

TABLE OF CONTENTS

ACTIVITIES AND PROSPECTS

State Institution “National Research Center for Radiation Medicine of National Academy of Medical Sciences of Ukraine” 2012 annual report	12
D. Bazyka, V. Sushko, A. Chumak, V. Buzunov, V. Talko, L. Yanovych	
Scientific background of contemporary approach in the priority areas of medical science in the field of radiation medicine and radiobiology	20
A. A. Chumak, N. V. Medvedovska, L. M. Ovsyannikova	
Innovative activities at the State Institution “The National Research Center for Radiation Medicine of the NAMS of Ukraine” during the 10-year period	26
B. M. Gurianov, A. M. Saienko, L. A. Yanovych	

EPIDEMIOLOGY AND DOSIMETRY

Way to improve the radiation hygienic monitoring on contaminated territories	31
A. B. Bilonyk, V. O. Buzunov, V. V. Vasylenko, V. O. Pikta	
Role of the weighting tissue factors in dose assessments	38
Yu. V. Bonchuk	
Radiation dose- and sex-dependent cardiovascular mortality in residents of contaminated areas after the Chernobyl NPP accident, 1988–2010 observation period	50
V. O. Buzunov, K. Ye. Prikaschikova, I. G. Gubina, G. V. Kostyuk, S. O. Tereschenko	
Peculiarities of internal radiation doses due to ¹³⁷Cs and ⁹⁰Sr intake in population from Zhytomyr oblast in a late period after the Chernobyl NPP accident	59
V. V. Vasylenko, M. Y. Tsigankov, S. Y. Nechaev, V. O. Pikta, G. M. Zadorozhna, A. B. Bilonyk	
Testing and validation of methods for dose measuring in anisotropic fields under occupational exposure in interventional cardiology	70
V. N. Voloskyi, V. V. Chumak, E. V. Bakhanova, A. A. Morgun	
Estimation of the multiple sclerosis risk in population living on contaminated territories after the Chernobyl catastrophe	82
O. O. Kolosynska	
Radiation and non-radiation factors impact on development of cerebrovascular diseases in the Chernobyl clean-up workers. The epidemiological study results.	89
L. I. Krasnikova, V. A. Buzunov, S. I. Solonovitch	
Chernobyl and reproductive health of a female rural population (an epidemiological study)	102
Y. I. Kundiev, V. I. Chernyuk, A. N. Karakashyan, T. Y. Martynovskaya	

Berkson errors in radiation dose assessments and their impact on radiation risk estimates	109
S. V. Masiuk, S. V. Shklyar, A. G. Kukush	
Methodological approach to developing of double dosimetry algorithms and its application in the interventional cardiology	127
A. A. Morgun, V. V. Chumak, O. V. Bakhanova, V. M. Voloskii, S. M. Furkalo, O. A. Vlasenko, P. A. Gyndych, O. G. Borodinych, N. P. Deniachenko	
Expert assessment of preventive measures in the zone of guaranteed voluntary resettlement	133
Iu. Iu. Ozerova, V. A. Prilipko, A. A. Myshkovska	
Age and gender patterns of thyroid cancer incidence in Ukraine depending on thyroid radiation doses from radioactive iodine exposure after the Chernobyl NPP accident	144
M. M. Fuzik, A. Ye. Prysyazhnyuk, Y. Shibata, A. Yu. Romanenko, Z. P. Fedorenko, N. A. Gudzenko, L. O. Gulak, N. K. Trotsyuk, Ye. L. Goroh, O. M. Khukhrianska, O. V. Sumkina, V. A. Saenko, Sh. Yamashita	
CLINICAL RESEARCH	
Structural and functional thyroid abnormalities in patients with dyshormonal breast disorders and tumors	156
D. Bazyka, O. Lytvynenko, S. Bugaistov	
Multiple myeloma among Chernobyl accident clean-up workers – state and perspectives of analytical study	169
D. A. Bazyka, N. A. Gudzenko, I. S. Dyagil, N. G. Babkina, V. V. Chumak, E. V. Bakhanova, V. V. Paramonov, A. Ye. Romanenko	
Effect of RBC concentrate transfusions on serum ferritin content in children with acute leukaemia	173
V. G. Bebeshko, E. M. Bruslova), N. M. Tsvietkova, S. M. Iatsemirskii, T. I. Puchkareva, L. A. Gonchar, V. V. Krukovska, A. V. Zelinska, L. P. Mishchenko	
Lymphocytosis in children after the Chernobyl NPP accident	180
V. G. Bebeshko, K. M. Bruslova, A. A. Chumak, N. M. Tsvietkova, O. E. Kuznetsova, L. O. Gonchar, V. M. Parkhomenko, T. I. Puchkareva, V. G. Boyarskiy, O. Y. Pleskach, T. Y. Abramova	
Role of VEGF A gene in the formation of late effects after the Chernobyl accident	190
I. M. Ilyenko	
Depression and ionizing radiation	200
K. N. Loganovsky, Z. L. Vasilenko	
Role of radiosensitivity and radioresistance genetic markers in hematological and cardiovascular disease in persons exposed after the Chernobyl accident	220
J. M. Minchenko, I. S. Dyagil, O. O. Dmytrenko, I. V. Dmytrenko, T. Y. Shlaykhtychenko, T. I. Gavrylenko, D. O. Biliy, V. I. Khomenko, V. G. Bebeshko	

Clinical risk factors of thrombosis in patients with Ph-negative myeloproliferative neoplasms, who had experienced radiation exposure due to the Chernobyl accident O. Y. Mishcheniuk, S. V. Klymenko	232
Comorbidity and radiation: methodological aspects of health assessment of persons exposed to the Chernobyl accident factors O. V. Nosach	240
Prognosis of probability of <i>BRCA1</i> and <i>BRCA2</i> mutations carriage in women with compromised family history of breast and/or ovarian cancer L. A. Rybchenko, A. M. Bychkova, G. V. Skyban, S. V. Klymenko	253
Nitric oxide and lipid peroxidation in children-residents of the contaminated territories Ye. Stepanova, I. Kolpakov, V. Kondrashova, O. Litvinets	261
Congenital malformations of the urinary system in children born to exposed parents according to Congenital and Hereditary Diseases Department data Ye. I. Stepanova, E. A. Skvarkaya, J. V. Usatenko, E. S. Leonovich, T. Y. Abramova	270
Clinical importance of the nonalcoholic fatty liver disease: a review A. A. Chumak, L. M. Ovsyannikova, E. A. Sarkisova, E. V. Gasanova	277
Analysis of some risk factors for myocardial infarction in a cohort of the Chernobyl clean-up workers (according to the data of Clinical and Epidemiological Registry) A. A. Chumak, G. V. Pleskach	289
EXPERIMENTAL RESEARCH	
Character of interaction between irradiated and non-irradiated cells in culture in diffusion chambers in vivo D. I. Bilko, O. F. Seniuk, I. Z. Russu, I. O. Zhaleiko, N. M. Bilko	299
Features of cellular effects of combined exposure to ionizing radiation and copper ions D. D. Hapieienko	305
Features of cellular effects under combined effects of nickel ions and ionizing radiation D. D. Hapieienko, G. I. Lavrenchuk, J. M. Litvinchuk, V. S. Asmolkova	313
Experimental study on radiomodifying properties of N-stearoilethanolamine under a combined impact of ionizing radiation and stress L. P. Derevyanko, M. V. Shelkovskiy, N. P. Atamaniuk, N. O. Frolova, G. V. Kosyakova, O. F. Mehed', V. V. Tal'ko, N. M. Gula, A. A. Chumak	322
Formation peculiarities of radiation-induced aberrations of chromosomes in human cells under the modifying influence of chemical agents (comparative aspects) E. A. Dyomina, O. P. Pylypchuk	330

Variation of rabbit sperm physiologic parameters after the x-ray exposure	338
A. V. Klepko, L. V. Gorban', O. A. Motryna, Yu. A. Kondratova, A. V. Chernyshov, S. V. Andreychenko	
The radiocapacity factor using in the studying of the combined effect of γ-radiation and cadmium chloride on water plant culture	349
S. A. Pchelovska	
Combined effect of N-stearoyl ethanolamine and ionizing radiation on hematological indices of peripheral blood in rats	356
N. K. Rodionova N. P. Atamaniuk, L. P. Derev'yanko, V. V. Tal'ko, A. M. Yanina, M. V. Shelkovskiy, G. V. Kosyakova, O. Ph. Mehed', N. M. Gula, A. A. Chumak	
Effect of low dose ionising radiation and nitric oxide on the state of animal blood system	366
N. Rodionova, O. Ganzha, L. Makovetska, M. Druzhyna, I. Muzalov, V. Mikhailenko	
EXPERT APPRAISAL OF IONIZING RADIATION EFFECTS	
<hr/>	
Radiation protection and health of personnel of contracting enterprises participating in works for transformation of the object "Shelter" of SSE Chornobyl NPP into an ecologically safe system	373
Sushko V. A., Bazyka D. A., Likhtarev I. A., Lyashenko L. A., Berkovskiy V. B., Loganovskiy K. N., Nechaev S. U., Shvayko L. I., Sarkisova E. A., Kolosynska O. O., Drozdova V. D., Bonchuck Y. V., Arjasov P. B., Nezgovorova G. A., Tatarenko O. M.	
<hr/>	
AUTHORS	392
INSTRUCTIONS FOR AUTHORS	406