

# SUMMARY

**UDC 745/749**

**S. A. Kulyabina**

The Vyatka state University

**INTEGRATIVE FUNCTION OF ARTS AND CRAFTS IN THE EDUCATIONAL PROCESS IN SUBJECTS «TECHNOLOGY OF ARTISTIC TREATMENT OF MATERIALS», «DESIGN»**

*At the present stage the collective peculiarities of arts and crafts can be used as an integrative function at working out of different approaches to teaching of designers and artist-technologists. Integrative function for the subject “Technology of artistic treatment of materials” (THOM) can only be provided by complex approach to the educational process.*

*Key words:* arts and crafts, integrative function, design, artist-technologist.

**References**

1. Wikipedia. Available at: [https://ru.wikipedia.org/wiki/Integrated\\_learning](https://ru.wikipedia.org/wiki/Integrated_learning) (accessed 30 August 2015).
2. Online dictionaries: Great encyclopedic dictionary. Available at: <https://ru.wikipedia.org/wiki> (accessed 30 August 2015).
3. Pronin I. A. *Dekorativnoe iskusstvo v Akademii hudozhestv: Iz istorii ruskoj hudozhestvennoj shkoly XVIII — pervoj poloviny XIX veka* [Decorative art at the Academy of fine arts: From istoriceski school of art of the XVIII — first half XIX century]. Moscow, Sobras. art, 1983. (In Russian).
4. All-Russian Museum of decorative, applied and folk art. Available at: <http://www.vmdpni.ru/museum/index.php> (accessed 30 August 2015).
5. Runge V. F., Senkovsky, V. V. *Osnovy teorii i metodologii dizajna* [Fundamentals of the theory and methodology of design]. Moscow, M3-Press, 2001. (In Russian).

**UDC 741.02**

**T. E. Timkina, V. V. Sadakova**

The Vyatka state University

**ASPECTS OF INTERACTION AND INTERPENETRATION OF DISCIPLINES «ACADEMIC DRAWING», «MASTERY»**

*The article considers the aspect of the learning process — a change from the mastering of an academic drawing to the embodiment of the author’s creative project*

*Key words:* academic drawing, historical museum analogs, jeweller’s art, author’s concept of a jewellery project

**References**

1. Ormiston, Rosalind, Alfons Mucha *Luchshie proizvedeniya* [Best works]. Moscow, Art-spring, 2007. (In Russian).
2. Avsiyan, O. A. *Natura i risovanie po predstavleniju* [Nature and drawing on representation]. Moscow, Sobras. art, 1985. (In Russian).
3. Istomina E. *Prostaja kompozicija. P'er Ardi, juvelir HERMES* [Simple composition. Pierre Ardi, jeweler HERMES]. *Kommersant Style*, 2011, no. 3, 36 p. (In Russian).

**UDC 7.01**

**O. V. Danilenko**

Omsk State Institute of Service, Fashion design department

**FORMATION AND DEVELOPMENT PECULIARITY OF FASHION DESIGN SPECIALIZATION IN THE OMSK STATE INSTITUTE OF SERVICE IN THE LATE 1970s TO THE FIRST PART OF 1980s**

*This article describes prerequisites and causations of art specialization formation in the province, influence of science development, sociality, geographical location and art education condition in the late 1970s to the first part of 1980s on forming of art education in the Omsk state institute of service.*

*Keywords:* fashion design, fashion education, Omsk, OmTI.

**References**

1. *Analiz opyta podgotovki dizajnerov v vysshih uchebnyh zavedenijah. Organizacija i sodержanie processa podgotovki dizajnerov: Otchet o naychno-issledovatel'skoj rabote* [Analysis of experience of training of designers in higher educational institutions. Organization and content of process of training of designers: report on research work]. *Metodicheskie materialy VNIITJE*. Moscow, VNIITJE, 1987. (In Russian).
2. *Plenum Centralnogo Komiteta KPSS. Materialy: 14–15 iyunja 1983* [Plenum of the Central Committee of CPSU. Materials: June 14–15, 1983]. Moscow, Politizdat, 1983. P. 18. (In Russian).
3. *Plenum XXVII sezda CK KPSS. Osnovnye napravlenija perestrojki vysshego i srednego special'nogo obrazovanija*

## ■ Summary

*v strane: 21 marta 1987* [Plenum of the XXVII congress of the Central Committee of CPSU. The main directions of reorganization of the higher and secondary vocational education in the country: March 21, 1987]. Moscow, Pravda, 1987. (In Russian).

4. Shpurik D. S. *Soderzhanie I uroven' podgotovki hudozhnikov v provincial'noj Rossii* [The contents and level of training of artists in provincial Russia]. *Molodoj uchenyj*, 2011, vol. 2, no 6, pp. 75–78. (In Russian).

**UDC 378.14.014.13**

**A. S. Magauova<sup>1</sup>,  
M. Y. Zhanguzhinova<sup>2</sup>**

<sup>1</sup>University of Transport and Law named after D. A. Kunaev

<sup>2</sup>Eurasian echnological University Kazakhstan

### **CREDIT TECHNOLOGY OF EDUCATION AS THE BASIS OF IMPROVING THE QUALITY OF HIGHER PROFESSIONAL EDUCATION**

*The author reveals the importance of the implementation of the credit technology of education in the international recognition of national educational programs, enhancing academic mobility of students and teachers, as well as to improve the quality of higher education in the Republic of Kazakhstan. The article shows that the transition to the credit system of education can adequately assess the levels, steps, academic degree of educational system of the Republic of Kazakhstan. Authors also explained that the introduction of credit system in the educational process of higher education promotes the integration of the national system of education in the international educational space.*

**Keywords:** credit technology of education, credit system of education, academic mobility of subjects of educational process, learning activities, IWS, individual educational trajectory.

### **References**

1. *Koncepcija razvittija obrazovanija Respubliki Kazahstan do 2015 goda* [Concept of Education Development of the Republic of Kazakhstan till 2015] *Kazahstanskaja Pravda* [Kazakhstan Today], 2003, 26 dec.

2. *Gosudarstvennaja programma razvittija obrazovanija v Respublike Kazahstan na 2005–2015 gg.* [The State Program of Education Development in the Republic of Kazakhstan for 2005–2015] Astana, MONRK, 2005.

3. *Instruktivno-organizacionnaja dokumentacija po vnedreniju kreditnoj tehnologii obuchenija* [Instructions and organizational documentation for the implementation of the loan program]. eds. by A. A. Kusainova. Almaty, KazGASA, 2003, 44 p.

4. Abdygapparova S. B., Ahmetova G. K., Ibatullin S. R., Kusainov A. A., Myrzaliev B. A., Omirbaev S. M. *Osnovy kreditnoj sistemy obuchenija v Kazahstane* [Fundamentals of credit system in Kazakhstan]. Almaty, Kazak, universitetu, 2004, 198 p.

5. Chistohvalov V. N. *Kak funkcioniruet sistema kreditnyh edinic v klassicheskom vuze* [How does the system of credit units

in a classic high school]. Moscow, People's Friendship University Publisher, 2003, 11 p.

6. *Vneshnie aspekty Bolonskogo processa* [The external dimension of the Bologna Process] Moscow, Ministry of Education RF, 2005. (In Russian).

7. Kubeev E. K. *Osobennosti vnedrenija kreditnoj sistemy obuchenija v klassicheskom universitete* [Features introduction of credit system of education in the classical university]. Credit Learning System: Experience and prospects of implementation. Almaty, Kazak universiteti, 2004.

8. Magauova A. S. Human capital formation in a globalized society. In the Proceedings of the HH111 international scientific and practical conferences and international scientific and analytical superiority Modern global problems of mankind. London, 2012, pp. 185.

9. *Globalizacija obrazovatel'nogo rynka: reforma universitetov Central'noj Azii: Chetvertaja ezhegodnaja mezhdunarodnaja konferencija Obrazovatel'noj seti* [Globalization of the educational market: the reform of universities in Central Asia: The Fourth Annual International Conference Education Network]. April 5–6, 2004 in Almaty, Kazakhstan. 240 p.

10. *Tehnologija organizacii kreditnoj sistemy obuchenija v vysshem uchebnom zavedenii* [Technology organization credit system in higher education] Proceedings of the Republican seminar Vice-Rector for Academic Affairs and the EMA. KSU them. EA Buketova (March 2004). Karaganda, Publishing House of the University, 2004. (In Russian).

11. Abdygapparova S. B., Ahmetova G. K., Ibatullin S. R., Kusainov A. A., Myrzaliev B. A., Omirbaev S. M. *Osnovy kreditnoj sistemy obuchenija v Kazahstane* [Bases of credit system of training in Kazakhstan]. Almaty, Kazak University, 2004. 198 p.

12. *Nauchno-metodicheskie aspekty realizacii kreditnoj tehnologii v sisteme vysshego professional'nogo obrazovanija* [Scientific and methodological aspects of the implementation of credit system in higher vocational education]. Materials of XXXIII Scientific Conference of the faculty of Kazakh National University. Al' — Farabi. Almaty, Kazak University, 2003, 230 p.

**UDC 7.02**

**V. L. Zhukov, K. O. Gavrilova**

Saint Petersburg State University of Industrial Technologies and Design

### **“SOUNDS OF NATURE” — MODERN TOPICAL DIRECTION IN DESIGN VISUAL COGNITIVE INFORMATION DYNAMIC SYSTEMS (VKIDS) RELATED TO JEWELRY FLOREAL' NOMU DOMAIN CLUSTER DESIGN OBJECTS**

*The work is dedicated to the study of aesthetics and the evolution of Art Nouveau in Visual cognitive, information, dynamic systems belonging to floreal'nomu domain cluster objects design, as well as analysis and synthesis of the basic properties of design jewelry (necklace).*

**Keywords:** modern, iris, design, jewelry.

## References

1. Mahlina S. *Hudozhestvennye stili v zhilom inter'ere* [Art styles in an inhabited interior]. SPb., Aletejja, 2012, 168 s. (In Russian).
2. Shatalova I. V. *Stili juvelirnyh ukrashenij* [Styles of jewelry]. Moskva, 6 karat, 2004, 154 p. (In Russian).
3. Zhukov V. L. *O javlenijah dopolnitel'nosti (neseperabel'nosti) v teorii dizajna* [About the phenomena of a complementarity (inseparability) in the theory of design]. Design. Materials. Technology. SPb., 2015, no № 3 (38), pp. 70–73. (In Russian).
4. Brazhe R. A. *Sinergetika i tvorcestvo* [Synergetics and creativity]. Ul'janovsk, UGTU, 2002, 204 p. (In Russian).
5. Lavrent'ev A. N. *Istorija dizajna* [Design history]. Moskva, Gardariki, 2008, 303 p., il. (In Russian).
6. Voronchihin N. S., Emshanova N. A. *Ornamenty. Stili. Motivy* [Ornaments. Styles. Motives]. Udmurtskij Universitet, 2004, 120 p. (In Russian).
7. *Velikie hudozhniki, tom 4, Klod Mone* [Great artists, vol. 4, Claude Monet]. Moskva, Direkt-Media, 2009, 50 p. (In Russian).
8. *Iris — simbol moderna* [Iris — a modernist style symbol]. Available at <http://www.liveinternet.ru/showjournal.php?journalid=2670896&tagid=456> (accessed 19.09.15).
9. *Irisy v iskusstve i zhizni* [Irises in art and life]. Available at <http://iris-art.livejournal.com/11840.html> (accessed 19.09.15).
10. Zhukov V. L., Poljakov V. I., Hmyznikova V. A. *Issledovanie vizual'nyh informacionnyh sistem i modulej v predmetnoj oblasti ob'ektov dizajna, predstavennyh klasterom maloj arhitekturnoj plastiki* [Research of visual information systems and modules in subject domain of the objects of design presented by a cluster of small architectural plasticity]. Design. Materials. Technology. SPb., 2013, no 4 (29). pp. 27–33. (In Russian).

## UDC 378.147:76.01:658.512.23

## M. R. Kuznecova, V. V. Laptev

Saint Petersburg State University of Industrial Technologies and Design

### APPLYING OF THE CLASSICAL PRINTING TECHNIQUES IN GRAPHIC DESIGN

*The article deals with the experience of using traditional methods of graphical modeling in the design and integration of traditional graphic in the implementation of design projects. Based on the technologies used in the printing of graphics, it is widely used in the design of modern education as a method of styling.*

**Keywords:** graphic design, art-print graphics, styling.

## References

1. Robin Kinross, Marie Reidemeiste *The transformer: principles of making Isotype charts*. London, Hyphen Press, 2009, 126 p.
2. Spichak I. A. *Nekotorye voprosy vzaimosvjazi hudozhestvenno-konstruktorskoj proektnoj grafiki i hudozhestvenno-graficheskoj podgotovki hudozhnikov-konstruktorov: avtoref. dis. kand. Iskusstvovedenija* [Some questions of interrelation of art and

design design graphics and art and graphic training of artists — designers]. Moskva, 1974, 36 p. (In Russian).

3. Grigor'ev A. D. *Formirovanie proektnogo myshlenija studentov dizajnerov v processe professional'noj podgotovki* [Formation of design thinking of students of designers in the course of vocational training]. Magnitogorsk, 2007, 36 p. (In Russian).

## UDC 677.025, 766.003.63

## S. Savelyeva

Saint Petersburg State University of Industrial Technologies and Design

### ARAN STYLE AND DIFFERENT OPPORTUNITIES OF USING IT IN DESIGN

*The Aran knitting in the different fields of design is analyzed. The tendencies of the influence and the interrelation of the different fields of design to each other are noticed. The modern trends in Aran knitting are shown.*

**Keywords:** Aran knitting, facture, texture, knitwear, fashion design, interior design, graphic design, art-design, porcelain dress, knitwear cup.

## References

1. Sissons J. *Knitwear: basics fashion design*. Singapore, AVA Book Production Pte. Ltd., 2010.
2. Lambert G. *The Taxonomy of Sweater Structure and their origins*. M. Sc. Thesis. Raleigh: North Carolina State University, 2002.
3. Oghegov S. *Tolkovyj slovar' russkogo jazyka* [Explanatory dictionary of the Russian language]. SPb., Oniks, World and education, 2008. (In Russian).
4. Bauch G. *The fashion designers Textile dictionary: A guide to fabrics' properties, characteristics, and garment-design potential*. Hauppauge, NY: Barron's Educational Series., 2011.
5. Isaeva T. *Arhaichnye i tradicionnye tehnologii v sovremenom dizajne tekstilja* [Archaic and traditional techniques in contemporary textile design]. SPb., SPGUTD, 2012. (In Russian).
6. Truevzev A. *Anglo-russkij slovar' — spravochnik po trikotazhnomu proizvodstvu* [English-Russian dictionary-guide for the production of knitted]. SPb., SPGUTD, 2005. (In Russian).
7. Spencer D. J. *Knitting Technology*. Oxford: Pegamon Press, 1989.
8. Sait of the museum of Aran sweater's. Available at: <http://www.clanarans.com/> (accessed 3 November 2014)
9. Weiss R. *50 fabulous knit aran stitches*. Leisure Arts, 2009.
10. Knox K. *Alexander McQueen. Genius of generation*. London, A&C Black Publishers, 2010.
- Official sait of designer Alexander McQueen. Available at: <http://www.alexandermcqueen.com/> (accessed 12 November 2014)
11. Official sait of designer Melanie Porter. Available at: <http://melanieporter.com/> (accessed 10 November 2014)
12. Official sait of designer Rachel Denny. Available at: <http://www.racheldenny.com/> (accessed 20 November 2014)
13. Chapurgina T. *Zastyvshaja dinamika* [The frozen dynamics]. SPb., Lubavich, 2012. (In Russian).

## ■ Summary

**UDC 304.444: 7.036 + 7.075**

**A. I. Lyubimenko, M. V. Chigirinova**

Saint Petersburg State University of Industrial Technologies and Design

### **KINETIC ART: FEATURES AND PROSPECTS**

*In article features of the modern art are described, and attempt of systematization of classification of art forms taking into account the happened transformations and change of technological way of society becomes.*

*Keywords:* art, types, art objects, art space, kinetic.

#### **References**

1. Koleichuk V. F. *Kineticism* [Kinetizm]. Moscow, Galart, 1994, 159 p., il. (In Russian).
2. Koleichuk V. F. *Azbuka Koleichuka: nauchno-metodicheskoe izdanie iz serii «Tvorcheskaja laboratorija»* [Koleichuk's alphabet: the scientific and methodical edition from the Creative Laboratory series]. Moscow, Moskovskaia gosudarstvennaia khudozhestvenno-promyshlennaia akademiia imeni S. G. Stroganova, 2012, 87 p. (In Russian).
3. Jansen, Teo. Available at: [https://ru.wikipedia.org/wiki/Jansen,\\_Teo](https://ru.wikipedia.org/wiki/Jansen,_Teo) (accessed: 16 March 2015).
4. *Kolleksiia vesna-letu 2014 Carolina Herrera* [Collection spring-summer of 2014 Carolina Herrera]. Available at: <http://xfashionstyle.ru/kolleksiya-vesna-letu-2014-carolina-herrera/> (accessed: 17 March 2015).

**UDC 687.03, 687.023**

**A. A. Starovoytova,  
Zh. A. Fot, S. A. Kashuba,  
K. A. Fisher**

Omsk state Institute of service

### **FEATURES MAKING COATS FROM FELTED CLOTHS**

*Current directions in felting are considered in the article. The properties of felted surface were analyzed. The possibility of using these materials for the manufacture of double-sided coat were studied. The variants of technological treatment of all main components were proposed.*

*Keywords:* Felt, felting, coats, technological treatment, the seams.

#### **References**

1. Malinskaya A. N., Smirnova M. R. Development of collection models: theory and practice. Ivanovo, ISTA, 2008, 276 p. (In Russian).
2. Fot Zh. A., Fischer K. A. Development of recommendations for the design of outerwear from author's surface created in the technique of «nuno felt». Technical science — from theory to practice / Scientific collection article on materials of the XLVI Intern. scientific.-practical. conf., no 5 (42). Novosibirsk, Sibak, 2015, pp. 69–76. (In Russian).
3. Kashuba S. A. Study of the properties of designer surface. Actual problems of modern science. Scientific collection article

Intern. scientific.-practical. conf. (25 November 2014, Ufa). In 2 hours part 1. Ufa, Aeterna, 2014, pp. 18–20. (In Russian).

**UDC 7.02**

**T. Y. Deryabina, L. T. Zhukova**

Saint Petersburg State University of Industrial Technologies and Design

### **TRADITIONAL DESIGN OF THE CHURCH EMBROIDERY**

*The influence of the protective structure on the basis of fluorinated hydrocarbons on the surface of textiles, decorated with embroidery. The efficiency of the use of drugs based on fluorinated hydrocarbons to give embroidered ecclesiastical textiles hydrophobic, oleophobic, dirt repellent.*

*Keywords:* surface embroidered textiles, protective coating, fluorinated hydrocarbons.

#### **References**

1. *Metody issledovanija v tekstil'noj himii* [Research methods in textile chemistry]. eds by G. E. Krichevsky. Moscow, Legprombytizdat, 1993, 401 p. (In Russian).
2. Krichevsky E. G. *Himicheskaja tehnologija tekstil'nyh materialov. T. 3: Zakljuchitel'naja otdelka tekstil'nyh materialov* [Chemical Technology of textile materials. Vol. 3. Final finishing of textile materials]. Moscow, RosZITLP, 2001, 298 p. (In Russian).
3. *GOST 3816–81 «Metody opredelenija gigroskopicheskikh i vodoottalkivajushchih svojstv»* [GOST 3816–81 “Methods for determination of hygroscopic and water-repellent properties]. Moscow, IPK standards Publishing house, 1995, 10 p. (In Russian).
4. *GOST R 51553–99 «Metod opredelenija vodoupornosti. Ispytanie gidrostaticheskim davleniem»* [GOST R 51553–99 “Method for determination of water resistance. The hydrostatic test pressure”]. Moscow, Gosstandart Of Russia, 2006, 7 p. (In Russian).
5. *GOST R ISO 105-A02–99 Materialy tekstil'nye. Opredelenie ustojchivosti okraski. Ch. A02: Seraja shkala dlja ocenki izmenenija okraski* [GOST R ISO 105-A02–99 Textile Materials. Determination of color fastness. Part A02. Grey scale for assessing change in color]. Moscow, IPK standards Publishing house, 2000, 8 p. (In Russian).

**UDC 159.9.072.5, 355.141**

**D. A. Ermin, E. Y. Surzhenko,  
V. I. Pimenov**

Saint Petersburg State University of Industrial Technologies and Design

### **EYE-TRACKING TECHNOLOGY. RESEARCH METHODOLOGY**

*The article describes a technique of carrying out experiments on the eye-tracking technology used in neuro-marketing and psychophysiological researches.*

*Keywords:* visual perception, eye-tracking, eye-tracker.

## References

- Zvereva Ju. S., Ahmedulova N. I., Kuz'michev V. E., Kostin A. N., Sinicina M. V. Studying of features of visual perception of trousers of a different volume and silhouette form with use of a videookulografy method. News of higher education institutions: Technology of a textile prom-ta 2011, no5 (334), pp. 93–97. (In Russian).
- Ermin D. A., Surzhenko E. Y. Research of optics-computer technologies capability for registration of Russian military uniform perception parameters. News of higher education institutions: Technology of a textile prom-ta, 2011, vol. 13, no 3, pp. 92–95. (In Russian).
- Ermin D. A., Surzhenko E. Y. Analysis of the Russian army military uniform images perception research results, using eye-tracking technology News of higher education institutions: Technology of a textile prom-ta, 2011, vol. 14, no 4, p. 106–111. (In Russian).
- Lapin A. *Fotografija kak...* [Photo as...]. Moscow, Izdateli L. Gusev, i L. Sidorenko, 2008. 308 p. (In Russian).
- Il'in E. P. *Differencial'naja psihofiziologija muzhchiny I zhenshhiny* [Differential psychophysiology of the man and woman]. SPb., Piter, 2002, 544 p., il. (In Russian).
- Fedotov A. Ju. *Psihofiziologija. Junita 1. Psihofiziologija kak mezhdisciplinarnaja nauka o povedenii* [Psychophysiology. Unit 1. Psychophysiology as interdisciplinary science about behavior]. Moscow, Avanti. Izdatel'stvo I tipografija, 2006, 105 p. (In Russian).
- Yarbus A. L. *Eye Movements and Vision*. New York, Plenum Press, 1967. 222 p.
- Zhegallo A. V. System of registration of eye movements SMI High Speed: features of use. *Experimental psychology*, 2009, vol. 2, no 4, pp. 111–117. (In Russian).
- Available at: <http://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/> (accessed 29 September 2015).
- Available at: <http://www.webmascon.com/topics/testing/4a.asp> (accessed 29 September 2015).
- Nikolaeva E. I. *Psihofiziologija. Psihologicheskaja fiziologija s osnovami fiziologicheskoy psihologii* [Psychophysiology. Psychological physiology with fundamentals of physiological psychology]. Moscow, PERSJe; Logos, 2003, 544 p., il. (In Russian).
- Nil'sen Ja, Perniche K. *Veb-dizajn: analiz udobstva ispol'zovanija veb-sajtov podvizheniju glaz* [Web-design: websites usability analysis based on the movement of eyes]. Moscow, I. D. Vil'jams, 2010, 480 p., il. (In Russian).
- Barabanshnikov V. A. *Jekspressii lica I ih vosprijatje* [Expressions of the person and their perception]. Moscow, Institut psihologii RAN, 2012, 341 p. (In Russian).
- Barabanshnikov V. A., Zhegallo A. V. *Ajtreking. Metody registracii dvizhenij glaz v psihologicheskij issledovanijah I praktike* [Eye-tracking. Methods of registration of eye movements in psychological researches and practice]. Moscow, Kogito-centr, 2014, 128 p. (In Russian).
- Available at: <http://eyetracking.com.ua/rus/visualization/> (accessed 29 September 2015).

## UDC 669.226.9

S. I. Galanin, I. S. Viskovaty

Kostroma State Technological University

## ELECTROCHEMICAL FORMATION OF DECORATIVE FILMS OF STERLING SILVER SURFACE

*Process of anode electrochemical film forming of a surface of sterling silver surface in tiosulfate electrolyte with use pulse current is investigated. Influence of the modes of processing on the formed films is revealed. The technology formation of decorative oxide films of silver-copper alloy surface is offered.*

**Keywords:** Electrochemical pulse processing, anode electrochemical processing, passivity, oxide-coated films.

## References

- Galanin S. I., Kolupaev K. N. *Dizajn, materialy i tehnologija izgotovlenija sovremennyh juvelirno-hudozhestvennyh izdelij* (Design, materials and manufacturing techniques of modern jewelry), Kostroma, Kostroma Gos. Technol. Univ., 2014, pp. 183. (In Russian).
- Galanin S. I., Ivanova O. A. Electrochemical formation of decorative colored films on the sterling silver surface with use of pulse currents. *Sbornik nauchnyh trudov molodyh uchenyh KGTU*, 2003, pp. 203–205. (In Russian).
- Galanin S. I., Viskovatyi I. S. Electrochemical Surface Texturing of Silver, *Elektronnaya obrabotka materialov*, 2015, no. 4 (51), pp. 28–33. (In Russian).
- Galanin S. I., Viskovatyi I. S. Electrochemical Surface Texturing of Silver, *Surf. Eng. Appl. Electrochem.*, 2015, no. 4 (51), pp. 332–338. (In Russian).
- Galanin S. I., Viskovatyi I. S. Decorative electrochemical invoicing of sterling silver surface, *Diz. Teor. Prakt.*, 2015, vol. 19, pp. 73–81. (In Russian).

## UDC 745/749

I. V. Nikolaev, L. T. Zhukova

Saint Petersburg State University of Industrial Technologies and Design

## FILLING OF POROUS OXIDIC COVERINGS OF ALUMINIUM AND ITS ALLOYS

*Features of process of filling of porous films of oxide of aluminum are investigated. Dependences of duration of process of consolidation in the distilled water from covering thickness are established. The technological modes are specified. The technology of a hydrophobic covering with ceresin use is developed.*

**Keywords:** design of a surface, aluminum alloys, protective and decorative coverings, anodizing, filling of oxidic coverings.

## References

- Sulka, G. D. Highly Ordered Anodic Porous Alumina Formation by Self-Organized Anodizing. *Nanostructured Materials in Electrochemistry*, 2008, pp. 1–116.

## ■ Summary

2. Petrova V. V. *Mikroporistost' anodnyh oksidnyh plenok aljuminija* [Microporosity of anode oxidic films of aluminum]. Petrozavodsk, PetrGU, 1992. (In Russian).

3. Viharev A. V., Viharev A. A. *Harakteristika nekotoryh funkcional'nyh svojstv anodnyh oksidov aljuminija* [Characteristic of some functional properties of anode oxides of aluminum]. *Polzunovskij vestnik* [Polzunovsky messenger], 2008, no 3, pp. 248–250. (In Russian).

4. Bersirova O. L., Bruk L. I., Dikusar A. I. *Tonkie plenki oksidov titana i olova i poluprovodnikovye struktury na ih osnove, poluchennye piroliticheskoj pul'verzaciej* [Thin films of titanium dioxides and tin and the semiconductor structures on their basis received by pyrolytic spraying]. *Jelektronnaja obrabotka materialov* [Electronic processing of materials], 2007, no 6, pp. 40–49. (In Russian).

5. Azhogin F. F., Belen'kij M. A. i dr. *Gal'vanotehnika* [Galvanotechnics]. Moscow, Metallurgija, 1987. (In Russian).

6. Gamburg Ju. D. *Gal'vanicheskie pokrytija* [Electroplated coatings]. Moscow, Tehnosfera, 2006. (In Russian).

7. *GOST 9.302–88. Edinaja sistema zashhity ot korrozii i starenija. Pokrytija metallicheskie i nemetallicheskie neorganicheskie. Metody kontrolja* [7. GOST 9.302–88. Uniform system of protection against corrosion and aging. Coverings the metal and nonmetallic inorganic. Control methods]. Moscow, Izdvo standartov, 2001, 41 p. (In Russian).

8. Bobylev O. V., Kudrjavcev A. V., Levin B. I. *Proizvodstvo jelektrouzoljacionnyh materialov* [Production of electroinsulating materials]. Moscow, Vysshaja shkola, 1986. (In Russian).

## UDC 745.512

**T. Ju. Chuzhanova, Y. S. Kiknadze**

Saint Petersburg State University of Industrial Technologies and Design

### **JOSIAH WEDGWOOD JASPERWARE BY NEOCLASSICAL STYLE**

*The article examines the invention of the English potter Josiah Wedgwood — «a kind of hard fine porcelain — jasperware» that enabled Wedgwood to create relief compositions — medallions reminiscent of antique cameos. It Wedgwood invented to decorate their furniture.*

*Keywords:* wedgwood jasperware, furniture, Wedgwood cameos, neoclassical style.

## References

1. Moran A. *Istorija dekorativno-prikladnogo iskusstva ot drevnejshih vremen do nashih dnei* [Arts and crafts history from the most ancient times up to now]. Moscow, Izdatel'stvo V. Shevchuk, Publ 2011, 672 p. (In Russian).

2. *Beloe zoloto Sevra. Sevrskij farfor 18 veka v sobranii Jermitazha* [White gold of Sevr. Sevres porcelain 18 of an eyelid in the Hermitage collection]. SPb., Izdatel'stvo Gosudarstvennogo Jermitazha, 2005, 39 p. (In Russian).

3. Birjukova, N. Ju. *Prikladnoe iskusstvo Francii XVII–XVIII vekov. Razvitie i stil'* [Applied art of France of the XVII–XVIII centuries. Development and style]. SPb., 2002, 240 p. (In Russian).

4. *Zapadnoevropejskoe prikladnoe iskusstvo 16–18 vekov iz sobranija Jermitazha* [The West European applied art of 16–18 centuries from the Hermitage collection]. SPb., Slavija, 1996, 143 p. (In Russian).

5. *Gosudarstvennyj muzej-zapovednik Carskoe Celo. Ekaterininskij dvorec* [State memorial estate Imperial Village. Catherine Palace.]. Available at: [http://www.tzar.ru/museums/palaces/c\\_atherine/green\\_dining\\_room](http://www.tzar.ru/museums/palaces/c_atherine/green_dining_room). (accessed 18.10.2015).

## UDC 675.6:681.3

**I. V. Alekseenko,  
L. N. Bodryakov,  
A. A. Starovoytov**

Omsk state institute of service

### **IMPROVEMENT OF DESIGN OF PROCESSES OF PRODUCTION OF CLOTHES OF THE FUR AND FUR SEMI-FINISHED PRODUCT**

*Automation of design of processes of production of clothes of natural fur provides increase of their efficiency. Results of researches on introduction of computer technologies at a stage preparatory operations of furrier's production, and also design of technological processes of production of fur clothes are given.*

*Keywords:* software, furrier's production, properties of a fur and fur semi-finished product, spline contour of a fur skin, network schedule of process, technological scheme of process.

## References

1. Alekseenko I. V. *Proizvodstvo mehovoj odezhdy: innovacionnye podhody v proektirovanii* [Production of fur clothes: innovative approaches in design]. Omsk, Omskij gos. in-t servisa, 2014, 146 p. (In Russian).

2. Bodryakova L. N., Starovojtova A. A. *Razrabotka programnogo obespechenija dlja avtomatizacii podgotovitel'no-raskrojnyh operacij skornjazhnogo proizvodstva* [Development of the software for automation preparatory раскройных operations of furrier's production]. Omskij nauch. Vestn, 2014, no 2 (130), pp. 209–213. (In Russian).

3. Androsova G. M., Brailov I. G., Sviridenko O. V., Starovojtova A. A. *Avtomatizacija processa proektirovanija izdelij iz pushno-mehovogo polufabrikata na osnove matrichnyh jelementov* [Automation of process of design of products of a fur and fur semi-finished product on the basis of matrix elements]. Omsk, Omskij gos. in-t servisa, 2009, 222 p. (In Russian).

4. Bodryakova L. N., Mihajlov P. I., Kuz'mina T. Ju. *Svidetel'stvo o gosudarstvennoj registracii programmy dlja JeVM «Opredelenie dliny volosjanogo pokrova pushno-mehovogo polufabrikata»* [Certificate on the state registration of the computer program “Determination of length of indumentum of a fur and fur semi-finished product”], no 2013611155, 07.12.2012. (In Russian).

5. Stel'mashenko V. I., Bodryakova L. N., Mihajlov P. I., Kuz'mina T. Ju. *Sposob opredelenija dliny volosjanogo pokrova pushno-mehovogo polufabrikata s ispol'zovaniem komp'juternoj tehniky* [A way of determination of length of indumentum of a fur

and fur semi-finished product with use of the computer equipment]. *Dizajn i tehnologii* [Design and technologies], 2013, no 33 (75), pp. 60–67. (In Russian).

6. Alekseenko I. V., Bahturin S. V. *Svidetel'stvo ob otraslevoj registracii razrabotki ARM «Shvejnogo tehnologa» № 11177* [Certificate on branch registration of development of an automated workplace of “The sewing technologist” No. 11177], no 50200801660, 30.08.2008. (In Russian).

7. Zabudskij G. G., Alekseenko I. V. *Primenenie metodov diskretnoj optimizacii pri proektirovanii tehnologicheskikh shem processov shvejnogo proizvodstva* [Application of methods of discrete optimization at design of technological schemes of processes of sewing production]. *Sistemy upravlenija i inform. Tehnol* [Control systems and information technologies], Voronezh, Nauchnaya kniga, 2008, no 2 (32), pp. 88–93. (In Russian).

#### UDC 745.511

**M. M. Chernykh<sup>1</sup>, A. E. Dryukova<sup>2</sup>,  
A. V. Usoltseva<sup>1</sup>, V. P. Usoltsev<sup>1</sup>,  
A. I. Stepanova<sup>1</sup>, A. D. Ardasheva<sup>1</sup>**

<sup>1</sup> The Izhevsk state technical university of M. T. Kalashnikov

<sup>2</sup> Moscow State University of information technologies, radio engineerings and electronic engineers

#### **ENGRAVING OF RASTER IMAGES ON THE CHARRED MATERIALS THE LASER**

*The general view of dependence of a saturation of tone of the materials charred at laser engraving on a saturation of tone of the model is established. Need of development of the program of the automated choice of the modes of engraving for ensuring high esthetic value of images is shown.*

*Keywords:* laser engraving, model, saturation, tone, color, wood, imitation leather.

#### **References**

1. Chernykh M. M., Usol'tseva A. V., Usol'tsev V. P. *Metodika opredelenija rezhimov raboty lazernoj ustanovki pri gravirovanii izdelij iz kozhi* [Technique of definition of operating modes of the laser machine when engraving products from skin]. *XVII Vseross. nauch.-prakt. konf. i smotr-konkurs tvorcheskikh rabot po napravleniju podgotovki «Tehnologija hudozhestvennoj obrabotki materialov»: sb. nauch. tr.* [XVII All-Russian scientific and practical conference and review competition of creative works on the direction of preparation “Technology of art processing of materials”: collection of scientific works]. Irkutsk, IrGTU, 2015, pp. 400–407. (In Russian).

2. *GOST 24930–81. Klin polutonovoj dlja faksimil'noj apparatury* [GOST 24930–81. A wedge gray-scale for the facsimile equipment]. Moscow, Izd-vo standartov, 1981, 5 p. (In Russian).

3. Chernykh M. M., Churakov I. L., Drjukova A. Je. *Podgotovka tonovykh izobrazhenij k lazernomu gravirovaniju na drevesine* [Preparation of tone images for laser engraving on wood]. *Design. Materials. Technology*, 2014, no 4 (34), pp. 57–59. (In Russian).

4. Mikov I. N., Morozov V. I. *Tehnologija avtomatizirovannogo gravirovanija hudozhestvennykh izobrazhenij* [Technology of the

automated engraving of art images]. Moscow, Mir gornoj knigi, 2007, 346 p. (In Russian).

5. Chernykh M. M., Japparova Je. F. *Metodika proektirovanija maketa rastrovogo izobrazhenija pri lazernom gravirovanii* [Technique of design of the model of the raster image at laser engraving]. *Design. Materials. Technology*, 2012, no 2 (22), pp. 78–81. (In Russian).

6. Gornyj S. G., Rjahovskih S. A. *Principy lazernoj markirovki promyshlennykh materialov* [Principles of laser marking of industrial materials]. *TehSovet*, 2009, no 9 (72). (In Russian).

#### **UDC [687.1:391]:687.016 (479.22) "20"**

**N. M. Kalashnikova,  
S. D. Harebava**

St. Petersburg State University of industrial technologies and design

#### **THE HEVSURETIYA TRADITIONAL SUIT AND ITS ADAPTATION IN THE PRESENT**

*Traditional elements of clothes hevsur the end of XIX — the beginning of the XX century are considered. It is featured a question of change of types of suits, thus the reasons promoting change of characteristic types of women's and men's wear, and also suit details, an authentic decor which meets only at hevsur are specified. Modern interpretation of a traditional suit and preservation of ways of its creation is analyzed.*

*Keywords:* a traditional hevsursky suit, modern fashion, the ethnic direction in fashion, the Georgian suit.

#### **References**

1. Kalashnikova N. M. *Narodnyj kostjum: semioticheskie funkcii* [National suit: semiotics functions]. Moscow, Svarog I. K., 2002, 372 p. (In Russian).

2. Amiranashvili Sh. Ja. *Istorija gruzinskogo iskusstva* [History of the Georgian art]. Tbilisi, Mecniereba, 1944, 122 p.

3. Bochorishvili C. I. *Zhenskaja odezhda* [Women's clothing]. *Materialy po jetnografii Gruzii* [Materials on ethnography of Georgia]. Tbilisi, 1939, 197 p. (In Russian).

4. Makalatija S. *Hevsureti* [Hevsureti]. Tbilisi, Sabchota Sakartvelo, 1935, 263 p.

5. Ochiauri T. *Sovremennaja zhenskaja hevsurskaja odezhda: ottisk iz materialov jetnografii gruzi* [Modern women's hevsursky clothing: load a print from materials of ethnography]. Tbilisi, 1953, 20 p. (In Russian).

6. Bardavelidze V. V., Chitaja G. *Gruzinskij narodnyj ornament. T. I: Hevsurskij* [Georgian national ornament. Vol. I: Hevsursky]. Tbilisi, 1939.

7. Bezarashvili C. I., Dzhalabadze G. *Gruzinskaja narodnaja odezhda* [Georgian national clothes]. Tbilisi, Mecniereba, 1988.

8. Molodini L. I., Chachashvili G. A. *Katalog gruzinskogo kostjuma* [Catalog of the Georgian suit]. Tbilisi, Mecniereby, 1964.

9. Davitashvili K. *Drevnegruzinskaja vyshivka* [Drevnegruzinsky embroidery]. Tbilisi, Helovneba, 1937.

UDC 766:003.077:27–788 (470.23–25) Lavra

**A. N. Kislitsyna, S. V. Litvin**

Saint-Petersburg State University of Technology and Design

**DEVELOPMENT OF THE CORPORATE STYLE AND FONT OF ALEXANDER NEVSKY LAVRA ON THE BASIS OF HISTORICAL AND SPIRITUAL IMAGES**

*The article considers the history of emergence and development of Holy Trinity Alexander Nevsky Lavra which formed a basis for development of its corporate style and font by experts in the sphere of graphic design of St. Petersburg State University of Technology and Design. The interdisciplinary approach found a practical embodiment in the design solution of the project devoted to the 300 anniversary of Alexander Nevsky Monastery and approved by Bishop Nazarius of Kronshadt, father superior of the Holy Trinity Alexander Nevsky Lavra, vicar of the Saint Petersburg diocese.*

*Keywords:* Alexander Nevsky Lavra, monastery history, graphic design, corporate style and font on the basis of historical and spiritual images.

**References**

1. Bogdanov A. I. *Opisanie Sankt-Peterburga 1749–1751* [Description of St. Petersburg 1749 —1751]. SPb., 1997, pp. 228–229. (In Russian)
2. Gusarova E. V. “In memory of this izhersky place ...”. *Leningradskaja panorama*. Leningrad, 1988, no 10, pp. 36. (In Russian)
3. *Velikiemonastyri. 100 svyatyn' pravoslavija* [Great monasteries. 100 shrines of Orthodoxy]. author I. A. Mudrova. Moscow, Centerpoligraf, 2010, pp. 4. (In Russian).
4. Sorokin P. E. From history of a site of the Aleksandro-Nevsky monastery. *Istorija Peterburga*, 2013, no. 1 (68), pp. 9. (In Russian)
5. Georgieva T. S. *Kul'tura Rossii i russkoe pravoslavie. Očerki* [Culture of Russia and Russian Orthodoxy. Sketches]. Moscow, Kraft+, 2012, pp. 226. (In Russian).
6. Batorevich N. I., Kozhitseva T. D. *Hramy-pamjatniki Sankt-Peterburga: Voslavuipamjat'rossijskogovoinstva* [Memorial temples of St. Petersburg: In glory and memory of the Russian troops]. SPb., DMITRY BULANIN, 2008, pp. 59. (In Russian).
7. Shkarovsky M. V. *Creation and development of Alexander Nevsky Monastery. Trudy Gosudarstvennogomuzejaistorii Sankt-Peterburga: Vyp. 22. Hramy petrovskoj epohi: Materialy mezhdunarodnoj nauchnoj konferencii* (Sankt-Peterburg, Petropavlovskaja krepost', 7 — 8 ijunja 2012 g.) / author I. A. Karpenko. SPb., GMI SPb., 2012, pp. 56–70. (In Russian)
8. Ionina N. A. *Svyatye obiteli pravoslavnogo mira* [Sacred monasteries of the orthodox world]. Moscow, Russia Olympe, Eksmo, 2009, pp. 186–188. (In Russian).
9. Shkarovskij M. V. *Relics of a Petrovsky era in Drevlekhramishche of Alexander Nevsky Monastery. Petrovskie relikvii v*

*sobranijah Rossii Evropy: Materialy III Mezhdunarodnogo Kongressa petrovskih gorodov. Sankt-Peterburg*, 8–10 ijunja 2011 g. SPb., European House, 2012, pp. 281–282. (In Russian).

10. Posternak K. V. *Russian baroque iconostases of the first third of the XVIII century. Trudy Gosudarstvennogo muzeja istorii Sankt-Peterburga: Vyp. 22. Hramy Petrovskoj jepohi: Materialy mezhdunarodnoj nauchnoj konferencii* (Sankt-Peterburg, Petropavlovskaja krepost', 7–8 ijunja 2012 g. publ. I. A. Karpenko. SPb., GMI SPb, 2012, pp. 84. (In Russian).

11. Gluhov A. G. *Obiteli mudrosti. Monastyrii hramy kak centry knizhnosti Rossii* [Monasteries of wisdom. Monasteries and temples as centers of a booklore of Russia]. Moscow, Griffin, 2010, pp. 208–214. (In Russian)

12. Kashevarov A. N. Attempt of capture by Bolsheviks of Alexander Nevsky Monastery in January, 1918. *Istorija Peterburga*, 2013, no. 1 (68), pp. 31. (In Russian).

13. Antonov V. V. *Serafimo-Antoniyevskij abode of Alexander Nevsky Monastery. Petrograd — Leningrad. 1920–1930-e. Vera protiv bezbozhija. Istoriko-cerkovnyj sbornik.* — SPb., Faces of Russia, 2011, pp. 370. (In Russian)

UDC 76.01 + 7.036

**A. B. Parygin**

Saint-Petersburg State University of Technology and Design

**ARTIST'S BOOK GENESIS**

*Article deals with the most important publications, which influenced the formation of the concept of modern “artist’s books” and determined its place in the global artistic process. A special place is granted to the question of the relations between verbal and plastic principle in the structure of the book. Artist’s books: William Blake, Pierre Bonnard, Olga Rosanova, Nikolay Kulbin, Sonia Delaunay, Wassily Kandinsky, Fernand Leger, Frans Masereel, Fortunato Depero, Henri Matisse, Bruno Munari, Qi Bai-shi, On Kawara, Anselm Kiefer.*

*Keywords:* Artist’s book, contemporary art, book art, graphic art, art of the 20th-century, types of art.

**References**

1. *Nekrasova E. Uil'jam Blejk* [William Blake: monograph]. Moscow, Iskusstvo, 1960, pp. 17. (In Russian).
2. *Ludolph of Saxony's The Book of the life of Jesus Christ*. Antwerpen, 1487.
3. *Kovtun E. F. Russkaja futuristicheskaja kniga* [Russian futurist book: monograph]. Moscow, Kniga, 1989, pp. 27. (In Russian).
4. *Cendrars, B. La prose du Transsibérien et de la petite Jehanne de France. Couleurs simultanees de Mme Delaunay-Terk. P.*, Ed. Des Hommes nouveaux, 1913.
5. *Depero, F. Depero Futurista*. Milano; Parigi: Dinamo Azari, 1927.
6. *Matisse, H. Jazz* [Paris], Tériade éditeur, 1947.
7. *Marinetti, F. T., Munari, B. Il poema del vestito di latte: parole in libertà futuriste*. Milano, Snia Viscosa, 1937.
8. *Stern, B. The Marilyn Monroe Trip Bert Stern // Avant Garde*, 1968, no 2, pp. 12–24.



UDC 539.434:677.494

N. V. Pereborova

St. Petersburg State University of Industrial Technology and Design

**DEVELOPMENT OF CRITERIA FOR THE QUALITATIVE EVALUATION OF FUNCTIONAL PROPERTIES OF CONSUMER PRODUCTS TEXTILE AND LIGHT INDUSTRY WITH THE AIM OF PRODUCT QUALITY CONTROL**

*The article is devoted to the issues of quality control of textile and light industry on the basis of mathematical modeling and optimization of its functional-consumer and performance.*

*Keywords:* mathematical modeling, relaxation, creep, deformation, materials textile and light industry, forecasting, reduction, product quality, certification, optimization criteria.

**References**

1. Makarov A. G. *Kontrol' parametrov nelinejno-nasledstvennyh jader relaksacii i zapazdyvanija sinteticheskikh nitej* [Control parameters of the nonlinear-hereditary nuclei relaxation and retardation synthetic fibers]. *Izvestija vysshih uchebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2000, no 2, pp. 12–16. (In Russian).

2. Stalevich A. M., Makarov A. G. *Variant spektra nasledstvenno-vjazkouprugoj relaksacii sinteticheskikh nitej* [Option spectrum hereditary viscoelastic relaxation synthetic fibers] *Izvestija vysshih uchebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2000, no 3, pp. 8–13. (In Russian).

3. Makarov A. G., Stalevich A. M. *Variant prognozirovanija processov deformirovanija sinteticheskikh nitej* [Option prediction of deformation processes of synthetic fibers]. *Himicheskie volokna* [Fiber Chemistry]. 2001, no 4, pp. 67–69. (In Russian).

4. Makarov A. G., Stalevich A. M. *Metody utochnenija i kontrolja prognoziruemyh sostojanij sinteticheskikh materialov* [Methods for verifying and monitoring the projected states of synthetic materials]. *Himicheskie volokna* [Fiber Chemistry]. 2001, no 5, pp. 58–61. (In Russian).

5. Stalevich A. M., Makarov A. G. *Opreделение vjazkouprugih harakteristik na primere poliakrilonitril'noj niti* [Determination of the viscoelastic characteristics of the example of polyacrylonitrile thread]. *Himicheskie volokna* [Fiber Chemistry]. 2001, no 6, pp. 68–70. (In Russian).

6. Makarov A. G., Stalevich A. M. *Variant spektrov relaksacii i zapazdyvanija u amorfno-kristallicheskih sinteticheskikh nitej* [Option relaxation and retardation spectra in amorphous-crystalline synthetic fibers]. *Himicheskie volokna* [Fiber Chemistry]. 2002, no 3, pp. 52–55. (In Russian).

7. Stalevich A. M., Makarov A. G., Saidov E. D. *Raschjotno-eksperimental'naja ocenka pogloshhaemoj mehanicheskoj raboty pri deformirovanii sinteticheskoi niti* [Forecast inverse relaxation and strain-recovery processes synthetic fibers]. *Himicheskie volokna* [Fiber Chemistry]. 2002, no 3, pp. 55–57. (In Russian).

8. Makarov A. G., Stalevich A. M. *Prognoz obratnoj relaksacii i deformacionno-vosstanovitel'nyh processov sinteticheskikh nitej* [Forecast inverse relaxation and strain-recovery processes synthetic fibers]. *Himicheskie volokna* [Fiber Chemistry]. 2002, no 6, pp. 62–64. (In Russian).

9. Makarov A. G. *Opreделение analiticheskoi vzaimosvjazi normirovannyh jader relaksacii i polzuchesti v linejnoj teorii vjazkouprugosti tekstil'nyh materialov* [Determination of the analytical relationship of normalized nuclear relaxation and creep in the linear theory of viscoelasticity of textile materials]. *Izvestija vysshih uchebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2002, no 2, pp. 13–17. (In Russian).

10. Makarov A. G., Stalevich A. M. *Prognozirovanie vosstanovitel'nogo deformacionnogo processa i obratnoj relaksacii polimernyh materialov* [Prediction restorative deformation process and reverse the relaxation of polymeric materials]. *Izvestija vysshih uchebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2002, no 3, pp. 10–13. (In Russian).

11. Stalevich A. M., Makarov A. G., Saidov E. D. *Uprugie komponenty diagrammy rastjazhenija sinteticheskoi niti* [Elastic components of the chart stretching synthetic thread] *Izvestija vysshih uchebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2002, no 4–5, pp. 15–18. (In Russian).

12. Stalevich A. M., Makarov A. G., Saidov E. D. *Relaksacionnaja spektrometrija sinteticheskoi niti* [Relaxation Spectrometry synthetic thread]. *Izvestija vysshih uchebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2003, no 1, pp. 16–22. (In Russian).

13. Demidov A. V., Makarov A. G., Stalevich A. M. *Sistemnyj analiz vjazkouprugosti polimernyh materialov* [System analysis of viscoelasticity of polymer materials]. *Voprosy materialovedenija* [Inorganic Materials: Applied Research]. 2005, vol. 44, no 4, pp. 50–58. (In Russian).

14. Makarov A. G., Ovsjannikov D. A. *Komp'yuternoe opredelenie spektral'nyh i jenergeticheskikh harakteristik sinteticheskikh tkanej* [Computer definition spectral and energy characteristics of synthetic fabrics]. *Vestnik Sankt-Peterburgskogo gosudarstvennogo universiteta tehnologii i dizajna* [Bulletin of St. Petersburg State University of Technology and Design]. 2005, no 11, pp. 5–9. (In Russian).

15. Ovsjannikov D. A., Makarov A. G., Stalevich A. M., Demidov A. V. *Matematicheskoe modelirovanie vjazkouprugih processov polimerov* [Mathematical modeling of viscoelastic polymer processes]. *Vestnik Sankt-Peterburgskogo gosudarstvennogo universiteta. Serija 10* [Vestnik of St. Petersburg State University. Series 10]. 2006, no 3, pp. 46–54. (In Russian).

16. Demidov A. V., Makarov A. G., Stalevich A. M. *Variant matematicheskogo modelirovanija deformacionnyh processov polimernyh materialov* [Option mathematical modeling of deformation processes of polymer materials]. *Voprosy materialovedenija* [Inorganic Materials: Applied Research]. 2006, no 3, pp. 101–111. (In Russian).

17. Demidov A. V., Makarov A. G., Stalevich A. M. *Metody komp'juternogo analiza vjzkouprugosti tehniceskikh tkanej* [Methods of computer analysis of the viscoelasticity of technical fabrics]. *Izvestija vysshih uczebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2006, no 3, pp. 13–17. (In Russian).
18. Demidov A. V., Makarov A. G., Stalevich A. M. *Issledovanie izmenenij deformacionnyh svojstv polijefirnyh nitej v zavisimosti ot stepeni krutki* [Study of changes in the deformation properties of polyester yarn, depending on the degree of twist]. *Izvestija vysshih uczebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2006, no 4, pp. 9–13. (In Russian).
19. Demidov A. V., Makarov A. G., Stalevich A. M. *Kriterii optimal'nogo vybora matematicheskoj modeli vjzkouprugosti tekstil'nyh materialov* [Criteria for the selection of optimal mathematical model of viscoelasticity of textile materials]. *Izvestija vysshih uczebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2006, no 5, pp. 18–22. (In Russian).
20. Demidov A. V., Makarov A. G., Stalevich A. M. *Opređenje mehanicheskikh harakteristik tekstil'nyh materialov pri peremennomj temperature* [Determination of mechanical properties of textile materials at variable temperatures]. *Izvestija vysshih uczebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2006, no 6, pp. 14–19. (In Russian).
21. Demidov A. V., Makarov A. G., Stalevich A. M. *Opređenje deformacionnyh harakteristik sinteticheskikh nitej v uslovijah peremennomj temperatury* [Determination of deformation characteristics of synthetic fibers with variable temperature]. *Himicheskie volokna* [Fiber Chemistry]. 2006, no 3, pp. 58–61. (In Russian).
22. Demidov A. V., Makarov A. G., Stalevich A. M. *Komp'juternoe issledovanie vjzkouprugosti polimernyh materialov* [Computer study of viscoelasticity of polymer materials]. *Himicheskie volokna* [Fiber Chemistry]. 2006, no 5, pp. 38–43. (In Russian).
23. Demidov A. V., Makarov A. G., Stalevich A. M. *Optimizacija vybora modeli vjzkouprugosti sinteticheskikh nitej* [Optimization model selection viscoelasticity of synthetic fibers]. *Himicheskie volokna* [Fiber Chemistry]. 2006, no 6, pp. 47–51. (In Russian).
24. Demidov A. V., Makarov A. G., Stalevich A. M. *Variant prognozirovanija deformacionnyh processov polimernyh materialov* [Option prediction of deformation processes of polymer materials]. *Materialovedenie* [Materialovedenie (Materials Science)]. 2006, no 8, pp. 5–10. (In Russian).
25. Demidov A. V., Makarov A. G., Stalevich A. M. *Vyjavlenie napravlenij komp'juternogo prognozirovanija deformacionnyh svojstv tekstil'nyh materialov* [Identifying the computer prediction of deformation properties of textile materials]. *Izvestija vysshih uczebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2007, no 2, pp. 14–17. (In Russian).
26. Demidov A. V., Makarov A. G., Stalevich A. M. *Sistemnyj analiz vjzkouprugosti tekstil'nyh materialov* [System analysis of viscoelasticity of textile materials]. *Izvestija vysshih uczebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2007, no 3, pp. 20–24. (In Russian).
27. Demidov A. V., Makarov A. G., Stalevich A. M. *Sistemnyj analiz vjzkouprugosti polijefirnyh nitej* [System analysis viscoelasticity polyester yarn]. *Himicheskie volokna* [Fiber Chemistry]. 2007, no 1, pp. 62–65. (In Russian).
28. Demidov A. V., Makarov A. G., Stalevich A. M. *Issledovanie uprugih, vjzkouprugih i plasticheskikh harakteristik himicheskikh nitej* [The study of elastic, viscoelastic and plastic characteristics of chemical filaments]. *Himicheskie volokna* [Fiber Chemistry]. 2007, no 6, pp. 52–55. (In Russian).
29. Demidov A. V., Makarov A. G., Stalevich A. M. *Variant matematicheskogo modelirovanija deformacionnyh processov sinteticheskikh nitej* [Option mathematical modeling of deformation processes of synthetic fibers]. *Himicheskie volokna* [Fiber Chemistry]. 2007, no 6, pp. 49–52. (In Russian).
30. Demidov A. V., Makarov A. G., Stalevich A. M. *Variant prognozirovanija nelinejno-nasledstvennoj vjzkouprugosti polimerov* [Option forecasting nonlinear hereditary viscoelasticity of polymers]. *Prikladnaja mehanika i tehniceskaja fizika* [Journal of Applied Mechanics and Technical Physics]. 2007, vol. 48, no 6 (286), pp. 147–157. (In Russian).
31. Zhukovskij V. A., Makarov A. G., Rostovceva N. G., Slucker G. Ja., Stoljarov O. H., Terushkina O. B., Gridneva A. V. *Deformacionnye svojstva sinteticheskikh mononitej medicinskogo naznachenija* [Deformation properties of synthetic filaments medical supplies]. *Himicheskie volokna* [Fiber Chemistry]. 2008, no 4, pp. 25–28 pp. (In Russian).
32. Demidov A. V., Makarov A. G., Novoselova A. G., Stalevich A. M. *Metody spektral'nogo modelirovanija mehanicheskij relaksacii tekstil'nyh materialov* [Methods of spectral modeling of mechanical relaxation of textile materials]. *Izvestija vysshih uczebnyh zavedenij. Tehnologija tekstil'noj promyshlennosti* [Proceedings of the higher educational institutions. Technology textile industry]. 2007, no 1S, pp. 15–19. (In Russian).
33. Demidov A. V., Makarov A. G., Stalevich A. M. *Variant modelirovanija nelinejno-nasledstvennoj vjzkouprugosti polimernyh materialov* [Option modeling nonlinear hereditary viscoelasticity of polymer materials]. *Izvestija Rossijskoj akademii nauk. Mehanika tverdogo tela* [Mechanics of Solids]. 2009, no 1, pp. 143–153. (In Russian).
34. Rostovceva N. G., Litvinov A. M., Fedorova S. V., Makarov A. G. *Variant spektral'noj interpretacii relaksacii i polzuchesti polimernyh nitej* [Option spectral interpretation of relaxation and creep of polymer filaments]. *Design. Materials. Technology*. 2009, no 4, pp. 66–68. (In Russian).
35. Rostovceva N. G., Litvinov A. M., Fedorova S. V., Makarov A. G. *Prognozirovanie deformacionnyh processov polimernyh materialov v uslovijah menjajushhejsja temperatury* [Prediction of deformation processes of polymer materials in a changing temperature]. *Design. Materials. Technology*. 2009, no 3, pp. 69–71. (In Russian).

36. Makarov A. G., Rostovceva N. G., Fedorova S. V., Lebedeva S. V. *Komp'yuternoe modelirovanie vjzkouprugih morskikh polimernyh kanatov* [Computer simulation of viscoelastic polymeric ropes sea]. *Design. Materials. Technology*. 2010, no 1, pp. 100–105. (In Russian).

37. Makarov A. G., Rostovceva N. G., Artem'eva E. N., Lebedeva S. V. *Modelirovanie deformacionnyh svoystv aramidnyh materialov* [Modeling of deformation properties of aramid materials]. *Design. Materials. Technology*. 2010, no 2, pp. 25–29. (In Russian).

38. Rostovceva N. G., Makarov A. G., Pushkar' D. V. *Prognozirovanie processov obratnoj relaksacii polimernyh materialov* [Forecasting processes reverse the relaxation of polymeric materials]. *Izvestija vysshih uchebnyh zavedenij. Tehnologija legkoj promyshlennosti* [News of higher educational institutions. The technology of light industry]. 2010, vol. 7, no 1, pp. 64–65. (In Russian).

39. Makarov A. G., Kiselev S. V., Rybachuk S. V., Zurahov V. S. *Kriterii nadezhnosti prognozirovanija vjzkouprugosti polimernyh materialov* [The criteria for predicting the reliability of viscoelastic polymeric materials]. *Izvestija vysshih uchebnyh zavedenij. Tehnologija legkoj promyshlennosti* [News of higher educational institutions. The technology of light industry]. 2011, vol. 11, no 1, pp. 56–60. (In Russian).

40. Makarov A. G., Kiselev S. V., Rybachuk S. V., Pushkar' D. V. *Variant modelirovanija relaksacii i polzuchesti polimernyh odnoosno orientirovannyh materialov* [Alternative modeling relaxation and creep uniaxially oriented polymeric materials]. *Design. Materials. Technology*. 2011, no 1, pp. 91–94. (In Russian).

41. Makarov A. G., Kiselev S. V., Rybachuk S. V., Zurahov V. S. *Vysokoskorostnoe deformirovanie odnoosno-orientirovannyh polimernyh materialov* [High-speed deformation of pultruded plastics]. *Design. Materials. Technology*. 2011, no 2, pp. 64–66. (In Russian).

42. Makarov A. G., Gorshkov A. S., Rymkevich P. P., Ishmuratova R. R. *Metod opredelenija spektral'nyh i jenergeticheskikh harakteristik jelastomerov* [Ishmuratova Method for the determination of the spectral and energy characteristics of elastomers]. *Design. Materials. Technology*. 2012, vol. 2, no 22, pp. 38–42. (In Russian).

43. Makarov A. G., Slucker G. Ja., Terushkina O. B., Drobotun N. V. *Fizicheskij analiz kinetiki polzuchesti mononitej iz polipropilena i polivinilidenftorida* [Physical analysis of the kinetics of creep filaments of polypropylene and PVDF]. *Design. Materials. Technology*. 2012, vol. 3, pp. 41–44. (In Russian).

44. Makarov A. G., Egorova M. A., Zurahov N. S., Fomina A. V. *Opredelenie analiticheskoj vzaimosvjazi normirovannyh jader relaksacii i zapazdyvanija v linejnoj teorii vjzkouprugosti polimernyh materialov* [Determination of the analytical relationship of normalized nuclear relaxation and delay in the linear theory of viscoelastic polymeric materials]. *Design. Materials. Technology*. 2012, vol. 3, pp. 48–50. (In Russian).

45. Rymkevich P. P., Romanova A. A., Gorshkov A. S., Makarov A. G. *Fizicheskie osnovy vjzkouprugogo povedenija orientirovannyh amorfno-kristallicheskih polimerov* [Physical basis of the viscoelastic behavior of oriented amorphous-crystalline polymers]. *Izvestija vysshih uchebnyh zavedenij. Tehnologija*

*legkoj promyshlennosti* [News of higher educational institutions. The technology of light industry]. 2012, vol. 16, no 2, pp. 70–73. (In Russian).

46. Slucker G. Ja., Zhukovskij V. A., Terushkina O. B., Drobotun N. V., Filipenko T. S., Edomina N. A., Makarov A. G. *Uprugie svoystva polipropilenovyh i polivinilidenftoridnyh mononitej i setchatyh jendoprotezov na ih osnove* [The elastic properties of polypropylene and PVDF monofilament mesh implants and on their basis]. *Himicheskie volokna* [Fiber Chemistry]. 2012, no 5, pp. 28–32. (In Russian).

47. Golovina V. V., Rymkevich P. P., Makarov A. G., Romanova A. A. *Prognozirovanie deformacionnyh i relaksacionnyh processov v odnoosnoorientirovannyh polimernyh materialah* [Prediction of deformation and relaxation processes in polymer materials pultruded]. *Himicheskie volokna* [Fiber Chemistry]. 2013, no 6, pp. 33–40. (In Russian).

48. Rymkevich P. P., Romanova A. A., Golovina V. V., Makarov A. G. *The Energy Barriers Model for the Physical Description of the Viscoelasticity of Synthetic Polymers: Application to the Uniaxial Orientational Drawing of Polyamide Films*. *Journal of Macromolecular Science. Part B: Physics*. 2013, vol. 52, is. 12, pp. 1829–1847. (In Russian).

49. Golovina V. V., Makarov A. G., Rymkevich P. P. *Metod analogij i ego fizicheskoe obosnovanie dlja opisanija termovjzkouprugosti amorfno-kristallicheskih polimernyh nitej* [The method of analogies and physical basis for describing Thermoviscoelasticity amorphous-crystalline polymer filaments]. *Izvestija vysshih uchebnyh zavedenij. Tehnologija legkoj promyshlennosti* [News of higher educational institutions. The technology of light industry]. 2013, vol. 19, pp. 67–70. (In Russian).

50. Rymkevich P. P., Gorshkov A. S., Makarov A. G., Romanova A. A. *Osnovnoe opredelajushhee uravnenie vjzkouprugogo povedenija odnoosnoorientirovannyh polimernyh materialov* [Mainly determined by the equation of the viscoelastic behavior of pultruded plastics]. *Himicheskie volokna* [Fiber Chemistry]. 2014, no 1, pp. 31–35. (In Russian).

**UDC 539.384: 685.31**

**A. G. Usov**

St. Petersburg State University of Industrial Technology and Design

**ENSURING SPECIFIC GEOMETRICAL CONDITIONS FOR MODELING THE BENDING OF ELASTIC SHEETS**

*The article discusses ways to control the regularity of the middle surface, the absence of self-intersections and building the initial approximations for computer models of curved elastic sheet.*

*Keywords:* elastic shell, regularity, self-intersection, the initial approximation.

**References**

1. Korte A. P., Starostin E. L., van der Heijden G. H. M. Triangular buckling patterns of twisted inextensible strips.

- Proc. R. Soc. A: Math., Phys. and Eng. Sc., vol. 467, iss. 2125, pp. 285–303.
- Baraff D., Witkin A. Physically based modeling: principles and practice. In: Online Siggraph '97 course notes. Available at: <http://www.cs.cmu.edu/~baraff/sigcourse> (accessed 20 August 2015).
  - Elber G., Seong J.-K., Kim M.-S.. Trimming local and global self-intersections in offset curves/surfaces using distance maps. *Computer-Aided Design*, 2006, no 38, pp. 183–193.
  - Ming C. Lin. Efficient collision detection for animation and robotics. A dissertation for the degree of PhD. University of California, Berkeley, CA, 1993. 147 p. Available at: <https://www.cs.unc.edu/~geom/papers/documents/dissertations/lin93.pdf> (accessed 24 August 2015).
  - Gilbert E. G., Johnson D. W., Keerthi S. S. Available at: A fast procedure for computing the distance between complex objects in three-dimensional space. *IEEE Journal of robotics and automation*, 1988, vol. 4, no 2, pp. 193–203.
  - Lurie A. I. *Analiticheskaya mekhanika* [Analytical mechanics]. Moscow, GIFML, 1961, 824 p. (In Russian).
  - Rosenfeld B. A., Sergeeva N. D. *Stereograficheskaya proektsiya* [Stereographic projection]. Moscow, Nauka, 1973, 48 p. (In Russian).
  - Graham R. L. An efficient algorithm for determining the convex hull of a finite planar set. *Information Processing Letters*, 1972, vol. 1, pp. 132–133.
  - Jarvis A. On the identification of the convex hull of a finite set of points in the plane. *Information Processing Letters*, 1973, vol. 2, pp. 18–21.

## UDC 7.02

**V. L. Zhukov, E. B. Baramova,  
K. O. Tkachjov**

Saint-Petersburg State University of Industrial Technologies and Design

**LAWS OF SYNERGY  
IN YOUR APPLICATION WHEN YOU  
CREATE AN ARTISTIC IMAGE  
OF VISUAL COGNITIVE INFORMATION  
DYNAMIC SYSTEMS (VKIDS)  
IN THE IMPLEMENTATION  
OF THE SIMULATION OF PHENOMENA  
OF ILLUSIONS IN THE SUBJECT AREA  
OF OBJECTS OF DESIGN**

*This work is devoted to research domain VKIDS design objects to simulate the visual illusion that compliance with the law and the principle of synergy neseparable'nosti design theory, fractal kumatoid.*

*Keywords:* design, op-art, mathematical, iskusstvometriâ coating, supergrafika, Synergetics, illusions.

## References

- Glazunova O. I. *Sinergetika tvorchestva: Opyt analiza hudozhestvennogo teksta* [Creativity synergetics: Experience of the analysis of the art text]. Moscow, LIBROKOM, 2012, 344 p. (Sinergetika: ot proshlogo k budushhemu № 61). (In Russian).

- Zhukov V. L., Poljakov V. I., Hmyznikova V. A. *Issledovanie vizual'nyh informacionnyh sistem i modulej v predmetnoj oblasti obektov dizajna, predstavlenykh klasterom maloj arhitekturnoj plasticy* [Research of visual information systems and modules in subject domain of the objects of design presented by a cluster of small architectural plasticity]. *Design. Materials. Technology*, 2013, no 4, pp. 27–30. (In Russian).
- Raushenbah B. V. *Pristrastie* [Partiality]. Moscow, Agraf, 2011, 448 p., il. (In Russian).
- Turchin A. V., Batin M. A. *Futurologija. XXI vek: bessmertie ili global'naja katastrofa?* [Futurology. The XXI century: immortality or global disaster?]. Moscow, BINOM. Laboratorija znaniy, 2013, 263 p., il. (In Russian).
- Brazhe R. A. *Sinergetika i tvorchestvo* [Synergetics and creativity]. Ul'janovsk, UIGTU, 2002, 204 p. (In Russian).
- Nazaretjan A. P. *Civilizacionnye krizisy v kontekste Universal'noj istorii. Sinergetika — psihologija — prognozirovanie* [Civilization crises in a context of Universal history. Synergetics — psychology — forecasting]. Moscow, Mir, 2004, 368 p. (In Russian).
- Zhukov V. L. *Futurologija v teorii i praktike dizajna v kontekste NBIC-konvergencij na primere razrabotki kompozicionnogo reshenija i tehnologii izgotovlenija aksessuarov i juvelirnyh ukrashenij, opredeljajushhih tendencii razvitiya v sovershenstvovanii oblika cheloveka* [Futurology in the theory and practice of design in the context of NBIC convergences on the example of development of the composite decision and manufacturing techniques of the accessories and jewelry defining development tendencies in improvement of shape of the person]. *Design. Materials. Technology*, 2014, no 4 (35), pp. 25–32. (In Russian).
- Vladimirov Ju. S. *Geometrofizika* [Geometrofizika]. Moscow, BINOM. Laboratorija znaniy, 2005, 600 p. (In Russian).
- Korepin V. V. *Uzory Penrouza i kvazikristally* [Penrose's patterns and quasicrystals]. *Kvant* [Quantum], 1987, no 6, pp. 1–7. (In Russian).
- Losher Zh. L., Vel'dhuizen V. F. *Magija M. K. Jeshera* [M. K. Escher's magic]. Moscow, Art-Rodnik, 2007. (In Russian).
- Lavrent'ev A. N. *Jeksperiment v dizajne* [Experiment in design]. Moscow, Universitetskaja kniga, 2010, 244 p., il. (Prakticheskij dizajn). (In Russian).
- Osgud Ch., Susi Dzh., Tannenbaum P. *Prilozhenie metodiki semanticheskogo differenciala k issledovanijam po jestetike i smezhnym problemam. Iskustvometrija: Metody tochnykh nauk i semiotiki* [Annex of a technique of semantic differential to researches on an esthetics and adjacent problems. Iskustvometriya: Methods of the exact sciences and semiotics]. Moscow, LIBROKOM, 2009, 368 p. (In Russian).
- Zhukov V. L., Zhukov V. V., Kallass Ju. O. *Osobennosti analiticheskogo modelirovanija pri proektirovanii obektov dizajna v realizacii informacionnyh tehnologij* [Features of analytical modeling at design of objects of design in realization of information technologies]. *Design. Materials. Technology*, 2012, no 4 (24), pp. 83–93. (In Russian).

UDC 687.023

**M. A. Truevtseva**<sup>1</sup>,  
**N. N. Zubov**<sup>1</sup>, **M. I. Golubev**<sup>2</sup>

<sup>1</sup> Saint-Petersburg State Economic University

<sup>2</sup> Saint-Petersburg State University of Industrial Technologies and Design

**MODELLING AND OPTIMISATION  
OF TECHNOLOGICAL PROCESSES OF  
THE SEWING ENTERPRISES  
OF SPHERE OF SERVICE WITH IN ORDER  
TO INCREASE THE DEGREE OF USE  
OF THE EQUIPMENT**

*The analysis of loading of the equipment in the manufacture of products top shoulder garment enterprises of various categories in industrial processes with a capacity from 4 to 20 people. Built regression which formed the basis of an assessment of the level of quality of equipment loading, was carried out using a complex method with application of desirability function and nomograms de-*

*sirability. The resulting table with the criteria of level of quality equipment load as applied to the processes of low and medium power.*

*Keywords:* sewing company service, the capacity of the technological process, equipment loading, regression models, an intergrated method using desirability function and nomograms desirability, the degree of use of the workplace.

**References**

1. Zubov N. N., Titov V. A. *Modelling and optimisation of processes of sphere of service* [Modeling and optimization of processes and systems of service]. Saint-Petersburg, SPbGUSE Publ., 2010. (In Russian).
2. Truevtseva M. A., Shlyk T. M. *Standardization is the process of rendering services for the sewing enterprises of sphere of service* [Standardization of process of rendering services at the sewing enterprises of service]. Saint-Petersburg, SPbGUSE Publ., 2010. (In Russian).

# ПРАВИЛА ДЛЯ АВТОРОВ

1. Статья представляется в двух экземплярах. Объем статьи не должен превышать 8 страниц машинописного текста, включая рисунки, таблицы и список литературы. Межстрочный интервал — одинарный. Шрифт — Times New Roman. Размер шрифта — 12 pt. К статье прилагается аннотация объемом не более 5 строк.

2. Статья сопровождается письмом-рекомендацией к публикации от учреждения, в котором выполнена данная работа. С аспирантов плата за публикацию не взимается.

3. Первым печатается УДК, затем инициалы и фамилия авторов. На следующей строке — название организации, представляющей статью. Название статьи печатается прописными буквами жирным шрифтом. После заголовка на следующей строке набирается аннотация. Текст статьи размещается ниже.

## Образец оформления:

**УДК**

**И. И. Иванов, П. П. Петров**

N-ский государственный институт

**НАЗВАНИЕ СТАТЬИ**

4. Формат иллюстраций: растровый (BMP, JPEG, TIFF, EPS) с разрешением не менее 300 dpi. Все рисунки должны быть выполнены черно-белыми либо в градациях серого, цветные рисунки и фотографии не принимаются (о полноцветных выпусках будет сообщаться отдельно). Помимо размещения в тексте, все рисунки должны быть представлены **отдельными файлами (один рисунок — один файл)** соответствующего формата. Подрисовочные надписи печатаются в тек-

товом редакторе (**не на самом рисунке**). Количество рисунков или фото — не более пяти. Чертежи и графики должны быть четко напечатаны на лазерном принтере.

5. Формулы должны быть напечатаны на принтере. Не следует применять индексы из заглавных букв и буквы русского алфавита. В десятичных дробях ставятся запятые. Нумеруются те формулы, на которые в тексте имеются ссылки. При нумерации формул рекомендуется пользоваться десятичной системой. Порядковый номер ставится справа от формулы.

6. Литература приводится по порядку цитирования в конце статьи с указанием номера страницы. В тексте ссылки на литературу указываются в квадратных скобках.

7. Статья должна быть подписана автором(ами) и научным(и) руководителем(ями) (для аспирантов). Обязательно представляются аннотация и ключевые слова. На отдельном листе (в отдельном файле) указываются фамилия, имя, отчество автора и научного руководителя, их почтовый рабочий и домашний адрес, место работы или учебы, телефоны (рабочий и домашний) и электронные адреса e-mail, а также фамилия, имя, отчество автора, с которым следует вести переписку. На отдельной странице прилагаются сведения на английском языке: название статьи; инициалы и фамилия авторов и научных руководителей, место выполнения работы, аннотация, ключевые слова.

Поступившие в редакцию статьи проходят рецензирование и рассматриваются редколлегией. Принятая к печати статья после редактирования печатается в журнале. Отклоненные статьи возвращаются автору в одном экземпляре.

Адрес редакции: 191186, Санкт-Петербург, ул. Б. Морская, 18

Тел. / факс: (812) 314-11-74

E-mail: LT\_Zhukova@mail.ru

Верстка и оригинал-макет — ООО «РосБалт»

Издание зарегистрировано в Федеральной службе по надзору за соблюдением законодательства в сфере массовых коммуникаций и охране культурного наследия. Свидетельство ПИ № ФС77-26186. Учредитель Санкт-Петербургский государственный университет промышленных технологий и дизайна. Подписано в печать 25.12.2015. Формат 60×84 / 8. Бум. кн.-журн. Тираж 1000 экз. Заказ 128. Цена свободная.

Отпечатано в ООО «РосБалт», 197374, Санкт-Петербург, ул. Оптиков, д. 4

© Дизайн. Материалы. Технология, 2015