

## **Research activities in Russian Federation for non-ionizing radiation health**

### ***Report of Russian National Committee on Non-Ionizing Radiation Protection for the WHO International EMF Project (2023)***

The previous EMF&health report of Russian National Committee on Non-Ionizing Radiation Protection (RusCNIRP) was given in June 2019. Therefore we present the most important issues for the period of the second half of 2019 - the first half of 2023.

#### **New policies and legislations regarding NIR exposure**

Changes in regulations.

1. New mandatory Sanitary rules "Sanitary and epidemiological requirements for organizations of education and training, recreation and health improvement of children and youth" (SP 2.4.3648-20) have been adopted by Russian Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing (Rospotrebnadzor). Valid from 01/01/2021 to 01/01/2027. This document contains important information related to non-ionizing radiation according scientific opinion of the RusCNIRP. These mandatory sanitary requirements apply both to educational organizations (kindergartens, schools, colleges, and educational programs using distance learning technologies and e-learning).

The use of mobile communications for educational purposes is prohibited. The use of a mobile cellular communication facility on the territory of research organizations is prohibited (point 3.5.3).

The use of monitors based on cathode ray tubes is prohibited (point 3.5.1)

It is forbidden for children to use more than two different visual displays in the classroom as interactive whiteboard and personal computer, interactive whiteboard and tablet (point 3.5.2.)

The document contains requirements for compiling notebooks, for organizing workplaces, for lighting conditions in the classroom and at the workplace. Requirements for the duration of classes with identified factors of need for the needs of different ages.

2. The state mandatory Sanitary rules and norms "Hygienic standards and requirements for ensuring the safety and (or) harmlessness of environmental factors for humans" SanPiN 1.2.3685-21 have been adopted too. Valid from 03/01/2021 to 03/01/2027. The document SanPiN 1.2.3685-21 established the maximum permissible levels of physical factors in workplaces and residential premises: microclimate parameters, noise and vibration levels, electromagnetic fields, radiation doses, lighting parameters, and so on.

Regarding non-ionizing radiation. The new document canceled all early Sanitary rules for the electromagnetic field in communal and industrial conditions. However, the document SanPiN 1.2.3685-21 don't change any values of the maximum permissible levels of the electromagnetic field, noise, illumination. This done according to the opinion of the RusCNIRP and the Scientific Council for Radiobiology of the Russian Academy of Sciences. Thus, changes in the regulatory framework for the electromagnetic field and non-ionizing radiation are formal.

3. State "Methodological recommendations for ensuring sanitary and epidemiological requirements in the implementation of educational programs using e-learning and distance learning technologies" were developed in 2023. The document was adopted in order to protect the health of children and youth in the implementation of digital educational programs for children 5 years of age and older.

The text includes RusCNIRP recommendations on limiting WiFi, on organizing control of non-ionizing radiation, on control of illumination, on the use of collective means of visual display of information. The document will be published in the second half of 2023.

4. The scientific research program has been developed for adapt the Sanitary Norms and Rules for radiofrequencies to the conditions of exposure of the population from promising communication standards 5/6G "(Principal - Federal Scientific Center for Hygiene of Rospotrebnadzor, Professor Vladislav R. Kuchma, and RusCNIRP, Dr. Oleg A. Grigoriev) This research program was developed in the spring of 2023 and will be adopted this year.

### **General EMF activities**

The national conference "Actual issues of radiobiology and hygiene of non-ionizing radiation" was held in fall 2019 (November 12-13,). Information about the BioEMF-2019 conference, including presentations, abstracts and other (rus/eng), on the website [www.bioemf.ru](http://www.bioemf.ru)

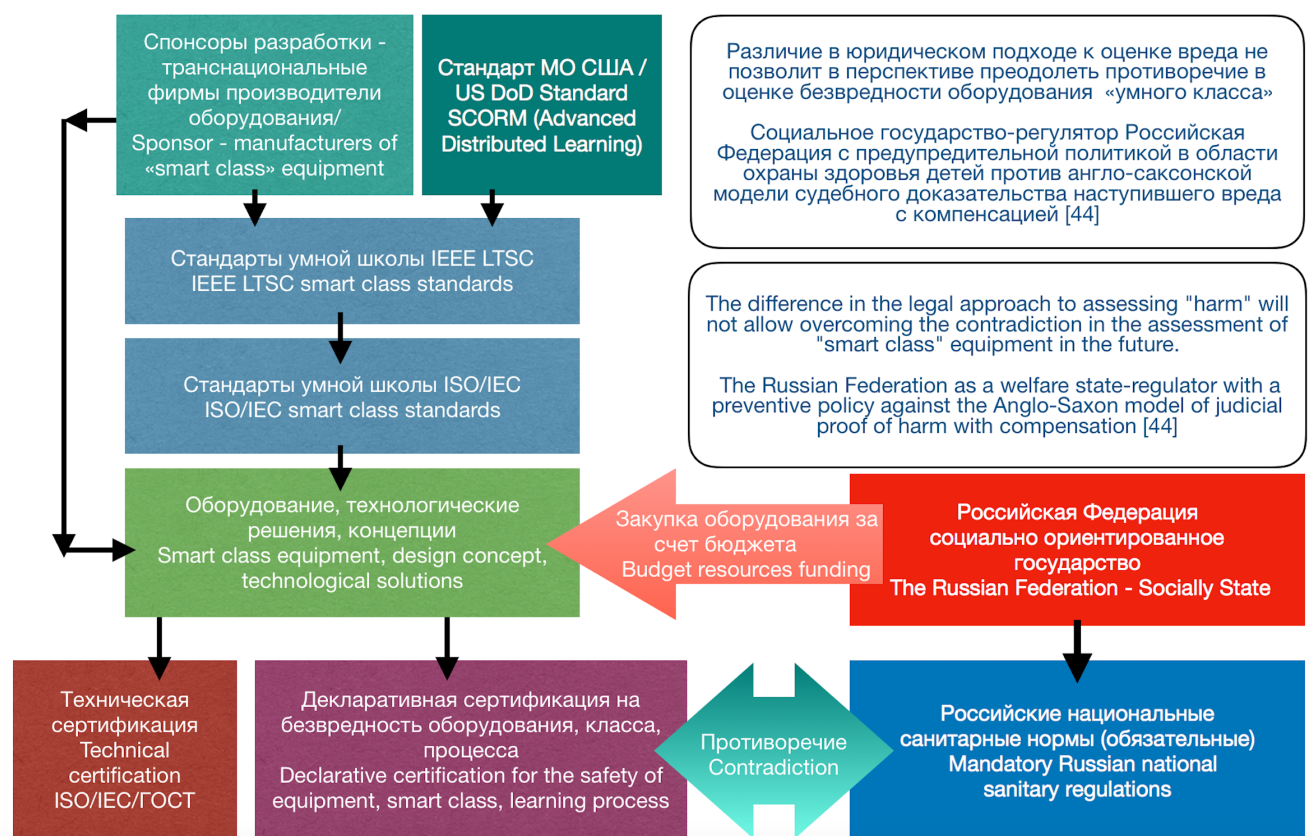
The next national NIR conference BioEMF-2024 is scheduled for fall 2024. This conference will be dedicated to the 130th anniversary of the beginning of continuous research into the bio-medical effects of electromagnetism in Russia.

The problems of the influence of non-ionizing radiation on the health of children in the information and communication environment were discussed at the XIII All-Russian Congress of Hygienists, Toxicologists and Sanitary Doctors. The participants of the discussion talked about reports of an increase in the incidence of children under the age of 17 who use the digital education system. The reason for the increase in the incidence may be due of non-

ionizing radiation incl EMF and optical (Prof. Zubarev, Prof. Stepanova, Dr. O. Grigoriev and others).

According to colleagues, the increase in the incidence is associated with the import into our country of digital equipment for smart classrooms, which is manufactured according to SCORM/IEEE standards (see Fig. 1).

Currently, the RusCNIRP and the Radiobiological Society of the Russian Academy of Sciences are preparing a thematic issue on non-ionizing radiation of the journal of the Academy of Sciences "Radiation Biology", the tentative issue is the first issue for 2024.



More information about the articles of Russian researchers on the bio-medical effects of the electromagnetic field is systematically published on the RusCNIRP website [www.emfnet.ru](http://www.emfnet.ru)

**Dr. Oleg A. GRIGORIEV**

Dr.Sc. (radiobiology), Ph.D. (radiobiology & hygiene of non-ionizing radiation)  
 Chairman, Russian National Committee on Non-Ionizing Radiation Protection  
 Chairman, Non-ionizing Radiation Departments of Scientific Consul for Radiobiology of the Russian Academy of Science  
 Chairman, Non-ionizing Radiation Departments of Radiobiology Scientific Society of the Russian Academy of Science