SCIENCE STAKEHOLDERS CONSENSUS: WHAT'S THE TRICK?

16th Cefic/LRI Annual Workshop

19th and 20th November 2014
Sheraton Hotel Brussels

cefic

LRI
Long-Range Research Initiative

LRI IN BRIEF

A unique source of scientific knowledge and tools for public policy

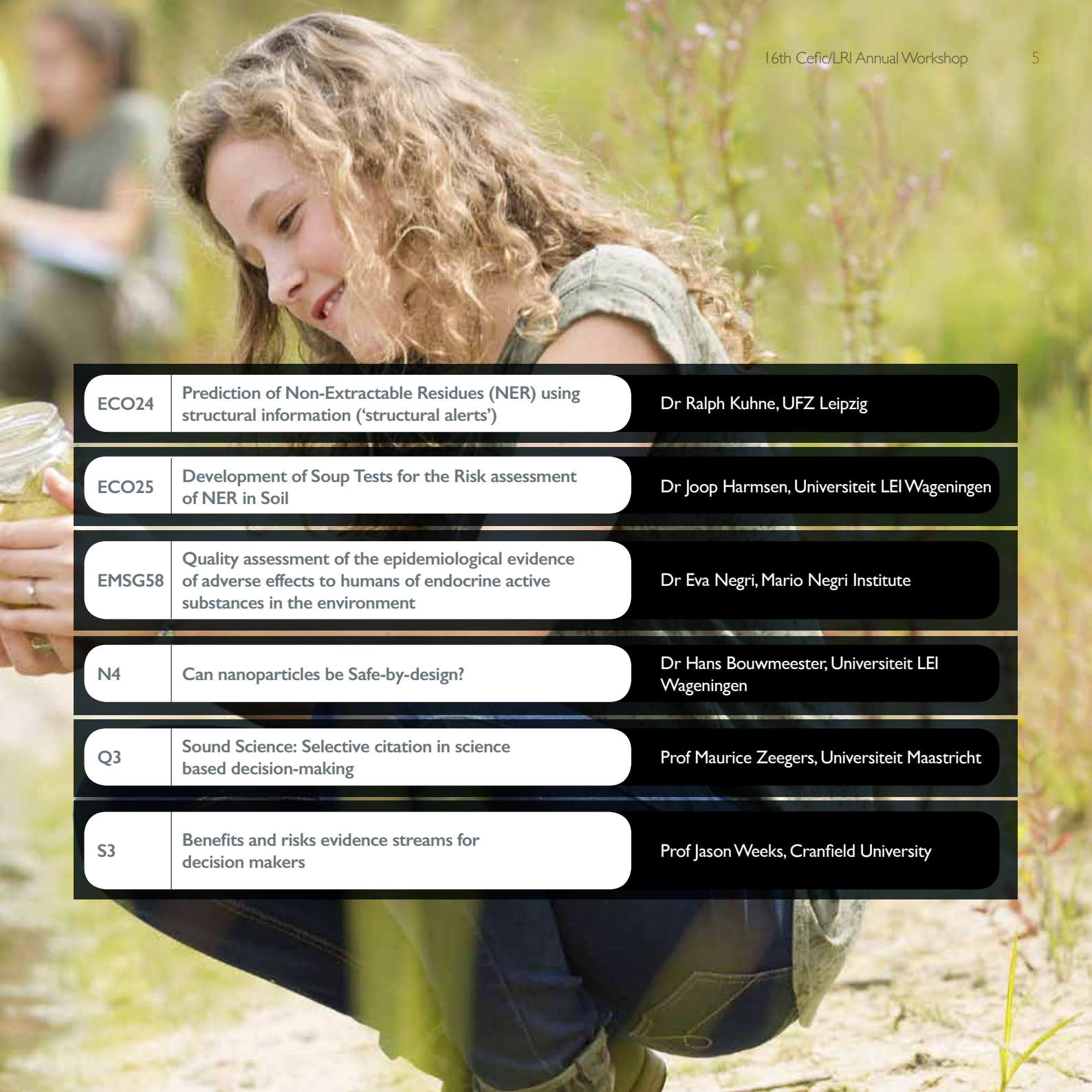
Since 1999, the Long-range Research Initiative (LRI) Programme of Cefic, the European Chemical Industry Council, provides robust scientific advice on which the entire chemical industry and regulatory bodies draw on to respond more quickly and accurately to public questions. As an instrument for a sustainable chemical industry and as part of Cefic's commitment to Responsible Care®, LRI invests in long-term research that delivers peer-reviewed scientific results, open to the broad public.

By fostering innovative research, the LRI programme implements critical initiatives that improve the information needed for science-based decision-making, building inter-disciplinary and international scientific networks, and engaging with partners around the world to link research to practice and policy.

The 16th edition of the Cefic/LRI annual workshop addresses the need to streamline the science argumentation and consensus process amongst the scientific community and policy makers. Collective action, transparency and clear vision from both sides are necessary in order to respond to society in a scientifically reliable and transparent manner.

POSTERS

AIMT4	DECO2: Moving from DECO towards OECD	Dr Danyel Jennen, Universiteit Maastricht
B13	Dermal absorption modelling	Dr Joanna Jaworska, Procter & Gamble
B14	Skin Sensitisation - Chemical Applicability Domain of the Local Lymph Node Assay (LLNA)	Dr David Roberts, Liverpool University
B15	Efficiency of Risk Management Measures	Dr Derrick Crump, Cranfield University
C3	Epigenetics: Normality in Toxicologically Relevant Species (Development of a framework to better understand the impact of epigenetics on (eco)toxicology)	Prof Richard Meehan, University of Edinburgh
ECO23	Time-Integrative Passive sampling combined with Toxicity Profiling (TIPTOP): an effect-based strategy for cost-effective chemical water quality assessment	Dr Tim Hamers, Vrije Universiteit Amsterdam



ECO24	Prediction of Non-Extractable Residues (NER) using structural information ('structural alerts')	Dr Ralph Kuhne, UFZ Leipzig
ECO25	Development of Soup Tests for the Risk assessment of NER in Soil	Dr Joop Harmsen, Universiteit LEI Wageningen
EMSG58	Quality assessment of the epidemiological evidence of adverse effects to humans of endocrine active substances in the environment	Dr Eva Negri, Mario Negri Institute
N4	Can nanoparticles be Safe-by-design?	Dr Hans Bouwmeester, Universiteit LEI Wageningen
Q3	Sound Science: Selective citation in science based decision-making	Prof Maurice Zeegers, Universiteit Maastricht
S3	Benefits and risks evidence streams for decision makers	Prof Jason Weeks, Cranfield University

PROGRAMME DAY 1

WEDNESDAY 19 NOVEMBER 2014

17.30 - 18.00	**Registration (30th floor)**
	Horizon 1 & 2 (30th floor)
18.00 - 19.30	**Poster session on 2013-2014 recently started and ongoing projects.** **Networking cocktail**
	Horizon 3 (30th floor)
19.30 - 22.00	**Workshop Dinner**
20.30 - 21.00	**LRI Innovative Science Award session** Chair: Mr John Metselaar, Procter & Gamble R&D, BE
20.30 - 20.50	**LRI Award 2013 project results: Environmental programming of respiratory allergy in childhood: the applicability of saliva to study the effect of environmental exposures on DNA methylation** Dr Sabine Langie, VITO (Flemish Institute for Technological Research), BE, 2013 Award winner
	LRI Innovative Science Award presentation to winner 2013 Mr John Metselaar, Procter & Gamble R&D, BE
20.50 - 21.00	**LRI Award 2014 project plans: Covalent Modification of Histones by Carcinogens: a novel proteomic approach toward the assessment of chemically-induced cancers – CarcHistonOmic** Dr Alexandra Antunes, Centro de Química Estrutural, Complexo Interdisciplinar Instituto Superior Técnico, PT, 2014 Award winner

LRI Innovative Science Award

CHAIR:
MR JOHN METSELAAR
Procter & Gamble R&D, BE

John Metselaar is an all-round Innovation Leader at Procter & Gamble with extensive work and living experiences across Europe, North America, and Asia. As Director R&D, he currently heads the company's Brussels Innovation Center, as well as Fabric Care's Asia Region. He has a particular passion for connecting – be it by spearheading P&G R&D's global Culture program bringing the best out of people, or by pushing the frontiers of P&G's Connect and Develop program toward ever more productive relationships with a variety of partners. John is originally a Chemical Engineer from Delft University of Technology.

20.30 - 21.00

LRI Innovative Science Award session

LRI Innovative Science Award

WEDNESDAY 19 NOVEMBER 2014

DR SABINE LANGIE

VITO (Flemish Institute for Technological Research), BE, 2013 Award winner

Sabine Langie is interested in studying early-life exposures to xenobiotic agents and specific dietary compounds, and how these can influence the interaction between DNA methylation and oxidative stress/DNA damage plus predispose to pathological diseases later in life. Since November 2012 she has been working at VITO in Belgium as an AXA Research funded postdoctoral fellow on the topic "Allergy: environmental and nutritional programming in childhood". Prior to her position at VITO, she worked as a postdoctoral researcher at Newcastle University in the Centre for Brain Ageing and Vitality. Currently, she is a Visiting Researcher within the Institute for Ageing and Health at Newcastle University. In 2004 she graduated in Biological Health Sciences at the transnational University Limburg (tUL) of Hasselt / Maastricht.

20:30 - 20:50

2013 LRI Award project results. Environmental programming of respiratory allergy in childhood: the applicability of saliva to study the effect of environmental exposures on DNA methylation

Sabine won the 2013 Innovative Science Award with her proposal on "Environmental programming of respiratory allergy in childhood: the applicability of saliva to study the effect of environmental exposures on DNA methylation". Her research explores the hypothesis that prenatal chemical exposures can alter fetal DNA methylation patterns, and thereby predispose children to develop allergic diseases later in life. The use of saliva will simplify the assessment of the impact of environmental exposures on DNA methylation patterns in human biomonitoring studies, especially for children, where blood collection is often cumbersome. The ultimate goal of the project is to contribute to the development of prevention strategies, thereby reducing the family and societal burden associated with allergic diseases.

LRI Innovative Science Award

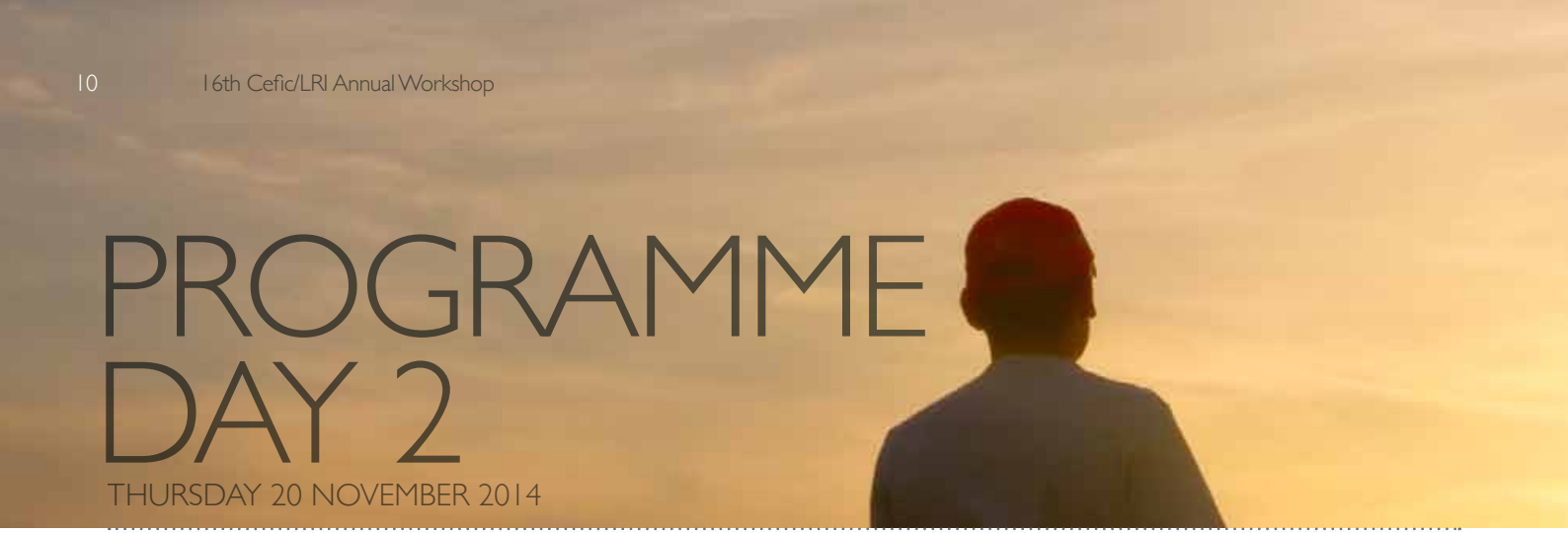
DR ALEXANDRA ANTUNES
Centro de Química Estrutural, Complexo Interdisciplinar Instituto Superior Técnico, PT, 2014 Award winner

Alexandra Antunes obtained a degree in Chemistry in 1994, a M.Sc. in Industrial Organic Chemistry and a PhD in Organic Chemistry, from the Faculty of Sciences of the University of Lisbon, in 1998 and 2003, respectively. In 2008 she obtained a position as an Assistant Researcher at the Centro de Quimica Estrutural, Instituto Superior Tecnico (CQE-IST) where she established her own research line aimed at evaluating drug-protein adducts as adequate biomarkers of toxicity/exposure to chronic therapies. Currently, she is principal researcher at CQE-IST and is an Assistant invited Professor at the Chemistry Engineering Department of IST.

20:50 - 21:00

2014 LRI Award project plans. Covalent Modification of Histones by Carcinogens: a novel proteomic approach toward the assessment of chemically-induced cancers - CarcHistonOmic

The inability to prevent most of the chemically-induced cancers is a reflection of the difficulty in accurately assessing human exposure and classifying the carcinogenic potential of chemical agents. The ultimate goal of this work is to contribute to change this scenario. This study will explore the hypothesis that formation of covalent adducts between carcinogenic derivatives and histones can trigger epigenetic alterations that are at the origin of this type of cancers. Given that modification of histones by chemical carcinogens may take place at the earliest stage of carcinogenesis, its monitoring by mass spectrometric-based proteomic methodologies can contribute to the development of early compound-specific biomarkers of cancer.

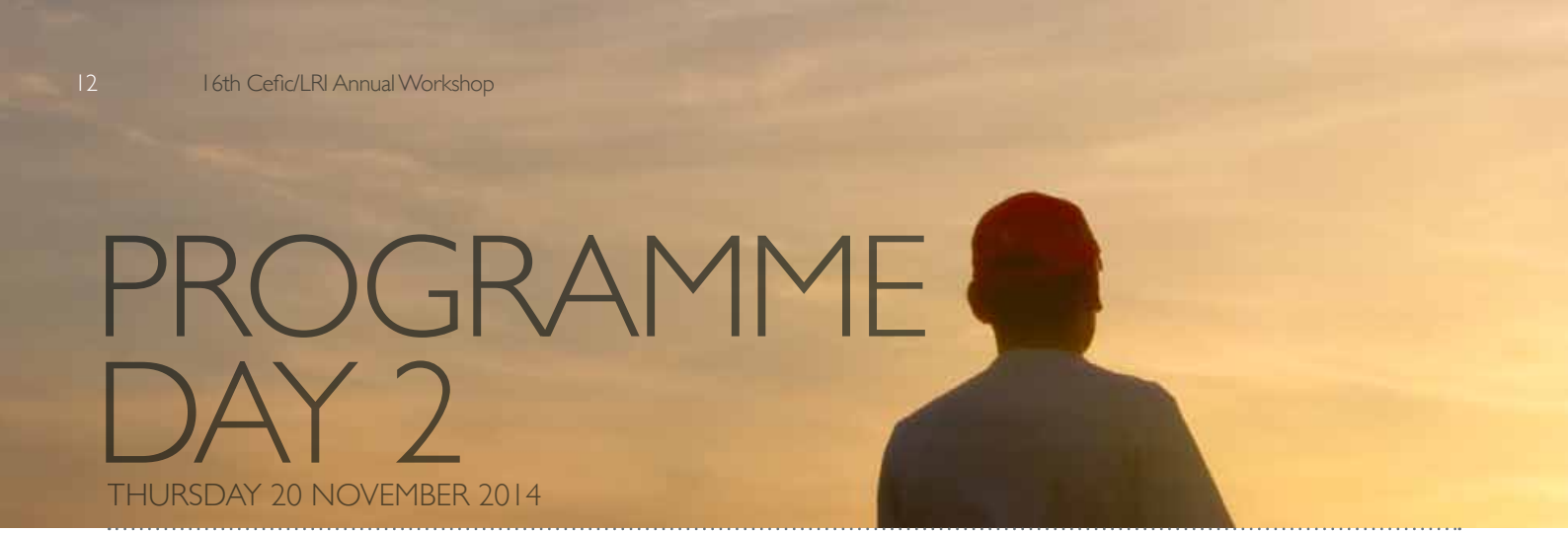


PROGRAMME DAY 2

THURSDAY 20 NOVEMBER 2014

	Foyer (2nd floor)
08.00 - 08.30	**Registration and welcome coffee**
	Salle Des Nations 1 (2nd floor)
08.30 - 08.50	**Welcome and outline : Outlook on LRI long-term challenges refocus** Dr Stuart Marshall, Unilever, Chair Cefic/LRI Strategy Implementation Group
08.50 - 12.45	**Plenary session: LRI projects impact with focus on exposure, biomonitoring, toxicogenomics, sediment transformation, dose-response, and benefit-risk analysis** Chair: Dr Bruno Hubesch, Cefic/LRI Programme Manager, BE
08.50 - 09.10	**What Is Safe? Integrating Multi-Disciplinary Approaches for Decision Making about the Human Health and Environmental Impacts of Chemicals** Dr Karen Niven, Shell, NL
09.15 - 09.35	**ECO18: Developing improved strategies to assess chemical persistence at the water-sediment interface** Dr Katrin Fenner, EAWAG, CH
09.40 - 10.00	**ECO20: An alternative testing strategy for the fish early life-stage test using the AOP framework** Prof Dries Knapen, University of Antwerpen, BE
10.05 - 10.25	**AIMT3: Toxicogenomics and high-throughput assays: improved predictions for risk assessment** Dr Danyel Jennen, University of Maastricht, NL

	Foyer (2nd floor)
10.30 - 10.50	**Coffee break**
	Salle Des Nations 1 (2nd floor)
10.50 - 11.10	**B7: Validation of a tiered approach to aggregate exposure modelling** Dr Natalie von Götz, ETH Zurich, CH
11.10 - 11.30	**B9: Characterising the nature of dermal exposure from consumer products and articles** Dr Suzanne Spaan, TNO, NL
11.35 - 11.55	**B10: Reference doses: does adding human data help?** Prof David Jones, University of Leicester, UK
12.00 - 12.20	**HBM4: Representativeness of a single biomonitoring sample** Dr Roel Smolders, VITO (Flemish Institute for Technological Research), BE
12.25 - 12.45	**S2: Foresight study on introduction of new technologies; the case of nanotechnology** Dr Steve Hankin, Institute Of Occupational Medicine, Edinburgh, UK
	Foyer (2nd floor)
12.45 - 14.15	**Lunch**



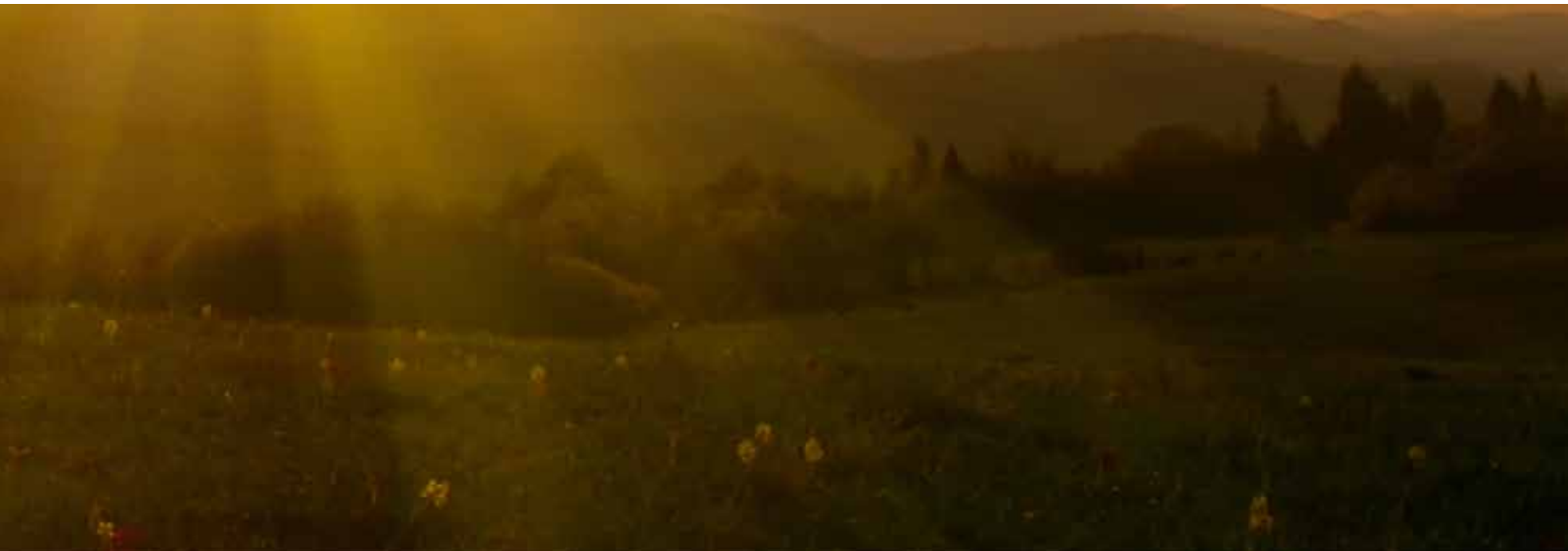
PROGRAMME DAY 2

THURSDAY 20 NOVEMBER 2014

Salle Des Nations 1 (2nd floor)

14.15 - 16.45	**Thematic Session (with panel): What's needed to streamline the science argumentation and consensus process?** Chair: Prof Erik Lebret, RIVM, NL, External Science Advisory Panel (ESAP)
14.15 - 14.35	**Complex Science - Simple decisions** Dr Gernot Klotz, Cefic Research & Innovation
14.40 - 16.40	**Thematic Session Panel** 1. Prof Monica Amorim, University of Aveiro, SETAC Europe 2. Prof Jim Bridges, University of Surrey 3. Dr Jan Marco Mueller, European Commission 4. Dr Karen Niven, Shell 5. Prof Maurice Zeegers, University of Maastricht 6. Mrs Erika Widegren, Atomium Culture

	Foyer (2nd floor)
15.30 - 16.00	**Coffee break**
	Salle Des Nations 1 (2nd floor)
16.40 - 16.45	**Conclusions and future perspectives** Dr Gernot Klotz, Cefic Research & Innovation
16.45	**Short evaluation and Close of Cefic/LRI Workshop 2014**



THURSDAY 20 NOVEMBER 2014

DAY 2

DR STUART MARSHALL

Unilever, Chair Cefic/LRI Strategy Implementation Group

Stuart joined Unilever's corporate Safety and Environmental Assurance Centre (SEAC) in Bedford, UK in 1983 after completing a BSc in Environmental Biology and a PhD in the fate and effects of organolead compounds in natural systems. His current role is Ecotoxicology Science Leader which includes responsibility for SEAC's internal and external environmental safety research programme. Stuart is Chair of the LRi Strategic Implementation Group and a member of the ECETOC Scientific Committee.

08.30 - 08.50

Welcome and outline Outlook on LRI long-term challenges refocus

1. **Omics / 21st Century Toxicology:**
   How to link information at molecular level to health impacts and interpreting results for meaningful decision making?
2. **Predictive tools for health impact:**
   What are pragmatic approaches for reducing complexity, whilst maintaining robust predictions of health effects?
3. **Combination effects:**
   How to identify combination effects scenarios of concern?
4. **Eco-systems approach:**
   Which new concepts enhance ecological relevance of risk assessment?
5. **Real life Exposure:**
   Which predictive, validated exposure scenarios apply to assessing environmental stressors?
6. **Comparative assessment:**
   How to interpret impact of health and environmental stressors?
7. **Benefit to risks approaches:**
   Can we understand societal drivers for public acceptance of innovation?

CHAIR:
DR BRUNO HUBESCH
Cefic/LRI Programme Manager, BE

Dr Bruno Hubesch obtained a Master degree in Nuclear Chemistry and a PhD in Physical Chemistry in the area of Photochemistry from the University of Louvain, Belgium. He later pursued postdoctoral research as a Fulbright Scholar and NATO Science Fellow at the University of California, San Francisco at the Faculty of Medicine at the Veterans Administration Hospital. In 1990 he joined Procter & Gamble, Household Care R&D as a product designer. In 2009, he joined Cefic Research & Innovation as the LRI Programme Manager.

08.50 - 12.45

Plenary session: LRI projects impact with focus on exposure, biomonitoring, toxicogenomics, sediment transformation, dose-response, and benefit-risk analysis

THURSDAY 20 NOVEMBER 2014

DAY 2

DR KAREN NIVEN

Shell, NL

Karen has been with Shell for 9 years. In her current role Karen is responsible for Non-technical Health Risk Management with Shell International, as well as being accountable for health governance. She personally leads a multidisciplinary team of approx. 30 toxicologists; eco-toxicologists; and exposure scientists. Before joining Shell in 2005 her career spanned a wide breadth of industry sectors including consulting, applied research, academia and public sector. She is a professional Industrial Hygienist and Chartered health and safety specialist, with a PhD in health and safety management. She is on the ECETOC Board of Administration & Chair of its Strategic Liaison Committee. She is also a member of the Cefic/LRI SIG.

08.50 - 09.10

What Is Safe? Integrating Multi-Disciplinary Approaches for Decision Making about the Human Health and Environmental Impacts of Chemicals

Assessing the safety of chemicals is better achieved by incorporating input from many scientific disciplines. Integration of information from human toxicology, ecotoxicology, exposure science, and epidemiology can provide a broader scientific basis for evaluating reported links between chemical exposures and adverse outcomes. Implementing this approach can advance development of chemical regulatory policies that ensure safe use of chemicals.

DR KATRIN FENNER
EAWAG, CH

Dr. Fenner is a Senior Scientist at the Swiss Federal Institute of Aquatic Science and Technology (Eawag) in the Department of Environmental Chemistry and a lecturer at ETH Zürich in the Department of Environmental Systems Sciences. Her research interests include risk assessment and analytical identification strategies for transformation products, persistence assessment, structure-based biodegradation pathway prediction, and, more recently, functional genomic approaches for profiling the biotransformation potential of microbial communities. She is director of the Eawag-BBD/PPS (i.e., a database and prediction system for microbial biotransformation of organic contaminants (http://eawag-bbd.ethz.ch/)) and PI of the Cefic/LRI ECO18 project.

09.15 - 09.35

ECO18: Developing improved strategies to assess chemical persistence at the water-sediment interface

Simulation studies according to OECD 308 (aquatic sediment systems) are an integral part of tiered persistence and exposure assessment strategies in different legislative frameworks. However, several shortcomings of the OECD 308 have been identified. Here, we report on the results of the Cefic-funded project LRI-ECO18 whose aim is to understand the value and information content of the existing OECD 308 and 309 protocols and to develop an improved testing strategy to obtain robust degradation data for assessing persistence in sediment and water. Specifically, we will present results for four chemicals with varying degrees of sorption and biodegradability in a suite of five complex to less complex water-sediment systems.

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DAY 2

PROF DRIES KNAPEN

University of Antwerpen, BE

Dries Knapen obtained his PhD in Biology in 2006 at the University of Antwerp (UA), Belgium. As a postdoc, he established a systems biology oriented ecotoxicology research line linking genomic, transcriptomic and proteomic information to different biochemical, physiological and organismal endpoints in different aquatic vertebrate and invertebrate species. In 2010 he was appointed as assistant professor at UA and at that time he founded Zebrafishlab. His research now includes the fundamental study of zebrafish embryonic development, the development of alternative test methods, and the use of Adverse Outcome Pathways (AOP) in predictive ecotoxicology. He is active in the AOP developers community focusing on the development and regulatory use of AOPs.

09.40 - 10.00

ECO20: An alternative testing strategy for the fish early life-stage test using the AOP framework

Testing for chronic fish toxicity is one of the most animal demanding areas in environmental risk assessment. The Fish Early Life-Stage test (OECD TG 210) is the primary guideline used to estimate chronic toxicity of chemicals to fish. Industry and regulatory bodies have expressed the need for developing alternative testing strategies focusing on non-animal alternatives. The development of alternative testing approaches requires however a detailed understanding of the mechanisms leading to chronic toxicity. Therefore, the Cefic/LRI-ECO20-UA project aims at implementing the Adverse Outcome Pathway concept, linking molecular initiating events to relevant adverse outcomes, to develop an alternative testing strategy to reduce the need for FELS tests.

DR DANYEL JENNEN
University of Maastricht, NL

Dr. Danyel Jennen is Assistant professor in Toxico-informatics and is well experienced in the field of genomics and transcriptomics. His research in the field of toxicogenomics focuses on the development of integrated -omics applications using a systems biology/toxicology approach. At present, Dr. Jennen is working on Bayesian network analysis and the construction of functional networks based on multi-omics and phenotypic data to improve the biological understanding of the effects of toxicants on in vitro cell systems. He is experienced with different tools used for data-analysis of microarray results and the integration of these data with other omics. Within various multicenter (inter)national projects he is involved in the bioinformatics work on toxicogenomics in cancer hazard and (hepato) toxicity assessment, and he is the head of the bioinformaticians within the department.

10.05 - 10.25

AIMT3: Toxicogenomics and high-throughput assays: improved predictions for risk assessment

Chemical analogues identified by chemoinformatic tools are presumed to induce similar biological responses, e.g. toxicities, and may be predicted by read-across from members of the same chemical class. However, compounds with subtle structural changes show relevant changes in toxicological properties, thus making prediction solely based on chemoinformatics insufficient. In the project a transparent framework was developed for improving the prediction of repeated dose toxicity of new chemicals by integrating chemoinformatic data with biological information from 'omics'. Results showed that by integrating different data types the clustering of analogues improved and also that the use of omics data provides a better prediction of repeated dose toxicity.

THURSDAY 20 NOVEMBER 2014

DAY 2

DR NATALIE VON GÖTZ

ETH Zurich, CH

Dr. rer. nat. Natalie von Götz (ETHZ) is senior scientist at the Swiss Federal Institute of Technology Zurich in the Safety and Environmental Technology Group. Since 2008 she is leading a research group for modelling consumer exposure to chemicals of concern, with focus on the development of methodology for aggregate exposure modelling.
Chemist by training, she worked ten years at the chemical company BASF as an expert for the fate of pesticides in the environment, laboratory manager and environmental exposure modeller. Currently, she is member of several international and national working groups, such as e.g. the SCCS-WG on 'Nanomaterials in Cosmetic Products' or the EFSA-WG on 'uncertainty in risk assessment'.

10:50 - 11:10

B7: Validation of a tiered approach to aggregate exposure modelling

In the context of the Cefic/LRI project B7-ETHZ we developed a tiered approach to aggregate exposure modeling for consumer products and tested it in two case studies: (1) the cyclic siloxane D5 in cosmetics and personal care products (C&PCP) and (2) triclosan in household cleaning products. It proved necessary to develop a new tool for probabilistic exposure assessment of substances in C&PCP (PACEM), which is based on a newly established database for exposure factors in the Dutch adult population and on newly measured concentration data for D5 in C&PCP. In order to derive the level of conservatism in the different Tiers we coupled PACEM to an existing PBPK-model and compared the derived internal exposure to biomonitoring.

DR SUZANNE SPAAN
TNO, NL

After receiving her MSc degree in Health Sciences from Maastricht University (the Netherlands), Suzanne Spaan started working at the Institute for Risk Assessment Sciences (IRAS, Utrecht University, the Netherlands) on various projects. In 2008 she successfully defended her thesis entitled 'Endotoxin exposure assessment – measurement and characterization', resulting in a PhD degree. She is currently working at TNO (since 2007), where she participates in multidisciplinary projects in the field of exposure assessment, risk assessment and risk management, and exposure modeling (inhalation and dermal exposure). She is also involved in intervention projects to effectively and efficiently reduce exposure to substances in the workplace.

11:10 - 11:30

B9: Characterising the nature of dermal exposure from consumer products and articles

Estimating realistic dermal consumer exposure is a challenging task. Therefore, the main objective of the project Dermal Exposure Assessment Strategies (DRESS) is to generate data to improve the understanding of (consumer) dermal exposure, and propose improvements / refinements with regard to the dermal exposure assessment strategy, that enable better estimations of true dermal exposure. Within the project, consumer dermal exposure processes and available models were analysed, experimental data on migration and transfer was generated, and information on use patterns for a selection of articles was gathered via a survey. This resulted in a guidance document for improved dermal exposure assessment to substances in articles.

THURSDAY 20 NOVEMBER 2014

DAY 2

DAVID R. JONES
University of Leicester, UK

His current research interests include methodological and collaborative projects in:

- meta-analysis, and generalised methods for synthesis of evidence of different types, and
- applications of Bayesian methods in health research contexts.

He has published more than 200 papers and 2 books on medical statistics and health services research topics. Until recently he was director of the Masters course in Medical Statistics at the University of Leicester. He was recently President of the Society for Research Synthesis Methodology.

11.35 - 11.55

B10: Reference doses: does adding human data help?

Human exposure standards to environmental chemicals are often based partly on animal data. Here, Reference Values (RVs) identified from animal studies are compared with those from human studies for a systematic sample of chemicals.
Although for some substances the human- and animal-based RVs are very similar, some differ by factors of order 10. Exploratory analyses do not explain the observed patterns of variation of the ratios of the RVs. Development of (meta-analysis) techniques for combining human and animal data in derivation of RVs is explored. A proof-of-principle example demonstrates their potential impact on standard-setting, and on the design of additional studies.

DR ROEL SMOLDERS
VITO, BE

Dr Ir. Roel Smolders is an Engineer in Applied Biological Sciences, and holds a PhD in environmental toxicology. He currently works as a project manager in VITO's Sustainable Health Unit. Over the last decade, he has mainly built up experience in environmental health research, the interpretation of human biomonitoring data, and integrated environmental health impact assessment in e.g. the ESBIO, INTARESE, and COPHES projects in the Sixth and Seventh Framework programs. He also functioned as an expert member of the INSPIRE Technical Working Group on Human Health. Roel was PI for the Cefic-HBM4 project on "Understanding inter- and intra-individual variability in HBM spot samples", on which he will report during this LRI-Workshop.

12.00 - 12.20

HBM4: Representativeness of a single biomonitoring sample

In large-scale HMB surveys, single samples of blood, urine or other matrices are collected from large numbers of individuals recruited from the general population. The single sample analyses capture the variability of internal dose in the population, but do not allow evaluation of inter- vs. intra-individual variation. This may lead to misclassification of individuals with high/low exposures and may be of concern if the exposure pattern is discontinuous and the compounds have a short half-life in the biological matrix. In this presentation, we will provide the outcome of a two-year study that targeted the issue of inter- vs intra-individual variability. Examples of its impact are provided, and the software tool developed in the project is presented.

THURSDAY 20 NOVEMBER 2014

DAY 2

DR STEVE HANKIN
Institute Of Occupational Medicine, Edinburgh, UK

Steve Hankin is Head of the SAFENANO Unit at IOM and a Senior Consultant in Chemical Risk Assessment. He has BSc and PhD degrees in Chemistry and postgraduate diplomas in Medical Toxicology and Epidemiology. He was a NSERC Visiting Fellow at the Steacie Institute for Molecular Sciences in Ottawa and then a NERC post-doctoral fellow at the University of Glasgow, before working as a Research Scientist at Health Protection Scotland with responsibilities for the surveillance, control and response to hazardous materials exposures. He moved to the IOM in 2007 and now leads a team of eight scientists providing research and consultancy services in exposure measurement, toxicology and risk assessment.

12.25 - 12.45

S2: Foresight study on introduction of new technologies; the case of nanotechnology

To understand more about successful governance of future technology innovations, a foresight study using nanotechnologies as the focus has been undertaken. The project identified i) the governance landscape, ii) key elements of nanotechnology governance and tested them in four scenarios with stakeholder consultation, iii) recommendations about good governance practice. The project has identified methodologies and institutional practices which can facilitate assessment of the risks and benefits associated with technological innovation processes. The project exemplified the Strategic Foresight method, whose implementation could facilitate engagement of stakeholders with the development and commercialisation of emerging technologies.

CHAIR:
PROF ERIK LEBRET
RIVM, NL, ESAP

Erik Lebret, Ph.D. is professor in Environmental Health Impact Assessment at the Institute of Risk Assessment Sciences (IRAS) at Utrecht University and Chief Scientist of the Division of Environment and Safety at the National Institute of Public Health and the Environmental (RIVM), Bilthoven, The Netherlands. He has worked on a variety of environment and health issues and impact assessments in national and international projects. Prof Lebret served on a series of national and international expert committees and review panels in Europe and the USA for the Dutch Health Council, WHO, US-EPA, European Science Foundation, and USA Heath Effects Institute. He was president of the International Society of Exposure Analysis, and associate editor of the Journal of Exposure Analysis and Environmental Epidemiology.

14.15 - 16.45

Panel discussion: What's needed to streamline the science argumentation and consensus process?

THURSDAY 20 NOVEMBER 2014

DAY 2

DR GERNOT KLOTZ
Cefic Research & Innovation

After working for Armour, Dr. Gernot Klotz joined Bayer in various business sections. Since 2007 G. Klotz has been the Cefic Executive Director for R&I. He is a Board Member of the SusChem ETP and a Board Member of A.SPIRE. G. Klotz has been called on to various advisory and steering committees at OECD, WHO and EU Commission level. He is chairing the Horizon 2020 Advisory Group for "Leadership in Enabling Industrial Technologies, Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing. Within the HLG on KETs, he is leading the WG linking "societal" challenges with technologies in the EC Innovation area. He is also a member of the Governing Board of Knowledge4Innovation (K4I).

14.15 - 14.35

Complex Science - Simple decisions

14.40 - 16.40

Panel discussion: What's needed to streamline the science argumentation and consensus process?

PROF MONICA AMORIM

University of Aveiro, SETAC Europe

Dr. Mónica Amorim, SETAC Europe President 2015. She has been dedicated to ecotoxicology, mostly terrestrial, and trying to understand the underlying mechanisms of response for many chemicals, including nanomaterials. She has been involved in the standardisation of guidelines (OECD/ISO), covering aspects from kinetics studies (e.g., ROS enzymes, gene expression) over population (survival, reproduction) to multispecies mesocosms and risk assessment to more ecological aspects (e.g., soil types, behaviour, climate change). She has optimised the use of genomic tools, e.g. the transcriptome microarray for ***Enchytraeus crypticus*** (Oligchaete), a high-throughput gene library. She is full time researcher, was chair of SETAC Soil Advisory Group and is SETAC Europe President 2015.

PROF JIM BRIDGES

University of Surrey

Professor Bridges spent most of his academic career at the University of Surrey where, at various times he held posts of: founding Director of the Robens Institute of Industrial and Environmental Health and Safety, founding Head of the European Institute of Health and Medical Sciences and Dean of Science. He has published nearly 400 scientific papers and reviews particularly in the areas of toxicology, environmental and public health risk assessment. From 1997-2004 he was the chair of the newly established EU Independent Scientific Advisory Committee on Toxicity, Ecotoxicity and the Environment (CSTEE) and from 2004 onwards he has served as the chair of the EU Independent Scientific Committee on Emerging and Newly Identified Health Issues (SCENHIR). He also played a leading role in the establishment of both the British Toxicology Society and EUROTOX.

DR JAN MARCO MUELLER
European Commission

Jan Marco Müller works since March 2012 as Assistant to Professor Anne Glover, the Chief Scientific Adviser to the President of the European Commission. Following his studies of Geography, Media Sciences and Spanish, he received a PhD in Geography from the University of Marburg (Germany). Jan Marco has fulfilled many scientific assignments, including having served four years on the Scientific and Technical Advisory Board of the French national environmental research centre IRSTEA (formerly known as CEMAGREF) and as an Assistant Professor for Urban Geography at the National University of Colombia in Bogotá. Since May 2012 he is a Policy Fellow of the Centre for Science and Policy (CSaP) of the University of Cambridge.

DR KAREN NIVEN
Shell

Karen has been with Shell for 9 years. In her current role Karen is responsible for Non-technical Health Risk Management with Shell International, as well as being accountable for health governance. She personally leads a multidisciplinary team of approx. 30 toxicologists; eco-toxicologists; and exposure scientists. Before joining Shell in 2005 her career spanned a wide breadth of industry sectors including consulting, applied research, academia and public sector. She is a professional Industrial Hygienist and Chartered health and safety specialist, with a PhD in health and safety management. She is on the ECETOC Board of Administration & Chair of its Strategic Liaison Committee. She is also a member of the Cefic/LRI SIG.

14.40 - 16.40

Panel discussion: What's needed to streamline the science argumentation and consensus process?

PROF MAURICE ZEEGERS

University of Maastricht

Maurice Zeegers is full professor (professor ordinarius) at Maastricht University, the Netherlands. He received a Bachelor degree in Occupational Therapy in 1994; three different Master degrees in Health Education and Promotion, Epidemiology and Genetic Epidemiology in respectively 1997, 1998 and 2002; and a PhD degree in Cancer Epidemiology in 2001. He was promoted to Chair in 2006 at the age of 34 at the university of Birmingham, which made him the youngest-ever professor at this university. He has published over 175 scientific research papers. Each paper been cited by on average 30 other researchers in his field and he has an H/M-index of 44/3.5. So far 20 young scientists have obtained their doctorates under his supervision. His main interest is in Epidemiology, Analytics, Forensic Epidemiology, Research Integrity, Nutrition, Genetics and Meta-analyses

MRS ERIKA WIDEGREN

Atomium Culture

Erika Widegren is Executive Director of Atomium Culture and has been working in the field of connecting science and society for nearly a decade. She graduated from the University of Edinburgh in Philosophy and Political Science, where she also continued her studies in Economics and Mathematics. Erika has actively cooperated to the development strategy of the Permanent Platform of Atomium Culture, together with the former French President and Honorary President V. Giscard d'Estaing and the President M. Baracchi Bonvicini, founders of AC. In 2013 she directed the "Special Initiative for Citizen Engagement in Science" that AC developed together with Der Standard (Austria), El País (Spain), Frankfurter Allgemeine Zeitung (Germany), Il Sole 24Ore (Italy) and The Irish Times (Ireland). She is currently developing this concept further and heading the launch of REIsearch – Research Excellence Innovation Network.

THURSDAY 20 NOVEMBER 2014

DAY 2

DR GERNOT KLOTZ
Cefic Research & Innovation

After working for Armour, Dr. Gernot Klotz joined Bayer in various business sections. Since 2007 G. Klotz has been the Cefic Executive Director for R&I. He is a Board Member of the SusChem ETP and a Board Member of A.SPIRE. G. Klotz has been called on to various advisory and steering committees at OECD, WHO and EU Commission level. He is chairing the Horizon 2020 Advisory Group for "Leadership in Enabling Industrial Technologies, Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing. Within the HLG on KETs, he is leading the WG linking "societal" challenges with technologies in the EC Innovation area. He is also a member of the Governing Board of Knowledge4Innovation (K4I).

16.40 - 16.45

Conclusions and future perspectives

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