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HEALS

Health and Environment-wide Associations based on Large population Surveys



HEALS

Health and Environment-wide Associations
based on Large population Surveys

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<http://www.heals-eu.eu/>

Deliverable 18.1 - Internal training plan and materials


WP18 Training on HEALS methodology and tools

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1 Introduction

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Internal training helps to permeate skills in and knowledge of the HEALS concept and tools and to harmonize techniques and methodologies.

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The **external training** program, is aimed not only at capacity building of HEALS young scientists, but also open to other practitioners, end-users and other interested parties consists of annual workshops/courses on methodological advances and new findings organized by HEALS participants each covering a specific area of expertise.

The training is aimed for **stakeholders**:

- To train stakeholders interested in implementing the methods and tools developed in the project
- To train professionals who will use the products and knowledge gained through the project activities

2 Internal training needs

WRITTEN BY STEPHAN BÖSE-O'REILLY

Training needs were identified via direct exchange with all other stream leaders, and via an evaluation of progress reports, as almost all aspects of the project do require training.

Key areas, methods of training and time schedule are included and detailed in an internal training plan including:

- E-learning materials for presentation on internal website.
- Formal workshops for all partners or subgroups
- One-to-one training for experimental tasks (staff exchange)
- E-learning comprises materials such as
 - a glossary for a common understanding of the terminology used,
 - an advanced forum for discussions and content creation to facilitate the exchange of information and concepts as well as
 - a sophisticated search engine to easily retrieve the information searched
 - manuals and tutorials developed during the project

Workshops are organised as two to three day meetings, including lectures, demonstrations and discussion groups, and followed by a planning meeting for SP and WP leaders. The initial workshop did focus on inter-disciplinary communication and the exposome concept in HEALS.


The following yearly workshops will be arranged according to the needs either at Project or Steam level or for the whole Group.

One-to-one training does consist of short- to medium-term exchanges (up to 4 weeks) of staff between partner laboratories, visits to laboratories by partner PIs, and small-group visits to lead laboratories by research staff.

There is a need for **additional training events**, since specific topics need to be addressed.

Formal workshops for subgroups:


- Chemical analysis of samples
- Cohort recruitment technique
- Data treatment

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- Data harmonization
- Modelling of data and data integration
- Implications for risk assessment and outcomes

EXHES specific needs

- How to do the recruitment
- How to collect and preserve human samples
- How to collect data and how to process the data
- Criteria of human sample collection, exclusion criteria

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2.1 Internal training plan


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The internal training plan combines internal and external training events.


The results from the evaluation of the training events that took already place were in general very positive. The events were well organized, well attended. The presentations and discussions were interesting and helpful. Main critics were too little time for discussion and more need to work in separate groups.

Table 1: Timeline of training events


| Month | Month / Year | Date | Host | Place | Theme | Internal / external | WP |
|-------|--------------|---------------|----------|-----------------------|--|---------------------|-----|
| 1 | Oct 2013 | 23-25.10.2013 | UMPC | Paris (France) | Kick Off | Internal | |
| 3 | Dec 2013 | 16-17.12.2013 | LMU | Munich (Germany) | Interdisciplinary communication and the exposome concept | Internal | |
| 6 | Mar 2014 | 17-19.3.2014 | AUTH | Thessaloniki (Greece) | HEALS concepts and methodology, start of e-learning platform | Internal | WP3 |
| 8 | May 2014 | 26-27.5.2014 | JSI | Ljubljana (Slovenia) | The feasibility and extent of sharing biomarker data in Europe and the integration of existing data in the HEALS EWAS approach | Internal | WP4 |
| 8 | May 2014 | 27-28.5.14 | AUTH/TNO | Ljubljana (Slovenia) | Selection of biomaterials from population cohorts for omics analysis | Internal | WP5 |

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| 12 | Sep 2014 | 15-17.9.2014 | IOM | Edinburgh (UK) | Recent advances in the environmental pressure and health outcomes associations | Internal and external | WP2 |
| 24 | Sep 2015 | | TNO | Leiden or Amsterdam (Netherlands) | HEALS SLAM – innovative workshop to attract young European researchers | External | |
| 30 | Mar 2016 | | UNIVBRIS/KCL | London (UK) | Modelling external exposure | Internal and external | WP9/11 |
| 36 | Sep 2016 | | CSIC | Barcelona (Spain) | State of the art in exposome research Barcelona (Spain) CSIC | Internal and external | |
| 44 | May 2017 | | AUTH | Thessaloniki (Greece) | Innovative tools for evaluating association between exposure and health's effects | Internal and external | WP12 |
| 48 | Sep 2017 | | LMU | Venice (Italy) or Munich (Germany) | How relevant is HEALS – stakeholders, NGOs and journalists | External | |
| 56 | Mar 2018 | | AUTH | Paris (France) | International conference “Linking exposome to human health” | Internal and external | |

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| 56 | Mar 2018 | | UPMC | Paris (France) | Scientific advances on environmental stressors and health outcomes (Final training workshop – to be organised as satellite event of the HEALS final conference – Task 19.4) | Internal and external | WP14-WP17 |
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3 Internal training materials

WRITTEN BY STEPHAN BÖSE-O'REILLY (LMU)

Internal training materials are

- General information
- Glossary
- Videos
- Presentations
- Tutorials / manuals / guidance
- References
- Evaluation

These materials are hosted on the HEALS training platform. Technically it is a Moodle based electronic platform. The content is continuously updated (LMU). Moodle is fully functional and filled with all contents developed so far (project month 12) (see section on Moodle).

Specific training materials for the EXHES protocol are:

- Cord blood
- Cord tissue
- Placenta
- Hair
- Colostrum / breast milk
- Meconium
- Plasma / serum
- Saliva
- Urine
- Urine for metabolomics
- Skin
- Buffy coat
- Questionnaires (EDEN, FOOD4U, others...)
- Nasal swab


Staff exchange

One-to-one training will consist of short- to medium-term exchanges (up to 4 weeks) of staff between partner laboratories, visits to laboratories by partner PIs, and small-group visits to lead laboratories by research staff

Webinars

Webinars will be prepared, with the following topics:

- Exposome
- HEALS
- Toxic components for human health
- Endocrine disruptors
- Metabolomics

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- Proteomics
- Epigenetics
- Environmental exposure of pollutants (air, water, ..)...

Each topic will last about 15-30 minutes, every two months a new topic. Webinars should be available for externals. Webinars will be uploaded on website (external use) and webinars will be uploaded on Moodle (internal use only).

3.1 HEALS e-learning platform

Moodle is the **technical platform for training purposes** - To provide the internal training required to ensure effective and shared understanding of the HEALS approach:

Methodologies and tools


- To train stakeholders interested in implementing the methods and tools developed in the project
- To train professionals who will use the products and knowledge gained through the project activities

Moodle is an e-learning platform. E-learning comprises **materials** such as:

- A glossary for a common understanding of the terminology used
- An advanced forum for discussions and content creation to facilitate the exchange of information and concepts
- A sophisticated search engine to easily retrieve the information searched
- Manuals, tutorials developed during the project
- What is the structure of HEALS?

There are different folders with different **contents**:

- General information (functionality, participants)
- Links esp. to HEALS website
- Project summary and outline
- HEALS research topics
- Exposure biology, genetics and epigenetics
- Human biomonitoring and -omics
- Sensor technology
- Bioinformatics and biostatistics
- Health risk assessment
- EWAS studies
- EXHES study
- Personal skills

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- FAQ's
- Evaluation

Within the research topics the **substructure** is:

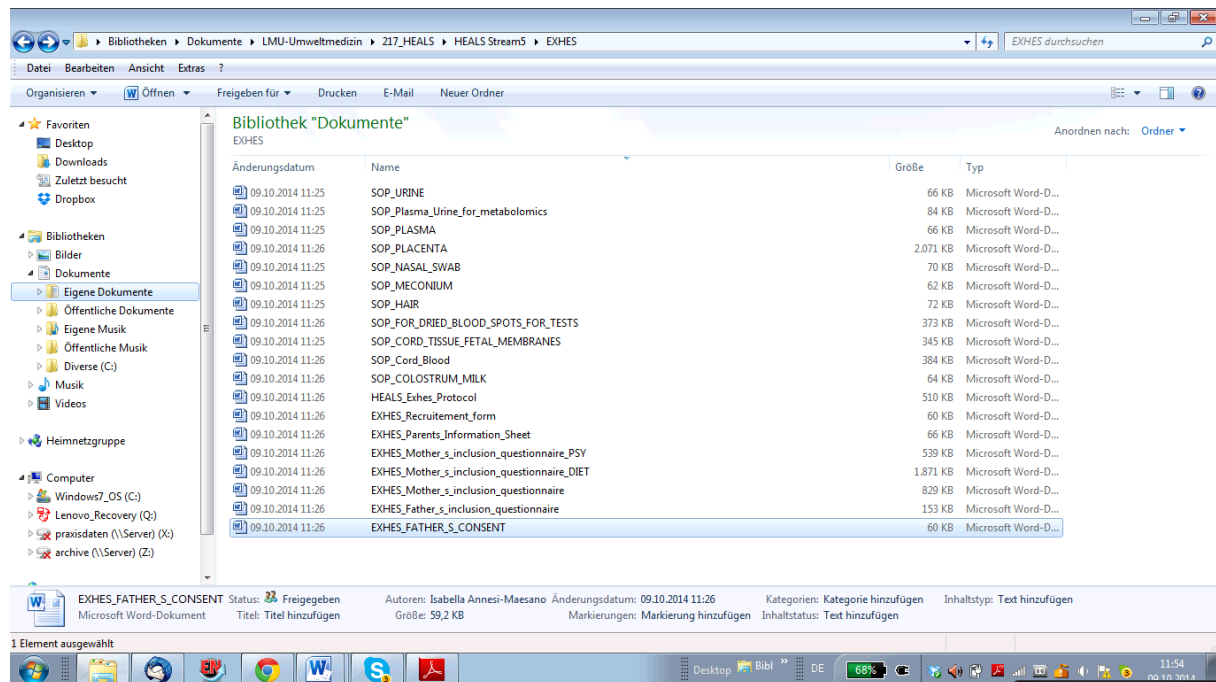
- Presentations
- Videos
- Tutorials
- Guidance
- Manuals
- References


The content is continuously updated. The content is in accordance to the detailed internal training plan and will be in accordance with the external training plan (D12.3 due month 48).

3.2 EXHES protocols and SOPs

The protocols and SOPs for the EXHES protocol need to be accessible for the partners involved in the EXHES study.

So far there are already some SOPs and protocols finalised



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4 Conclusions for HEALS

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Up to December 2014 the preliminary internal training plan, as outlined in the DOW, was useful, and the different training events took place as scheduled. The evaluation of each event helped to improve the training events according to the needs of the participants. The materials from the training events plus the finalised SOPs were made available for internal use on the internal training platform (Moodle platform). The content of this platform depended of course on the progress of the whole project, and was continuously updated.

The schedule of the main project wide internal and external training events is set and the upcoming events from 2015 onwards will be organised and will take place in time. These events will have to be prepared in collaboration between the hosting organisation, the coordinators, the stream and work package leaders, and the respective scientists from WP18. The materials from those events will need to be collected and put onto the training platform.

Next necessary steps will be to record webinars and put them on the internal training platform, and if suitable on the HEALS website.

According to the progress made in the different work packages smaller workshops related training events will be necessary. A preliminary list of topics is given in the text above. But this list will need to be updated every six months, according to the needs of the different work packages. It will be essential that the materials from these events are put onto the training platform. A good and efficient communication between the different work packages and the work package 18 will be important. Work package leaders are encouraged to transfer materials that should be put on the training platform to LMU. The internal communication can be strengthened using the training platform as much as possible. It is up to every partner, and every scientist to enter the platform and make use of the available information. At the same time everybody is asked to feed the training platform with material.