Annual report on EMF activities: France – 2019

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Research activities in France

ELF: Extremely low frequency magnetic fields

Project funded by Anses[1]

The project ELFSTAT "In-depth assessment of children's exposure to ELF (40-800 Hz) magnetic fields and implications for health risk of new technologies" (Paolo Ravazzani), funded in 2016, ended in 2019.
A paper has been published: Chiaramello E, Le Brusquet L, Parazzini M, Fiocchi S, Bonato M, Ravazzani P. 3D space-dependent models for stochastic dosimetry applied to exposure to low frequency magnetic fields. Bioelectromagnetics. 2019 Apr;40(3):170-179. doi:10.1002/bem.22179. Epub 2019 Mar 26. PubMed PMID: 30913307.
Transexpo: the exposure assessment part of the feasability study (called MAGNET) in France will be finished in 2019. The Scientific and Technical Center for Building (CSTB) is conducting the study, funded by Anses.

RF: Radiofrequency fields

Anses call for research projects on radiofrequency fields

Since 2010, the main research funding for radiofrequency fields health effects in France comes from a tax on network operators. Two millions euros are gathered each year. The French Agency for Food, Environment and Occupational Health & Safety (Anses) is in charge of organizing annual calls for research projects on this topic. Over 8 years (2011-2018), 61 projects have been funded, for more than 12 million euros.

The 9 projects funded in 2019 (1.67 M€), resulting of the 2018 call for projects, after selection of 33 letters of intent, are the following:

- RadioFLow (Arnaud-cormos et al.): functional ultrasound imaging of rodent brain under RF exposure.
- INTER-CAL (Joachim Schüz): mobile phone and risk of glioma : Téléphones portables et risque de gliome: effect of several identified errors and bias in the case-control study (Interphone) risk estimation.
- NEAR 5G (Maxim Zhadobov): Realistic near-field exposure assessment of adults and children in V-band for 5G use-cases.
- IMPACT (Anke Huss): Perceived exposure, measured exposure and symptoms: in what order does it happen and what are the changes over time?
- 2-4Ginf (Michel Mallat): Effects of 2G and 4G mobile radiofrequencies on activated microglia and neuronal activity in neuroinflammatory context
- EMBRYORAD (Monica Guxens): Radiofrequency, other environmental factors, and embryo and fetal development.
- WIFIDEV (Bruno Bontempi): Prenatal exposure to Wi-Fi radiofrequency signals: effects on neuronal development and behavior in adulthood in mice.
- EPIEXPEL-SouRes (Etienne Cassagne): Epidemiological study on the effects of occupational exposure to electromagnetic fields related to resistance welding.
- OccRF-Health (Francisco Javier Vila-Rodriguez) : Health Effects of Occupational Exposure to RF - Estimation of Exposure and Assessment of Potential Effects on Workers and Their Children

Ongoing projects in 2019:

Apart from the new projects funded in 2018, several studies are ongoing, that has been funded in the previous years.

[1] Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail www.anses.fr/ Contact: olivier.merckel@anses.fr

The results of an epidemiological study investigating perceived health symptoms in the vicinity of mobile telephony base stations will be available by mid 2019. Two papers will be published.
The feasibility study on the speeches of EHS people and their declared symptoms will end mid 2019. The opportunity to enlarge the study population will be examined.

The Cosmos project is a large international cohort study investigating mobile phones and health, currently on-going in the United Kingdom, Sweden, Denmark, Finland, the Netherlands and France. The French part of the Cosmos cohort (PIs: Joachim Schüz and Isabelle Deltour) is conducted in collaboration with the Constances cohort. Thanks to data transfer agreements with French mobile phone operators Orange, Bouygues Telecom and SFR, detailed mobile phone traffic data is collected for consenting cohort members. Cosmos-France is funded by ANSES and IARC.

Risk assessment activities

In March 2018, ANSES published the results of its expert appraisal on hypersensitivity to electromagnetic waves. The expert appraisal revealed the great complexity of the issue of electrohypersensitivity (EHS), while concluding that according to the current state of knowledge, there is no solid experimental evidence establishing a causal link between exposure to electromagnetic fields and the symptoms described by the people declaring themselves as electrohypersensitive. The Agency also emphasised that the suffering and pain expressed by the people declaring themselves as electrohypersensitive is a reality of life, requiring them to adapt their daily lives to cope with it. In this context, the Agency recommends providing suitable care for the people concerned and pursuing research work, in particular by setting up studies whose experimental conditions take into account the circumstances of people declaring themselves as EHS.

In 2013, Anses was asked to expand scientific knowledge on the consequences of ELF electromagnetic fields on animal health and zootechnical performance, as well as on human health. Concerning animals, a literature review showed that although effects have been observed on rare occasions in animals (deterioration of cognitive function in laboratory animals (exposure of > 100 µT), possible reduced milk production and milk-fat levels, and increased ingestion in dairy cows (magnetic fields of 30 µT for 30 days), etc.), it remains difficult to assess the direct health effects of extremely low frequency electromagnetic fields on livestock. The Anses opinion on consequences of ELF EM fields on animal health and zootechnical performance has been published in August 2015. The opinion regarding human health effects will probably be published in May 2019.

New policies and legislations

Revision of decree on SAR display: the purpose of the draft decree is to improve public information on exposure to radio frequencies emitted by radio equipment. It aims to make it obligatory for the SAR value of radio equipment subject to a measuring obligation to be displayed. This value will be provided free of charge to the final consumer in the immediate vicinity of the equipment to which it relates at points of sale or distribution and in all advertisements. The draft was published in April 2018 on the EU Technical Regulation Information System. The final text will be published in 2019.

The national measurement protocol to assess environmental exposures has included smart meters EMF emissions testing. Investigations regarding 5G measurements are in progress.

Areas of public concern and national responses

Since the beginning of electricity smart meters deployment, some people and cities declare not willing to change their old meter to the new communicating one. The protest follows the deployment map: 35 millions meters will be replaced before 2021.

Implementation of 5G test sites in cities rise concerns about exposure and health effects.

EMF at workplaces:
For some time, a number of individuals have reported a variety of health problems that they relate to exposure to EMF at workplace. Last years, the judge acknowledged that electromagnetic hypersensitivity could be a workplace accident or illness twice.

New public information activities

Not available.