

BELARUSIAN STATE UNIVERSITY

Establishment of Education
«International Sakharov Environmental Institute»



ACTUAL ENVIRONMENTAL PROBLEMS

Proceeding of the VII International
Scientific Conference of young scientists,
graduates, master and PhD students



November 23–24, 2017
Minsk, Republic of Belarus



BELARUSIAN STATE UNIVERSITY

Establishment of Education
«International Sakharov Environmental Institute»



ACTUAL ENVIRONMENTAL PROBLEMS

Proceedings of the VII International
Scientific Conference of young scientists,
graduates, master and PhD students

November 23–24, 2017
Minsk, Republic of Belarus

Minsk, 2017

The general editorship:

Doctor of Sciences in Physics and Mathematics,
Professor S. A. Maskevich
Doctor of Agricultural Sciences,
Professor S. S. Poznyak

Reviewers:

E. R. Gritzkevich, V. N. Kapitsa

The conference proceedings include the theses submitted at the VIIth International scientific conference of young scientists, PhD students, Master`s degree students, and students «Actual environmental problems» in English, which was held in November 23–24, 2017 at the International Sakharov Environmental Institute of Belarusian State University.

The proceedings are referred to a wide range of expert, lecturers of higher and secondary educational establishments, PhD students, Master`s degree students and students.

The conference proceedings are published with the financial and information support
of the Ministry of Education of the Republic of Belarus

THE FUTURE OF FOOD: MEAT ALTERNATIVES

L. Zhminda, A. Sysa

*Belarusian State University, ISEI BSU,
Minsk, Republic of Belarus
cool.yakusik@mail.ru*

The influence of livestock farming on the general state of the planet is discussed in this work. There are many negative effects of irrational meat consumption such as hunger in some countries and obesity in others. Changing of climate is linked with greenhouse gases, which are produced in the processes of animals' live activity.

Keywords: meat, climate change, greenhouse gas, global hunger, alternatives of animal protein, crickets, cell culture, yields, etc.

Focusing only on energy policy it is not enough to head off climate change successfully [1].

The livestock sector is a large source of global greenhouse gas emissions such as carbon dioxide, methane and nitrous oxide. The livestock sector is also a disproportionate user of land and water, and a major contributor to deforestation due to the soya required to produce animal feed. Despite growing evidence that animal agriculture is damaging the planet, the Western diet isn't likely to change anytime soon. In fact, studies suggest rising incomes and urbanization are actually fueling a global dietary shift toward consuming even more meat and dairy in the future. Earth cannot continue to support a population of 7 billion people and 70 billion animals they raise and slaughter each year for food. Meat consumption is growing faster than the overall population.

Over the past few years, a handful of enterprising startups have sprung up with the goal of creating animal-free meat. The scores of companies are developing animal protein alternatives – made from ingredients like insects, plants and yeast – to address these challenges [2].

Using insects instead of animal meat can significantly reduce greenhouse gas emissions and amounts of required water. For example, students at Rhode Island's Brown University created cricket flour from insects. Moreover, for every hundred pounds of feed, you get 60 pounds of cricket protein – 12 times the average yield from cattle.

Impossible Foods, The Silicon Valley, California, created a completely plant-based burger that actually tastes – and bleeds – like real meat. And the burger is only the beginning. Impossible's scientists already have concept products for chicken, pork, fish, and even a kind of yogurt that is entirely plant based.

Beyond Meat company doesn't grow fake meat in a lab. Instead, it uses a specific combination of plant proteins to create a meat-like burger patty.

Clara Foods is working toward a completely animal-free egg white substitute. While quite a few options already exist, those substitutes are often insufficient for sensitive applications like angel food cakes, meringues, and macaroons. So the company is taking things a step further by actually building the egg whites "from the ground up".

Cutting down on meat is where the best public health opportunity lies in relation to climate change. Moving away from meat would also help farmers to use nitrogen more efficiently, which would have the dual impact of causing less pollution while also helping people get more nutrition from the foods they grow.

BIBLIOGRAPHY

1. *Marinova, D.* Impact of Meat Consumption on Health and Environmental Sustainability / D. Marinova, P. Brügger, T. Raphaely. – IGI Global, 2015 – 311 p.

2. Alternatives for large-scale production of cultured beef / Post, M. J. [et all] // *Journal of Integrative Agriculture*. – 2015. – Vol. 14, No. 2. – P. 208–216.

CONTENT

SECTION 1

SOCIAL AND ENVIRONMENTAL, ETHICAL AND PEDAGOGICAL PROBLEMS IN ACCORDANCE WITH A. D. SAKHAROV'S IDEAS

<i>E. Astapovich, N. Lepskaya</i> HUMAN AND MODERN ENVIRONMENTAL PROBLEMS	3
<i>Y. Blagodarova, A. Korotkevich</i> BIOLOGICAL AND SOCIAL EVOLUTION OF THE PERSON	3
<i>E. Dovydenko, L. Kuzina</i> ECONOMIC CONSEQUENCES OF THE WORLD OCEAN POLLUTION	4
<i>I. Drozdov, T. Shershniova</i> VIRTUAL REALITY AS A FACTOR OF DEVELOPMENT OF ADDICTIVE BEHAVIOR IN CONDITIONS OF MODERN ENVIRONMENT	5
<i>A. Dumcheva, V. Emelyanova, E. Bogdanyuk, A. Korotkevich</i> POSITIVE AND NEGATIVE FEATURES OF THE CONSUMER SOCIETY	6
<i>S. Ignatovich, V. Letvinova, L. Kuzina</i> ECOLOGICAL DANGER OF MEDICAL WASTAGE.....	7
<i>P. Khilimonchik, I. Olevskaya</i> THE INFLUENCE OF NATURAL TACTILE SENSATIONS ON THE HUMAN PSYCHE.....	8
<i>M. Kompaniets, L. Kuzina, L. Nikitina</i> THE PROBLEM OF HUNGER IN FOOD OVERPRODUCTION.....	9
<i>Y. Marchenko, V. Luchina</i> ON THE ISSUE OF THE ENVIRONMENTAL, LEGAL AND ECONOMIC CONSEQUENCES OF THE USA WITHDRAW FROM THE PARIS CLIMATE AGREEMENT	9
<i>E. Maslovskaya, B. Tonkonogov</i> DATABASE OF INTEGRATED INFORMATION SYSTEM FOR ANALYSIS OF POTENTIAL OF RENEWABLE ENERGY SOURCES.....	10
<i>A. Rebeeva, A. Korotkevich</i> V. I. VERNADSKY'S IDEA OF THE NOOSPHERE AS A WAY OF FORMING POSITIVE SPIRITUAL AND SOCIAL VALUES IN SOCIETY.....	11
<i>P. Parmon, L. Kuzina, L. Nikitina</i> THE PROBLEMS OF ORGANIC FOOD PRODUCTION.....	12
<i>M. Potapnev</i> NEW CHALLENGES FOR PEOPLE HEALTH IN XXI CENTURY AND CHANGE OF MEDICINE STRATEGY	13
<i>O. Selmanovich, V. Luchina</i> SOME PECULIARITIES OF THE REALIZATION OF GREEN ZONES POLICY IN THE REPUBLIC OF KOREA	14
<i>O. Selmanovich, M. Yasaite, E. Zhuk</i> APPLICATION OF INTERACTIVE METHODS OF TRAINING AT THE ORGANIZATION OF OUT-OF-CLASS WORK ON BIOLOGY	15
<i>R. Simonahina, V. Kazantseva, E. Zhuk</i> THE EXPERIENCE OF APPLICATION OF INNOVATIVE PEDAGOGICAL TECHNOLOGIES OF STUDENT-ECOLOGISTS TRAINING	15
<i>S. Tkachenko, I. Lefanova</i> PROBABILITY OF HUMANLIKE COMMUNICATION AMONG VIRTUAL ASSISTANTS – CHAT-BOTS	16
<i>P. Vaida</i> FORMATION OF AESTHETIC EDUCATION BY MEANS OF PROJECT ACTIVITY.....	17
<i>V. Vinnikava</i> USE OF DNA ANALYSIS IN PALEOANTHROPOLOGICAL RESEARCH. HISTORY AND STATE OF THE PROBLEM.....	18
<i>A. Voloshenko, N. Lepskaya</i> THE PROCESS OF THE FORMATION OF THE NOOSPHERE.....	19

<i>M. Yasaite, V. Selmanovich, Y. Zhuk</i> AN ASSESSMENT OF THE LEVEL OF ECOLOGICAL COMPETENCES OF TEACHERS.....	20
<i>A. Zhilko, L. Zhilko, T. Mohart, L. Mayor</i> ECOLOGICAL EDUCATION OF YOUTH AS ONE OF THE DIRECTIONS OF THE ACTIVITIES OF "ASSOCIATION OF BELARUS GUIDES"	20

SECTION 2
MEDICAL ECOLOGY

<i>A. Abdul, E. Tarasova</i> SENSITIVITY OF M.HOMINIS AND U.UREALITICUM TO ANTIBIOTICS	22
<i>A. Adamovich, H. Charkouskaya, M. Yurkevich, D. Nizheharodava</i> ISOLATION AND CHARACTERIZATION OF RODENT NERVOUS TISSUE-DERIVED CELL CULTURE	23
<i>N. Aleksandryna, I. Koktysh</i> EXOSOMES AS BIOMARKERS IN PATHOLOGY	24
<i>M. Aliev, N. Porada</i> MORBIDITY AS NEGATIVE INDICATOR OF POPULATION HEALTH.....	25
<i>R. Andrejev, O. Parhimovich, K. Bulanova</i> INFLUENCE OF IONIZING RADIATION IN DOSE OF 1 GY ON CALCIUM TRANSFER IN RATS' PLATELETS	26
<i>I. Antonchik, E. Tarun</i> ANTIOXIDANT ACTIVITY OF JUICE OF SMALL-FRUIT CROPS	27
<i>D. Babaryko, D. Shauchuk, E. Ruta-Zhukouskaia</i> ANALYSIS OF HUMAN CHORIONIC GONADOTROPIN USING BOTTOM-UP PROTEOMIC APPROACH	28
<i>N. Bakun</i> CONTENT OF ALPHA-FETOPROTEIN IN PATIENTS WITH SYSTEMIC SCLERODERMA.....	29
<i>N. Bakun, A. Chukhol'skiy</i> THE COMPARISON OF EXPRESSION LEVELS FOR THE YELLOW GENE AND ELONGATION FACTOR GENE DROSOPHILA MELANOGASTER AT DIFFERENT STAGES OF THE DEVELOPMENT	30
<i>D. Bobrukevich, Ya. Melnikova</i> HYPERGLYCEMIA UNJUST-CHANGE OF NEUTROPHILS MICROBICIDAL	31
<i>M. Boika, V. Stelmakh</i> BIOCHEMICAL ASPECTS OF ECOLOGICAL - HYGIENIC CHARACTERISTICS OF THE DOMESTIC PLANT GROWTH REGULATOR "AFALAMIN"	32
<i>A. Bolsun</i> CHARACTERIZATION OF THE CYTOTOXIC EFFECT OF DMSO AND SDS ON MSC CULTURE USING MTT ASSAY.....	33
<i>O. Boyarin, N. Kokorina</i> PREGNANCY IN WOMEN AFTER ASSISTED REPRODUCTIVE TECHNOLOGIES	34
<i>P. Boyko</i> ANEMIES IN CHILDREN FROM 0 TO 3 YEARS.....	35
<i>A. Bulatovski, S. Kvach, L. Eroshevskaya, A. Zinchenko</i> ENGINEERING OF BACTERIAL STRAIN PRODUCING FUSION PROTEIN	35
<i>C. Cherepovich, E. Vasyukevich</i> ANALYSIS OF MORBIDITY OF THE POPULATION OF THE REPUBLIC OF BELARUS FROM ALCOHOLISM IN 1995–2015	36
<i>D. Chobanyan, N. Nashkevich</i> EPIDEMIOLOGICAL ASPECTS OF DONORSHIP. SAFE BLOOD TRANSFUSION IN THE REPUBLIC OF BELARUS	37
<i>A. Chuholskiy</i> INCIDENCE OF CEREBRAL PALSY IN SOLIGORSK DISTRICT	38
<i>T. Chupakova, I. Puhteeva</i> ANALYSIS OF SCREENING RESEARCH OF DISEASES OF THE GASTROINTESTINAL TRACT IN THE REPUBLIC OF BELARUS	39

<i>A. Danchenko, V. Lemiasheuski, A. Batyan</i> INFLUENCE OF BLOOD IRRADIATION BY A HELIUM-NEON LASER ON ITS CELLULAR AND BIOCHEMICAL INDICATORS	40
<i>A. Dankova, E. Tarun, A. Pyrko</i> ANTIOXIDANT ACTIVITY OF HEXAHYDROQUINOLONES	41
<i>V. Drobysheva, E. Spadaruk, R. Smolyakova</i> THE IDENTIFICATION OF MUTATIONS IN THE GENES BRCA1 (185delAG) AND BRCA2 (6174delT) ON THE DEVELOPMENT OF PANCREATIC CANCER.....	42
<i>O. Druzhynina, I. Koktysh</i> INFECTIOUS AND CLINICAL LABORATORY MARKERS IN CHILDREN WITH DIFFERENT FORMS OF RHEUMATOID ARTHRITIS.....	43
<i>E. Dunich, N. Gerasimovich</i> COMPARATIVE ANALYSIS OF MORTALITY OF PNEUMONIA IN CHILDREN OF MOLODECHENO DISTRICT.....	43
<i>E. El Uardi, N. Batyan</i> THE USE OF LASERS OF LOW INTENSITY IN DERMATOLOGY.LASEROUS REJUVENATION.....	44
<i>V. Emelyanova, N. Kokorina</i> THE STATE OF NEWBORN CHILDREN FROM MOTHERS WITH ENDOCRINE PATHOLOGY	45
<i>I. Falevich, I. Puhteva</i> EVALUATION OF THE LEVEL OF HEALTH OF MEN OF MILITARY AGE IN THE REPUBLIC OF BELARUS	46
<i>D. Filatova, M. Sineleva</i> FEATURES OF USE OF PSYCHOACTIVE SUBSTANCES IN VARIOUS AREAS OF THE REPUBLIC OF BELARUS	47
<i>K. Fomenko, I. Puhteva, N. Gerasimovich</i> THE COMBINED EFFECT OF PHYSIOLOGICAL AND PHYSICAL FACTORS ON HOMEOSTASIS OF CALCIUM IONS IN THE CELLS OF THE IMMUNE SYSTEM	47
<i>A. Gaiduk, E. Tolstaya</i> PSYCHOLOGICAL PECULIARITIES OF PREGNANT WOMEN	48
<i>E. Gaikova, R. Dudinskaya</i> THE ANALYSIS OF THE EPIDEMIOLOGICAL ASPECTS OF ABORTION	49
<i>A. Gavruseva, D. Antonishina, V. Podolyakina</i> CHARACTERISTICS OF MORTALITY FROM EXTERNAL CAUSES OF THE REPUBLIC OF BELARUS.....	50
<i>K. Gerasimovich, N. Besarab, A. Kanterova, G. Novik</i> STUDY OF FACTORS THAT HAVE A STIMULATING EFFECT ON GROWTH AND CAROTENOGENESIS IN YEAST <i>RHODOTORULA</i> GLUTINIS BIM Y-253.....	51
<i>E. Goldman, E. Titovich</i> PROSPECTS OF USING PHOTON BEAMS WITHOUT THE FLATTENING FILTER (FFF BEAMS) IN THE RADIATION THERAPY OF MALIGNANT TUMORS	52
<i>N. Goroshko, T. Volkova</i> EPIDEMICALLY IMPORTANT TYPES OF BLOODSUCKING MOSQUITOES (DIPTERA, CULICIDAE) IN THE TERRITORY OF BELARUSIAN POLESIE.....	53
<i>I. Grishuk, O. Novik, O. Lozinskaia</i> ANALYSIS OF MUTAGEN EFFECT OF FOOD COLORINGS BY ALLIUM TEST METHOD	54
<i>D. Grushik, A. Karpei</i> THE DEVELOPMENT OF AN ONLINE BOOKING SERVICE FOR TRADING PLACES IN THE MARKETS OF THE CITY OF MINSK	55
<i>D. Gurlo, E. Titovich</i> IMPROVEMENT OF THE DATABASE OF THE RADIOTHERAPY EQUIPMENT IN THE REPUBLIC OF BELARUS.....	55
<i>D. Gurlo, E. Titovich</i> COMPARATIVE ANALYSIS OF THE STATUS OF RADIATION THERAPY IN THE REPUBLIC OF BELARUS AND THE COUNTRIES OF THE FORMER USSR	56

<i>I. Huliuta, A. Shynhel, S. Bokut</i> DEVELOPMENT OF DATA DEPENDENT MS/MS ANALYSIS USING HIGH-RESOLUTION CHROMATOGRAPHY-MASS SPECTROMETRY	57
<i>A. Ionova, N. Danilkovich, S. Kosmacheva</i> THE TOXICITY OF THE MATERIALS IN RELATION TO MESENCHYMAL STEM CELLS	58
<i>N. Isakova, N. Ikonnikova</i> CHARACTERIZATION OF BIOCHEMICAL PROPERTIES AND BIOLOGICAL ACTIVITY OF COMPOUNDS OF A CARBOHYDRATE NATURE OF SOME OF BAZIDIOMYCETES	59
<i>U. Ivut, M. Zafranskaya, T. Kandratovich</i> ASSESSMENT OF ANTIPROLIFERATIVE EFFECT OF BONE MARROW MONONUCLEAR CELLS	60
<i>T. Kalenkovich, N. Kokorina, A. Kamlyuk</i> THE HEALTH OF CHILDREN BORN AS A RESULT OF ASSISTED REPRODUCTIVE TECHNOLOGY	61
<i>P. Kalofati, A. Yershova-Pavlova, N. Kokorina</i> CONGENITAL SPINAL HERNIAS (SPINA BIFIDA)	62
<i>A. Kamialchuk, V. Stelmakh, N. Ikonnikova</i> ECOLOGICAL CHARACTERISTIC OF THE ORAL MICROBIOTA	63
<i>A. Kaprusynka, E. Titovich, I. Tarutin</i> ANALYSIS OF METHODS OF TREATMENT FOR CNS TUMORS USING MEDICAL LINEAR ACCELERATORS	64
<i>N. Karaliova, T. Chikova</i> FACTORS OF RADIATION RISK AT RADIODIAGNOSIS AND RADIATION THERAPY IN HEALTHCARE INSTITUTION	65
<i>K. Karpova, A. Batyan</i> IMPACT OF LASER IRRADIATION OF LOW INTENSITY ON HEMOGLOBIN	66
<i>D. Katsiushkina, E. Levchik</i> THE ANALYSIS OF INCIDENCE AMONG CHILDREN IN MINSK REGION DURING 2007–2015	67
<i>D. Kazlouski, E. Tsitovich, I. Tarutsin</i> THE NECESSITY OF THE IMPROVEMENT OF BRAHITERAPY PROGRAM IN THE REPUBLIC OF BELARUS	67
<i>I. Kazlovskiy, D. Burko, A. Rymko, A. Zinchenko</i> ENGINEERING OF <i>ESCHERICHIA COLI</i> STRAINS – PRODUCERS OF GUANOSINE MONOPHOSPHATE – AND CYTIDINE MONOPHOSPHATE KINASES	68
<i>A. Khromchenkova, A. Batyan</i> INDICATORS OF GLYCATED HEMOGLOBIN AND BLOOD GLUCOSE IN TYPE 2 DIABETES MELLITUS IN PATIENTS OF SMORGON	69
<i>E. Khrustalyova, V. Lemiasheuski, I. Merkulova</i> DYNAMICS OF PREVALENCE OF TUBERCULOSIS RESISTANT TO DRUG THERAPY AMONG RESIDENTS OF MINSK CITY FOR 2011–2015	70
<i>M. Kocheeva, E. Shpadaruk, R. Smolyakova</i> EVALUATION OF ENDOGENOUS INTOXICATION BY INDICATORS OF PERIPHERAL BLOOD IN PATIENTS WITH LYMPHOMA	71
<i>N. Khacharhina, V. Stelmakh</i> EPIDEMIOLOGICAL FEATURES OF THE PREVALENCE OF OVERWEIGHT AND OBESITY IN BELARUS	72
<i>M. Komarovich</i> HYGIENIC EVALUATION OF NUTRITION OF CHILDREN VISITING KINDERGARTEN No. 195 IN MINSK	73
<i>K. Korotchikova, E. Tolstaya</i> PSYCHOLOGICAL STATE OF WOMEN WITH NEURO-CIRCULATORY DYSTONIA	73
<i>V. Koshlach, E. Tolstaya</i> SPECIFIC FEATURES OF PSYCHOLOGICAL STATUS OF PATIENTS WITH DIABETES MELLITUS	74
<i>V. Kostyuk, M. Dubina</i> DISEASES OF THE DIGESTIVE SYSTEM AS A MEDICAL AND SOCIAL PROBLEM IN THE REPUBLIC OF BELARUS	75
<i>A. Kovsh, K. Shpadaruk, R. Smoluakova</i> DETERMINATION OF EXPRESSION OF COX-2 AND MMP-7 GENES AMONG PATIENTS WITH GASTRIC CANCER	76

<i>K. Krivetskiy, D. Kozhevnikov</i> SPECTRAL MICROTOMOGRAPHY USING THE MARS-CT.....	77
<i>K. Krivetskiy, O. Boyarkin</i> SCIENTIFIC COMPUTING IN PYTHON.....	78
<i>V. Kugut, O. Parhimovich, K. Bulanava, L. Lobanok, O. Bichan, T. Milevich</i> THE STATE OF CALCIUM METABOLISM IN RAT PLATELETS IN THE NEAREST AND LONG TERM AFTER IRRADIATION.....	78
<i>O. Kulak, S. Bokut</i> MULTIPLE CONFORMATION STATES OF HUMAN HEMOGLOBIN	79
<i>K. Kulich, M. Sinelyova</i> ANALYSIS OF GENITOURINARY INFECTION PREVALENCE IN DIFFERENT AGE AND SOCIAL GROUPS.....	80
<i>I. Kutliakhmetov, R. Dudinskaya</i> THE ANALYSIS OF EPIDEMIOLOGICAL ASPECTS OF EYE DISORDERS MORBIDITY OF THE CHILD POPULATION OF NOVOGRUDOK CITY	81
<i>A. Ladyha, R. Smolyakova, K. Shpadaruk</i> MOLECULAR AND CYTOGENETIC DIAGNOSTICS OF LYMPHOMA	81
<i>M. Lapushkina, N. Kokorina</i> THE INFLUENCE OF PATHOLOGY OF THE THYROID GLAND ON REPRODUCTIVE HEALTH OF WOMEN.....	82
<i>A. Levkovskaya, M. Talkovskaya, A. Bojko, D. Nizheharodava</i> IMMUNOPHENOTYPE OF PERIPHERAL BLOOD AND CEREBROSPINAL FLUID OF PATIENTS WITH PARKINSON'S DISEASE.....	83
<i>N. Losich, E. Tolstaya</i> THYROID CANCER MORBIDITY IN PINSK REGION IN 2009–2016.....	84
<i>A. Lukashevich, A. Kurepin, V. Lemiasheuski</i> DYNAMICS OF BACTERIAL AND VIRAL INFECTIONS OF RESPIRATORY TRACT IN SLUTSK REGION ...	85
<i>Y. Lukyanova, M. Sinelyova</i> CARDIAC SURGERY INTERVENTIONS BY HEART RHYTHM AND CONDUCTANCE DISTURBANCES IN THE ORGANIZATIONS OF THE MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS.....	86
<i>D. Luzan</i> MAIN INDICATORS OF OBSTETRIC SERVICES IN SOLIGORSK AND SOLIGORSK DISTRICT.....	87
<i>A. Lyubushkin, R. Smolyakova</i> DETERMINATION OF GENE EXPRESSION OF TS AND TP FOR THE ASSESSMENT OF DRUG SENSITIVITY IN COLORECTAL CANCER	88
<i>I. Marchuk, R. Smolyakova, E. Shpadaruk</i> PROGNOSTIC SIGNIFICANCE OF ASSESSMENT OF HORMONAL STATUS IN BREAST CANCER	89
<i>K. Markachova, E. Tolstaya</i> IMMUNE INDICES AND REACTIONS OF ADAPTATION	90
<i>O. Masalskaya, M. Sinelyova</i> EXAMINATION OF THE EXTENT OF THE DRUG USE AMONG THE YOUTH	90
<i>V. Masliukova, R. Smolyakova, K. Shpadaruk</i> MOLECULAR GENETIC PROLIFERATION OF METASTATIC MELANOMA.....	91
<i>V. Mayerava, I. Srukalova, H. Gapeenko, A. Viluga, R. Smolyakova, Y. Grachev</i> DETECTION OF MOLECULAR-GENETIC AND IMMUNOLOGICAL MARKERS OF HERPES VIRUSES IN PATIENTS WITH A PRIMARY BRAIN TUMOR	92
<i>V. Mikhno, O. Ablekovskaya</i> THE INFLUENCE OF VARIED LEVEL OF PHYSICAL ACTIVITY ON THE BIOLOGICAL AGE OF YOUNG PEOPLE	93
<i>E. Moduleva, R. Smolyakova, E. Shpadaruk</i> PROGNOSTIC SIGNIFICANCE OF MOLECULAR PROFILING OF COLORECTAL CANCER.....	94
<i>T. Navitskaya, V. Lemiasheuski</i> GLUCOSE LEVEL CHANGES IN PATIENTS WITH DIABETES MELLITUS AND IN HEALTHY INDIVIDUALS UNDER THE INFLUENCE OF LOW-LEVEL LASER THERAPY	95

<i>A. Nosareva, M. Sinelyova</i> THE STATE OF HEALTH OF PREGNANT WOMEN AND THE PECULIARITIES OF PREGNANCY AND BIRTH.....	96
<i>A. Opanasenko, E. Tolstaya</i> SPECIFIC FEATURES OF THE PSYCHOLOGICAL STATE OF CHILDREN LIVING IN THE REGIONS CONTAMINATED WITH RADIONUCLIDES	96
<i>A. Petrovskaya, A. Tkachenko, N. Kokorina</i> ART AT WOMEN WITH ENDOCRINE PATHOLOGY	97
<i>V. Pishchako, T. Romanovskaya</i> THE EVALUATION OF THE INFLUENCE OF VIRUS AND BACTERIAL INFECTIONS ON THE DEVELOPMENT OF PAPILLOMAVIRUS INFECTION	98
<i>J. Poskannaya, N. Porada</i> TRAUMATISM AS A CAUSE OF PREMATURE MORTALITY OF THE POPULATION OF THE REPUBLIC OF BELARUS	100
<i>A. Romanova, Y. Melnikova</i> INFLUENCE OF INCREASED GLUCOSE CONCENTRATIONS ON OXYGEN-INDEPENDENT METABOLISM OF NEUTROPHILS	101
<i>V. Ryzhkova, P. Kutsalo, E. Nasonova</i> RELATIVE BIOLOGICAL EFFECTIVENESS (RBE) VALUES FOR PROTON BEAM THERAPY	102
<i>M. Sabadash, E. Tolstaya</i> INFLUENCE OF SEVERAL FACTORS ON THYROID CANCER DEVELOPMENT	103
<i>V. Savitskaya, E. Tarasova</i> MODERN METHODS OF DIAGNOSTICS OF VIRAL HEPATITIS C	104
<i>A. Scherbovich, S. Maskevich</i> ANALYSIS OF SPECTROSCOPIC METHODS OF DETECTION OF STRUCTURAL AND FUNCTIONAL STATES OF HEMOGLOBIN IN RBCS	105
<i>S. Melnov, A. Semak, E. Smirnova</i> POLYMORPHISM ACE AND GLUTATHION-S- TRANSFERASE OF GENES IN KIDNEY CANCER.....	106
<i>E. Sergeychik, I. Puhteeva</i> EVALUATION OF THE RESULTS OF PROSTATE CANCER SCREENING IN MEN.....	107
<i>E. Shavalda, A. Batyan, N. Gerasimovich</i> USE OF GAMMA KNIFE IN RADIOSURGERY IN THE TREATMENT OF EPILEPSY.....	108
<i>T. Shnitko, A. Batyan</i> APPLICATION OF LASERS IN VISION CORRECTION	108
<i>D. Sinenok, A. Shchokolova, A. Zinchenko</i> PROSPECTS OF USING CPG-DNA AND CYCLIC DINUCLEOTIDES AS VACCINE ADJUVANTS	109
<i>A. Sipach, A. Kurepin, V. Lemiasheuski, V. Cheplya</i> THE ANALYSIS OF INCIDENCE OF PREGNANT WOMEN ON THE EXAMPLE OF FRUNZENSKY DISTRICT OF THE CITY OF MINSK	110
<i>K. Skrechko, R. Smolyakova, K. Shpadaruk</i> IMMUNOPHENOTYPIC CHARACTERISTICS OF B-CELL NON-HODGKIN'S LYMPHOMAS	111
<i>D. Solovey, N. Ikonnikova</i> INVESTIGATION OF DAMAGE OF OPPORTUNISTIC FUNGI IN MAN-MADE ECOSYSTEMS	113
<i>P. Spiridovich, O. Ablekovskaya</i> THE INFLUENCE OF VARIED LEVEL OF PERSONAL ANXIETY ON THE ADAPTIVE CAPACITY OF STUDENTS	114
<i>M. Stepanyuk, V. Lemiasheuski, T. Kalenchuk</i> THE PARAMETERS OF CARDIAC RHYTHM IN INDIVIDUALS OF DIFFERENT AGE UNDER THE INFLUENCE OF PHYSICAL ACTIVITY	114
<i>A. Strinovich, H. Ivanchyk, D. Nizheharodava</i> TRANSFORMING GROWTH FACTOR BETA AS A PROGNOSTIC MARKER OF FIBROGENESIS IN THE EXPERIMENTAL MODEL OF LIVER CIRRHOSIS	115
<i>A. Sulkovskaya, V. Stelmakh</i> EPIDEMIOLOGICAL ASPECTS OF LUNG CANCER	116

<i>E. Tokarchuk, I. Koktysh</i> OPTIMIZATION OF MORPHOLOGICAL METHOD OF APOPTOSIS RESEARCH IN CELL CULTURE....	117
<i>V. Tolochko, M. Sinelyova</i> THE ASSESSMENT OF THE EFFICIENCY OF THE CARDIAC CARE TO THE POPULATION OF GOMEL REGION	118
<i>A. Voronina</i> THE INFLUENCE OF NEGATIVE FACTORS OF PRODUCTION ON THE STATE OF HEALTH OF EMPLOYEES IN THE ENTERPRISE “BELSHINA”	119
<i>D. Vasilevskaya, O. Boyarkin</i> MATHEMATICAL MODELING IN MEDICINE	120
<i>A. Yerofeyeva, A. Chuholskiy, D. Smiljanic</i> ALLELIC DISCRIMINATION AS A METHOD FOR THE ESTIMATION OF SOCIAL INTERACTION.....	120
<i>A. Yerofeyeva</i> BLOOD ADRENOCORTICOTROPIC HORMONE LEVEL IN WHITE MICE UPON HEAT AND COLD EXPOSURE.....	121
<i>V. Yukhnovich, J. Malinovskaya</i> THE INCIDENCE OF PATHOLOGIES OF A THYROID GLAND AMONG THE POPULATION OF REPUBLIC OF BELARUS.....	122
<i>N. Yunevich</i> FACTORS OF INFORMATION ENVIRONMENT IN THE ASPECT OF ECOLOGICAL MEDICINE AND PSYCHOLOGY	123
<i>Y. Zazybo, T. Chikova</i> ANALYSIS OF RADIOBIOLOGICAL PLANNING OF IRRADIATION BREAST TUMORS BASED ON THE MONACO SYSTEM.....	124
<i>V. Zhelyazko</i> EPIDEMIOLOGY OF MYOCARDIAL INFARCTION IN THE REPUBLIC OF BELARUS.....	126
<i>M. Zhirchuk</i> RISK ANALYSIS OF DENTALCARIES FOR CHILDREN'S POPULATION OF BORISOV	127
<i>A. Zhuro, A. Batyan</i> THE USE OF LOW INTENSITY LASERS IN PATIENTS WITH DIABETES MELLITUS TYPE 2	127

SECTION 3

PROBLEMS OF MODERN ENVIRONMENTAL SAFETY

(BIO-MONITORING, BIO-INDICATION, BIO-REMEDICATION, RADIOECOLOGY AND RADIATION SAFETY, ENVIRONMENTAL MONITORING, MANAGEMENT AND AUDIT, INFORMATION SYSTEMS AND TECHNOLOGIES IN ECOLOGY)

<i>A. Chernetskaya, M. Asipchyk</i> FEATURES OF SPAWNING OF A COMMON FROG (R. TEMPORARIA) AT MELIORATIVE CHANNELS	129
<i>L. Astrouskaya, N. Bushkevich, N. Gerasimovich, I. Puhteeva</i> ANALYSIS OF INFLUENCE AND CONSEQUENCES OF ACCIDENTS AT CHERNOBYL AND FUKUSHIMA.....	130
<i>M. Avizhets, B. Tonkonogov</i> STRUCTURE OF SOFTWARE AND HARDWARE COMPLEX FOR MONITORING AND CONTROL OF PARAMETERS AND MODES OF SOLAR COLLECTORS.....	131
<i>E. Bakanovskaya, D. Vorobyov</i> SPATIAL-TEMPORAL CHANGES OF EMISSIONS OF POLLUTING SUBSTANCES IN ATMOSPHERIC AIR OF BELARUS	132
<i>E. Belkovskaya, O. Khadzhinova</i> IAEA REQUIREMENTS FOR ACCOUNTING AND CONTROL OF NUCLEAR MATERIAL AT NPP.....	133
<i>A. Bintyai, T. Sergeeva, E. Smirnova</i> CHARACTER OF TROPHIC RELATIONSHIPS OF LOCKS (ACRIDIDAE) AS THE FITOPHAGIC CONSUMERS ON THE EXAMPLE GLYPTOBOTHRUS APRICARIUS.....	134

<i>A. Boltsik, O. Konopelko, N. Goncharova</i> DEVELOPMENT OF A METHOD FOR ASSESSING THE STATE OF THE ENVIRONMENT OF AN INDUSTRIAL CITY USING RUDERAL PLANTS BASED ON CITY ZHODINO	134
<i>H. Brynkevich, O. Boyarkin</i> SOLAR FLARES AND THEIR IMPACT ON HUMANITY	135
<i>D. Budzevich, S. Golovaty</i> METHODOLOGICAL APPROACHES TO THE DETERMINATION OF THE VALUE ESTIMATION OF ECOSYSTEM SERVICES AND BIOLOGICAL DIVERSITY OF THE LUNGS OF THE REPUBLIC OF BELARUS	136
<i>D. Detsuk, C. Mukina</i> ANALYSIS OF ENVIRONMENTAL ASPECTS TO OJSC "MINSK TRACTOR FACTORY"	137
<i>A. Dubrousky, P. Dubrousky, O. Guskova, V. Beresneva</i> MODELLING OF NONLINEARITY OF LIGHT COLLECTION IN LARGE-VOLUME SCINTILLATORS.....	138
<i>P. Dubrouski, A. Dubrouski, V. Zhuravkov, V. Ivaniukovich</i> AUTOMATING THE MANAGEMENT OF THE PORTAL RADIATION MONITORS SYSTEM	138
<i>Yu. Eshmanskaya, O. Lozinskaya</i> BIOINDICATION WITH THE USE OF TRIFOLIUM REPENS L	139
<i>A. Ezerski</i> NEUTRON-PHYSICAL AND THERMOPHYSICAL CALCULATIONS OF WWER-1200. SOFTWARE COMPLEX CASCADE.....	140
<i>K. Filippovich, V. Misiuchenka</i> PRACTICAL EXPERIENCE OF THE APPLICATION OF THE STRATEGIC ENVIRONMENTAL ASSESSMENT IN THE REPUBLIC OF BELARUS	141
<i>A. Frolova, C. Mukina</i> ANALYSIS OF ENVIRONMENTAL ACTIVITY AT OJSC "MINSK RAILWAY-CARRIAGE REPAIR WORKS"	142
<i>A. Gavdel</i> ANALYSIS OF THE ENVIRONMENTAL WASTE STATISTICS. BACKGROUND OF THE ELECTRONIC STATISTICAL REPORTING FORMS	143
<i>V. Gmir, V. Lemeshevskiy</i> INFLUENCE OF NATURAL SORBENTS ON RADIONUCLIDES BUILD-UP IN ANIMAL ORGANISMS	144
<i>V. Gorbach, E. Svistun, M. Jasoveev</i> ECOLOGICAL FEATURES OF THE COMMUNITY STRUCTURE OF WATERBIRDS AND SHOREBIRDS OF THE WATER RESERVOIR "DROZDY" MINSK	145
<i>V. Gorskaya, R. Titkov</i> STORAGE OF RADIOACTIVE WASTES AS A WAY TO ENSURE RADIATION SAFETY	146
<i>A. Grinek, Y. Liakh</i> BACTERIOSIS IN THE PATHOLOGY OF WATERFOWL AND THE ROLE OF THEIR DISTRIBUTION IN THE TERRITORY OF THE REPUBLIC OF BELARUS.....	146
<i>T. Gromova, N. Kozelko</i> MENTAL HEALTH AND THE ENVIRONMENT	147
<i>V. Grynchak, V. Stelmakh</i> SPECIFIC FEATURES OF THE TOXIC EFFECT OF DIISONONYL PHTHALATE ON REPRODUCTIVE FUNCTIONS OF WHITE RATS.....	148
<i>O. Hertsyk, E. Titovich, I. Tarutin</i> ADVANTAGES OF USING LINEAR ACCELERATORS OF NEW GENERATION FOR RADIATION THERAPY OF TUMORS	149
<i>M. Kadatskaya, M. Germenchuk</i> RADIATION MONITORING FOR DOSE ASSESSMENT OF REPRESENTATIVE PERSON	150
<i>U. Kapitsa</i> MODERN ENVIRONMENTAL PROBLEMS – THEIR CAUSES AND MANAGEMENT	151
<i>A. Kashuba, U. Ivaniukovich</i> CALCULATION OF COEFFICIENT OF HIDDEN LEAKAGE IN THE WATER SUPPLY NETWORKS OF SUBSCRIBERS.....	152

<i>V. Kavaliova, O. Guskova</i> PROBABILISTIC SAFETY ASSESSMENT ON NUCLEAR POWER PLANTS.....	153
<i>D. Kazak, S. Golovaty</i> THE ASSESSMENT OF THE EFFICIENCY OF WASTEWATER TREATMENT AT THE MINSK SEWAGE TREATMENT STATION	153
<i>E. Kemesh, V. Malishevskiy</i> ECOLOGICAL PROBLEMS OF NON-IONIZING RADIATIONS.....	154
<i>Yu. Khodyko, K. Mukina</i> ANALYSIS OF WATER CONSUMPTION AND WATER DISPOSAL OF JSC "MINSK PLANT OF WHEEL TENDERS"	155
<i>A. Khokh, O. Kvaschenko</i> SELECTION OF MODEL TREES OF SCOTS PINE TO OBTAIN DENDROCHRONOLOGICAL INFORMATION	156
<i>A. Khruscheva, N. Vlasova</i> RADIATION PROTECTION IN RADIATION THERAPY.....	157
<i>Yu. Kirillova</i> EVALUATION OF MEASUREMENT UNCERTAINTY IN THE CONTROL OF MICROBIOLOGICAL PURITY OF PURIFIED WATER.....	158
<i>I. Shturo, S. Korney, O. Boyarkin</i> GEOREACTOR AND ITS IMPACT ON THE ENVIRONMENT	159
<i>V. Kovalev, N. Goncharova</i> CHRONIC IRRADIATION OF SCOTTISH PINE TREES (PINUS SYLVESTRIS) IN THE NAROVLYANSKY AND VETKOVSKY PHYTOCENOSES: DOSIMETRY AND RADIOBIOLOGICAL EFFECTS	160
<i>V. Kovalevich, E. Len</i> SEWAGE TREATMENT AT LUNINETS COMMUNAL UNITARY ENTERPRISE WATER SUPPLY SEWERAGE "VODOKANAL" WITH THE APPLICATION OF THE BIOLOGICAL TREATMENT METHOD....	161
<i>E. Kresova, I. Gishkeluk, S. Kundas</i> ONE-DIMENSIONAL MODEL OF NON-ISOTHERMAL MOISTURE TRANSFER IN ENCLOSING CONSTRUCTION	162
<i>E. Kruk, N. Lysuho</i> ANALYSIS OF TECHNOLOGICAL CONSUMPTION OF WATER IN THE MUNICIPAL WATER SUPPLY AND USE WASTE WATER TREATMENT BY THE EXAMPLE OF CITY GRODNO.....	163
<i>A. Kuniza, C. Mukina</i> TECHNO-ECONOMIC ANALYSIS OF WASTE MANAGEMENT AT THE ENTERPRISES OF THE REPUBLIC OF BELARUS.....	164
<i>A. Khokh, O. Kvaschenko</i> THE TRACHEID FEATURES OF PINE TREES FROM DIFFERENT GROWING	165
<i>N. Lastovskaya, E. Len</i> CHARACTERISTIC OF THE WATER DEIRONING STATION RUE VALOSIN HOUSING AND UTILITIES INFRASTRUCTURE	166
<i>M. Liantaushchyk, A. Chernetskaya, T. Kalenchuk</i> MONITORING OF FLOODPLAIN VEGETATION ON THE R. WESTERN DVINA	167
<i>Yu. Lyakh, E. Dedkova</i> THE METHODS OF LABORATORY DIAGNOSTICS AND EPIZOOTIC SITUATION ON TRICHINOSIS IN THE CITY OF GOMEL.....	167
<i>D. Majdibor, V. Malishevskiy</i> THE DESTRUCTION OF THE OZONE LAYER AND THE PROBLEMS OF ECOLOGY	168
<i>A. Makarevich, N. Parfinovich, N. Poluyan, Y. Pakhadnia</i> LACCASE INDUCED WATER PURIFICATION TO REMOVE 3,3'- DIMETHYLBENZIDINE (O-TOLUIDINE).....	169
<i>A. Melnichuk, N. Tushin</i> PROTECTION OF PEOPLE LIVING IN LONG-TERM CONTAMINATED AREAS AFTER A NUCLEAR ACCIDENT OR A RADIATION EMERGENCY.....	170
<i>E. Zhuk, M. Melnik</i> HELMINTHS OF HOOFED INHABITANTS OF MINSK ZOO	171

<i>A. Mialik</i>	THE ORIGIN OF THE ADVENTIVE FLORA OF PRYPIACKAJE PALIESSIE.....	172
<i>A. Moroz, B. Tonkonogov</i>	ARCHITECTURE OF INTEGRATED INFORMATION SYSTEM FOR ANALYSIS OF POTENTIAL OF RENEWABLE ENERGY SOURCES	173
<i>A. Morozov, A. Pityk, S. Ragulin</i>	CALCULATED STUDY OF DROPLET ENTRAINMENT PROCESSES OF BORIC ACID.....	174
<i>R. Nevar, U. Ivaniukovich</i>	THE DYNAMIC MODEL OF THE FORECASTING THE POLLUTANTS ACCUMULATION IN SOILS	175
<i>E. Orlova, I. Rovenskay</i>	ECOLOGICAL ASPECTS OF RATIONAL USE OF RAW MATERIALS OF THE FACTORY "STROYFARFOR" JSC "KERAMIN"	176
	ISOLATION AND PHYSICO-CHEMICAL CHARACTERISTICS OF EXTRACELLULAR LACCASE FROM THE FUNGUS GANODERMA LUCIDUM	177
<i>N. Parfinovich, A. Makarevich, N. Poluyan, Y. Pakhadnia</i>	177
<i>A. Petukh, O. Lozinskaya</i>	MONITORING OF THE TERRITORY OF BELARUSIAN NPP UNDER CONSTRUCTION WITH THE USE OF FLUCTUATING ASYMMETRY OF LEAF BLADE OF BETULA PENDULA.....	178
<i>A. Pinchuk, V. Misiuchenko</i>	MANAGEMENT OF RUBBER-CONTAINING WASTE IN THE REPUBLIC OF BELARUS	179
<i>E. Pinchuk, N. Tushin</i>	RADIOLOGICAL PROTECTION FROM COSMIC RADIATION IN AVIATION	179
<i>I. Razhnova</i>	ENVIRONMENTAL MANAGEMENT AS A KEY ISSUE IN SUSTAINABLE DEVELOPMENT AND AS THE HIGHEST PRIORITY OF INDUSTRIAL ACTIVITIES AND ENTREPRENEURSHIP	180
<i>V. Ryzhkova, V. Litvyak, A. Batian, V. Kravchenko, A. Kliuev, I. Pochytskaya</i>	STIMULATING EFFECT OF LASER RADIATION ON THE INITIAL STAGES OF ONTOGENESIS OF TRITICUM L.	181
<i>V. Kravchenko, M. Vitushko, I. Batsiuk, V. Ryzhkova, A. Batian</i>	AVIAN INFLUENZA AND ORNITHOSIS :ORIGIN, TRANSMISSION AND PREVENTION.....	182
<i>E. Samusik, S. Golovatyi</i>	THE CONTENT OF PHOTOSYNTHETIC PIGMENTS IN LEAVES OF BETULA PENDULA AND THE EAGLES PINUS SYLVESTRIS IN A ZONE OF INFLUENCE OF THE ENTERPRISE OF THE CEMENT INDUSTRY	182
<i>A. Savitskaya, A. Zhuk</i>	ASSESSMENT OF ENVIRONMENTAL AWARENESS OF THE POPULATION ABOUT THE PARASITOLOGICAL SITUATION IN THE CITY	183
<i>A. Savin, O. Khadzhinova</i>	THE CONCEPT OF USED NUCLEAR FUEL MANAGEMENT AT THE BELARUSIAN NPP	184
<i>Y. Senyuk, A. Rodzkin</i>	MONITORING OF EMISSIONS TO ATMOSPHERIC AIR AT THE MINSK WHEEL TRACTOR PLANT	185
<i>E. Serzhantova, A. Zhigalskaya, E. Pinchuk</i>	MANTIS ORDINARY (MANTIS RELIGIOSA) IN BELARUS: FINDINGS AND OBSERVATIONS	186
<i>P. Shalkevich, S. Kundas, A. Moroz, O. Hilko</i>	THE APPLICATION OF A NEW SOFTWARE FOR 3D MODELING OF THE NONISOTHERMAL HEAT AND MOISTURE TRANSFER IN NATURAL DISPERSE ENVIRONMENT	187
<i>A. Sheika</i>	ENVIRONMENTAL IMPACT ASSESSMENT AS ENVIRONMENTAL SAFETY ASSURANCE	188
<i>A. Skibinskaya, V. Mironov, V. Zhuravkov</i>	THE CONTENT OF TRITIUM IN SURFACE WATER TESTS ROUND THE CONSTRUCTION AREA OF THE BELARUSIAN NPP.....	189
<i>D. Surma, U. Ivaniukovich</i>	CALCULATION OF CONCENTRATIONS OF POLLUTANTS IN THE ENVIRONMENT	190

<i>E. Svistun, V. Gorbach, M. Jasoveev</i> ECOLOGICAL STRUCTURE OF AVIFAUNA IN THE CHELYUSKINTSEV PARK AND THE CENTRAL BOTANICAL GARDEN IN MINSK.....	191
<i>G. Talkach, S. Poznyak</i> PRACTICAL RECOMMENDATIONS FOR SUMMER RESIDENTS ON THE REDUCTION OF HEAVY METALS IN CROP PRODUCTION, GROWN IN SUBURBAN AREAS IN THE BREST REGION.....	192
<i>E. Titovich</i> ASSESSMENT OF ABSORBED DOSE RATE FROM IONIZING RADIATION FOR THE GAMMA-KNIFE STEREOTACTIC GAMMA UNIT.....	193
<i>L. Tsvirko, D. Shatilo</i> PARASITIC SITUATION ON HORSE HELMINTHOSES ON THE TERRITORY OF THE POLESSKY RADIATION AND ECOLOGICAL RESERVE	194
<i>A. Verbitskaya, N. Kozelko</i> ECOLOGICAL CONSCIOUSNESS IN THE MODERN WORLD.....	195
<i>E. Grinkevich, A. Verbitskaya, A. Kuzina</i> THE PROBLEM OF USING WASTE AUTOMOBILE AND INDUSTRIAL OILS IN THE REPUBLIC OF BELARUS	196
<i>Ya. Yanchuk, V. Misiuchenko</i> APPROACHES TO ESTIMATION OF BIODIVERSITY OF FOREST PHYTOCENOSES OF BREST REGION...	197
<i>V. Yanovich, M. Pravko</i> BIOKINETIC AND DOSIMETRIC MODELS FOR RADIOLOGICAL PROTECTION.....	198
<i>G. Zayats, R. Privada, O. Boyarkin</i> WARP DRIVE – SUPERLUMINAL TRAVEL	198

SECTION 4

CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT RENEWABLE ENERGY SOURCES AND ENERGY CONSERVATION

<i>D. Chemerevsky, U. Ivaniukovich</i> WEB-APPLICATION FOR GEOINFORMATION MODULE AS A PART OF UNIFIED DATA BASE OF PERSISTENT ORGANIC POLLUTANTS	200
<i>A. Khrystsiuk</i> LEGAL REGULATION OF USE AND PROTECTION OF SURFACES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT.....	200
<i>E. Ivanova, V. Pashinsky, A. Butko</i> ENERGY ASSESSMENT OF FUEL BASED ON "TORF-CROWN" AND "TORF-IVA"	201
<i>V. Kankova, I. Narkevitch</i> ENVIRONMENTAL SAFETY: DISCUSSION OF CLIMATE CHANGE PROBLEMS	203
<i>V. Kovshik, A. Butko, V. Pashinsky</i> EMPIRICAL EVALUATION OF THE ARRIVAL OF THE DAILY SUM OF DIRECT AND SCATTERED RADIATION	204
<i>A. Savchik, V. Misiuchenka</i> THE ANALYSIS OF POLLUTANT EMISSIONS INTO THE ATMOSPHERE AT OJSC "BARHIM"	205
<i>A. Turchinovitch, T. Smirnova</i> AUTOMATION OF POWER MANAGEMENT IN THE EDUCATIONAL BUILDING	206
<i>L. Zhminda, A. Sysa</i> THE FUTURE OF FOOD: MEAT ALTERNATIVES	207
<i>Y. Zhuraukou., R. Bandarchyk., N. Goncharova</i> MAIN DIRECTIONS OF THE DEVELOPMENT OF "GREEN" ECONOMY IN THE REPUBLIC OF BELARUS.....	208

Научное издание

АКТУАЛЬНЫЕ ЭКОЛОГИЧЕСКИЕ ПРОБЛЕМЫ

МАТЕРИАЛЫ VII МЕЖДУНАРОДНОЙ НАУЧНОЙ КОНФЕРЕНЦИИ
МОЛОДЫХ УЧЕНЫХ, АСПИРАНТОВ, МАГИСТРАНТОВ, СТУДЕНТОВ
23–24 ноября 2017 г.
г. Минск, Республика Беларусь

На английском языке

Публикуется в авторской редакции

Ответственный за выпуск *С. М. Осипович*
Компьютерная верстка *Д. В. Головач*

Подписано в печать 10.11.2017. Формат 60×90 ¹/₈.
Бумага офсетная. Печать цифровая.
Усл. печ. л. 27,5. Уч.-изд. л. 22,31.
Тираж 100 экз. Заказ №450.

Республиканское унитарное предприятие «Информационно-
вычислительный центр Министерства финансов Республики Беларусь».

Свидетельство о государственной регистрации
издателя, изготовителя, распространителя печатных изданий
№ 1/161 от 27.01.2014, № 2/41 от 29.01.2014.
Ул. Кальварийская, 17, 220004, г. Минск.