



European Cluster EMF and Health

Deliverable Thematic Cluster Workshop No 2

Document Summary Information

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Executive Summary

This document reports on the second thematic cluster workshop/training held in Erice, Italy, from April 7 to April 12, 2024.



1 Introduction

The second thematic workshop of the European Research Cluster on Electromagnetic Fields (EMF) and Health (CLUE-H) was organized as a training event, as outlined in the “MODALITIES FOR IMPLEMENTING THE CLUE-H,” which states that common cluster activities will include “thematic workshops/trainings on issues of common interest.”

The training was held in Erice, Sicily, Italy, from April 6 to April 12, 2024, as part of the 10th Course of the International School of Bioelectromagnetism “Alessandro Chiabrera,” mainly sponsored by the BioEM Society. The course theme was “*Electromagnetic Fields and Health – Epidemiological Approaches*.” Course directors were Prof. Anke Huss and Dr. Mònica Guxens, coordinators of the ETAIN and GOLIAT projects, respectively. Teachers and tutors came from all four CLUE-H projects.



2 Thematic Workshop

2.1 Participants

The course was attended by 21 participants with diverse academic and professional backgrounds, representing eight different European countries (Figure 1).



Figure 1: Participants (students and teachers) of the second thematic workshop/training held in Erice, Sicily (April 6-12, 2024).

2.2 Course Content

The course covered a broad range of topics, including:

- Exposure assessment
- EMF and health effects
- Exposure misclassification
- Biological mechanisms
- Risk perception
- Planetary health
- Evidence synthesis and guideline development

Special emphasis was placed on interactive learning. Participants conducted RF-EMF measurements and presented their results. The full program is shown in Figure 2.

2.3 Reception of the Training Event

Prof. Maria Rosaria Scarfi, one of the International School's directors, announced at the course's conclusion that participants gave it an average rating of 8.9 out of 10.

Joshua Louis Ziegler, a Research Assistant at IMBEI and a member of the NextGEM project, shared the following: "I attended this course to broaden my theoretical and practical knowledge on RF-EMF so that it would improve my work within NextGEM. The courses were structured very well with plenty of highly interesting practical exercises. I liked it a lot!"



| April 6 – Saturday | | |
|----------------------------|--|--|
| Arrival and accommodation | | |
| April 7 – Sunday | | |
| 08:45 – 09:15 | School introduction and practical details | |
| 09:15 – 09:30 | Course introduction | |
| 09:30 – 10:30 | Introduction of participants, and topics they work on | |
| 10.30 – 11.00 | Coffee break | |
| 11.00 – 12.00 | Lecture: Introduction into EMF | |
| 12.00 – 13.00 | Lecture: Exposure assessment of EMF static/ELF | |
| 13.00 – 15.00 | Lunch | |
| 15.00 – 16.00 | Group work: Questionnaire risk perception/mental models | |
| 16.00 – 17.00 | Lecture: Exposure assessment RF-EMF | |
| 17.00 – 17.30 | Coffee break | |
| 17.30 – 18.30 | Lecture: EMF dose – what is it and how to apply in epi studies | |
| April 8 – Monday | | |
| 08.30 – 09.30 | Lecture: basics of epidemiological study designs/confounding | |
| 09.30 – 10.30 | Group work: preparation of measurement protocol | |
| 10.30 – 11.00 | Coffee break | |
| 11.00 – 12.00 | Lecture: exposure misclassification | |
| 12.00 – 13.00 | Lecture: Static fields and health effects | |
| 13.00 – 15.00 | Lunch | |
| 15.00 – 17.00 | Group work: Read paper and discuss/STROBE | |
| 17.00 – 17.30 | Coffee break | |
| 17.30 – 18.30 | Lecture: Combined exposures in biological context | |
| April 9 – Tuesday | | |
| 08.30 – 10.30 | Lecture: Biological interaction and mechanisms | |
| 10.30 – 11.00 | Coffee break | |
| 11.00 – 13.00 | Group work: Measurements | |
| 13.00 – 15.00 | Lunch | |
| 15.00 – 16.00 | Lecture: ELF exposure and leukaemia and neurodegenerative diseases | |
| 16.00 – 17.00 | Symposium on ongoing research on EMF and health | |
| 17.00 – 17.30 | Coffee break | |
| 17.30 – 18.30 | Symposium on ongoing research on EMF and health and Poster prize) | |
| April 10 – Wednesday | | |
| 08.30 – 09.30 | Lecture: Mobile device use and child health | |
| 09.30 – 10.30 | Lecture: RF-EMF exposure and brain tumours (Elisabeth Cardis, Spain) | |
| 10.30 – 11.00 | Coffee break | |
| 11.00 – 13.00 | Group work: analyse measurement data | |
| Excursion (with lunch-box) | | |
| April 11 – Thursday | | |
| 08.30 – 09.30 | Lecture: EHS, symptoms attributed to EMF exposure – | |
| 09.30 – 10.30 | Group work: Presentation of measurement results | |
| 10.30 – 11.00 | Coffee break | |
| 11.00 – 12.00 | Lecture: EMF and insects: Exposure, dose, effects | |
| 12.00 – 13.00 | Lecture: EMF exposure and planetary health | |
| 13.00 – 15.00 | Lunch | |
| 15.00 – 17.00 | Group work: Risk perception/communication | |
| 17.00 – 17.30 | Coffee break | |
| 17.30 – 18.30 | Lecture: From mechanistic understanding to disease endpoints | |
| April 12 – Friday | | |
| 08.30 – 09.00 | CLUE-H: Overview over current research in EU | |
| 09.00 – 10.30 | Meet the experts | |
| 10.30 – 11.00 | Coffee break | |
| 11.00 – 12.00 | Lecture: Evidence synthesis and systematic reviews | |
| 12.00 – 13.00 | Lecture: Guidelines and how to get there | |
| 13.00 – 13.15 | Closing remarks | |

Figure 2: Program of the course organized as the second thematic workshop/training event of CLUE-H.



3 Conclusion

The second thematic workshop of the cluster was structured as a training event. It provided hands-on learning opportunities to cluster researchers on a topic of shared importance—epidemiological approaches to studying the health effects of EMF. Feedback from participants indicated the workshop was highly successful, particularly praising the inclusion of practical sessions and hands-on experiences.