

Effects of electric and magnetic fields are being studied in different countries and from different perspectives, including that of plant life



Situation Report Bulletin: 1/2026 – published July 8, 2026

Contents:

- 01: Editorial
 - 02: Measurement of urban environmental exposure to Extremely Low Frequency Magnetic Fields in several Spanish regions
 - 03: Long-term residential magnetic field exposure and neurodegenerative disease mortality: An 18-year nationwide cohort study in Switzerland
 - 04: The consequences of the extremely low frequency electromagnetic field (ELF-EMF) exposure on physiological processes in the uterus: novel insights and implications
 - 05: Effects of Extremely Low Frequency Magnetic Field Exposure (50 Hz, 200 μ T) on Cell Viability, DNA Damage and Micronucleus Formation of Human Skin Cells
 - 06: Predictors of Risk Perception Among General Practitioners and Paediatricians Concerning Potential Health Effects of Exposure to Electromagnetic Fields
 - 07: Why Low-Frequency EMF Safety Would Benefit From Peak-Based Limits Instead of RMS Values
 - 08: Energy-efficient active shield for substation magnetic field mitigation
 - 09: Study on the impact of electromagnetic fields on the growth and development of certain vegetable plant species
-

No. 01

Editorial

The BioEM 2026 conference took place June 21–26, 2026, in Australia. Judging by the program, the event included a wide variety of topics related to electromagnetic fields. The next conference, BioEM 2027, will take place June 13–18, 2027, in Gdansk, Poland. It's also worth mentioning that in May, the ICNIRP and the ICOH's Scientific Committee on Radiation and Work co-organized a workshop on occupational protection in medical NIR applications.

Once again, I have found some scientific articles of interest for this new bulletin. It starts with an article examining exposure to extremely low frequency magnetic fields in Spain. This time, the



researchers measured levels of ELF-MF in public spaces. The next article discusses long-term magnetic field exposure in Switzerland. The research focused on the association between magnetic field exposure and neurodegenerative diseases.

I'd also like to highlight a couple of interesting, slightly different topics discussed later in the bulletin. In a German study, the researchers' objective was to identify predictors of risk perception among general practitioners and pediatricians concerning the potential health effects of exposure to electromagnetic fields. The nature of the predictors seems to play a role in risk perception.

This time, I'll conclude the bulletin with a new kind of an article. It discusses the impact of electromagnetic fields on the growth and development of certain vegetable plant species. I had already noted that studies related to plants were also being conducted, but they had not been included in these bulletins until now.

Below you can find the list of the articles presented in the Finnish bulletin version.

Leena Korpinen, Professor
Editor-in-chief, Situation Report Bulletin



No. 02

Measurement of urban environmental exposure to Extremely Low Frequency Magnetic Fields in several Spanish regions

Source:

Sanchis-Otero A, Ramirez-Vazquez R, Paniagua J M, Bajo R, Arribas E, Giacomone F, Ramis R, Marín Palacios P, Vargas Marcos F. Measurement of urban environmental exposure to Extremely Low Frequency Magnetic Fields in several Spanish regions. Research Square 2025. <https://doi.org/10.21203/rs.3.rs-7363662/v1>.

No. 03

Long-term residential magnetic field exposure and neurodegenerative disease mortality: An 18-year nationwide cohort study in Switzerland

Source:

Sandoval-Diez N, Loizeau N, Huss A, Rösli M, Vienneau D. Long-term residential magnetic field exposure and neurodegenerative disease mortality: An 18-year nationwide cohort study in Switzerland. Environment International 208 (2026) 110145. <https://doi.org/10.1016/j.envint.2026.110145>

No. 04

The consequences of the extremely low frequency electromagnetic field (ELF-EMF) exposure on physiological processes in the uterus: novel insights and implications

Source:

Khodadadi M, Zmijewska A, Franczak A. The consequences of the extremely low frequency electromagnetic field (ELF-EMF) exposure on physiological processes in the uterus: novel insights and implications. Front. Physiol. 17:1753084 (2026). doi: 10.3389/fphys.2026.1753084

No. 05

Effects of Extremely Low Frequency Magnetic Field Exposure (50 Hz, 200 μ T) on Cell Viability, DNA Damage and Micronucleus Formation of Human Skin Cells

Source:

Meyer V, Drees K, Gronau I A, Lerchl A. Effects of Extremely Low Frequency Magnetic Field Exposure (50 Hz, 200 μ T) on Cell Viability, DNA Damage and Micronucleus Formation of Human Skin Cells. Bioelectromagnetics, 2026; 47:e70046. <https://doi.org/10.1002/bem.70046>



No. 06

Predictors of Risk Perception Among General Practitioners and Paediatricians Concerning Potential Health Effects of Exposure to Electromagnetic Fields

Source:

Lüthy K, Forster F, Riesmeyer C, Ermel L, Radon K, Weinmann T. Predictors of Risk Perception Among General Practitioners and Paediatricians Concerning Potential Health Effects of Exposure to Electromagnetic Fields. Bioelectromagnetics, 2026; 47:e70047. <https://doi.org/10.1002/bem.70047>.

No. 07

Why Low-Frequency EMF Safety Would Benefit From Peak-Based Limits Instead of RMS Values?

Source:

Soyka F, Alteköster Carsten. Why Low-Frequency EMF Safety Would Benefit From Peak-Based Limits Instead of RMS Values. Bioelectromagnetics, 2026; 47:e70051. <https://doi.org/10.1002/bem.70051>.

No. 08

Energy-efficient active shield for substation magnetic field mitigation

Source:

Grinchenko V, Tazowski P, Perehuda O, Blachowski B. Energy-efficient active shield for substation magnetic field mitigation. Electric Power Systems Research, Volume 256, 2026. <https://doi.org/10.1016/j.epsr.2026.112828>.

No. 09

Study on the impact of electromagnetic fields on the growth and development of certain vegetable plant species

Source:

Gabor Iliescu R I, Dobrin E, Peticilă A, Drăghici E M. Study on the impact of electromagnetic fields on the growth and development of certain vegetable plant species. Scientific Papers. Series B, Horticulture. Vol. LXIX, No. 2, 2025. https://horticulturejournal.usamv.ro/pdf/2025/issue_2/Art59.pdf

Editorial staff:

Elenhe, Leena Korpinen, editor-in-chief
Sonator Oy, editorial assistant



Zento Oy, graphic and technical realization

The situation report bulletin is funded by Fingrid Oyj.

The Ministry of Economic Affairs and Employment of Finland is contributing to the work of the project's management group.

The next situation report bulletin will be published in winter 2026. The archive is available at www.leenakorpinen.com.

