

## ABSTRACT&amp;REFERENCES

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## INVESTIGATION OF MENTALITY OF URBAN ENVIRONMENT

p. 6-10

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*In the scientific study, the mentality of the urban environment is considered as a phenomenon. Mentality of the environment is represented by the informational-semiotic layer of the urban environment, which is an integral part of the spirit of the nation, the ethnos. The correlation and mutual completeness of the mentality of the urban environment and the mentality of the nation has been revealed.*

*As a result of scientific research, a new concept is introduced into the architectural and town-planning activity – the mentally-toponymic support plan of the territory*

**Keywords:** urban environment, spirituality of the environment, mentality, the spirit of the nation, folklore, memory of the nation

## References

1. Mosendz (Arzili), A. Yu. (2012). Evolyuciya izomorfnosti arhitekturnoy leksiki. Naukovyi visnyk budivnytstva, 67, 24–27.
2. Mosendz (Arzili), A. Yu. (2013). Ponyatiyniy status koncepta «Genius loci» i ego rol' v formirovanii gorodskoy sredey. Sovremennyye problemy arhitektury i gradostroitel'stva, 33, 248–252.
3. Brunov, N. I. (1988). Hram Vasiliya Blazhennogo v Moskve. Pokrovskiy sobor. Moscow: Iskusstvo, 252.
4. Ikonnikov A. V. (1990). Tysyacha let russkoy arhitektury. Moscow: Iskusstvo, 60.
5. Levinson, A. G. (1975). Semantika gorodskoy sredey. Dekorativnoe iskusstvo, 9, 33–35.
6. Antonov, V. L. (2005). Kompoziciya gorodskoy sredey (metodologicheskie problemy sistemnogo podhoda). Kyiv – Kharkiv – Simferopol'.
7. Puchkov, A. A. (1998). Paradoks antichnosti. Princip hudozhestvenno-plasticheskoy telesnosti antichnoy arhitektury. Kyiv: NIITIAG, 288, 303.
8. Vagner, G. K. (1988). Drevnerusskiy ansambly' kak obraz mira. Iskusstvo ansamblya. Hudozhestvennyy predmet,

inter'er, arhitektura, sreda. Moscow: Izobrazitel'noe iskusstvo, 97–139.

9. Barabanov, A. Chelovek i arhitektura: Semantika otnosheniy. Available at: <http://gnozis.info>

10. Linch, K. (1982). Obraz goroda. Moscow: Stroyizdat, 328.

11. Toporov, V. N. (1995). Mif. Ritual. Simvol. Obraz. Issledovaniya v oblasti mifopoeticheskogo. Moscow: Progress – Kul'tura, 4.

12. Puchkov, A. A. (1997). Gabrichevskiy. Konceptiya arhitekturnogo organizma v myslitel'nom processe 20–30-h godov. Kyiv: Izdatel'skiy dom A.S.S., 123.

13. Tuan, Y.-F. (1975). Images and mental maps. Annals of the Association of American Geographers, 65 (2), 205–212. doi: 10.1111/j.1467-8306.1975.tb01031.x

14. Veselkova, N. V. (2010). Mental'nye karty goroda: voprosy metodologii i praktika ispol'zovaniya. Sociologiya: metodologiya, metody, matematicheskoe modelirovanie, 31, 10.

15. Plaut, D. C. (2001). Cognitive Maps. International Encyclopedia of the Social and Behavioral Sciences, 2120–2124.

16. Milgram, S. (2000). Eksperiment v social'noy psichologii. Sankt-Peterburg: Piter, 97.

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## CLINICAL BLOOD ANALYSIS OF THE GREAT TIT PARUS MAJOR

p. 11-14

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*The blood analysis of the great tit in a protected area of National Nature Park "Homilshanski Forests" (Kharkiv Region, Ukraine) was performed in the age-related dynamics of its postembryogenesis. Using our own method, developed for collecting venous blood from the eye sinus, the identity of leukogram percentages between the literary data and our obtained results was established thereby providing evidence in favour of the application of our development. Erythrocytes were studied with the help of the micronucleus test, which results reliably testify that the studied birds were not exposed to any chemical or physical contamination. No parasitic infections were found in blood smears. Further improvement of the blood taking method is planned in order to collect samples for biochemical and genetic analyses*

**Keywords:** *Parus major, leukocytes, erythrocytes, micronuclei, parasitic infections, venous blood*

#### References

- Cea, G. F. A., Etcheberry, K. F. C., Dulout, F. N. (1983). Induction of micronuclei in mouse bone-marrow cells by the flavonoid 5,3', 4'-trihydroxy-3,6,7,8-tetramethoxy-flavone (THTMF). *Mutation Research Letters*, 119 (3-4), 339–342. doi: 10.1016/0165-7992(83)90182-3
- Gashkov, S. I. (2007). *Biology of the great tit (Parus major L.) in the southern taiga of Western Siberia*. Tomsk, 24.
- Grishchenko, V. N. (1995). Seasonal dynamics of the sex-age structure of the great tit population in Kaniv Reserve. *Zapovidna Sprava v Ukraini*, 1, 48–51. Available at: <http://aetos.kiev.ua/selectrus/parus.htm> Last accessed: 12.01.2015
- Baryshnikov, P. I., Bondarev, A. Yu., Novikov, N. A. (2010). Characteristics of microorganisms of wild birds of the forest-steppe zone of Altai Territory. *Bulletin of Altai State Agrarian University*, 11 (73), 56–58.
- Bitukov, I. P. (1979). Changes in the number of erythrocytes and hemoglobin in different periods of the reproductive function of cows. *Voronezh*, 105, 162.
- Irisova, O. A., Irisov, E. (1982). Features of the hematological indicators in the typically high-altitude birds of Asia: adaptation at different levels of biological integration. Tomsk, 197.
- Almazov, V. A., Ryabov, S. I. (1963). *Methods of functional blood analysis*. Leningrad, 132.
- Kal-Kalif, Ya. Ya. (1941). On the leukocyte index of intoxication and its practical significance. *Medical practice*, 1, 31–33.
- Irisov, E. A., Kamaeva, S. I., Andryushtna, O. A. et al. (1980). Morphological and biochemical parameters of blood of birds of Putorana Plateau. Tomsk, 143.
- Imangulov, Sh. A., Egorov, I. A., Okolelova, T. M. et al. (2004). A technique to carry out scientific and production studies on poultry feeding: recommendations. Sergiev Posad: VNITIP, 43.
- Green, N., Stout, U., Taylor, D. (1990). *Biology*. Vol. 3, No. 2. Moscow: World, 193.
- Donnik, I., Derkho, M., Kharlap, S. (2015). Blood cells as an indicator of activity of stress responses in the organisms of chicks. *Agrarnyi Vestnik Urala. Ptitsevodstvo*, 5 (135), 68–71.
- Visser, M. E., Lessells, C. M. (2001). The costs of egg production and incubation in great tits (*Parus major*). *Proceedings of the Royal Society B: Biological Sciences*, 268 (1473), 1271–1277. doi: 10.1098/rspb.2001.1661
- Valkyunas, G., Yezhova, T., Mironov, S. (2001). High infection extensity and variety of blood parasites in passerine birds in South Turkmenistan. *Parazitologiya*, 35 (2), 135–142.
- Paulke, E., Haase, E. (1978). A comparison of seasonal changes in the concentrations of androgens in the peripheral blood of wild and domestic ducks. *General and Comparative Endocrinology*, 34 (4), 381–390. doi: 10.1016/0016-6480(78)90278-2
- Vartanyan, V. L., Karapetyan, S. K. (1959). Method of calculating blood cells of birds, amphibians and reptiles. *DAN the Armenian SSR*, 29 (2), 131–133.
- Bessarabov, B., Kletikova, L., Kopot, O., Alekseeva, S. (2009). Protective mechanisms of birds in the postembryonic development. *Ptitsevodstvo*, 10, 46–47.
- Miklyaeva, M., Okolnicheva, A., Popenko, N., Miklyaeva, Yu., Antipova, M.; Vostretsov, A. I. (Ed.) (2017). Studying the influence of organophosphorus pesticides on the great tit chicks inhabiting industrial gardens. *Neftekamsk*, 34–39. Available at: [http://science-peace.ru/files/IPvSN\\_2017.pdf](http://science-peace.ru/files/IPvSN_2017.pdf)
- Ponomarev, V. A., Pronin, V. V., Kletikova, L. V., Malovichko, L. V., Yakimenko, N. N. (2014). Clinical and biochemical parameters of blood of birds. Ivanovo: PresSto, 288.
- Kilgas, P. (2007). Blood parameters as indicators of physiological condition and skeletal development in great tits (*parus major*): natural variation and application in the reproductive ecology of birds. Tartu, 43. Available at: [http://dspace.ut.ee/bitstream/handle/10062/4842/kilgas\\_priit.pdf](http://dspace.ut.ee/bitstream/handle/10062/4842/kilgas_priit.pdf)
- Khozina, V. M., Yakimenko, N. N., Ponomarev, V. A., Kletikova, L. V. (2015). Haemato-biochemical profile of a model bird species by the example of the great tit (*Parus major L.*), inhabiting urbanized environment. *Modern problems of science and education*, 3. Available at: <http://www.science-education.ru/pdf/2015/3/104.pdf>
- Derkho, M., Zubkova, M. (2016). The importance of haematomorphological indices in assessing bird conservation. *Evolution of modern science*. Kirov, 40–42.
- Buslovskaya, L. K., Kovtunencko, A. Yu. (2009). Characteristics of adaptive responses in chickens exposed to vibration of different frequency and transportation. *Selskokhozyastvennaya Biologiya*, 6, 80–84.
- Stimmer, K., Pietering, H., Murty, L., Clauder, K., Finnel, V. (1980). Toxic effects of cadmium and lead on the heart. *Environmental hygiene*. Moscow, 28–32.

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**APPLIED RESEARCH IN SCIENCE AND ITS INFLUENCE ON INNOVATIVE PROCESSES IN ARCHITECTURE AND DESIGN**

p. 15-18

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*The article covers applied research in science and its influence on the innovative processes in architecture and design. The theoretical concepts and practical achievements applied to the satisfaction of material and immaterial needs of modern society, which can be reflected in the purpose of architecture and design in the 21st century, allowed to identify several strategic directions for their development*

**Keywords:** sustainable architecture, up-cycling design, digital morphogenesis, environmental architecture, generative design

**References**

1. Babich, V. N., Kremlev, A. G., Kholodova, L. P. (2013). Sinergeticheskiy podkhod k arkhitekturnoy deyatelnosti. *Arkhitekton: izvestiya vuzov*, 42, 14–21. Available at: [http://archvuz.ru/2013\\_2/2](http://archvuz.ru/2013_2/2)
2. Rappaport, A. G. (2012). Prostranstvo i substantsiya. Ch. 1. Ot funktsii k prostranstvu. *Arkhitektura i stroitel'stvo*, 2, 20–23.
3. Rappaport, A. G. (2012). Prostranstvo i substantsiya. Ch. 2. Arkhitektura kak substantsiya. *Arkhitektura i stroitel'stvo*, 3, 7–11.
4. Obchysliuvalna/Alhorytmichna arkhitektura. Personalnyi sait Dmytro Aranchii Architects. Available at: <http://aranchii.com/ua/blog/>
5. Publications/Research. Personalnyi sait Fylyppa Bysly. Available at: <http://philipbeesleyarchitect.com/>
6. Ellard, K. (2016). Sreda obitaniya. Kak arkhitektura vliyaet na nashe povedenie i samochuvstvie. Moscow: Al'pina, 343.
7. Gringard, S. (2017). Internet veshhey. Budushhee uzhe zdes. Moscow: Al'pina, 188.
8. Courses. Personal'nyi sayt Neri Oxman. Available at: <http://neri.media.mit.edu/>
9. Mark Burry. Professional and academic research. Personal'nyi sayt Marka Burry. Available at: <https://mcburry.net/>
10. Research. Personal'nyi sayt Matiasa Kelera. Available at: <http://gramaziokohler.arch.ethz.ch/web/e/forschung/index.html>
11. Environmental architecture. Ofitsial'nyi sayt «Royal College of Art». Available at: <http://douglasball.com/flash.html>
12. UCalgary architecture students design colony for Mars. Ofitsial'nyi sayt «UCalgary». Available at: <https://www.ucalgary.ca/utoday/issue/2017-02-23/university-cal-gary-architecture-students-designing-colony-mars>

[www.ucalgary.ca/utoday/issue/2017-02-23/university-cal-gary-architecture-students-designing-colony-mars](https://www.ucalgary.ca/utoday/issue/2017-02-23/university-cal-gary-architecture-students-designing-colony-mars)

13. What Is Generative Design? Ofitsial'nyi sayt kompanii «Autodesk». Available at: <https://redshift.autodesk.com/what-is-generative-design-2/>

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**THE EFFECT OF NITROGEN FERTILIZER APPLICATION TIME ON THE YIELD, QUALITY AND FRACTIONAL COMPOSITION OF WINTER WHEAT GRAIN AFTER DIFFERENT PRECURSORS UNDER CONDITIONS OF THE SOUTHERN STEPPE OF UKRAINE**

p. 19-26

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*The results of application of foliar fertilizing of winter wheat of different norms of nitrogen fertilizers grown after predecessors black fallow, peas and winter oilseed rape and their effect on the yield, quality, and fractional composition of the grain itself are presented. There were determined the optimal rate and timing of application of mineral nitrogen depending on the predecessor and areas of production: food grains or seeds. It is shown that the spring term feeding has a little impact on the grain quality when wheat is grown on the black fallow and peas; the predecessor of winter rape feeding should be carried out in the phase of mass tubing*

**Keywords:** winter wheat, feeding, carbamide, quality, yield, protein, gluten fraction, correlation

## References

1. Druzyak, V. H., Burykina, S. I., Kovalenko, O. V., Yaniuk, N. A. (2013). Winter wheat under rainfed conditions of the black sea steppes. Grain and bread, 2, 62–65.
2. Bilyk, D. P., Blintsov, I. S., Veduta, P. P. et. al.; Vinnytskyi, S. P. (Ed.) (1964). Wheat in the South. Odessa: Maiak, 157.
3. Melnychuk D. O. et. al. (Eds.) (2003). Scientific provisioning of sustainable development of agriculture in forest-steppe of Ukraine. Kyiv: Aleph, 886.
4. Marchuk, I. U., Makarenko, V. M., Rozstalnyi, V. E. (2007). Spring nutrition of winter wheat. Real boss, 2, 19–21.
5. Bushong, J. T., Arnall, D. B., Raun, W. R. (2014). Effect of Preplant Irrigation, Nitrogen Fertilizer Application Timing, and Phosphorus and Potassium Fertilization on Winter Wheat Grain Yield and Water Use Efficiency. International Journal of Agronomy, 2014, 1–12. doi:10.1155/2014/312416
6. Jolans, J. I. (1985). Fertilizer in UK farming. University of Reading. Centre for Agricultural Strategy, 9, 215.
7. Zhao, J.-Y., Yu, Z. W. (2006). Effect of Nitrogen Fertilizer Rate on Photosynthetic Rate and Photochemical Efficiency of Flag Leaf, Grain Yield and Protein Content of Winter Wheat. Journal of Triticeae Crops, 5, 92–96.
8. The complex of spring field work in the farms of the Nikolaev area in 2017 (2017). Nikolaev: Nikolaevskaya GSKHOS IOZ NAAN, 22.
9. Bordyuzha, N. P. (2016). Optimization of fertilization of winter wheat for improvement of biochemical quality of grain. Modern directions of theoretical and applied researches. Available at: <http://www.sworld.education/conference/year-conference-sw/the-content-of-conferences/archives-of-individual-conferences/march-2016> Last accessed: 18.02.2018
10. Cherenkov, A. V., Hyrka, A. D. (2005). The ways of increasing grain productivity of winter wheat in the conditions of Northern Steppe subzone of Ukraine Biuletyn Instytutu zernovoho hospodarstva UAAN, 23-24, 36–39.
11. Hyrka, A. D. (2007). The Formation of yield and grain quality of winter wheat depending on the feeding and protection in the conditions of North steppe of Ukraine. Dni-propetrovsk, 19.
12. Liashenko, V. V., Solianyk, O. M. (2007). Yield and quality of winter wheat grain depending on different doses of nitrogen recharge. Available at: [http://www.rusnauka.com/19\\_NNM\\_2007/Agricole/23412.doc.htm](http://www.rusnauka.com/19_NNM_2007/Agricole/23412.doc.htm) Last accessed: 18.02.2018
13. Technology training black couple in the Steppe zone of the USSR (1988). Dnepropetrovsk: Vsesoyuznyy nauchno-issledovatel'skiy institut kukuruzy, 19.
14. Razvadovskyi, A. M. (1988). Intensive technology of cultivation of peas. Kyiv: Vintage, 92.
15. Recommendations for cultivation of winter rape (2006). Ivano-Frankivsk: Ivano-Frankivsk Institute of APP UAAN, 21.
16. Nikitenko, G. F. (Ed.) (1982). Experimental work in field. Moscow: Rossel'khozizdat, 190.
17. GOST 13586.1-68. Grain. Methods for determining the quantity and quality of gluten in wheat (with changes 1,2). Chiny vid 1991-09-01. Zmini: 1971-07-01; 1998-09-02 (2009). Moscow: Standartinform, 6.
18. DSTU 4117:2007. Grain the produkti Yogo pererobki. Proposed pokaznikiv quality method infracervene spectroscop. Chiny vid 2007-08-01 (2007). Kyiv: Derzhspozhivstandart Of Ukraine, 7.
19. GOST 10842-89 (ISO 520-77). Grain grain and legumes and oilseeds. The method of determining the mass of 1000 seeds, 1000 seeds. Chiny vid 1995-06-01 (2009). Moscow: Standartinform, 4.
20. GOST 10840-64. Grain. Methods of determining the nature. Chiny vid 1988-07-01 (2009). Moscow: Standartinform, 4.
21. GOST 13586.5-93. Grain. Method of determination of humidity. Chiny vid 1993-06-01. Interstate Council on standardization, Metrology and certification (1993). Minsk, 8.
22. Dospekhov, B. A. (1971). Planning of field experience and statistical processing of its data. Moscow: Kolos, 207.

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**SECTORAL TERMINOLOGY OF THE UKRAINIAN TRADE ACTIVITY: MAIN ASPECTS OF FUNCTIONING**

p. 27-30

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*The article analyzes modern tendencies of the Ukrainian trade industry basic key terms functioning, attention is focused on the foreign language origin terms of document orientation related to the trade documentation; the processes of terminological support of electronic commerce are proposed. The main principles of the functioning of trade documentation in the system of economic sciences are considered*

**Keywords:** industry documentation, trade documentation, trade, concepts, terms, definitions, information resource, commerce, documentation support

**References**

1. Tyagunova, N. M. (2010). Competitiveness of trade enterprises: monograph. Poltava: RVV PUET.
2. Komova, M. V. (2011). Ukrainian document terminology: ways of creation and functional features [Modern trends in retail network in Ukraine ]. Lviv: Lvivska Politechnika Publishing House.
3. Palekha, Yu. Y. Puty razvytyia nauky o dokumente. Available at: <http://www.dilo.kiev.ua/naukovi-praci-puti-razvityia-nauki-o-dokumente.html>
4. Velykyi tлумachnyi slovnyk suchasnoi ukrainskoi movy (2009). Kyiv; Irpin: Perun.



5. Fynansovo-kredytnyi entsyklopedycheskyi slovar (2002). Moscow: Fynansy y statystyka.

6. Zakonodavstvo Ukrainy pro torhivliu i torhovelne obsluhovuvannia: zb. ofits. tekstiv zakoniv (2012). Kyiv: Tsentr uchb. lit.

7. Pushkar, A. Y. (2005). Stratehycheskoe upravlenye razvytyem elektronnoho byznesa y ynformatsyonnykh resursov predpriyatiya (modely, stratehyi, mekhanyzmy): nauch. yzd. Kharkov : Yzd. KhNEU, [in Ukrainian].

8. Medzhybovska, N. S. (2011). Formuvannia elektronnoho postachannia promyslovykh pidpriemstv: monohrafiia. Odesa: Palmira.

9. Zakonodavstvo Ukrainy pro torhivliu i torhovelne obsluhovuvannia : zb. ofits. tekstiv zakoniv (2012). Kyiv: Tsentr uchb. lit.

10. Horshkova, L. V. (2007). Planyrovanye na predpriyatiakh torhovly. Vladyvostok: Yzd-vo RDU.

11. Artamonova, N. O. (2010). Systema informatsiinoho zabezpechennia medychnoi nauky v Ukraini: monohrafiia. Kharkiv: Miskdruk.

12. DSTU 2732:2004. Dilovodstvo y arkhivna sprava. Terminy ta vyznachennia poniat [Product innovative policy]. Available at: <http://www.archives.gov.ua/Law-base/Standards>

13. Derzhavnyi klasyfikator upravlinskoi dokumentatsii Ukrainy (DKUD) (n.d.). DK 010-98. Besplatnaia byblyoteka: sait. Elektron. tekst. dani. [B. m.]. Available at: <http://dstu-biblio.3dn.ru>

14. Tyshchenko, A. (2011). Prydbannia y oblik tovariv na pidpriemstvi . Dilovodstvo y dokumentoobih.

15. Transportni dokumenty. Konteinerni perevezennia (2016). DUKE ACTIVE: sait. Elektron. tekst. dani. [Odesa]. Available at: <http://www.duke-active.com/ru/pages.php?pg=20>

16. Pro elektronnu komertsiiu (2015). Zakon Ukrainy No. 675 Verkhovna Rada Ukrainy: ofits. veb-portal. [Kyiv], 1994–2016. Available at: <http://zakon3.rada.gov.ua/laws/show/675-19>

17. Marutian, R. (2009). Informatsiini resursy: novi pidkhody do vyznachennia poniatia . Suchasna ukrainska polityka: polityky i politolohy pro nei: nauk. vyd. Ukr. akad. polit. nauk, Ukr. tsentr polit. menedzhmentu. Kyiv.

18. Lipinska, A. V. (2011). Formuvannia informatsiinoi kultury maibutnikh dokumentoznavtsiv. Teoriia ta metodyka navchannia matematyky, fizyky, informatyky: zb. nauk. pr. :Nats. metalurh. akad. Ukrainy.

19. Pro informatsiiu (1992). Zakon Ukrainy No. 2657-XII Elektron. tekst. dani. Available at: <http://zakon5.rada.gov.ua/laws/show/2657-12>

20. Shemaieva, H. V. (2008). Elektronni resursy bibliotek Ukrainy v systemi naukovykh komunikatsii: monohrafiia; M-vo kultury i turyzmu Ukrainy, Kharkiv. derzh. akad. kultury. Kharkiv: KhDAK.

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INCREASE OF THE EFFECTIVENESS OF TRAINING WEB-APPLICATIONS DUE TO CACHING

p. 31-33

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*The article deals with the organization of calculations on the client side of training WEB-applications. The relationship between the efficiency and autonomy of WEB-applications intended for training is grounded. The features of such applications and the possibilities to improve their efficiency are determined. The influence of casing is considered. The problem problem is formulated, which consists in increasing the degree of autonomy of such applications. A solution is offered for using the new HTML5 API. Technologies are selected and their features are considered*

**Keywords:** training in the workplace, WEB applications, resource cache, API, repository, data, distributed applications

## References

1. Klarin, M. V. (1997). Innovatsii v obuchenii. Metafory i modeli. Moscow: Nauka, 223.

2. Berezovskyi, V. S., Stetsenko, I. V., Zavadskyi, I. O. (2013). Stvorennia elektronnykh navchalnykh resursiv ta onlainove navchannia. Kyiv: Vydavnycha hrupa BHV, 176.

3. Pushkar, O., Lepeyko, T. (2006). Design of interactive visual tools in the computer multimedia education program (by the example of management disciplines). Yeditepe university. 4th International Symposium of Interactive Media Design, 30, 117–125.

4. Bulanova, T. V., Starodubtsev, V. A., Shamina, O. B. (2012). Pedagogicheskii dizayn informatsionnoy uchebnoy sredy. Problemy informatiki, 5, 208–212.

5. Nazarova, O. L. (2003). Novye informatsionnye tekhnologii v upravlenii kachestvom obrazovatel'nogo protsessa v kolledzhe. Informatika i obrazovanie, 11, 79–84.

6. Kurdytskaia, O. S. (2007). Otsenka effektivnosti obucheniya v vysokotekhnologichnykh informatsionnykh kompaniyakh. Teoriia i praktika suchasnoi ekonomiky. Cherkasy: ChDTU, 298–300.

7. Abramov, O. M. (2012). Pro stanovlennia, rozvytok ta vzaiemozviazok standartiv ta spetsyfikatsii elektronnoho navchannia (e-learning). Visnyk Kharkivskoi derzhavnoi akademii kultury, 37, 284–293.

8. Gritsenko, V. I., Kudryavtseva, S. P., Kolos, V. V., Verenich, E. V. (2004). Distantsionnoe obuchenie: teoriya i praktika. Kyiv: Naukova dumka, 375.

9. Kuklev, V. A. (2009). Elektronnoe obuchenie s pomoshh'yu mobil'nykh ustroystv v lyuboe vremya i v lyubom meste. Ulyanovsk: UIGTU, 356.

10. Molchanov, V. (2016). Analiz realizatsii novykh WEB-standartov v massovom programmnom obespechenii [Analysis of the implementation of new WEB-standards in mass software]. Systemy obrobky informatsiyi, 4 (141), 226–228.

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**HYDRAULIC CALCULATION OF THE CIRCULATION UNIT OF THE APPARATUS WITH JET-INJECTION FILLING**

p. 34-39

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*Hydraulic calculation of the circulation unit of the apparatus with jet-injection gas filling is considered. Equations of the circulation unit of the apparatus with jet injection gas filling for the gas phase suspension regime along the height of the diplegs are obtained. The equation of the coefficient of hydraulic resistance of the circulation unit is obtained, and a method is developed for selecting a mixing device to overcome the hydraulic resistance in the circulation unit and gas filling of the diplegs*

**Keywords:** jet-injection apparatus, hydraulic calculation, resistance coefficient of the circulation unit, gas content in the diplegs

**References**

1. Sokolov, V. N., Yablokova, M. A. (1988). Apparatura mikrobiologicheskoy promyshlennosti. L.: Mashinostroenie. Leningr. otd-nie, 278.
2. Sivenkov, A. V. (2011). Intensifikatsiya gidrodinamicheskikh protsessov v struynykh apparatakh pishchevoy promyshlennosti. Sankt-Peterburg, 16.
3. Sivenkov, A. V., Novoselov, A. G. (2008). Gidrodinamicheskyy raschet dvizheniya dvukhfaznykh potokov v vertikal'nykh trubakh kozhukhotrubnogo struyno-inzheksionnogo apparata (KSIA) protochnogo tipa s dopolnitel'nym soplom nad slivom (CHast' 1). Izvestiya SPb-GUNiPT, 2, 6–10.
4. Sivenkov, A. V., Novoselov, A. G. (2008). Gidrodinamicheskyy raschet dvizheniya dvukhfaznykh potokov v vertikal'nykh trubakh kozhukhotrubnogo struyno-inzheksionnogo apparata (KSIA) protochnogo tipa s dopolnitel'nym soplom nad slivom (CHast' 2). Izvestiya SPb-GUNiPT, 2, 11–16.
5. Ved', V. V. (2013). Struktura gazoridinnogo potoku ta rezhimi roboti tsirkulyatsynogo aparatu zi strumenevo-inzheksionnim gazo napovnenyiam. Vopr. khimii i khim. tekhnologii, 3, 214–219.
6. Agaev, K. E. (2012). Sovershenstvovanie gidrodinamicheskikh protsessov obrabotki pishchevogo syr'ya v

kozhukhotrubnom struyno-inzheksionnom apparate. SPb-GUNiPT. Sankt-Peterburg, 16.

7. Sokolov, V. N., Domanskiy, I. V. (1976). Gazozhidkostnye reaktory. L.: Mashinostroenie, 216.

8. Reykhsfel'd, V. O., Erkova, L. N. (1974). Oborudovanie proizvodstv osnovnogo organicheskogo sinteza i sinteticheskikh kauchukov. L.: KHimiya, 440.

9. Idel'chik, I. E. (1983). Aerogidrodinamika tekhnologicheskikh apparatov. Moscow: Mashinostroenie, 351.

10. Ved', V. V. (2015). Aparat dlya kontaktuvannya gazu ta ridini. pat. na korisnu model' № 99747 Ukraini, MPK6 B01F 5/10. declared: 05.12.2014; published: 25.06.2015, No. u201413052; byul. No. 12/2015.

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**INVESTIGATION OF PECULIARITIES OF USING MODERN AUTOMATED PROJECT MANAGEMENT SYSTEMS FOR IMPROVING EFFICIENT ACTIVITY OF THE ENTERPRISES**

p. 39-45

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*The article presents methodological approaches to the creation of modern automated project management systems, which are endowed with the ability to quickly react in real time to the dynamics of current production situations in the enterprise. These systems solve complex problems: monitoring, forecasting the development of various situations in the enterprise when any conditions change; operative formation of alternative management scenarios, their objective evaluation with the selection of the most effective solutions and other*

**Keywords:** automated project management systems, production situation, information systems, modeling, design

**References**

1. Vasylevska, A. (2012). Upravlinnia proektamy pidprijemstva iz vykorystanniam informatsiinykh tekhnolohii. Visnyk KNTEU, 1, 99–105.
2. Bashynska, I. O., Khri, A. V. (2017). Vykorystannia suchasnykh informatsiinykh tekhnolohii upravlinnia proektamy. stova. Ekonomichnyi zhurnal Odeskoho politekhnichnoho universytetu, 1 (1), 16–22.
3. Batenko, L. P., Zahorodnikh, O. A., Lishchynska, V. V. (2003). Upravlinnia proektamy. Kyiv: KNEU, 231.

4. Kendall, D., Rollinz, S. (2004). Sovremennyye metody upravleniya portfelyami proektov i ofis upravleniya proektov: maksimizatsiya ROI. ZAO «PMSOFT», 576.
5. Banker, R. D., Kauffman, R. J. (2004). 50th Anniversary Article: The Evolution of Research on Information Systems: A Fiftieth-Year Survey of the Literature in Management Science. *Management Science*, 50 (3), 281–298. doi: 10.1287/mnsc.1040.0206
6. Gutiérrez, M., Alegret, S., Del Valle, M. et. al. (2008). New sensor system for environmental monitoring. *Information Technology for Environmental Assessment and Decision Making*. IEMSS, 54–60.
7. Rassel, D. (2002). Archibal'd. Upravlenie vysokotekhnologichnymi programmami i proektami. Moscow: DMK Izdatel'stvo, 472.
8. Ditzhem Gerd Upravlenie proektami (v 2-kh tomakh) (2004). *Biznes-presa*, 400, 288.
9. Sokolova, G. N. (2002). *Informatsionnye tekhnologii ekonomicheskogo analiza*. Moscow: Ekzamen, 320.
10. Romanov, A. N., Odintsov, B. E. (1996). *Komp'yuterizatsiya auditoriskoy deyatelnosti*. Moscow: Audit; YUNITI, 270.
11. Morselli, L., Bartoli, M., Brusori, B., Passarini, F. (2002). Application of an integrated environmental monitoring system to an incineration plant. *Science of The Total Environment*, 289 (1-3), 177–188. doi: 10.1016/s0048-9697(01)01038-5
12. Kolberg, K. (2008). *Biznes-analiz s pomoshch'yu Project Expert*. Moscow: Vil'yams, 448.