

**Expert Advisory Board (EAB) on NIR,
Bulgaria, Ministry of Health**

International EMF Project

REPORT

**International Advisory Committee Meeting
WHO, Geneva, 6th – 8th June 2023
Geneva, Switzerland,
(for the period June 2022 – May 2023)**

I. General research activities in Bulgaria related to EMF health

Ongoing projects

International EMF Project, WHO: *Biological effects of static and time-varying electric and magnetic fields*

- Annual meeting of the Expert Advisory Board, 5 December 2022, Ognyanovo, Bulgaria
- Including the mobile operators in the process of exposure assessment, and in the EMF policy in the country
- Collecting information on the problems about the public concern about 5G technology.

EMF Forum – problems connected with the implementation of the Directive 2013/35/EU in practice.

- Preparing an international publication on practical application of the Directive 2013/35/EU – “*Occupational Exposure and Its Health Risks*” for the IJERPH.

Project: *Study of the public concern with EMF exposure to the general population. Risk communication and risk management*

Funds: National budget: National Centre of Public Health and Analyses (NCPHA)

Research team: V. Zaryabova – Ph.D. theses. Supervisor: Prof. M. Israel, Ph.D.

Deadline: 2020, prolonged to 2022. Final deadline for defence – 2023.

Project “*Analysis and development of methods for measuring and exposure assessment of NIR in new technologies (mainly 5G)*”

Aim: Development of new methods for exposure assessment of EMF emitted by 5G technology. Public perception.

Objectives:

- Developing of guideline for modeling and calculation of the “exposure zone” around sources of EMF used in 5G technology in residential areas
- Developing of guidelines for measurement and evaluation of RF exposure for the regional inspectorates

Funds: NCPHA

Deadline: 3 years (starting on 2021)

Scientific forums and publications:

1. Scientific forums

International Conference on radiation applications RAD 2022, Herceg Novi, Montenegro, June 13-17, 2022

XXXIX Colloquium “Physics in protection of the human health and environment”, 14-16 October 2022, mountain “Rila”, Samokov region, Bulgaria

2. Publications

Jeschke, P., C. Alteköster, K. Mild, M. Israel, M. Ivanova, K. Schiessl, Ts. Shalamanova, F. Soyka, R. Stam, J. Wilén, *Protection of Workers Exposed to Radiofrequency Electromagnetic Fields: A Perspective on Open Questions in the Context of the New ICNIRP 2020 Guidelines*, Frontiers in Public Health, DOI: 10.3389/fpubh.2022.875946, June 2022

Ts. Shalamanova, Hr. Petkova, M. Israel, V. Zaryabova, M. Ivanova, *Evaluation of the electromagnetic field and safety zones of existing base stations upgraded with 5G Massive MIMO antennas*, RAD Conference Proceedings, vol. 6, pp. 82–86, 2022, 2466-4626 (online) DOI: 10.21175/RadProc.2022.

II. New Policies and Legislation regarding EMF exposure

1. New policy for medical physicists in Europe

As members of the Bulgarian Society of Biomedical Physics and Engineering (BSMPE), we arise the question that medical physicists and biomedical engineers are engaged not only with sources of ionizing radiation, and also with non-ionizing radiation and other physical factors. They are working in the field of exposure and risk assessment, protection, health policy, quality assurance, training in physiotherapy, MRI facilities, optical and laser radiation units, health services and environmental engineering.

As a result, the European Federation of Organizations of Medical Physics (EFOMP) issued the Statement 14, 17 and 18, that are the first official recognition for non-ionizing medical physicists.

2. New method for calculation of the “exposure zone” around sources of EMF radiation in telecommunication

The method includes all kind of telecommunication sources including 5G technology. It was prepared for evaluation the exposure zones around new sources of 5G antennas.

3. Collecting data for the electronic register of communication sources of EMF radiation in residential areas.

Data were collected by measurements performed by the NCPHA and by the Regional Health Inspectorates (RHI) in residential areas. NCPHA analyses this data for all sources in the country.

4. Concerning the EU Directive 2013/35/EC for protection of workers against EMF radiation transposed in Ordinance RD 07-5, Official State Gazette 95, 2016, the efforts were directed through the European Forum, coordinated by the Federal Institute of Occupational Health in Dortmund, Germany. There are serious problems with the practical implementation of the Directive.

5. The Council Recommendations 1999/519/EC on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) still is not in use in Bulgaria. There is a draft of an Ordinance that includes most of the requirements and reference levels from this CR for practical use in Bulgaria.

III. Areas of public concern and national responses

The developed electronic registers for sources of EMF radiation and for complaints of individuals concerning the exposure are in use since May 2017, and they continue to be filled in.

The trend of reduction of the public concern – less people (less complaints), the same complaining people for a long period continued in the reported period. Much more fears are coming with the implementation of 5G technology. It is not in use yet but fake news and conspiracy theories are arising.

The main communication network in Bulgaria is built, and no many new stations are in construction. Mobile operators are starting the 5G technology, nevertheless that there is not enough information about its possible adverse effects on population.

IV. New public information activities:

One big information activity during this period was the information for the EMF sources from the electronic register with data for the sources and EMF exposures.

Every year, the Ministry of Health issues annual report on the health of the nation, which contains chapter on non-ionizing radiation. There activities of the Expert Advisory Board on NIR, NCPHA, Regional Health Inspectorates are presented. The information included in the field of NIR the level of public concern, the state and changes in the legislation for the working environment, results from measurements, results of EMF monitoring in the populated areas, analysis of the results, etc. The report is available to the public at the web site of the Ministry of Health.

Prof. M. Israel, Ph.D.,
Bulgarian Expert Advisory Board
International Project “Electromagnetic fields”

E-mail addresses: michelisrael@abv.bg ; m.israel@ncpha.government.bg

Addresses for correspondence:

Medical University – Pleven 1, St. Kl. Ohridski Str., 5800 Pleven, Bulgaria	National Centre of Public Health and Analysis, 15, Acad. Iv. Geshov Boul., 1431 Sofia, Bulgaria
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