#### SCIENTIFIC CONFERENCE

# ACTUAL ISSUES OF RADIOBIOLOGY AND HYGIENE FOR NON-IONIZING RADIATION



- Russian National Committee for Non-ionizing Radiations Protection
- Scientific Council on Radiobiology of Russian Academy of Science
- Department of Physiological Sciences of Russian Academy of Science
- Department of Nanotechnology and Communication Technology of Russian Academy of Science

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### Session RADIOBIOLOGY OF NON-IONIZING RADIATION

SIGNIFICANCE OF ADEQUATE INFORMATION ABOUT THE DANGER OF MOBILE COMMUNICATIONS FOR HEALTH OF POPULATION IN THE 21st CENTURY.

Yuri G. Grigoriev

NEURO-EFFECTS OF LOW-INTENSITY ELECTROMAGNETIC FIELDS (FROM NEURON TO THE BRAIN, CNS AND BODY)

Svetlana N. Lukyanova

EXPERIMENTAL ASSESSMENT OF THE NERVOUS SYSTEM CHRONIC EXPOSURE TO NON-IONIZING RADIATION

Igor B. Ushakov, V.P. Fyodorov, A.N. Astashova

HAZARD ASSESSMENT OF ELECTROMAGNETIC FIELDS OF MOBILE PHONES FOR CHILDREN AND TEENAGERS. THE RESULTS OF THE WORLD'S ONLY LASTED 14–YEARS PHYSIOLOGICAL STUDIES

N.I. Khorseva, Yu.G. Grigoriev, P.E.Grigoriev

EXPERIMENTAL STUDY OF BIOTROPIC EFFECT OF LOW FREQUENCY MODULATED ELECTROMAGNETIC 2,4 GHz FIELDS ON FIBROBLAST CULTURE MODEL

R.I. Al-Shekhadat, E.V. Mukhachev, V.N. Nosov, I.A. Gabay, A.V. Pekin

ELECTROMAGNETIC LOAD ASSOCIATED WITH THE MOBILE PHONE USE IN YOUNGER STUDENTS, AND ITS IMPACT ON THEIR WELL-BEING AND BRAIN BIOELECTRIC ACTIVITY.

Vyatleva O.A., Kurgansky A.M.

INDIVIDUAL APPROACH TO THE USE OF TRANSCRANIAL MAGNETIC STIMULATION AND NEUROINTERFACES IN NEUROECONOMICS **R.F. Gimranov**, **R.R. Gimranov** 

SOME ASPECTS OF THE RADIO FREQUENCY RANGE ELECTROMAGNETIC RADIATION BIOLOGICAL EXPOSURE (CLINICAL-EXPERIMENTAL RESEARCH)

G.A. Ibadova, G.A. Tashpulatova, G.M. Khamidova, L.M. Maksudova

MORPHO-FUNCTIONAL DISTURBANCES AT THE DUGESIA TIGRINA AND SHMIDTEA MEDITERRANEA PLANARIA IN A LOW-INTENSE RADIO-FREQUENCY FIELD

D.V. Uskalova, K.V. Ustenko

BIOLOGICAL EFFECTS OF LOW-INTENSITY FEMTOSECOND LASER RADIATION WITH A WAVELENGTH OF 525 NM IN MICE IN VIVO A.R. Dyukina, S.I. Zaichkina, O.M. Rozanova, S.S. Sorokina, E.N. Smirnova, M.M. Potselueva, A.A. Naumov, D.P. Laryushkin, N.V. Minaev, V.I. Yusupov

EFFECTS OF IRRADIATION IN A LOW-INTENSIVE RADIO-FREQUENCY FIELD UNDER HUNGER CONDITIONS BY THE EXAMPLE OF AN INVERTEBRATE ANIMALS

K.V. Ustenko, D.V. Uskalova

## Session NON-IONIZING RADIATION HYGIENE AND ELECTROMAGNETIC SAFETY

ACTUAL ISSUES OF RADIOBIOLOGY AND HYGIENE OF NON-IONIZING RADIATION FOR NEW ELECTROMAGNETIC TECHNOLOGIES.

Oleg A. Grigoriev

TRENDS IN THE DEVELOPMENT OF MODERN RADIO TECHNOLOGIES. THE PROBLEM OF PROVIDING ELECTROMAGNETIC SAFETY OF THE POPULATION

Valentina N. Nikitina

NEW ISSUES OF HYGIENIC LIMITS FOR ELECTROMAGNETIC FIELDS OF MODERN NETWORKS TECHNOLOGIES

Yuri M. Spodobaev

ASSESSMENT OF ELECTROMAGNETIC BACKGROUND, CREATED BY SYSTEMS OF THE CELLULAR (MOBILE) COMMUNICATIONS Vladimir I. Mordachev

ELECTROMAGNETIC RADIATION OF THE RADIO FREQUENCY RANGE AS A HYGIENIC PROBLEM.

G. A Tashpulatova., D.A. Zaredinov, M. Magay, G.M. Khamidova, L.M. Maksudova

EXPOSURE LIMITS FOR NON-IONIZING RADIATION (NIR) IN BULGARIA AS AN EU MEMBER

Michel Israel, Victoria Zaryabova, Mihaela Ivanova, Tsvetelina Shalamanova, Petya Ivanova

EFFECTS OF LONG-TERM EXPOSURE OF ELECTROMAGNETIC RADIATION FROM A MOBILE PHONE (1745 MHz) ON THE RAT-MALES BODY N. Chueshova, R. Novikov, A. Kozlov, E. Shubenok

THE PRACTICAL IMPLEMENTATION OF THE PRECAUTIONARY PRINCIPLE OF PROTECTION FOR USERS OF CELLULAR COMMUNICATIONS AND WIRELESS DATA TRANSMISSION SYSTEMS.

Yuri B. Zubarev, Oleg A.Grigoriev

THE CURRENT STATE OF HYGIENIC ASSESSMENT OF EMF AND NOISE IN MRI DEPARTMENTS IN RUSSIA AND ABROAD.

Larisa V. Pokhodzey, Elena A. Rudneva

SPATIAL VARIABILITY AND TEMPORAL DYNAMICS OF ELECTROMAGNETIC FIELDS OF INDUSTRIAL FREQUENCY IN CASE OF URBAN ENVIRONMENT

V.I. Sturman

NUMBER OF POPULATION LIVING NEAR THE POWER TRANSMISSION LINES AND EXPOSED BY THE POWER FREQUENCY MAGNETIC FIELD ABOVE 0,3  $\mu$ T (ON THE EXAMPLE OF THE MOSCOW REGION) Anastasia S. Prokofyeva, Oleg A. Grigoriev

CHANGES IN BIORHYTHMOLOGICAL INDICATORS USING INFORMATION AND COMMUNICATION TECHNOLOGIES

Svetlana G.Yashchenko, S.E. Shibanov

THE SYSTEM THAT MINIMIZE CELL PHONE RADIATION A.N. Baranov

ELECTROMAGNETIC SAFETY COMPOSITES Vladimir N. Gulbin, S.B. Bibikov

### Special session NON-IONIZING RADIATION FOR THE AGRICULTURE INDUSTRY

THE USE OF NON-IONIZING RADIATIONS IN TECHNOLOGIES FOR SOWS KEEPING

E.B. Mirzoev, V.O. Kobyalko, V.Ya. Sarukhanov, O.A. Gubina, N.A. Frolova

INFLUENCE OF ACUTE UV IRRADIATION ON BARLEY (Hordenum vulgare L.) **O.A.Guseva, P.N.Tsygvintsev, L.I. Goncharova** 

EFFECT OF STATIC ELECTRIC FIELD ON GERMINATION OF SPRING WHEAT SEED'S

A.V. Lazukin, S.A. Krivov, Yu. A. Serduykov

PLASMA TECHNOLOGY IN AGRICULTURE AND FOOD INDUSTRY **D.Petrukhina**, **S.Gorbatov**, **A.Shesterikov**, **V.Tikhonov**, **I.Ivanov**, **A. Tikhonov** 

INFLUENCE OF PRE-SEEDING UV AND MICROWAVE IRRADIATION OF POTATOE TUBER ON THE PATHOGENES

P.N. Tsygvintsev, A.V. Tikhonov, V.N. Tikhonov, I.A. Ivanov

### **POSTERS SESSION**

SCIENTIFIC-HISTORICAL ANALYSIS OF THE FORMATION OF THE "THERMAL" AND "NON-THERMAL" APPROACH TO THE PRIORITY MECHANISM OF THE BIOLOGICAL ACTION OF THE ELECTROMAGNETIC FIELD IN THE RESEARCHES OF VASILIY DANILEVSKY AND D'ARSONVAL Victoria A. Alekseeva

PHOTODYNAMIC THERAPY OF TRANSPLANTABLE SARKOMA M1 TUMOR OF RATS WITH THE NEW PHOTOSENSITIZER PHOTORAN E6

M.A. Kaplan, V.V. Yuzhakov, O.B. Abramova, V.V. Drozhzhina, L.N. Bandurko, E.A. Beregovskaya, K.S. Korchagina, T.P. Churikova, M.G. Tsyganova, A.E. Koretskaya, Yu.S. Romanko

INFLUENCE OF THE MAGNETIC FIELD OF INDUSTRIAL FREQUENCY AND ELECTROMAGNETIC RADIATION OF MOBILE COMMUNICATION ON THE CONCENTRATION OF METABOLITES OF NITROGEN MONITUM IN SERUM OF RAT BLOOD

M.A. Bakshayeva

INFLUENCE OF ELECTROMAGNETIC RADIATION ON STORAGE AND GROWTH OF SEEDS OF BARLEY

S.O. Gaponenko, A.V. Bardyukova, T. I. Milevich, V.P. Gerasimenya

EFFECT OF PHOTODYNAMIC THERAPY WITH THE PHOTOSENSITIZER PHOTORAN E6 ON RAT SARCOMA M-1

M.A. Kaplan, V.V. Yuzhakov, O.B. Abramova, V.V. Drozhzhina, L.N. Bandurko, E.A. Beregovskaya, K.S. Korchagina, T.P. Churikova, M.G. Tsyganova, A.E. Koretskaya, Yu.S. Romanko

ASSESSMENT OF THE EFFECT OF THE CHRONIC EXPOSURE OF A LOW\_INTENSITY ELECTROMAGNETIC FIELD TO THE CENTRAL NERVOUS SYSTEM BY THE TEST OF THE DEVELOPMENT OF A CONDITIONED DEFENSIVE REFLEX IN RATS

L.N.Pavlova, L.P.Zhavoronkov, O.I.Kolganova

EFFECT OF CHRONIC MICROWAVE RADIATION EXPOSURE ON THE ORIENTING-EXPLORATORY RESPONSE OF RATS

O.I. Kolganova, L.P. Zhavoronkov, L.N. Pavlova, V.V. Panfilova, O.F. Chibisova, L.K. Shvarzburg

ELECTROMAGNETIC ENVIRONMENT OF WORKING PLASES WITH DIGITAL WORKSTATIONS - HYGIENIC ANALISYES OF CONDITION IN CLASSROOMS **Dmitriy B. Komarov, Anastasiya S. Prokofeva, Oleg A. Grigoriev** 

MANIFESTATION OF SYNERGISTIC EFFECTS UNDER THE ACTION OF ELECTROMAGNETIC FIELDS OF NON-THERMAL INTENSITY **Svetlana N. Lukyanova, V.G. Petin** 

THE HISTORY OF SCIENTIFIC CONFERENCES ON ELECTROMAGNETIC BIOLOGY, RADIOBIOLOGY AND HYGIENE OF NON-IONIZING RADIATION IN RUSSIA OVER THE PAST HUNDRED YEARS.

Victoria A. Alekseeva, Anastasia S. Prokofieva, Oleg A. Grigoryev

MEDICAL AND BIOLOGICAL ASPECTS OF THE EFFECT ON THE HUMAN ORGANISM OF LOWERING THE THRESHOLD OF TOLERANCE TO NON-IONIZING RADIATION BY ENVIRONMENTAL FACTORS INFLUENCING THE EMERGENCE OF ELECTROMAGNETIC HYPERSENSITIVITY **P.Miniou, K.Bellouma** 

COMPREHENSIVE HEALTH ASSESSMENT AT INSPECTION GROUPS OF WORKERS (POPULATION) EXPOSED TO NON-IONIZING RADIATION I. L. Myznikov, N. V. Askerko, E. A. Archipenko (But), M. V. Kabanov, A.N. Lunkin, D. M., Lavenkevich, A. A. Kisina (Chereverova)

STRUCTURAL AND FUNCTIONAL DNA CHANGES IN CELLS OF DIFFIRENT TISSUES UNDER RADIOFREQUNCY ELECTROMAGNETIC IRRADIATION E.A. Nikanorova, K.Yu. Ivanov, V.I. Nagiba, G.L. Patochka, I.A. Varganova, Ya.I. Medvedev

THE EFFECT OF CHRONIC EXPOSURE TO RADIATION RANGE OF MOBILE COMMUNICATION IN THE EARLY POSTNATAL ONTOGENESIS OF POSTERITY

V. V.Panfilova, O. I.Kolganova, O. F. Chibisova

ACTION OF SUBNANOSECOND PULSED ELECTROMAGNETIC FIELD ON JURKAT AND SKOV3 CELLS

A.A. Petrov, A.A. Moraleva, N.A. Antipova, R.Kh. Amirov, I.S. Samoylov, N.V. Pestovskii, S.Yu. Savinov

STATE OF CELLULAR METABOLISM AFTER THE ACTION OF COMPLEX MODULATED EMR OF NON-THERMAL INTENSITY

E.G. Rokhmistrova, Yu.E.Ananieva, O.A.Zakharova, O.M. Labyntseva

ROLE OF GEOLOGICAL AND GEOPHYSICAL FACTORS IN GLOBAL ELECTROMAGNETIC POLLUTION OF HUMAN BEINGS AND ECOSYSTEMS A. Rusanov

DEPENDENCE OF THE DISEASES OF THE BLOOD CIRCULATION SYSTEM ON ELECTROMAGNETIC LOAD CREATED BY MOBILE TERMINALS S. Yu. Rybalko, S.G. Yaschenko

PERSONAL MICROWAVE DOSIMETER «MERA» A.S. Dmitriev, V.V. Itskov, M.G. Popov, A.I. Ryzhov

THE USE OF MICROWAVE RADIATION IN AGRICULTURAL TECHNOLOGIES Tikhonov V., Ivanov I., Tikhonov A.

CHANGES IN NEURONS OF THE CEREBRAL CORTEX IN ACUTE UNEVEN ELECTROMAGNETIC IRRADIATION

V.P. Fyodorov, I.B. Ushakov, O.P. Gundarova

APPLICATION OF UV RADIATION IN COMPLEX TECHNOLOGY OF STORAGE OF CHAMPIGNIONS

N.S. Shishkina, N.I. Fedyanina, O.V. Karastoyanova, N.V. Korovkina, A.A.Musatova

SOME ASPECTS OF THE MOLECULAR MECHANISM AFFECT OF RADIO FREQUENCY ELECTROMAGNETIC RADIATION OF A RANGE ON AN ORGANISM OF EXPERIMENTAL ANIMALS.

G.M Khamidova, G.A. Tashpulatova, G.A. Ibadova, L.M.Maksudova



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