

CONTENT

**BIOLOGICAL SCIENCES**

***Bodjakovskaja E.A., Scherbin V.V. Comparative study of the quality of water from Mozyr region wells during spring-summer period* ..... 3**

***Summary***

The results of the study of drinking water which has been selected from wells of settlements of Mozyr region in the spring and summer. All the chemical quality of well water, which were selected in the spring and most of the indicators examined in the summer to meet sanitary and hygienic requirements to the quality of water sources, decentralized drinking water supply. The level of chloride in drinking water wells in the village Sloboda and Kamenka exceeded standard indicator.

***Gajduchenko E.S. Formation of small mammals complexes in bottom-land forestry ecosystems of Belarusian Polesye* ..... 9**

***Summary***

The article presents data on the species diversity of small mammals that inhabit the lowland forest ecosystems of the south-east of Belarus. Found 16 species dwelling rodents and insectivores. The dominant species were *Myodes glareolus*, *Apodemus flavicollis*, *Apodemus silvaticus* and *Sorex araneus*. Found that under the natural forest ecosystems characterized by a high species diversity and abundance of small mammals.

***Zajcev S.J., Solovjova D.O. Monolayers of benzodithia-crown ether's derivative as a prototype product of sensor-integrated material for environmental monitoring* ..... 15**

***Summary***

Monolayers of the novel multifunctional compound KSK29 (the amphiphilic and photosensitive derivative of dithiacrown-ethers) were obtained and investigated at different conditions. The studied ion-selective and photosensitive properties of KSK29 in monolayers demonstrated its ability to form complexes with mercury cations which were detected by significant changes in the KSK29 monolayer isotherms and absorption spectra. Such systems are promising in the fundamental aspects – as models of the molecular organization and recognition processes in membrane at the interfaces, as well as in practice – as prototype of sensing material for ecological monitoring of mercury content in the environment.

***Kallaur E.G. Phenotypic features' characteristics of connective tissue dysplasia among young athletes* ..... 23**

***Summary***

Results of researches on diagnostics phenotypic signs connective tissue dysplasia are stated a connecting fabric at children and young sportsmen, oarsmen on kayaks and a canoe, depending on level of sports qualification. Harmonious physical development concerns the factors

defining sports success of young oarsmen. To the factors limiting physical activity, it is possible to carry displays of a syndrome not differentiated connective tissue dysplasia a connecting fabric, such as a combination of high indicators of length of a body at children with an asthenic constitution, infringements of a bearing of various degree.

**Koncevaja I.I., Karpova E.A. Effect of hydrophilous components of Chinese oak silkworm pupae on cytogenetic parameters of the test-object "Allium sulfur L. ....**

28

**Summary**

The article is devoted to the influence of Chinese tussah moth pupae aqueous extract on *Allium cepa* L. Results of aqueous extract effects on the duration of the mitosis phases, the mitosis pathologies, the level and range of mitosis pathologies, the frequency of cells with micronuclei in the root meristem cells of *A. cepa* are presented. It was stated that the optimal concentration of aqueous extract of Chinese tussah moth pupae acting on the studied cytogenetic parameters is 10,0 ml, 0,001 ml and 0,0001 ml of initial extract in 100 ml of water. The minimal concentration of the extract was the closest to the next physiological conditions: the duration of the phases of mitosis, the mitosis pathology, the range of mitosis pathologies.

**Krischuk I.A. Karyological analysis of chromosomal belonging of common shrew (*Sorex araneus* L.) at Pripyat and Gomel Polesye region**

34

**Summary**

In this paper we presents a new data on the distribution of chromosomal races of Białowieża, Bobruisk, Kiev, Nerussa, Turov of the common shrew (*Sorex araneus* L.) in the Pripyat and Gomel Polesie. It was conjectured of occurrence of chromosomal polymorphism in populations of the common shrew in the river valleys Ptich, Pripyat and the Dnieper by hybridization of autochthonous populations with acrocentric karyotypes and settled in the west of postglacial chromosomal race Białowieża, in the north – a race of Bobruisk, in the south – a race of Kiev, in the east – a race Nerussa.

**Mizhui S. M., Drinevskaja N. A. Variability of biometric indicators of (*Amanita muscaria* (Fr.) Hook) and *Amanita pholoides* (Fr.) Sestr) in Lelchitsy and Mozyr, Gomel region**

39

**Summary**

Depending on the region of growth *Amanita pholoides*'s and *Amanita muscaria* biometric parameters (diameter of cap and length of leg) didn't change. They were within the limits from 9,6 up to 10,8 sm (diameter of cap); from 10,8 up to 13,3 sm (length of leg). Between cap diameter and leg length an average force linear correlation dependence is observed, what the factor of correlation  $r = -0,502$  (*Amanita pholoides*) and  $r = -0,366$  (*Amanita muscaria*) testifies.

**Sarassenko E.G., Tagaj S.A., Podoljak A.G., Luchenok L.N., Degtjareva E.I. Optimization of the cultivated areas structure as a way of rational use of contaminated peaty soil**

44

### **Summary**

In the context of the current technogenic development one of the widespread practices related to reduction of <sup>137</sup>Cs and <sup>90</sup>Sr transfer to agricultural production and the most feasible approach to control the processes of organic matter decomposition on peaty soils is optimization of cropland structure based on adaptation of agricultural crops to soil and hydrological conditions. This will enable to produce the higher weight of crops and their varieties with lower levels of radionuclide concentrations and increase cropland capacity with reduction of fodder production costs.

### ***Shkumatov L.M., Shantarovich V.V., Rybina I.L., Moroz E.A. Non-specific body adaptive responses of highly skilled canoe rowers while pre-season and contest season periods* ..... 54**

#### **Summary**

Sixty three (37 men and 26 women) kayak paddlers – members of the National team and the closest reserve of the National kayak and canoe team were examined in the preparatory and competitive periods. The type of nonspecific adaptive reactions was determined by the content of lymphocytes in blood using a hematology analyzer SYSMEX XT-2000i. In the competition period compared to the preparatory both men and women show the increase of the frequency of responses related to chronic stress.

## **PEDAGOGICAL SCIENCES**

### ***Galustov A.R., Glukhov V.S. Model of detecting, developing and supporting of talented students in teacher training colleges* ..... 59**

#### **Summary**

In article problems of search, development and support of talented students in pedagogical higher education institutions are considered. The problems constraining effective work on search, development and supports of exceptional children and youth in Russia are defined and the main solutions of these problems on the example of work student's конструкторско – technological scientific center of chair of technology and design of Armavir state pedagogical academy are defined. It is shown that development scientifically – technical creativity of students in pedagogical higher education institutions in the field of mechatronics. Robototekhnika and multimedia computer modeling allows to reveal to talents and endowments of studying youth.

### ***Goncharova E.P. Some theoretical aspects of improving the quality of higher education* ..... 67**

#### **Summary**

The article is devoted to the questions of present interest of higher education quality improvement: organizational aspects of modernization of qualification characteristics of a graduate on an international scale are considered; the meaning of cultural identity for a professional is revealed; the characteristic of the concept of cultural development of a person in higher educational establishment educational environment within the framework of humanist trend of educational process is presented.

**Gorovoj V.A. Approaches and principles to students' physical recreation 72**

**Summary**

In article the problem of essence of general scientific approaches and principles of the organization of a physical recreation of students is considered. The characteristic system, devyatelnostny and personal focused approaches. Intrinsic characteristics of the general and specific principles of the physical recreation concretizing these approaches are opened.

**Zheleznyakova O.V. A set of exercises for training graduate students of language high schools to oral consecutive Interpreting ..... 77**

**Summary**

The article presents a set of exercises for teaching professional skills of consecutive interpreting in linguistic educational establishments. There has been proved the efficiency of the worked out set for teaching interpreting to students in the conditions modeled as real, which ensures a more optimal and intensified teaching process.

**Zavalko E.V. Conceptual model of music teacher innovation activity ..... 83**

**Summary**

Modernization of contemporary education requires each teacher performance, not only is the traditional educational activities, but also functions an innovator, capable of daily labor implement new ideas, concepts, methods of teaching and learning. The article analyzed the specific innovation activity of music teacher, developed its conceptual model, which is considered as a complete system displays traits that promote innovation in micro-space (internal personal qualities), meso-space (at the music lesson), macro-space (in the school) and the megaspace (in the international educational space).

**Komarova I.A., Pojda O.V. Revisited development of an experimental model of formation responsible attitude to parenthood among students ... 90**

**Summary**

This article presents an experimental model of a conscious parenthood of students, discloses the components and identifies criteria of formation of a basic component of conscious parenthood.

**Prokofjeva O. O., Snopkova E. I. Implementation of critical thinking development technology in the process of teaching pedagogical subjects at university level ..... 95**

**Summary**

The article deals with the reflection of the authors' experience in the methods and techniques of the technology of critical thinking development for the purpose of the formation of future specialists' pedagogical thinking. The article shows both theoretical and practical methodical aspects of realization of competence providing approach in the experience of higher school by the means of the technology of critical thinking development.

**Shunina G. A. Professionally relevant mathematical knowledge and skills formation among the cadets of command skills specialties of Military Academy ..... 100**

### **Summary**

The pedagogical peculiarities of the military students' training in mathematics are described. The main academic and educational missions carried out by teachers in the process of military students' mathematical training are shown. The elaboration and introduction of intersubject connections of mathematics and special military disciplines in the process of studying became the basis for disclosing objective and subjective reasons for correcting the course of higher mathematics program designed for military students of command specialities. The notions «mathematical class» with intersubject context and three levels of the realization of intersubject connections are presented. As a result of the pedagogical experiment, the new typical and academic programs of the course «The foundations of higher mathematics» have been introduced. They are completed by the section on operational investigation and two themes in mathematical modeling of combat actions.

## **PHYLOGICAL SCIENCES**

### ***Joskevich M.M. Methodological foundation of communicative and synthesizing approach to the pieces of art interpreting* ..... 106**

#### **Summary**

The article is devoted to working out of methodological bases of synthesis of narratology and the historical-functional method, which the author suggests to name the communicatively synthesizing approach. The given synthesis, based on mutual verification of immanent and contextual methods, is the system approach to interpretation of a literary work, aspiring as much as possible to come closer to the reflection of all external and internal interrelations in the system of a communicative triad «the author – the text – the reader».

### ***Litvinovich A.G. Connection between causativeness and other verb categories* ..... 110**

#### **Summary**

The article deals with the correlation of verbal categories such as causativity, voice and transitivity in Slavic (Byelorussian, Russian) and Germanic (English, German) languages. The subjectobject relations of the verb closely tie causativity, voice and transitivity thus determining the topicality of the problem. The outcome of the research is to define the place of causativity among other verbal categories.

### ***Makarich M.V. Special features of English scientific texts' logical-semantic structure* ..... 115**

#### **Summary**

The article deals with the problem of a logical-semantic structure of a text. The main aim is defining static and dynamical aspects of the text and finding formal ways for its description. The object of investigation is English scientific and technical texts. The problem is considered to be used in automatic text structuring and summarization.

***Kraleovich N.V. Lexical content of partitive construction with names of substances (based on examples from Russian and Chinese languages) ....*** 121

***Summary***

Based on the fact that Part-Whole relations are universal we made an attempt to analyze partitive constructions with the name of substances in the Russian and Chinese languages through this linguistic category. The analysis of partitive constructions with the names of substances in the Russian and Chinese languages led us to the following conclusions: significant differences in the number of partitive constructions with the names of substances with the most frequent partitives in Russian and Chinese can be explained by different quantifying types in the studied languages; the qualitative composition of the partitive constructions with the name of substances in Russian and Chinese showed significant semantic differences between "equivalent" partitives; it is not possible to build a generalized model of division of non-discrete substances for the Russian and Chinese languages.

***Petrova N.P. Phraseological units with ethnical cultural semantics in Belarusian language school textbooks .....*** 127

***Summary***

Valuable national cultural information having been preserved in phraseological units of the Belarusian language, the article deals with the problem of its presentation in actual textbooks for secondary schools. Quantitative and qualitative characteristics of their phraseological component have been analyzed. The necessity of creating a specialized dictionary of Belarusian phraseological units with national cultural semantics for secondary schools is proved.

***Rogovcov V. I. Verbal means of expressing comicality in stage play "The Wolf" by Michael Gromyko .....*** 133

***Summary***

Different verbal means, specialized and non-specialized (more often) are used for creating a comic effect in the play by Belarusian playwright Mikhaila Hramyka "The Wolf". An important role in revealing the comic connotation belongs to special means (means of verbal context); in intensification of such connotation – to intensifiers (a concentrated use of lingual means).

***Sidorec V. S. Consisting from more than one word names of predicative attributes in terms of the opposition of information shutting down and development .....*** 138

***Summary***

Their historical uproots, logic of development and spreading of multiword names of predicative mark (verboids) in East-Slavonic languages in aspect of opposition of reduction-expansion of information are investigated.

***Jakutenok N. I. Motivation and de-motivation of words' pet forms' (deminutives) meaning in modern German language*** ..... 143

***Summary***

The article deals with the phenomena of motivation and demotivation of the meaning of diminutive derivatives in modern German. We determined the basic concept of motivation, derivative motivation and demotivation, identified the corresponding types of motivation. The scientific novelty of the article is reflected in the identification of the main factors of the demotivating meaning of the diminutive forms, in the defining the groups of derivatives with diminutive semantics, confirmed by these processes, in the realization of the analysis of the semantic features of investigating lexical units.