



NextGEM

Next Generation Integrated Sensing and Analytical System for Monitoring and Assessing Radiofrequency Electromagnetic Field Exposure and Health

FiberCop becomes the 22nd NextGEM partner

The Italian telecom infrastructure company FiberCop became the 22nd project partner of NextGEM. They joined an initiative generating knowledge on possible human-health effects of the electromagnetic field (EMF) radiation, with special regards to the 5G implementation. FiberCop is an Italian company stemming from TIM, another NextGEM partner, and manages a nation-wide fibre-optic and copper network.

FiberCop enters NextGEM by becoming the leaders of one of the case studies the project is to undertake. This case study focuses on improving urban planning and 5G network design to assess and communicate potential cancer-related risks from EMF. It includes real-world measurements using operational 5G base stations. The aim is to collect accurate, long-term data to build realistic statistical exposure models. These measurements will support simulations and in vitro experiments on cell exposure, contributing to risk assessment, public awareness, and the validation of data for the NIKH platform.



BioEM 2025 & the Clue-H meeting participation

The **4th Annual Conference of BioEM** took place on June 22-27 in Rennes, France. Worldwide EMF experts gather annually in a conference organised by the BioEM society. The **4th Clue-H Meeting** took place during these days, too.

NextGEM partners played an important role during BioEM 2025. The consortium's partners presented **3 oral presentations**, hosted **2 oral sessions**, showcased **7 posters**, and participated in **2 workshops**.

[Click here to see all the participations](#)



Meetings

NextGEM partners gather in Larnaca

NextGEM partners met in Larnaca, Cyprus, on April 8-9, for the project's 7th Plenary Meeting. Over 30 partners joined an event that was held by the local partners *Sphynx* and *eBOS*.

The event served the purpose of steering the upcoming months of the project, and putting together all the latest results and successes of the NextGEM's research, as well as raising and sharing problems that might arise during the development of the research. During the two sessions of the meeting, the day-to-day was monitored, as well as the experiments and case studies to be undertaken on the possible health effects of electromagnetic fields (EMF) on humans.



The meeting kicked off with an overview of the project's overarching goals, accomplishments and main hot points foreseen in the following months, such as the important NextGEM partners' participation in the upcoming BioEM 2025. All the research lines forming the scientific backbone of the project were also discussed during that first session, too: the model- and sensor-based technologies for EMF exposure, the experimental approaches for assessing EMF biological and health-related effects, and hazard and risk assessment. The partners also discussed the upcoming NextGEM Innovation and Knowledge Hub (NIKH), a digital platform under development that will aggregate validated research findings related to EMF exposure.

The second date was the moment to discuss the stakeholder engagement and the impact maximisation of the project, as well as the three case studies that are currently being developed. Building on the knowledge developed in earlier stages, the consortium is now advancing three real-world research studies focused on:

- Investigating how EMF exposure may affect vulnerable populations, with a focus on reproductive health.
- Assessing EMF-related cancer risks in the context of urban outdoor environments.
- Exploring the potential impact of EMF on red blood cells in both indoor and outdoor settings.

Sciproof will host the next plenary meeting in Budapest, Hungary, next fall. The consortium organises a new meeting twice a year to monitor the project's day-to-day, steer its future, and discuss any problems that might arise.

Societal Implications of 5G and RF-EMF Technology

Insights from the NextGEM project

Maryse Ledent (Sciensano)
Maarten Velghe (RIVM)



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NextGEM participated in the Clue-H Workshop on 5G ethics

On 26 May, NextGEM partners Maryse Ledent (Sciensano) and Maarten Velghe (RIVM) showcased NextGEM's insights on the societal implications of 5G. They did so during the Clue-H-organised workshop "Societal and ethical impacts of 5G and RF-EMF technology". The EMF and Health Cluster (Clue-H) is a group of four European EMF-related projects including NextGEM. The other three projects are: GOLIAT (organisers of this activity), ETAIN, and SeaWave.

Publications

Sannino, A., Allocca, M., Scarfi, M. R., Romeo, S., Peluso, V., Panariello, G., Schettino, F., Chirico, G., & Zeni, O. (2025). **Exposure to 26.5 GHz, 5G modulated and unmodulated signal, does not affect key cellular endpoints of human neuroblastoma cells.** Sci Rep.

Simkó, M., Repacholi, M. H., Foster, K. R., Mattsson, M., Croft, R. J., Scarfi, M. R., & Vijayalaxmi, N. **Exposure to radiofrequency electromagnetic fields and IARC carcinogen assessment: Risk of Bias preliminary literature assessment for 10 key characteristics of human carcinogens.** Mutation Research/Reviews in Mutation Research.

Migliore, M. D. **Quantum Computing for Antennas and Propagation Problems: A gentle introduction.** IEEE Antennas and Propagation Magazine.

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Vargas Marcos, F., Mendoza Marian, G., Sanz Cameno, P. **Evaluación de los riesgos de los CEM de Radiofrecuencias.** Radio-protección.

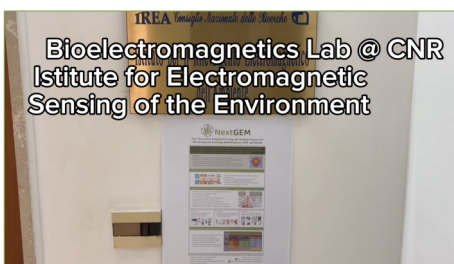
Petroulakis, N., Zervoudakis, P., Nomikos, G., Kornilakis, A., Chatziadam, P., Laskaratos, D., Eleftheria, V. M.-, Eleni, Z., & Theodorou, V. (2024). **Towards the development of a network provisioning platform for data exchange in the health data space.** IEEE Conference on Standards for Communications and Networking (CSCN), Belgrade, Serbia, 2024, pp. 147–153.

Check out our YouTube channel

Using *C.elegans* to assess biological effects of EMF



Exploring CNR's bioelectromagnetics laboratory



Visit of the ISSeP premises housing the exposure system for human tests



International Agency for Research on Cancer



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