



**Taras Shevchenko National University of Kyiv
Training and Research Center for Radiation Safety
National Academy of Medical Sciences of Ukraine
Ukrainian Association of Medical Physicists and Engineers**

*X International Conference “Medical Physics – Current State,
Issues, Development Directions. New Technologies”
September 22-24, 2021*

on-line, Zoom

PROGRAMME

September 22, 2021

9:05-09:20	Technical part (connection, Kyiv time)
09:20-10:25	Opening. Welcome remark <i>Moderator Liudmyla Aslamova, Director, Training and Research Center for Radiation Safety, Taras Shevchenko National University of Kyiv, Ukraine</i>
09:20-9:25	<i>Liudmyla Aslamova, Director, Training and Research Center for Radiation Safety, Taras Shevchenko National University of Kyiv, Ukraine</i>
09:25-9:45	<i>Volodymyr Bugrov, Rector, Taras Shevchenko National University of Kyiv, Ukraine</i>
09:45-9:55	<i>Ruslana Tripailo, Deputy Head, State Nuclear Regulation Inspectorate, Ukraine</i>
09:55-10:05	<i>Damir Zaredinov, Chief of radiologist, Ministry of Health, The Republic of Uzbekistan</i>
10:05-10:15	<i>Todorka L. Dimitrova, University of Plovdiv "Paisii Hilendarski", Scientific Secretary of the Union of Scientist in Bulgaria - Plovdiv, Bulgaria Member of the Executive Board of the Bulgarian Society for Biomedical Physics and Engineering, Sofia, Bulgaria</i>
10:15-10:25	<i>Pawel Olko, Head of Division of Applied Physics, Institute of Nuclear Physics, Polish Academy of Sciences, Poland</i>
10:25-11:00	Luminescence methods in dosimetry for proton therapy, Pawel Olko , Institute of Nuclear Physics, Polish Academy of Sciences, Poland

11:00-11:40	Diagnostic reference levels (DRLs) in medical imaging: the concept and use, Jenia Vassileva , <i>Radiation Protection Specialist, Division of Radiation, Transport and Waste Safety, Department of Nuclear Safety & Security, International Atomic Energy Agency, Austria</i>
11:40-13:30	Master Class Moderator Todorka L. Dimitrova , <i>University of Plovdiv "Paisii Hilendarski", Scientific Secretary of the Union of Scientist in Bulgaria - Plovdiv, Bulgaria, Member of the Executive Board of the Bulgarian Society for Biomedical Physics and Engineering, Sofia, Bulgaria</i>
11:40-12:05	Master Program in Medical Physics, Todorka L. Dimitrova , <i>University of Plovdiv "Paisii Hilendarski", Scientific Secretary of the Union of Scientist in Bulgaria - Plovdiv, Bulgaria, Member of the Executive Board of the Bulgarian Society for Biomedical Physics and Engineering, Sofia, Bulgaria</i>
12:05-12:25	Analysis of radiation doses and risk assessment during computed tomography studies, Marina Li , <i>Head of the scientific research radiological laboratory, Ministry of Health, The Republic of Uzbekistan</i>
12:25-12:45	Transitions from three-dimensional planning to IMRT and VMAT for prostate radiotherapy, Hanna Chornai , <i>LISOD - Israeli Oncology Hospital</i>
12:45-13:00	Individual approach in brachytherapy. What does it mean, Oksana Kozak , <i>Region Oncology Hospital, Kiev, Ukraine</i>
13:00-13:15	Multicomponent nanosystems for combined cancer therapy, Yuliia Kuziv , <i>Taras Shevchenko National University of Kyiv, Ukraine</i>
13:15-13:30	Interstitial efficiency brachytherapy in the treatment of non-melanoma skin cancer, Horot Iryna , <i>Bogomolets National Medical University, Kiev, Ukraine</i>
13:30-14:30	Lunch
14:30-16:00	Moderator Liudmyla Aslamova , <i>Training and Research Center for Radiation Safety, Taras Shevchenko National University of Kyiv, Ukraine</i>
14:30-14:50	Everyone's security culture is the guarantee of the national development. Liudmyla Aslamova , <i>Taras Shevchenko National University of Kyiv, Ukraine</i>
14:50-15:10	Corrections to the gamma-ray spectrum from the interaction with fast neutrons on cadmium for indoor measurements. Oleksandr Gorbachenko , <i>Taras Shevchenko National University of Kyiv, Ukraine</i>

15:10-15:25	Possibilities on application of high sensitivity sensor of mechanical oscillations in medical and biological researches and medicine. Serhii Lysochenko , <i>Institute of High Technologies, Taras Shevchenko National University of Kyiv, Ukraine</i>
15:25-15:45	2021 UNSCEAR Global Survey on Public Exposure – Ukrainian contribution. Vadim Chumak , <i>SE National Research Center for Radiation Medicine NAMS Ukraine Kyiv, Ukraine</i>
15:45-16:00	Modern equipment for radiopharmaceutical processing. Oleksii Galchenko , <i>Bogomolets National Medical University, Kyiv, Ukraine</i>
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9:10-13:00	Part 2. Radiation protection Moderator Tetiana Pavlenko , <i>State Institution «O. M. Marzieiev Institute for Public Health of the National Academy of Medical Sciences of Ukraine», Ukraine</i>
9:10-9:15	Welcome remark
9:15-9:35	The optimization ways of radiation safety for patients during CT examination. Olga Nosyk , <i>Grigoriev Institute for Medical Radiology and Oncology, Ukraine</i>
9:35-9:50	Estimation of ozone concentration in the treatment rooms of medical linear electron accelerators. Dmytro Bielykh , <i>The State Scientific and Technical Center for Nuclear and Radiation Safety, Ukraine</i>
9:50-10:10	Specific issues regarding exemption of some x-ray sources from licensing. Oleksandr Viskov , <i>State Nuclear Regulatory Inspectorate of Ukraine, Ukraine</i>
10:10-10:30	Dosimetric control system in the hospital. Loshak Tatiana , <i>LISOD - hospital of Israeli oncology, Ukraine</i>
10:30-10:45	Planned training of category A staff in cases of radiation accidents and emergencies. Olena Chygryn , <i>Medical Center «Universal clinic «Oberig» LLC «Capytal», Ukraine</i>
10:45-11:00	Verification of compliance of chest images of digital x-ray tomosynthesis to european requirements for computed tomography. Oleksandra Miroshnychenko , <i>National Aviation University, Ukraine</i>
11:00-11:10	Break
11:10-11:30	DTI MRI: early previsual diagnosis of cognitive disorders. Iryna Dykan , <i>State institution «Institute Nuclear Medicine and Diagnostic Radiology of National Academy of Medical Science of Ukraine», Ukraine</i>
11:30-11:50	Resolution of the ultrasonic Doppler system using coherent plane-wave compounding. Iryna V Sheina , <i>V.N. Karazin Kharkiv National University, Ukraine</i>

11:50-12:05	Comparison of theoretical and practical width of the study layer of cone-beam ct scanner. Oleksandra Miroshnychenko , <i>National Aviation University, Ukraine</i>
12:05-12:25	Magneto-laser technique in complex treatment of Vascular diseases, trophic ulcers and wounds. Victor Chernyak , <i>Clinic of the National Taras Shevchenko Univeversity, Ukraine</i>
12:25-12:40	Effects of molecular structure of substituted cellulose on dielectric relaxation in them. Sobchuk Andrii , <i>Faculty of Physics Taras Shevchenko National University of Kyiv, Ukraine</i>
12:40-13:00	Ukrainian Action Plan for indoor radon (results of the first stage). Tetiana Pavlenko , <i>State Institution «O. M. Marzieiev Institute for Public Health of the National Academy of Medical Sciences of Ukraine», Ukraine</i>
13:00-14:00	Lunch
14:00-16:30	Webinar «The impact of the COVID-19 pandemic on the mental health of healthcare workers» Moderator Irina Pinchuk , <i>Director of the Institute of Psychiatry of Taras Shevchenko National University of Kyiv, Ukraine</i>
14:00-14:15	Welcome remark
14:15-14:35	A review of current mental health research during the COVID-19 pandemic. Yulia Yachnik , <i>Doctor-psychologist, University Clinic of Taras Shevchenko National University of Kyiv, Ukraine</i>
14:35-14:55	COVID-19 and affective pathology. Stanislav Chumak , <i>Senior Researcher, Institute of Psychiatry, Taras Shevchenko National University of Kyiv, Ukraine</i>
14:55-15:15	Study of occupational stress of medical workers during the epidemic COVID-19 in Ukraine. Vitaly Pishel, MD, PhD, Prof., Main Researcher, Marina Polyviana , <i>Senior Researcher, Institute of Psychiatry, Taras Shevchenko National University of Kyiv, Ukraine</i>
15:15-15:35	Mental health programs and interventions in the context of the COVID-19 pandemic. Tatiana Ilnytska , <i>Researcher, Institute of Psychiatry, Taras Shevchenko National University of Kyiv, Ukraine</i>
15:35-15:55	Psychological support hotline during the COVID-19 pandemic. Natalia Stepanova , <i>Senior Researcher, Alexey Kolodezhny</i> , <i>Senior Specialist, Andriy Solonsky</i> , <i>Psychologist, Institute of Psychiatry, Taras Shevchenko National University of Kyiv, Ukraine</i>
15:55-16:15	Features of standardization of medical care at COVID-19. Olena Lishchyshyna , <i>Scientist, Interdisciplinary Analytical Center of Socio-economic Well-being and Mental Health of the Kiev National University. Taras Shevchenko, Head of the Scientific Department of Medical Care</i>

	<i>Organization State Scientific Institution "Scientific and Practical Center for Preventive and Clinical Medicine" of the State Administration, Ukraine</i>
16:15-16:30	<i>Discussion and questions</i>
	September 24, 2021
9:10-12:45	<i>Part 3, 4. Biomedical engineering. Innovative technologies in medicine</i> <i>Modepamop</i> <i>Sergii Miroschnychenko, Teleoptika SPA, Ukraine</i>
9:10-9:25	<i>Welcome remark</i>
9:25-9:45	Patient setup error correction in radiation therapy. Volodymyr Vashchyshyn, Oberig Clinic, Ukraine
9:45-10:05	Methods of optimal location of fixing and locking screws on the houses of ankle structures for osteosynthesis and tanging. Olexander Shaiko-Shaikovskij, Yuriy Fedkovych Chernivtsi National University, Ukraine
10:05-10:20	Monte Carlo simulation of beam collimation for spatially fractionated radiation therapy. Ramazanov Dmytro, Institute for Nuclear Research of the National Academy of Sciences of Ukraine, Ukraine
10:20-10:35	Changing the conformational characteristics of NADH molecules using electromagnetic irradiation. Mykhaylo Zabolotnyy, Taras Shevchenko National University of Kyiv, Ukraine
10:35-11:05	Apparatus for thomosynthesis of chest using cathodes on nanotubes. Sergii Miroschnychenko, Teleoptika, SPA, Ukraine
11:05-11:15	Break
11:15-11:30	Laser speckle refraction analyzer for ophthalmology. Lysenko Olexandra, Taras Shevchenko National University of Kyiv, Ukraine
11:30-11:45	The application of screening studies using the method of phasography for the prevention, treatment and rehabilitation of patients with cardiovascular disease. Shevchenko Vita, Clinic of the National Taras Shevchenko Univeversity, Kyiv, Ukraine
11:45-12:00	Software and hardware complex for control of changes of the peripheral flow of blood and dynamics of transformation of the oxygemoglobin molecules when using a dental laser. Olexsandra Ostapenko, Taras Shevchenko National University of Kyiv, Ukraine
12:00-12:15	Technology of spectral processing of endoscopic images of the gastrointestinal tract. Yuriy Koshevskiy, Clinic of the National Taras Shevchenko Univeversity, Kyiv, Ukraine
12:15-12:25	Stimulation of biomass and astaxanthin accumulation in Haematococcus pluvialis using low-temperature plasma. Uliana Palianytsia, Taras Shevchenko National University of Kyiv, Ukraine
12:25-12:45	Justification of parameters of the self-protected cone-beam ct scanner. Sergii Miroschnychenko, Teleoptika SPA, Ukraine

12:45-13:05

Conclusion

Moderator

*Liudmyla Aslamova, Director, Training and Research Center for
Radiation Safety, Taras Shevchenko National University of
Kyiv, Ukraine*