Workgroup 2
Toxicology and chemical risk management
(26\textsuperscript{th} February, 2020)

Paul T.J. Scheepers PhD (lead)
Ben Nemery MD PhD (co-lead)
João Paulo Teixeira PhD (co-lead)
Objectives (MoU)

1. Hazard identification and assessment for real life exposures to environmental factors, including the use of marketed product formulations and changes due to their use

2. Characterization of health risks for internal dose, derived from realistic exposure scenarios, based on interpretation of the entire available toxicity knowledge base

3. Risk management using a framework of priorities reflecting the balance between benefit and risk
WG2 Activities

1. Preparation of a special issue for Environ Res.

2. Contributions to preparation of H2020 grant proposals

3. Workshop on Occupational and Environmental Health (in collaboration with WG1)
Participants

1. Balázs Ádám, Doctoral School of Health Sciences, University of Debrecen, Debrecen, Hungary
2. Nancy Hopf, UnitSanté, Institute for Work and Health, Uni Lausanne, Lausanne Switzerland
3. Ozlem Goksel MD PhD, EGE University, Medical School, Department of Pulmonary Medicine Izmir, Turkey
4. Lode Godderis, Radu-Corneliu Duca, Matteo Creta, Manosij Ghosh, Laboratory of Occupational and Environmental Hygiene Dept of Public Health and Primary Care, Centre for Environment and Health, KU Leuven, Belgium
5. Horatiu Moldovan, MD, PhD, University of Medicine and Pharmacy of Tirgu-Mureș, Tirgu Mureș, Romania
6. Rajka Turk MSc; Željka Babić mag.pharm, Jelena Kovačić mag. math. Croatia Institute for Medical Research and Occupational Health, Zagreb, Croatia
7. David Lucas, Iroise Occupational Health Service, Brest, France
8. Daniele Mandrioli, Cesare Maltoni Cancer Research Center, Ramazzini Institute, 40010 Bentivoglio, Bologna, Italy.
9. [and more]
Virtual Special Issue on the assessment of occupational and environmental risks to prevent non-communicable disease

Health conditions and consequences of non-communicable diseases (NCDs), such as cancer, have a big impact on the lives of humans and environment. They pose an immense societal and economic burden. Risk assessment and management of hazardous agents has contributed significantly to the prevention of non-communicable diseases. However, over the past years it has become clear that current systems of chemical risk assessment have some limitations. We refer here to the discussions about the health risks of bisphenol A, glyphosate, gen-X, non-ionising radiation and hexavalent chromium. An analysis with a focus on the use of scientific evidence in the process of human health risk assessment is required.

Potential topics include but are not limited to the following:

1. Identification of health hazards of substances and mixtures, including product formulations or natural food products with contaminants/residues
The timeline for this Virtual Special Issue:

- First submission date: December 15, 2018
- The date by which all papers should be submitted to the Guest Editors for review and the Evise/EES submission site will be closed: March 15, 2019
- The date by which manuscripts should be fully reviewed and final decisions made: May 15, 2019
- The date the Virtual Special Issue is expected to be published: July 15, 2019

Dr. Paul T.J. Scheepers of the Radboud university medical center in Nijmegen, The Netherlands and Prof. Dr. Lode Godderis of the KU Leuven in Leuven, Belgium, will take the charge as guest editors. The Editor-in-Chief will make the final decision of each manuscript. All the accepted manuscripts must follow the same scientific requirements of high quality and interest for all the submissions done to Environmental Research.

Authors can submit their manuscripts through https://www.journals.elsevier.com/environmental-research

Please read the Guide for Authors online first, and choose the "VSI: Prevention of NCDs " when selecting article type.
Virtual Special Issue

Assessment of Occupational and Environmental Risks to Prevent Non-Communicable Diseases

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*status of 25-02-2020

COST-Action No. 15129

dimopex (Diagnosis, Monitoring, Prevention of Exposure Related Non-Communicable Diseases)
Titles (corresponding author)

1. Detect and re-assess impact of chemicals on health and environment during post-market evaluation (editorial) – Paul Scheepers

2. Exposure to solar UV radiation in outdoor construction workers using personal dosimetry - Horatiu Moldovan

3. Occupationall radiation exposure of health professionals and cancer risk assessment for Lithuanian nuclear medicine workers - Diana Adliene

4. Occupational exposure to formaldehyde and early biomarkers of cancer risk, immunotoxicity and susceptibility - Solange Costa

5. Comparative cyto- and genotoxicity assessment of glyphosate and glyphosate-based herbicides in human peripheral white blood cell - Károly Nagy

COST-Action No. 15129
DiMoPEx (Diagnosis, Monitoring, Prevention of Exposure Related Non-Communicable Diseases)

7. Inhalation and Dermal Exposure of Workers during Timber Impregnation with Creosote and subsequent Processing of Impregnated Wood Ralph Hebisch

8. Age related micronuclei frequency ranges in buccal and nasal cells in a healthy population - Nancy Brenna Hopf

9. Cardio-respiratory health effects of exposure to traffic-related air pollutants while exercising outdoors: a systematic review - Joana Madureira

10. Filaggrin variations are associated with PAH metabolites in urine and DNA alterations in blood - Karin Broberg

[1 paper pending final decision]
Detect and re-assess impact of chemicals on health and environment during post-market evaluation

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Received 15 May 2019, Revised 4 September 2019, Accepted 4 September 2019, Available online 6 September 2019.
Exposure to solar UV radiation in outdoor construction workers using personal dosimetry

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Occupational exposure to formaldehyde and early biomarkers of cancer risk, immunotoxicity and susceptibility

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Received 16 May 2019, Revised 3 September 2019, Accepted 10 September 2019, Available online 14 September 2019.
Systematic review of comparative studies assessing the toxicity of pesticide active ingredients and their product formulations

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Inhalation and dermal exposure of workers during timber impregnation with creosote and subsequent processing of impregnated wood

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Received 3 May 2019, Revised 28 October 2019, Accepted 28 October 2019, Available online 1 November 2019.
Age related micronuclei frequency ranges in buccal and nasal cells in a healthy population

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Received 1 May 2019, Revised 8 October 2019, Accepted 11 October 2019, Available online 12 October 2019.
Filaggrin variations are associated with PAH metabolites in urine and DNA alterations in blood

Karin Wahlberg a, Emelie Rietz Liljedahl a, Ayman Alhamdow b, Christian Lindh a, Carola Lidén b, Maria Albin a, b, Håkan Tinnerberg c, Karin Broberg a, b

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Received 12 February 2019, Revised 22 June 2019, Accepted 20 July 2019, Available online 22 July 2019.
Cardio-respiratory health effects of exposure to traffic-related air pollutants while exercising outdoors: A systematic review

Joana Madureira a, b, Emerson Antonio Brancher c, d, Carla Costa a, b, Ricardo Aurino de Pinho e, João Paulo Teixeira a, b

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Received 14 March 2019, Revised 26 July 2019, Accepted 9 August 2019, Available online 16 August 2019.
Malathion induced cancer-linked gene expression in human lymphocytes

Ramakrishnan Anjitha a, Anet Antony a, Olakkaran Shilpa a, Kizhakke P. Anupama a, Shanthala Mallikarjunaiah b, Hunasanahally P. Gurushankara a, *b

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Received 5 June 2019, Revised 8 January 2020, Accepted 9 January 2020, Available online 10 January 2020.
Oxidative degradation of cyclophosphamide using thermal plasma activation and UV/H₂O₂ treatment in tap water

Martien H.F. Graumans, Wilfred F.L.M. Hoeben, Frans G.M. Russel, Paul T.J. Scheepers

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Received 19 April 2019, Revised 2 August 2019, Accepted 13 December 2019, Available online 19 December 2019.
Horizon 2020 call

Exposome

Maria, Karin, Vivi and Lode were involved in preparation for the EPHOR (Exposome Project for Health and Occupational Research) grant proposal (mainly involving partners from OMEGA.net)
Horizon 2020 call

Sustainable Food Security (Pesticide)

Some DiMoPEx partners (Daniele, Vivi and Paul) have submitted a stage-2 proposal coordinated by the Wageningen University.
Title: Sustainable Plant Protection Transition: A Global Health Approach

Acronym: SPRINT

Call identifier: H2020-SFS-2018-2020 (Sustainable Food Security)

Project format: Research and Innovation Action (RIA)

Application procedure: two-stage

Consortium: 28 partners

Start: September 1st 2020 (until August 31st 2025)

Budget: 15 MEURO

COST-Action No. 15129

DiMoPEx (Diagnosis, Monitoring, Prevention of Exposure Related Non-Communicable Diseases)
Programme DiMoPEx Workshop Working Groups 1, 2
Occupational and Environmental Health
Organized back-to-back to the ISBM-11 see below and at https://kuleuvencongres.be/isbm-11/home


Dates: August 26-27, 2018

COST-Action No. 15129
DiMoPEx (Diagnosis, Monitoring, Prevention of Exposure Related Non-Communicable Diseases)
Monday, August 26th 2019 - Isocyanates, polycyclic aromatic hydrocarbons and metals

1. *Occupational exposure to isocyanates* - Radu Duca
2. *Biomonitoring of occupational and environmental exposure to polycyclic aromatic hydrocarbons and to perfluorinated compounds* - Thomas Göen
3. *Occupational and environmental health implications of e-waste transportation and treatment* - Balázs Ádám
4. *Interactions in metal toxicity*, Paul Scheepers
5. *Exposure to metal-containing dust in a community close to a steel company in the Netherlands* - Paul Scheepers

Discussion in break-out groups about the e-waste topic (Balázs Ádám, Radu Duca, Paul Scheepers)
Plenary discussion with feed-back from break-out groups (moderator: Balázs Ádám)
Tuesday, August 27th, 2019 - Pesticides and risk-associated biomarkers

8. Environmental pesticide exposures and potential health implications in Morocco, Lode Godderis
9. Pesticide exposure of residents in growing of flower bulbs - Paul Scheepers
10. Plenary discussion about pesticide use and its occupational and environmental health implications (moderator Lode Godderis)
11. Toxicity of glyphosate and herbicide formulations containing glyphosate in rodents – Daniele Mandrioli
12. Micronuclei frequencies in buccal cells - a biomonitoring tool to survey workers exposed to carcinogens - Nancy Hopf
20+ participants from 14 countries

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DiMoPEx (Diagnosis, Monitoring, Prevention of Exposure Related Non-Communicable Diseases)
Consensus on a generic procedure for data-mining on environmental risk factors (M36)


- Protocol for a systematic review and meta-analysis of human exposure to pesticide residues in honey and other bees’ products by Daria Sgargi *et al.* (submitted to *Environ Res* Virtual Special Issue).

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DiMoPEx (Diagnosis, Monitoring, Prevention of Exposure Related Non-Communicable Diseases)
Consensus on a generic procedure to mitigate health risks from the use of hazardous chemicals (M47)

- Scheepers and Godderis (2019) Detect and re-assess impact of chemicals on health and environment during post-market evaluation (editorial to *Environ Res* Virtual Special Issue)