Preliminary Programme 4th HBM4EU Training School

Dear Participant,

We are pleased to provide you with the following information regarding the practical arrangements for your meeting in Hall. Hall is a very nice, little old town. Hall is at the outskirts of Innsbruck.
https://www.hall-wattens.at/en/

1.1 Meeting venue

The course takes place at UMIT - University for Health Sciences, Medical Informatics and Technology at Eduard-Wallnöfer-Zentrum 1, 6060 Hall in Tirol (i.T.)/ Austria (www.umit.at)

UMIT

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 733032.

e-mail: hbm4eutraining.hev@radboudumc.nl

1.2 Travel Arrangements

You have to make your own travel arrangements

1.2.1 By plane to München and Innsbruck

Munich airport is well connected. To get to Hall from Munich airport you can take the train (www.oebb.at or www.bahn.de) or a shuttle bus (Four Season - https://www.tirol-taxi.at/en-home).
Innsbruck has an airport with some European connections (http://www.innsbruck-airport.com/). From Innsbruck airport to Hall you either take a taxi (20 minutes) or get a bus (bus line F to Wohnheim Saggen/Schutzengelkirche) to Innsbruck main station (Hauptbahnhof). Change here to busline 4 or busline S to Hall Milserstrasse. Walk 2-3 min to the UMIT building. You find detailed bus information at: http://fahrplan.vvt.at/ (Start Innsbruck – Flughafen or Hauptbahnhof, Ziel Hall – Milserstrasse) or ask at the information desk of the airport.

1.2.2 By train from Innsbruck

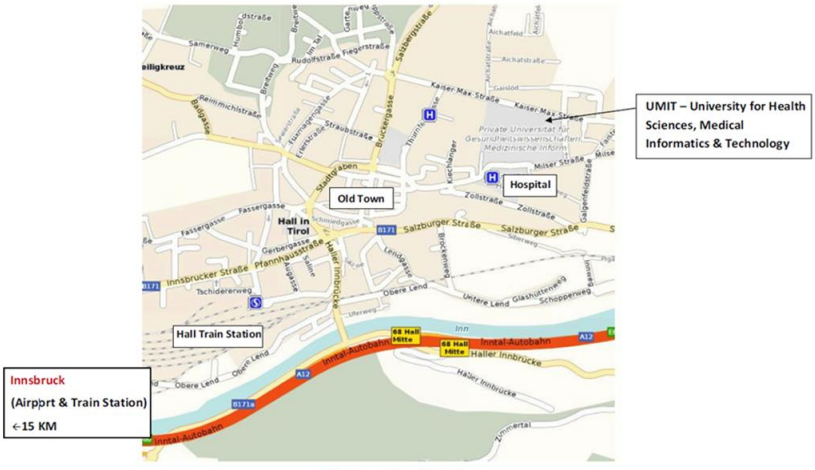
From Innsbruck main station (Hauptbahnhof). Take bus line 4 or bus line S to Hall Milserstrasse (runs every 20 minutes, takes 25 minutes). Walk 2-3 min to the UMIT building. From Hall train station to UMIT – nice walk through the old city centre, approx. 30 minutes. Austrian railway (enter Hall in Tirol as destination): http://www.oebb.at/

1.2.3 By car

Coming on the motorway A12 you take the exit Hall Mitte
Drive over the river bridge direction "Stadtzentrum" straight over the first traffic light. Continue straight on through the first and second roundabout. If you see on the right hand side a hospital you will find on the left hand side a black building (UMIT). There is a parking garage.

1.3 Hotel Arrangement

For hotels and information about Hall in Tirol please check www.regionhall.at
The nearest hotel is Park Hotel (https://www.parkhotel-hall.com/). It is very nice, but expensive. Cheaper but further away is Gasthof Bogner, nice and relaxing hotel (https://www.hotel-bogner.at/de/fhx/hotel-bogner/hotel-bogner.html).
There are many hotels in the Innsbruck region, as well as holiday apartments, pensions, guest house etc.



Map of Hall i. T.

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1.4 Detailed Programme

A14 Computational methods for integrated exposure and risk assessment
Date: Monday 11 May 2020
Venue: UMIT – Private University for Health Sciences, Medical Informatics and Technology, Eduard-Wallnöfer-Zentrum 1, A-6060 Hall in Tirol, Innsbruck, Austria, Room no. SR001

Local organizers

Stephan Böse-O'Reilly, UMIT, Innsbruck, Austria

Instructors

Denis A. Sarigiannis, Aristotle University of Thessaloniki, Greece (WP12)

Spyros Karakitsios, Aristotle University of Thessaloniki, Greece (WP12)

Alberto Gotti, University School for Advanced Study IUSS, Pavia, Italy (WP12)

Description

This course aims at helping the participants to understand and to see in pratice the logical workflow and the mathematical framework that describe the continuum of the life-cycle of chemicals and how it relates to environmental, consumer, dietary exposure and get translated into biomonitoring data. A key component towards this direction is the internal dose modelling, materialized by the physiology-based toxicokinetic (PBTK) models. In recent years PBTK–based models keep gaining ground in regulatory exposure and risk assessment, describing in quantitative terms the absorption, metabolism, distribution and elimination (ADME) processes in the human body, with a focus on the effective dose at the expected target site. In addition, integrated exposure models that incorporate PBTK models also offer the opportunity to assimilate biomonitoring data through exposure reconstruction. In this reverse dosimetry approach, exposure components are quantified and are related to the observed biomarkers concentrations. By understanding the links of exposure and HBM data and more in detail the exposure reconstruction process (starting from HBM data), they will be able to deliver risk characterisation ratios (RCR). This will be demonstrated in real case studies based on the outcomes of the project related to the first priority compounds. In addition, the participants will be able to see real examples on how integrated exposure modelling is able to provide additional insights in modern risk assessment topics, including integrated testing strategies and high throughput screening. Finally, the participants wil get familiar with the use of an integrated exposure modelling platform in real-life exposure scenarios related to the 1st set of priority substances.

Learning objectives

Understand the link among life cycle of chemicals, multimedia fate and multi-pathway and multi-route exposure

Understand the importance of age, gender, route and genetics bioavailability differences

Understand the steps and the methods needed to deliver RCR starting from HBM data

Understand how to use integrated exposure models for associating environmentaly relevant exposure to in vitro testing

Become familiar with integrated exposure/toxicokinetics models in real-life exposure scenarios

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Programme

Day-1 Session 1: Opening of the training school
08:30 Welcome with coffee and tea and registration of participants
09:00 Welcome and introduction (Stephan Böse-O'Reilly)
09:15 Introduction to the training school (Paul Scheepers)

Day-1 Session 2: Multi-pathway and multi-route exposure
09:30 Introduction to integrated exposure modelling (Denis Sarigiannis)
10:00 Multimedia and multiroute exposure (Spyros Karakitsios)
10:45 Break
11:00 Physiology based toxicokinetic modelling (Alberto Gotti)

Day-1 Session 3: Linking external and internal exposure
11:30 Physiology based toxicokinetic modelling (Alberto Gotti)
12:30 Exposure reconstruction starting from HBM data (Denis Sarigiannis)

Day-1 Session 4: Integrated exposure modelling in modern risk assessment
13:00 Risk characterisation of chemicals starting from HBM data (Spyros Karakitsios)
13:30 Advancing modern risk assessment with integrated exposure modelling (Denis Sarigiannis)

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A15 Site visit to the Medical University of Innsbruck

Date: Monday 11 May 2020

Venue: Institute of Legal Medicine and Core Facility Metabolomics, Medical University of Innsbruck, Muellerstrasse 44, A-6020 Innsbruck

Instructor

Herbert Oberacher, Medical University of Innsbruck, Austria (WP16)

Day 1 Site visit

14:00 Organised transport of the group to Innsbruck (with lunch bag)

15:00 Welcome and introduction to our activities in WP16 of HBM4EU (Herbert Oberacher)

15:30 Tour through laboratories of the Institute of Legal Medicine of the Medical University of Innsbruck including visit of the mass spectrometry facility.

17:30 Afterwards a visit to the old town of Innsbruck including the "Golden Roof".

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A16 Presentation of participants and instructors

Date: Tuesday 12 May 2020

Venue: UMIT – Private University for Health Sciences, Medical Informatics and Technology, Eduard-Wallnöfer-Zentrum, A-6060 Hall in Tirol, Innsbruck, Austria, Room no. SR001 and IT001

Local organizers

Stephan Böse-O'Reilly, Petra Mösl, UMIT, Hall.T., Austria

Instructors

Paul Scheepers, Radboudumc, The Netherlands (WP2)

Lisbeth E. Knudsen, University of Copenhagen, Denmark (WP2)

Milena Horvat, Jožef Stefan Institute, Ljubljana, Slovenia (WP2)

Hanna Tolonen, Finnish Institute for Health and Wefare, Helsinki, Finland (WP2)

Description

In the morning we will welcome the participants with an introductory session where they can contribute actively. Based on abstracts received in advance (see the call for abstracts in the pre-announcement) the participants will have an opportunity for an oral presentation in the morning (session 1) and/or a poster presentation during lunch break. Posters can remain on display. Participants are stimulated to take at least the opportunity for a brief introduction who they are, what backgrounds they have and how they have a connection to biomonitoring as the overall topic of the training school. Reports of on-goinig activities of participants in the HBM4EU project will be a good introduction for those participants who are joining from outside of the HBM4EU project.

Learning objectives

1. The participant is familiar with the HBM4EU activities
2. The participant can present his/her own role and contribution in HBM4EU regarding his/her interest in biomonitoring

Programme

Day-2 Session 1: Getting to know each other: oral presentations by participants

09:00 Introduction to the oral presentations (Paul Scheepers) and poster session (Lisbeth E. Knudsen)

09:10 Presentations by instructors and participants (Hanna Tolonen)

10:45 Break

11:00 Presentations by instructors and participants (Milena Horvat)

12:30 Lunchbag and poster viewing

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A17 Network analysis to identify mixtures in suspect screening data

Date: Tuesday 12 May 2020

Venue: UMIT – Private University for Health Sciences, Medical Informatics and Technology, Eduard-Wallnöfer-Zentrum 1, A-6060 Hall in Tirol, Innsbruck, Austria, Room no. SR001 and IT001

Local organizers

Stephan Böse-O'Reilly, Petra Mösl, UMIT, Hall. i.T., Austria

Instructors

Jelle Vlaanderen, IRAS, The Netherlands (WP15)

Description

In this half-day workshop we will take a look at suspect screening data generated within the HBM4EU project and explore methods to visualize and analyse mixtures detected in these data. We will start with revisiting some of the methods we used during the 2018 workshop in Nijmegen on low-dimensional data and will see to which extent these methods can be used in high-dimensional datasets generated by suspect screening. A specific focus will be given to the use of network analysis.

Learning objectives

The participant has insight into the type of suspect screening data that is generated within HBM4EU

The participant has hands-on experience in the statistical analysis of such data

The participant is aware of use of network analysis

Programme

Day-2 Session 2: Background information (lectures)

13:30 Overview of the suspect screening data that has been generated within HBM4EU (Jelle Vlaanderen)

14:30 Overview of methods available to visualize and analyze mixture data (Jelle Vlaanderen)

15:15 Break

Day-3 Session 2: Network analysis in practice (practical)

15:30 Hands-on analysis of suspect screening data generated within HBM4EU using R software (Jelle Vlaanderen)

17:30 Closure

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A17 Workshop on the alignment of studies in the frame of HBM4EU

Date: Wednesday 13 May 2020

Venue: UMIT – Private University for Health Sciences, Medical Informatics and Technology (UMIT)
Eduard-Wallnöfer-Zentrum 1, A-6060 Hall in Tirol, Innsbruck, Austria, Room no. SR001

Local organizers

Stephan Böse-O'Reilly, Petra Mösl, UMIT, Hall.T., Austria

Instructors

Kirsten Baken, VITO, Belgium (WP14)

Liese Gilles, VITO, Belgium (WP8)

Eva Govarts, VITO, Belgium (WP10)

Lubica Murinova, SZU, Slovakia (WP10)

Andromachi Katsonouri, MOH-CY, Cyprus (WP7)

Lisbeth E. Knudsen, UCPH, Denmark (WP1)

Greet Schoeters, VITO, Belgium (WP8)

Ovnair Sepai, DH, United Kingdom (WP8)

Nina Vogel, UBA, Germany (WP10)

Description

The workshop is dedicated to the alignment of HBM studies (WP8 Task 8.1) and those whose samples will be collected for time trend analysis (WP8 Task 8.2). The workshop consists of interactive sessions discussing interpretation and communication with study participants (incl. reporting results to participants), etc. This course will also address how to align these aspects across studies. In addition, analysis of priority substances under HBM4EU, data management, data analysis, implementation of effect biomarkers as proof-of principle and future perspective for a sustainable HBM platform in Europe will also be discussed.

Learning objectives

1. The participant understands how national HBM studies will be aligned on a European level.

2. The participant known how to deal with statistical issues common to all HBM analysis including treatment of missing data, adjustment of dilution level, adjustment for blood lipids for fat soluable exposure biomarkers, and knows how to handle concentrations below LOD/LOQ and transformation of HBM data.

3. The participant is aware of the current practices regarding interpretation and communication of results to participants, policy makers and how social media can be used to communicate about the project to the different audiences.

4. The participant is familiar with the implementation of effect biomarkers in HBM studies as proof-of-principle to increase the weight of evidence of exposure-health outcome associations in human observational studies.

5. The participant has the ability to solve face-to-face any issues or difficulties encountered in the data harmonization process or generating aggregated data using HBM4EU R-script under supervision of a member of the VITO data management team.

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Day-3	Session 1: Welcome
09:00	Welcome (Greet Schoeters/Ovnair Sepai)
09:10	Speed dates (Liese Gilles/Kirsten Baken)
Day-3	Session 2: Statistical analysis aligned study data
09:50	Overview of study characteristics aligned study population (Liese Gilles)
10:20	Statistical analysis: Geographical comparisons of phthalate exposure in children (Nina Vogel)
10:50	Break
11:05	Statistical analysis: Exposure determinants of PFAS exposure in Europe (Lubica Murinova)
11:35	Time trends in Europe – example phthalates (Eva Govarts)
09:50-	In parallel possibility to discuss data harmonisation issues with VITO data management team
12:00	[extra small room for Laura to meet participants who need tailored support]
12:00	Lunch
Day-3	Session 3: Communication and interpretation of results (break out sessions)
13:00	Communication plan and/or example PFAS case study workshop (Greet Schoeters)
13:20	Parallel Session 3.1: Communication of results to study participants (Andromachi Katsonouri)
13:20	Parallel Session 3.2: Communication of results to policy makers (Greet Schoeters)
13:20	Parallel Session 3.3: Communication of results through social media (Liese Gilles)
14:50	Summary of parallel sessions (rapporteurs from parallel sessions 3.1, 3.2, 3.3)
15:20	Break
Day-3	Session 4: Way forward – timeline
15:35	Implementing second set priority chemicals in aligned studies (Liese Gilles)
16:05	Implementing biomarkers of effect in aligned studies proof-of-concept (Kirsten Baken)
16:35	Discuss obstacles and issues related to GDPR/ethics and sustainability of HBM platform (Ovnair Sepai/Lisbeth E. Knudsen)
17:00	Concluding session (Greet Schoeters/Ovnair Sepai)
17:30	Closure

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A19 Occupational studies on the exposure to diisocyanates and e-waste

Date: Thursday 14 and Friday 15 May 2020
Venue: UMIT – Private University for Health Sciences, Medical Informatics and Technology (UMIT)
Eduard-Wallnöfer-Zentrum 1, A-6060 Hall in Tirol, Innsbruck, Austria, Room no. SR001

Local organizers

Stephan Böse-O'Reilly, Petra Mösl, UMIT, Hall.T., Austria

Instructors

Radia Bousoumah, INRS, France (WP8)
Radu Duca, LNS, Luxembourg (WP8)
Karen Galea, IOM, United Kingdom (WP8)
Thomas Göen, IPASUM, Germany (WP8)
Lisbeth E. Knudsen, UCPH (WP1)
Sophie Ndaw, INRS, France (WP8)
Simo Porras, FIOH, Finland (WP8)
Tiina Santonen, FIOH, Finland (coordinating, WP8)
Bernice Schaddelee-Scholten, TNO, the Netherlands (WP8)
Paul Scheepers, RUMC, Netherlands (coordinating, WP1, WP8)
Maria J Silva, INSA, Portugal (WP8
Susana Viegas, ESTeSL, Portugal (WP8)

Description

Under HBM4EU, a study is prepared to determine the occupational exposure to diisocyanates and selected hazardous substances in processing/management of e-waste. Those participants who take part in this project, or have an interest in HBM applied to occupational health, are invited to take part. The lessons learned from the earlier chromate study are taken into account when discussing the practical aspects of the sample collection, handling and analyses in a harmonized manner. The inclusion criteria for workers to be invited for as participants in the index and control groups will be discussed. Additionally, we will define the contextual information to be collected to inform the HBM outcome. Moreover, we will decide which environmental samples (air, settled dust and/or wipe sampling) will be collected simultaneously.

Learning objectives

1. The participant understands the specific requirements to apply HBM in occupational settings
2. The participant obtained knowledge and skills regarding sample (and other data) collection methods
3. The participant is aware of pitfalls related to application of HBM in occupational exposure studies

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Day-4	**Session 1: Lessons learned from the chromium study**
09:00	Welcome with coffee and tea
09:15	Presentation of the status of the chromate study, data analysis and interpretation of the data (Tiina Santonen)
09:45	Evaluation of the chromate study: what went well, areas to improve: countries perspective (Sophie Ndaw/Radia Bousoumah/Susana Viegas)
10:15	Discussion on the specific challenges related to ethics, implementation of the sample collection campaign and sample analysis (Paul Scheepers/Lisbeth E. Knudsen)
10:45	Break
Day-4	**Session 2: Reporting and communication of the chromium study**
11:00	Modelling study within chromate study – lessons learned, inclusion of modelling component into the diisocyanate/e-waste studies? (Susana Viegas/Karen Galea)
11:30	Experiences from chromate study data collection and analysis (Simo Porras)
12:00	Communication of the main findings: communication plan (Susana Viegas), includes also discussion: Towards joint publications
12:30	Lunch
Day-4	**Session 3: harmonized sample collection in both e-waste and isocyanate studies**
13:30	Overal aims and management for isocyanate studiy (Tiina Santonen)
14:00	Overal aims and management for e-waste study (Paul Scheepers)
14:30	Collection of biological samples for diisocyanate study (Sophie Ndaw)
15:00	A PBK model for diisocyanate exposure – validating with field study (Bernice Schaddelee-Scholten)
15:20	Collection of biological samples for E-waste study (Radu Duca/Maria J Silva)
15:45	Break
16:00	Collection of air, wipe and settled dust samples – what needs to be remembered (Karen Galea/Susana Viegas)
16:45	Analytics, collaboration with analysing laboratories, sample transfer and agreements (Thomas Göen)
17:30	Closure

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Date: Friday 15 May 2020
Venue: UMIT – Private University for Health Sciences, Medical Informatics and Technology (UMIT)
Eduard-Wallnöfer-Zentrum 1, A-6060 Hall in Tirol, Innsbruck, Austria, Room no. SR001

Day-5 Session 4: Synthesis, summary, timeline and division of tasks

09:00 Welcome with coffee and tea
09:15 Questionnaires and collection of contextual information in diisocyanates and E-waste studies (Karen Gelea Susana Viegas)
09:30 Statistics and data analysis plans (Nadine Frery (t.b.c.)
10:30 Break
10:45 Consensus on content of the work for diisocyanate group and discussion (Tiina Santonen)
11:30 Consensus on content of the work for e-waste group and discussion (Paul Scheepers)
12:15 Summary of decisions and actions; remaining issues (Tiina Santonen)
12:30 Lunch

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