Committee

Members of the scientific committee:

- Gaby-Fleur Böhl
- Matthias Greiner
- Andrew Hart
- Judy S. LaKind
- Ragnar Löfstedt
- Laura Martino
- Bette Meek
- Caroline Merten
- Olaf Mosbach-Schulz
- Chris Roth
- Andrew Stirling
- Natalie von Goetz



Members of the organising committee:

- Frederic Müller
- Thomas Schendel

Thank you for your attention

Nicole Gollnick

German Federal Institute for Risk Assessment
Max-Dohrn-Str. 8-10 □ 10589 Berlin, GERMANY
Phone +49 30 - 184 12 - 31001 □ nicole.gollnick@bfr.bund.de
www.bfr.bund.de/en