



BBEMG WEBSITE

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NL



FR

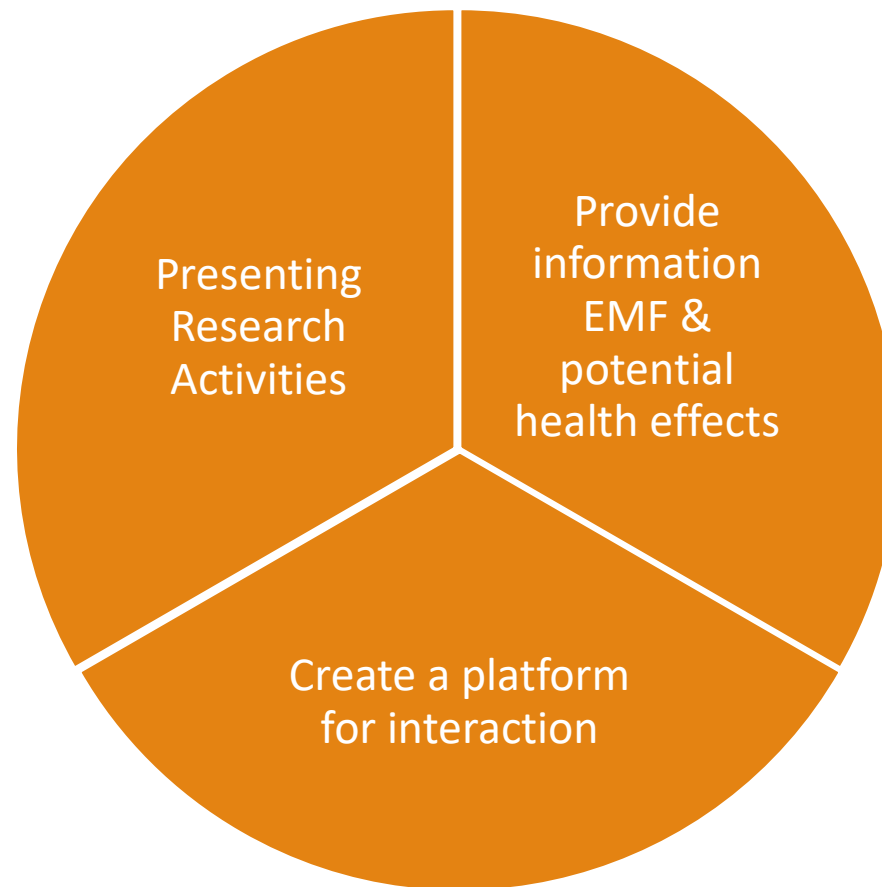
www.bbemg.be

Website history

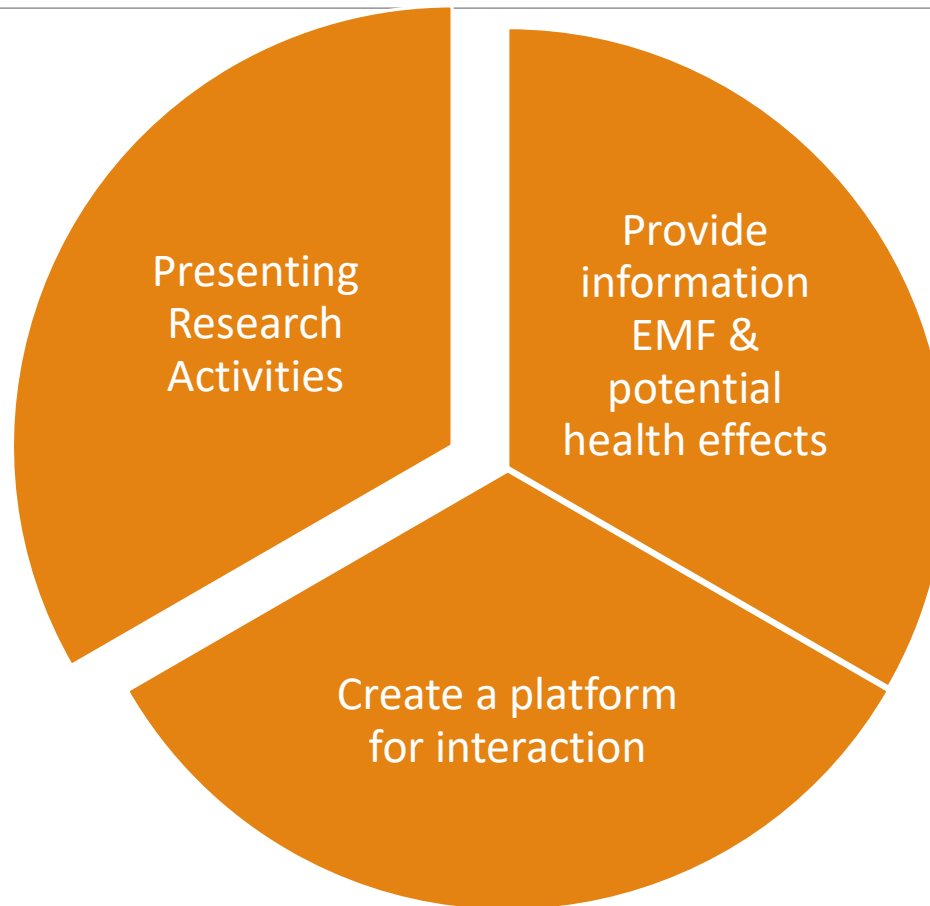


→ Almost 25 ans!

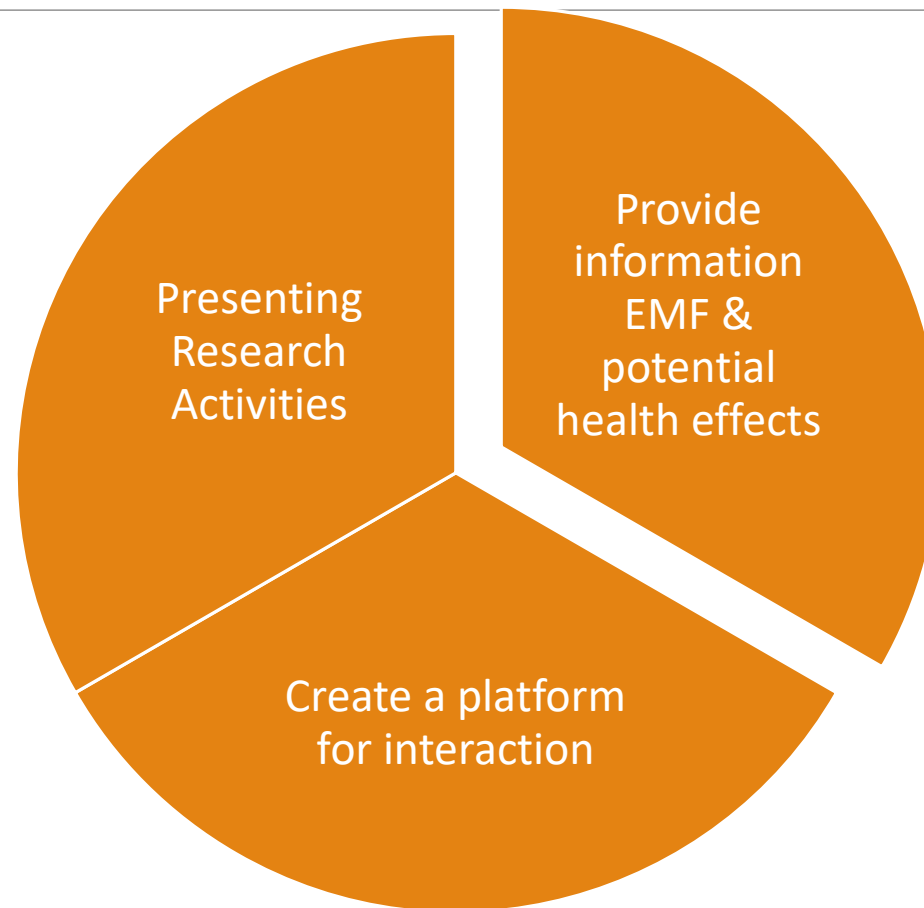
Why?



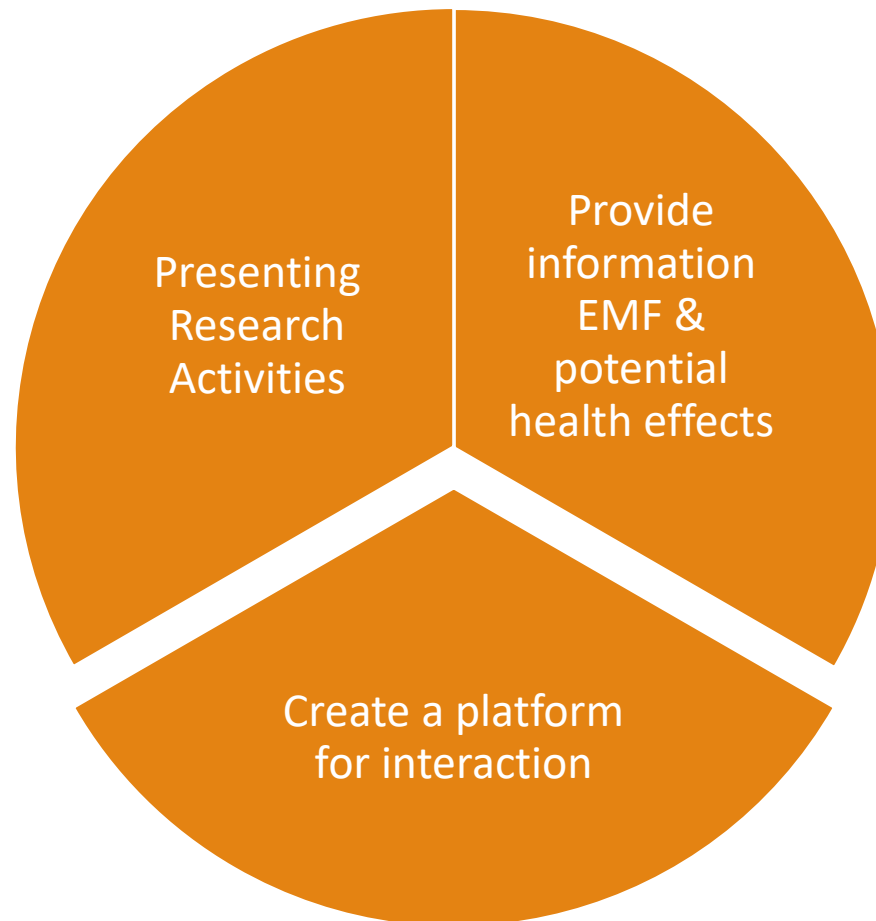
Why?



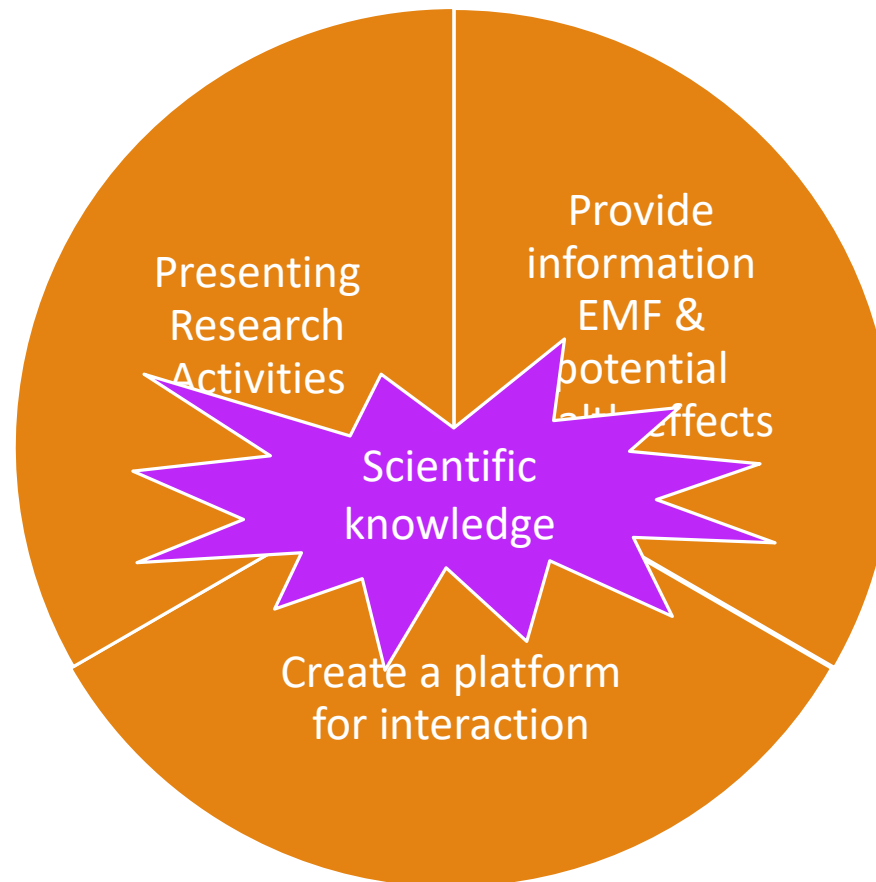
Why?



Why?



Why?



How? A multilingual website

Electromagnetic fields

How to make the connection between voltage, electromagnetic fields and electric current? What is the exposure on our daily life?

[FURTHER INFORMATION >>](#)

Wetenschappelijke informatie over de gezondheidseffecten van 50Hz elektrische en magnetische velden (EMV)

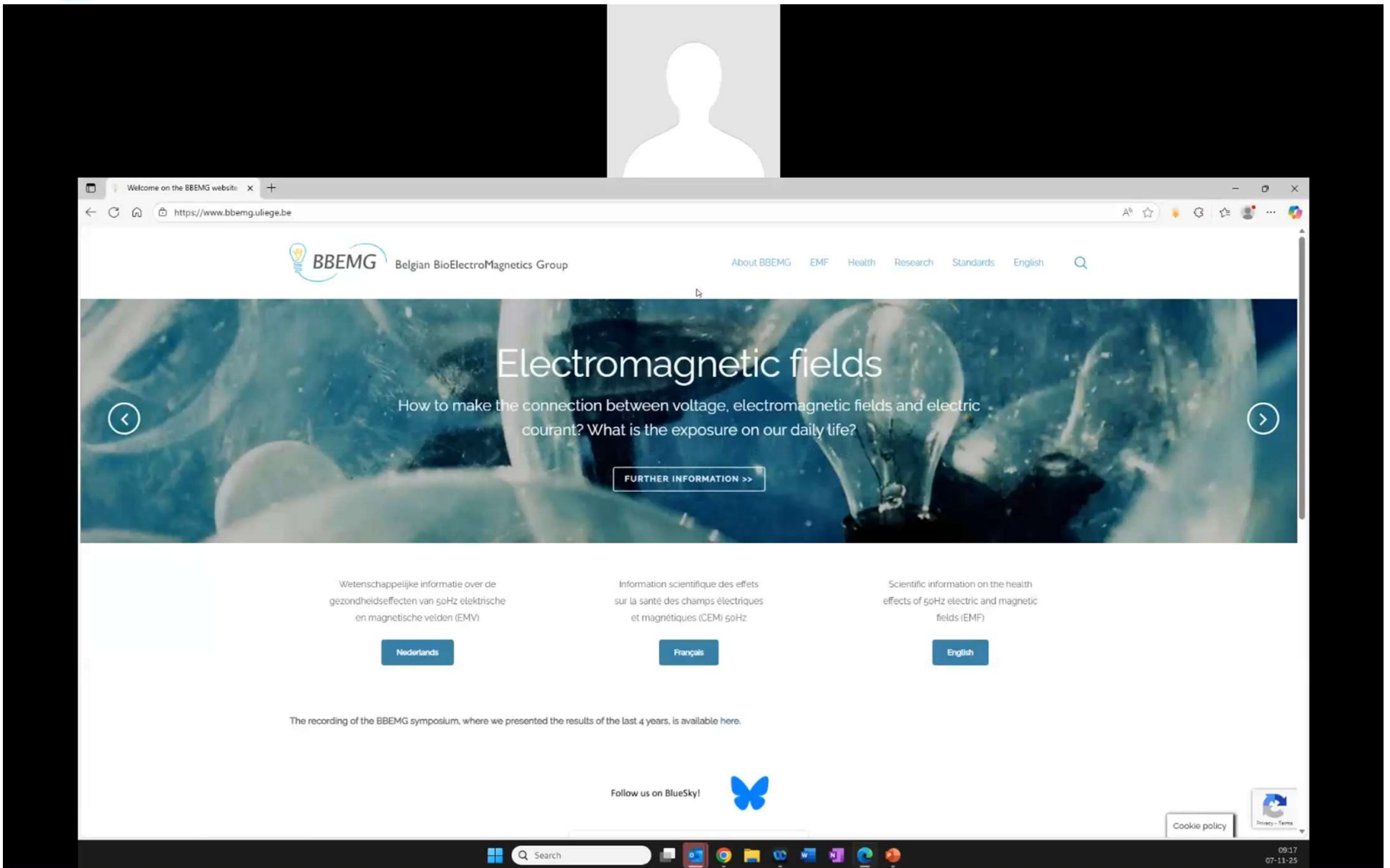
[Nederlands](#)

Information scientifique des effets sur la santé des champs électriques et magnétiques (CEM) 50Hz

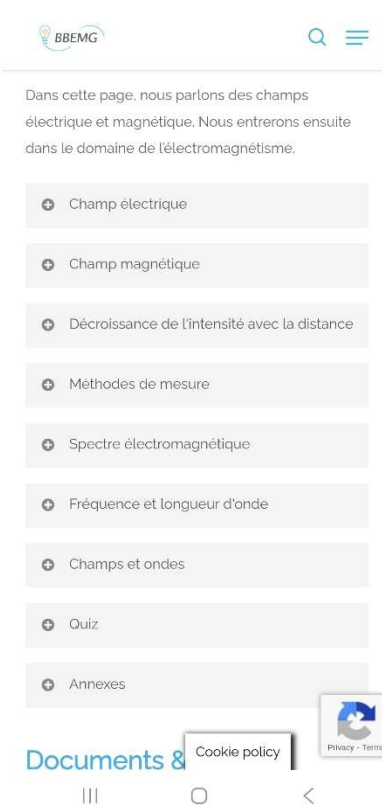
[Français](#)

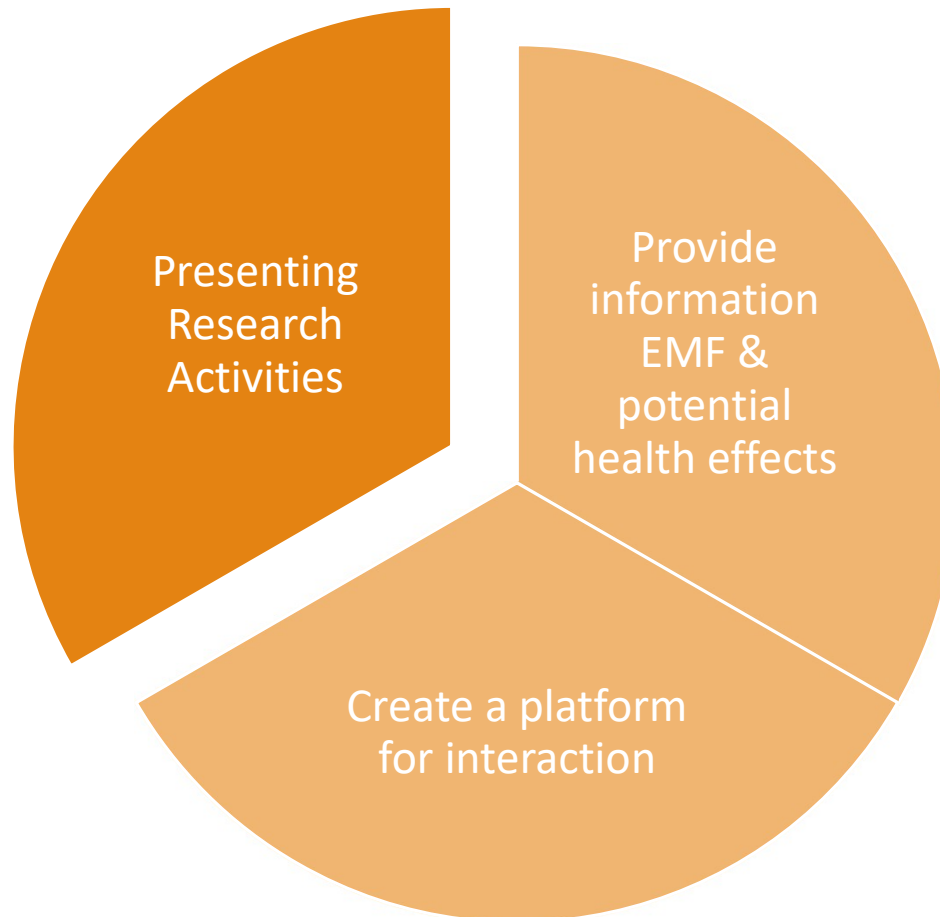
Scientific information on the health effects of 50Hz electric and magnetic fields (EMF)

[English](#)

A screenshot of a web browser displaying the BBEMG website. The browser's address bar shows "https://www.bbemg.uliege.be". The website header includes the BBEMG logo and the text "Belgian BioElectroMagnetics Group", along with navigation links for "About BBEMG", "EMF", "Health", "Research", "Standards", and "English". A search icon is also present. The main content area features a large banner with the title "Electromagnetic fields" and the subtitle "How to make the connection between voltage, electromagnetic fields and electric courant? What is the exposure on our daily life?". A "FURTHER INFORMATION >>" button is centered below the banner. Below the banner, there are three columns of text in Dutch, French, and English, each describing scientific information on the health effects of 50Hz electric and magnetic fields (EMF). Each column has a corresponding language button: "Nederlands", "Français", and "English". Below these columns, a line of text states: "The recording of the BBEMG symposium, where we presented the results of the last 4 years, is available here." At the bottom of the page, there is a "Follow us on BlueSky!" link with a blue butterfly icon. A "Cookie policy" link is located in the bottom right corner. The browser's taskbar at the bottom shows various application icons and the system clock indicating 09:17 on 07-11-25.

Mobile version





Presenting research activities

About BBEMG

EMF

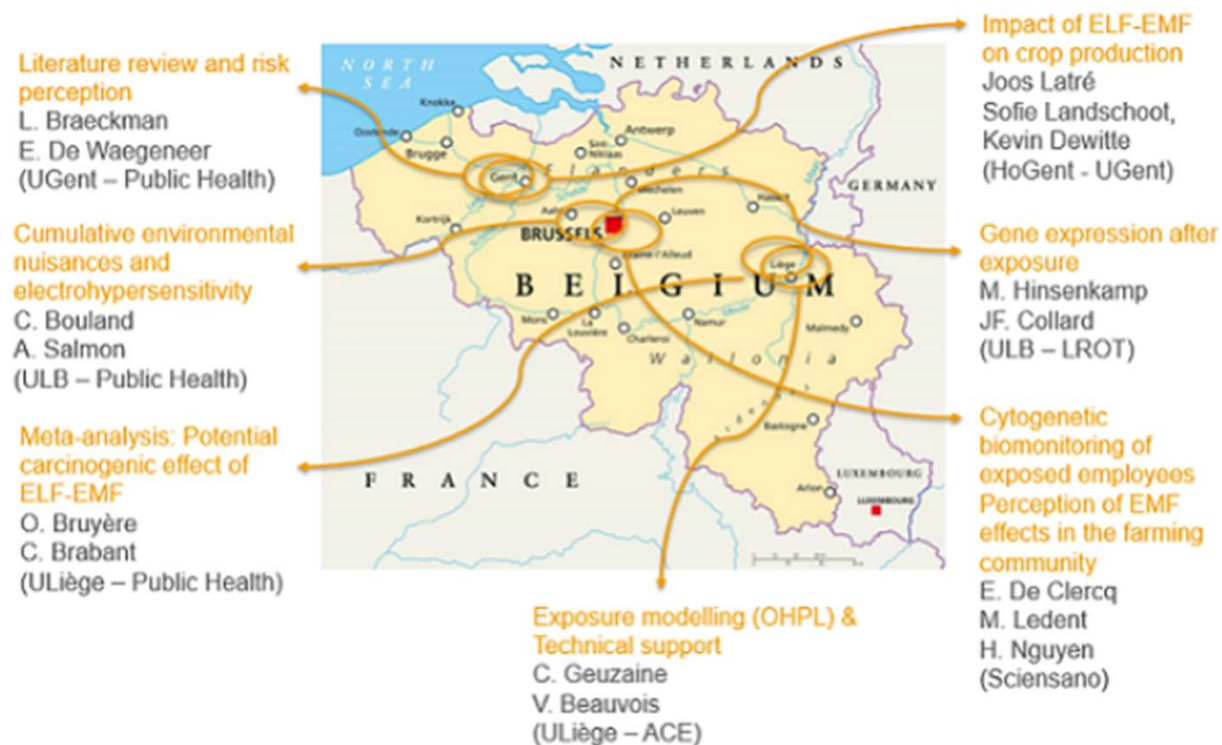
Health

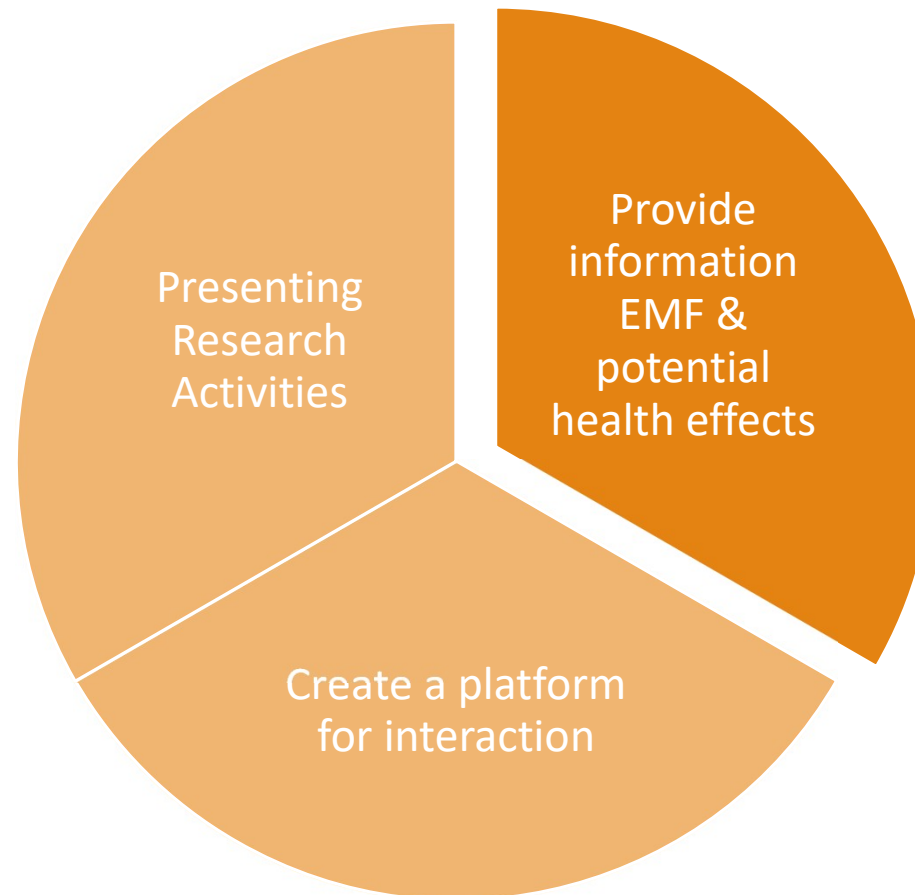
Research

Standards

English

Who are we? What do we do?





Provide information EMF & potential health effects

About BBEMG

EMF

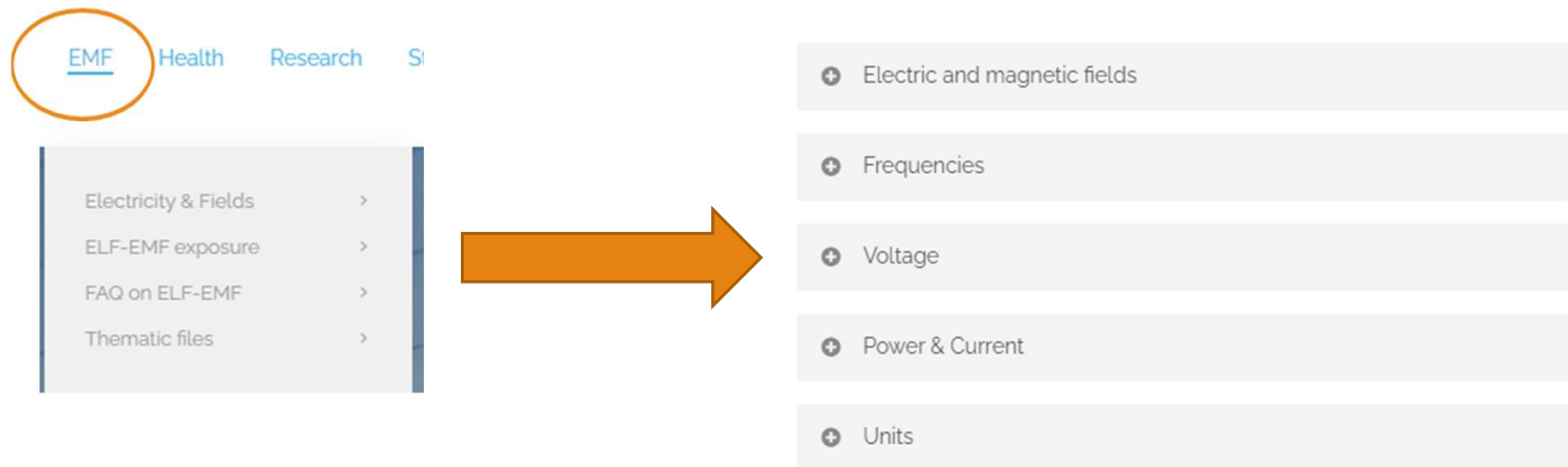
Health

Research

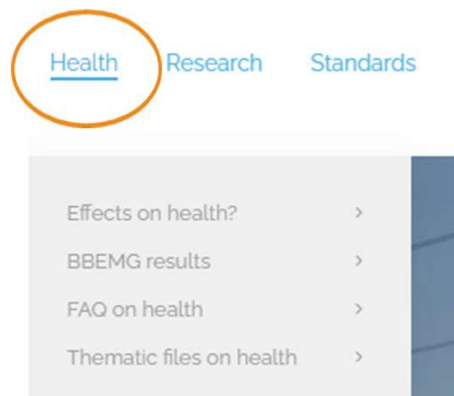
Standards

English

“EMF”?



“Hazard classification”?



Hazard classification of IARC

[Back to Health risk issues](#)

The International Agency for Research on Cancer (IARC) a specialised agency of the World Health Organisation (WHO) focuses on classifying agents regarding their carcinogenicity. To classify them, the agency publishes detailed studies (monographs) that assess the scientific evidence and its strength. In total, several hundred agents are evaluated by IARC, including tobacco, lead, coffee and UV radiation. These include electromagnetic fields, which are the subject of two separate assessments: one focusing on magnetic fields and the other on electric fields, both covering extremely low frequencies.

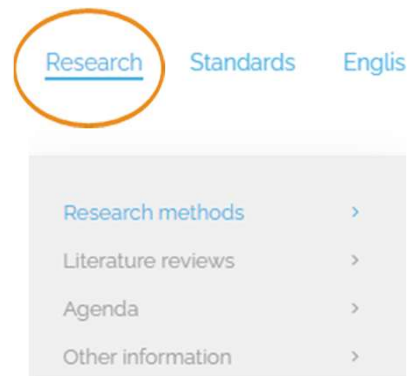
In 2019, the IARC updated its *preamble* – an introduction that explains the criteria and process used to assess the carcinogenicity of various substances and agents. In this preamble, an important precision is made by changing the name from ‘*IARC Monographs*’ to ‘*IARC Monographs on the Identification of Carcinogenic Hazard to Human*’. This is an important precision, since there is a difference between **‘hazard’** and **‘risk’**. In this new version, the evaluation focus on identifying ‘hazard’ which refers to the agent’s capacity to be carcinogenic, regardless of the level of exposure of the public or in occupational settings, while ‘risk’ arises when both a hazard and exposure to the agent are present.

Moreover, the classification groups were reduced from five to four. (group 1: Carcinogenic to human, group 2A: Probably carcinogenic to humans, group 2B: Possibly carcinogenic to humans and group 3: Not classifiable as to its carcinogenicity to humans); the group ‘not carcinogenic’ is removed from the classification. Eventually, evaluation criteria have been revised on the basis of new evidence. For example, a greater importance is given to mechanistic evidence from *in vitro* studies. Mechanistic evidence refers to how the agent acts to cause the carcinogenic effects, for example at the molecular level, at the cellular level, etc.

1. Certainty of evidence

Cancers in humans?

“Epidemiological study” ?



Overview of research methods

There are several methods to study potential effects of 50 Hz electric and magnetic fields on health.

Epidemiological studies should normally be the most interesting considering human health because they take into account individuals in their environment. In reality this is not so: epidemiology provides correlation but not causal relationships. Other studies are therefore necessary for a better understanding of pathophysiological working mechanisms and to enhance the credibility of epidemiological studies:

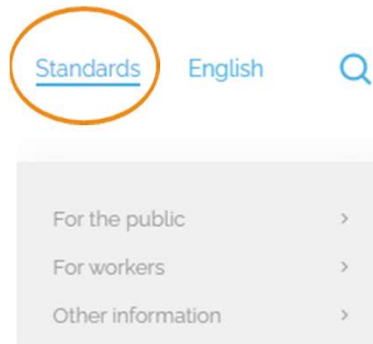
- controlled human clinical trials,
- in vivo investigations and
- in vitro studies.

Well-conducted **in vitro studies** can reveal mechanisms of action at the cellular or molecular level that can explain pathophysiological effects. But the results of in vitro studies do not necessarily mean that an effect will be observed **in vivo**.

Epidemiology – Research for the existence of a statistical association between a given factor and the appearance of a disease



Any existing guidelines?



ICNIRP guidelines

ICNIRP, "International Commission on Non-Ionizing Radiation Protection", is an independent international commission recognized by the World Health Organization (WHO)

The main objective of ICNIRP is to establish guidelines for limiting exposure to electric and magnetic fields (EMF) that will provide protection against all established adverse health effects.

Guidelines are based on the following:

- Well established effects (from perception of a slight tingling on the surface of the skin to real annoyance) may be caused by exposure to low frequency electric fields.
- Induction of phosphenes in the retina by low frequency magnetic fields can be used as a model to put forward induced electric fields effects on the central nervous system.



Still looking for something?



Slide 21

EDC12

should we add that they can also use the "search" button on the website ?

Eva De Clercq, 10/11/2025

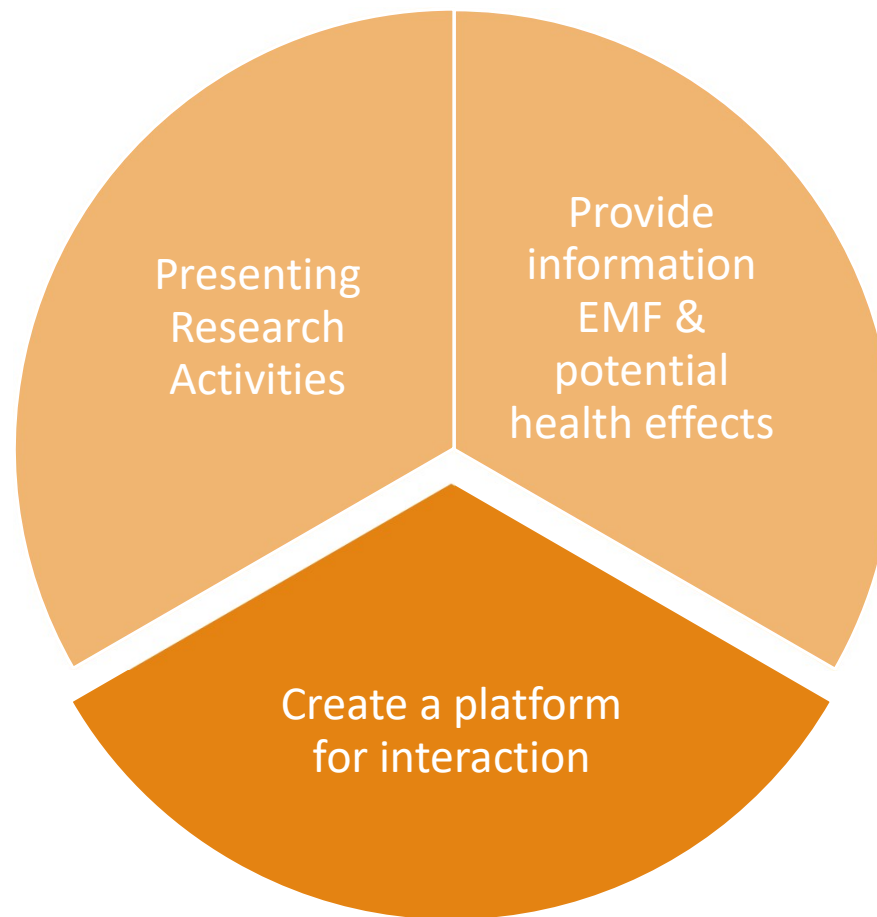


Use our Search Console

Search



Hit enter to search or ESC to close



A platform for interaction

Contact us by e-mail or fill in the form below

e-mail: info@bbemg.be

Form:

I'd like to receive further information on:

- ☐ Health effects of 50 Hz electric and magnetic fields
- ☐ BBEMG research activities
- ☐ Exposure measurement
- ☐ I'd like to talk about my electrosensitivity
- ☐ I'm having problems with the website

My question (mandatory)

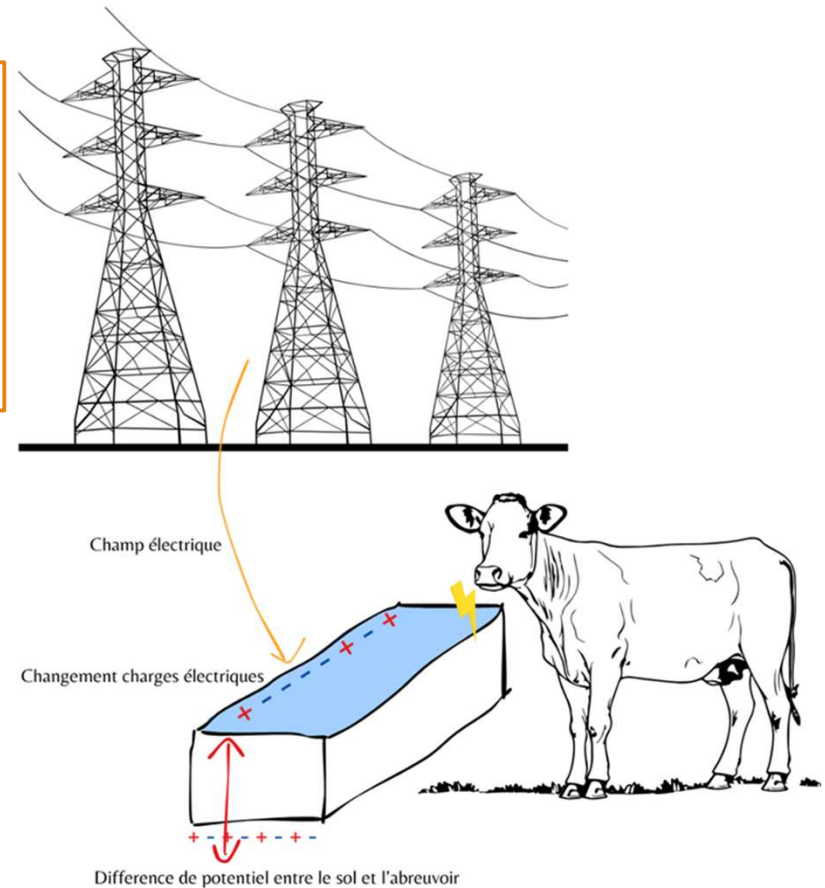
Enter your question here



Answer + link to our website

FAQs, example

*"I've noticed that my dairy cows **drink less** when they're in the meadow where there's a power line. They seem to be more nervous than usual. Is it caused by the **power line**?"*



FAQ creation process

- Question
- Meeting with relevant experts (BBEMG group)
- Draft an answer in FAQ format
- Approval by all involved experts
- Publication on the website

Who create the content?

Team work



Thank you to the BBEMG group of scientists!

Challenges faced

- Update permanently the content, links, etc.
- Website failure

→ Room for improvement

404
Page Not Found

[Back Home](#) →



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🚀 The BBEMG was at the BioEM conference in Rennes, France!

From 23 to 27 June, the BBEMG team from @sciensano.be presented posters at the largest conference on #EMF in the world.

Want to know more? 🖱️ bioem.org

Photo credit: Amélie Leray



Any questions or suggestions ?
Contact us!

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NL



FR

www.bbemg.be