Dissemination and Implementation of New Knowledge - WG7

Balazs Adam¹, Axel Fischer², Xaver Baur³

¹University of Debrecen, Hungary
²Charité Universitäts Medizin, Germany
³European Society for Environmental and Occupational Medicine, Germany
DiMoPEx goal

The DiMoPEx COST Action aims to foster a joint effort of European scientists to address the issue of adverse health effects from environmental exposures and to suggest ways of their evaluation and management.

DiMoPEx webpage: http://dimopex.eu/
Main DiMoPEx activities
The facilitation and coordination of information transfer among scientists engaged with the study of health risks related to environmental exposures and the effective wide-scale dissemination and implementation of new knowledge.

- project meetings  → cooperation
- training schools  → capacity-building primarily for early career investigators
- STSMs
- publications
- projects  → for the scientific community, decision-makers, general public
Project meetings

20 meetings

• 4 conferences
• 1st International DiMoPEx Conference, June 2016, Hamburg, Germany
• 2nd International DiMoPEx Conference. Pollution in Living and Working Environments and Health, Oct 2017, Bentivoglio, Italy
• 3rd International DiMoPEx Working Groups Meeting, Oct, 2018, Porto, Portugal
• DiMoPEx Final Conference, Feb 2020, Porto, Portugal
Training schools

9 training schools

- Exposure assessment
- Quantitative exposure assessment in occupational and environmental epidemiology
- Advanced micronucleus methods
- Advanced epidemiology and statistics: systematic reviews
- Risk assessment and risk communication
- Immunological methods for exposure-related disorders
- Novel methods for assessment of risk of cancer from occupational and environmental exposures (NIVA)
- Basic epidemiology
- Regulatory aspects in environmental and occupational health
Advanced epidemiology and statistics: systematic reviews

- 28-29 June 2017
- Dept. of Preventive Medicine, Faculty of Public Health, University of Debrecen, Debrecen, Hungary
- Start of methodological preparation for the WHO-ILO joint methodology for estimating the burden of work-related disease and injury
Short-Term Scientific Missions

9 short-term scientific missions

- Environmental measures and biomonitoring models
- Systematic review on the burden of pneumoconiosis attributable to occupational exposure to dusts and fibres
- In vitro evaluation of the genotoxic properties of pencycuron, a commonly used phenylurea fungicide, by the cytokinesis-block micronucleus (CBMN) assay
- Development and validation of an analytical method for the determination of glyphosate and its metabolites in biological materials
- Outdoor air pollution from industrial chemicals causing new onset of asthma and COPD
- Diagnosis, monitoring and prevention of exposure-related non-communicable diseases
- Effects of altered bioaerosols due to pollution on the morbidity and/or mortality of childhood asthma
- Assessing the epigenetic effects of in utero exposure to environmental contaminants
Short-Term Scientific Missions

- In vitro evaluation of the genotoxic properties of pencururon, a commonly used phenylurea fungicide, by the cytokinesis-block micronucleus (CBMN) assay, Károly Nagy, Genoa, 2 weeks
Publications

• Over 40 in extenso articles published
• Most in 2 special issues
  • Pollution in living and working environment, climate variability and their impact on non-communicable disease burden special issue in STOTEN (16/24)
  • Assessment of occupational and environmental risks to prevent non-communicable disease virtual special issue in Environmental Research (10/15)
• Many under submission or in preparation
• 10 related to WG7
Publications

Publications

Publications

Projects

• Over 20 research projects related to DiMoPEx

• 3 H2020 projects

• Final Action Dissemination
  • Effect biomarkers in non-communicable disease: cancer
  • Outdoor air pollution from Industrial chemicals causing new onset of asthma or COPD; a systematic review
  • E-waste, an emerging environmental and health issue
E-waste project

• The aim is to raise awareness about emerging and continuing global health problems related to e-waste, its recycling and transport

• The e-waste problem
  • E-waste is the most rapidly growing waste problem in the world
  • Increasing quantity
  • Hazardous ingredients posing an occupational and environmental threat
  • The hazardous constituents present in the e-waste render it hazardous when such wastes are dismantled and processed
E-waste project

• Main topics discussed
  o Definition and changing composition of e-waste
  o Socio-ethical aspects related to production, consumer behaviour, shipping and recycling
  o Changing regulation and routes of e-waste transport
  o Environmental and occupational burden of e-waste transport
  o Current practices of e-waste recycling in China and other developing countries
  o Increasing e-waste recycling in developed countries
  o Health risks due to combined exposure to various metals and to particles with focus on respiratory and teratogenic effects in susceptible populations
Web appearance

- DiMoPEx website
- DiMoPEx Wikipedia article
Diagnosis, Monitoring and Prevention of Exposure-related Non-communicable Diseases (DiMoPEx) COST Action

Adverse health effects of exposures from the living and working environments in combination with lifestyle have been estimated to be responsible for the development of up to 75% of non-communicable diseases (NCDs) worldwide. In 2016, about 40 million people died from NCDs, including cancer, diabetes, and chronic cardiovascular, neurological and respiratory diseases. This represents an increase from 60% of total deaths attributed to these diseases in the year 2000 to 70% within 10 years. In 2016, the World Health Organization (WHO) raised environmental exposures among the top risk factors for chronic disease mortality. Chronic diseases resulting from environmental exposures provide a major contribution not only to disease burden but also to the increase of related health costs. Since exposure-related NCDs are essentially preventable, adequately formulated evidence-based health policies need to concentrate on this major societal challenge.

The Diagnosis, Monitoring and Prevention of Exposure-related Non-communicable Diseases (DiMoPEx) project is an Action of the European Cooperation in Science and Technology (COST) concerned with the development, identification and prevention of NCDs resulting from exposure to environmental factors. The DiMoPEx COST Action started in 2016 and will conclude in 2020. There are 25 EU and neighboring countries involved in the project that progresses towards its aims in the framework of seven working groups.

Objectives

The DiMoPEx COST Action has the major objectives to:

- Facilitate cooperation of European scientists active in the field of environmental and occupational health,
- Develop new concepts for a better understanding of health environment (including gene-environment) interactions in the etiology of NCDs,
- Support capacity building by training scientists (especially early career investigators) and physicians how to incorporate efficient and valid exposure assessment in their research and clinical practice,
- Contribute to the development of successful preventive strategies targeting environmental exposures and related non-communicable diseases.

Outcomes

The DiMoPEx COST Action has so far coordinated eight training schools, four short-term scientific missions and 13 project meetings and conferences. DiMoPEx has facilitated the start and running of over 10 (exact number?) research projects and the publication of over 20 (exact number?) scientific articles, many of them included in two special issues dedicated to the dissemination of work in DiMoPEx coordination.

References

DiMoPEx on Wikipedia

- Sandbox ready and submitted to review
- High impact, long-term publicity

Thank you for your attention!

Thank you, Lygia!