

## SUMMARY

### UDC 745/749

**A. V. Grigoriev, Y. S. Kazarina**

Saint-Petersburg State University of Industrial Technologies and Design

### PRODUCT DESIGN METHODOLOGY PDI

*In article the basic stages of design aimed at creating original products of decorative art.*

*Keywords:* handy craft and folk art items, methodology, design, material, image.

### References

1. Federal'nyj gosudarstvennyj obrazovatel'nyj standart vysshego professional'nogo obrazovaniya po napravleniju podgotovki 072600 — Dekorativno-prikladnoe iskusstvo I narodnye promysly. — M., 2009. S. 20. (In Russian).
2. Guzevatova E. N. Rol' discipline professional'nogo cikla v podgotovke bakalavrov po napravleniju «Dekorativno-prikladnoe iskusstvo I narodnye promysly». *Mezhdunarodnyj nauchnyj zhurnal «Vestnik nauki»*, 2015, no. 8, pp. 320. (In Russian).
3. Gruber E. *Slovar' inostrannykh slov dlja studentov*. Moscow, «Lokid-Press» Publ., 2005. (In Russian).
4. Miheeva E. P. *Osnovy metodologii proektirovaniya v promyshlennom dizajne: uchebnoe posobie*. Vladimir, VIGUPubl., 2014. (In Russian).

### UDC 355.141

**D. A. Ermin**

Saint-Petersburg State University of Industrial Technologies and Design

### MILITARY PARADE AS A PUBLIC RELATIONS RESOURCE

*The article conducts the theoretical approaches valuation and classification of military parades design elements as a resource of communication between government and society. As a standard the annual May 9 parade in Moscow was considered.*

*Keywords:* communication, military uniform, military parade design.

### References

1. Pohepcov G. G. *Kommunikativnyj inzhiniring: teoriya i praktika* / G. G. Pohepcov. Kiev, Al'terpres, 2008. 408 p. (In Russian).

2. Vul'f K. K. *Genezisu social'nogo. Mimesis, performativnost', ritual* / Per. s nem. G. Hajdarovoj. Saint-Petersburg, Intersocis, 2009. 164 p. (In Russian).
3. Vujma A. YU. *CHernyj PR. Zashchita i napadenie v biznese i ne tol'ko* / A. YU. Vujma. Saint-Petersburg, BHV-Peterburg, 2005. 224 p.: il. (In Russian).
4. Olearij A. *Opisanie puteshestviya v Moskoviyu* / per. s nem A. M. Lovyagina S.: Rusich, 2003. 480 p.: il. (In Russian).
5. Uspenskij B. A. *Car' i patriarh, harizma vlasti v Rossii*. Moscow, SHkola «Yazyki russkoj kul'tury», 1998. 680 p. (In Russian).
6. Zaharova O. YU. *Vlast' ceremonialov i ceremonialy vlasti v Rossijskoj imperii XVIII — nachala XX veka* / O. YU. Zaharova. Moscow, OOO «AiF Print» 2003, 400 p.: il. (In Russian).
7. *Vyhody gosudarej carej i velikih knyazej Mihaila Feodorovicha, Aleksiya Mihajlovicha, Feodora Alekseevicha vseya Rusi samoderzhcev (s 1632 po 1682 g.)*. Moscow, Tipografiya Avgusta Semena, 1844. 815 p. (In Russian).
8. Uortman R. S. *Scenarii vlasti. Mify i ceremonii russkoj monarhii. T. 1: Ot Petra Velikogo do smerti Nikolaya I*. Moscow, OGI, 2002. 608 p. (In Russian).
9. Uortman R. S. *Scenarii vlasti. Mify i ceremonii russkoj monarhii. V 2 t. T. 2: Ot Aleksandra II do otrecheniya Nikolaya II* / Per. s angl. I. A. Pil'shchikova. Moscow, OGI, 2004. 796 p.: il. (In Russian).
10. Volkov S. *Istoriya kul'tury Sankt-Peterburga*. Moscow, Izd-vo EHKSMO-Press, 2002. 704 p. (In Russian).
11. Voronovich, N. *Zapiski kamer-pazha imperatricy Aleksandry Fedorovny*. New York: «Novoe russkoe slovo», 1952. 63 p. (In Russian).
12. ZHmodikov YU. L. *Peterburgskie parady: Prazdniki i ceremonii s uchastiem vojsk v XVIII — nach. XX v. / YU. L. ZHmodikov, E. A. Kononenko*. Saint-Petersburg, «Bell», 2003. 20 p.: il. (In Russian).
13. Tyurin YU. P. *Dva parada* / YU. P. Tyurin. Moscow, Andreevskij flag, 1995. 47 p.: il. (In Russian).
14. *Parad paradov: Kn.-al'bom*. Moscow, «Atlantida-XXI v.», 2000. 344 p.: il. (In Russian).
15. *Voennye parady na Krasnoj ploschadi* / K. S. Grushevoj, D. S. Azov, A. S. Aslan'yan i dr.; Red. komis.: V. L. Govorov i dr. — 2-e izd., dop. Moscow, Voenizdat, 1980. 254 p., 56 l. il. (In Russian).
16. Gorin YU. P., *Parady nashej Pobedy* / YU. P. Gorin; pod red. prof. B. M. Amusina. Kaliningrad, «ZHivem», 2010. 272 p.: il. (In Russian).

17. Voennye parady na Krasnoj ploshchadi / B. V. Ajrapetyan, M. B. Baryatinskij, A. N. Belkov i dr.; pod red. N. A. Pankova. Moscow, "Krasnaya Zvezda", 2015. 452 p.: il. (In Russian).

18. Ivik O. ZHenshchiny-voiny: ot amazonok do kunoiti / O. Ivik. Moscow, Lomonosov", 2011. 210 p.: il. (In Russian).

19. Catherine the II at Sebastopol. Available at: [http://sevastopol.su/author\\_page.php?id=6068&parent=1034](http://sevastopol.su/author_page.php?id=6068&parent=1034) (accessed 21 January 2017) (In Russian).

20. Baryatinskij M. B. Parady stali i motorov. Sovetskaya i Rossijskaya voennaya tekhnika 1918–1995 / M. B. Baryatinskij. Moscow, OOO Izdatel'stvo "ZHeleznodorozhnoe Delo", 2003. 96 p. (In Russian).

#### UDC 712.253:73.027.1

**O. I. Raguzhina**

Penza State University of Architectural and Construction

#### **THE POETRY OF MODERN SCULPTURE PARKS: PHENOMENONS, TYPES, REALITY**

*The understanding of creative space is illustrated by the example of Penza Sculpture Park «Legend» which was created on the basis of eight international sculpture symposiums. Also the phenomenon of sculpture parks art efficient is shown. The typology principles of the sculpture parks are given in accordance with the ideological attitudes of postmodernism.*

**Keywords:** sculpture park, sculpture symposium, landscape architecture, art synthesis, postmodernism.

#### **References**

1. Florida R. Kreativnyj klass. — M.: Klassika-XXI, 2005. — S. 43. (In Russian).
2. Kaganov G. Z. Problemy pojetiki gorodskoj sredy // Gorodskaja sreda. Dizajn i arhitektura. — M.: VNIITAG, 1990. — S. 3. (In Russian).
3. German M. JU. Modernizm. Iskusstvo pervoj poloviny HH veka. — SPb.: Azbuka-Klassika, 2003. — S. 18. (In Russian).
4. Kotlomanov A. O. Pablik-art: stranicy istorii. Britanskije parki skul'p-tury vtoroj poloviny HH veka // Vestnik SPbGU. — 2014. — Ser. 15. — Vyp. 1. — S. 104. (In Russian).
5. Motorina I. E. Sintez iskusstv kak princip razvitiya hudozhestvennoj kul'tury. — Tambov: Gramota, 2012. — № 2 (16): v 2-h ch. CH. II. — S. 148. (In Russian).
6. Zabelina E. V. Poisk novyh form v landshaftnoj arhitekture. — M: Arhitektura-S, 2005. — C. 6.
7. Park skul'ptury Dzheffri Rubinova [JElektronnyj resurs] // URL: <http://www.rubinoffsculpturepark.org/>.
8. Porchajkina N. V. Vystavka sovremennogo iskusstva kak sistema: prostranstvo — jeks-ponat — chelovek: Avtoreferat dis...kand. isk. — Krasnojarsk, 2013. [JElektronnyj resurs] // URL: <http://www.dissercat.com/content/vystavka-sovremennogo-iskusstva-kak-sistema-prostranstvo-eksponat-chelovek>
9. JEko U. Zametki na poljah «Imeni rozy» / Perevod s ital. E. Kostjukovich. SPb., 2003. — S. 77. (In Russian).

10. Volkov N. V. Postmodernistskaja jetika i jestetika: otkaz ot cennostno-normativnogo // Kontekst i refleksija: filosofija o mire i cheloveke. — 2014. — № 3. — S. 11. (In Russian).

11. Gorohov V. A. Gorodskoe zelenoe stroitel'stvo. — M.: Strojizdat, 1991. — S. 360. (In Russian).

12. Il'in I. P. Poststrukturalizm. Dekonstruktivizm. Postmodernizm. — M.: Intrada, 1996. — S.114. (In Russian).

13. Gavrilov V. A. Plasticheskie novacii v skul'pture XX veka: Avtoreferat dis... kand. isk. — SPb.: 2004. [JElektronnyj resurs] // URL: <http://cheloveknauka.com/plasticheskie-novatsii-v-skulpture-xx-veka>

14. Rudnev V. P. Postmodernizm [JElektronnyj resurs] // URL: [http://characterology.ru/creatologia/philology/Rudnev\\_postmodernism](http://characterology.ru/creatologia/philology/Rudnev_postmodernism).

#### UDC 378.147:76.01:658.512.23

**M. R. Kuznetsova,**

**Y. V. Kirgizov, V. V. Laptev**

Saint-Petersburg State University of Industrial Technologies and Design

#### **GRAPHIC DESIGNER AND CHILDREN'S BOOK**

*The article deals with the relationship of individual instruments in the artistic design of the book. Based on the work of Soviet artists in the field of creating a children's book, the role of illustration and typography in book design is shown. The historical aspect is complemented by an analysis of modern publications carried out within the educational process of design education.*

**Keywords:** book illustration, typography, graphic design, children's book.

#### **References**

1. Chikhhold Ya. Oblik knigi. Izbrannyye stati o knizhnom oformlenii / Yan Chikhhold. M.: Kniga. 1980. 239 s. (In Russian).
2. Lisitskiy L. M. Kniga s tochki zreniya zritel'nogo vospriyatiya — vizualnaya kniga // Iskusstvo knigi. 1958–1960. Vyp. 3. M., 1963. 460 s. (In Russian).
3. Kuznetsova M. R. Primeneniye klassicheskikh pechatnykh tekhnik v graficheskom dizayne / M. R. Kuznetsova. V. V. Laptev // Dizayn. Materialy. Tekhnologiya. 2015. № 4 (39). S. 29–33. (In Russian).
4. Aluyeva M. A. Detskaya khudozhestvennaya illyustrirovannaya kniga kak sintez izdaniya. iskusstva i sredstva esteticheskogo vospitaniya: avtoref. dis... kand. ped. nauk: 05.25.03 / M. A. Aluyeva; Krasnodarskiy gos. un-t kultury i iskusstv. Krasnodar: KGUKI. 2010. 22 s. (In Russian).
5. Simanovich-Efimova N. Ya. Graficheskiy yazyk detskikh knizhek-kartinok // Novyye detskiye knigi. 1926. Sb. 4. (In Russian).
6. Eskina E. V. Moskovskaya illyustratsiya detskoy knigi v 1960–1980-kh godakh // Vestnik MGKhPA. 2012. № 4. S. 135–142. (In Russian).
7. Fomin D. V. Iskusstvo knigi v kontekste kultury 1920-kh godov. M.: Pashkov dom. 2015. 800 s. (In Russian).

**UDC 658.512.23**

**A. I. Zhigunova, K. A. Korsunskaya,  
M. L. Sokolova**

MIREA Moscow technological university

**COMPLIANCE  
IN THE UNIVERSAL DESIGN**

*This paper analyzes the phenomena of antidesign and universal design, existing in the modern object-spatial environment. The concept of compliance with design has been introduced. A set of measures, aimed at the development and dissemination of compliant products, is proposed.*

*Keywords:* universal design, antidesign, compliance of design, designs' problems

**References**

1. Resolution ResAP (2001) 1 on the introduction of the principles of universal design into the curricula of all occupations working on the built environment (Adopted by the Committee of Ministers 15 February 2001, at the 742nd meeting of the Ministers Deputies).
2. Kumanin V. I. Jevoljucija dizajna v Rossii v poslednee stoletie // Trudy Akademii tehnicheckoj jestetiki i dizajna. — 2013. — № 1. — pp. 29–30. (In Russian).
3. Kumanin V. I. Antidizajn // Trudy Akademii tehnicheckoj jestetiki i dizajna. — 2015. — № 2. — pp. 5–6. (In Russian).
4. Adherence to long-term therapies: evidence for action. Geneva: World Health Organisation. World Health Organization — 2003 — p. 110
5. Novikova E. Ju. Kognitivnaja psihologija v dizajne // Dizajn. Teorija i praktika — 2013 — № 13 — S. 63–73. (In Russian).
6. Korsunskaya K., Zhigunova A., Sokolova M. The Problem of Universal Design in Russia // Fifth Forum of Young Researchers: Proceedings (February 22, 2017, Izhevsk, Russia) — pp. 123–127. (In Russian).

**UDC 687.129**

**I. A. Slesarchuk, T. A. Zaitceva,  
O. V. Panyushkina, L. A. Koroleva,  
I. L. Klochko**

Vladivostok state university of economy and service

**PROBLEMS OF DESIGN OF CORSET  
PRODUCTS FOR FIGURES WITH  
IMPLANTS OF CHEST GLANDS**

*The main difficulties at selection of a bra after operations of the plastic surgery of increase in a mammary gland are connected with lack of the special corset products intended for figures with implants of chest glands. Article is devoted to identification of the main problems at design of corset products for the increased chest glands.*

*Keywords:* corset products, implants, breast glands, bra.

**References**

1. Andreyeva A. V. Forma, razmery i topometricheskie karakteristiki molochnyh zhelez u devushek junosheskogo vozrasta razlichnyh tipov teloslozhenija: avtoreferat diss. na soisk. uchenoj stepeni kand. med. nauk. — Volgograd, 2007. — 176 s. (In Russian).
2. Možno li s pomoshh'ju bjustgal'tera predupredit' opuskanie implanta? Available at: <http://for-breast.ru/plastica/byustgalter-i-opuskanie-implanta.html>. (accessed 05 April 2017)
3. Frishberg I. A. Hirurgicheskaja korrakcija kosmeticheskikh deformacij zhenskoi grudi. — M.: Science, 1997. — 256 s. (In Russian)
4. Korsetnye izdelija. Novaja klassifikacija tipovyh figur zhenshhin. Razmernye priznaki dlja proektirovanija / Central'nyj nauchno-issledovatel'skij institut shvejnoj promyshlennosti. — M.: CNIISHP, 1990. — 14 s. (In Russian).
5. Akilova Z. T. Proektirovanie korsetnyh izdelij. — M.: Light industry, 1979. — 168 s. (In Russian).
6. Antipova A. I. Konstruirovanie i tehnologija korsetnyh izdelij. — M.: Light and food industry, 1984. (In Russian).
7. Kravtsova T. A., Lukasheva I. A. Razrabotka konstrukcij korsetnyh izdelij. — Vladivostok: izdatel'stvo VGUJeS., 1997. — 40 s. (In Russian)

**UDC 658.512.2.011.56**

**M. M. Chernyh, N. O. Rudenko**

Izhevsk state technical university of M. T. Kalashnikov

**AUTOMATED MANUFACTURING OF  
SURFACES, DECORATED  
WITH TEXTURE**

*We have developed a classification of texture's patterns of products, made by milling on CNC machines, depending on the choice of tools, machining strategies and production process. Also authors of this article have developed the script, that allows to get chaotic texture of products at the level of the creation of the original model for milling*

*Keywords:* texture, polygonal surface, relief, three-dimensional modeling, re-engineering, Autodesk 3ds Max, CNC-machines.

**References**

1. Vasin S. A., Talashhuk A. J u. Proektirovanie i modelirovanie promyshlennyh izdelij: Uchebnik dlja vuzov [Design and modeling of industrial products: Textbook for universities]. Moscow, Mashinostroenie Publ., 2004. (In Russian).
2. Chernyh M. M., Sergeeva V. V. The aesthetics of the surface roughness of products in the art materials. *Dizajn. Materialy. Tehnologija*, 2008, no.1, pp. 22–25 (In Russian).
3. Ostanina P. A. The relief of the texture. *Dizajn. Materialy. Tehnologija*, 2012, no.1 (20), pp. 48–61 (In Russian).
4. Ostanina P. A. Interrelation of of qualitative and quantitative characteristics of texture in visual perception of its relief. *Materialy XIII Mezhdunarodnoj nauchno-prakticheskoi konferencii po*

*special'nosti «Tehnologija hudozhestvennoj obrabotki materialov»*, 2010, pp. 40–42 (In Russian).

5. Ajrapetov D. P. *Arhitekturnoe materialovedenie: Uchebnik dlja vuzov* [Architectural Materials: A Textbook for universities]. Moscow, Strojizdat Publ., 1983. (In Russian)

6. Rudenko, N. O. Investigation of the effect of the control program parameters on aesthetic characteristics of the surface of the product. *Tekhnicheskie universitety: integracija s evropejskimi i mirovymi sistemami obrazovanija: materialy V Mezhdunarodnoj konferencii*, 2012, no. 3, pp. 134–138 (In Russian).

#### UDC 685.34

**A. G. Kislyakova, S. V. Tatarov,  
N. A. Kolzeeva**

St. Petersburg State University of Industrial Technologies and Design

#### DEVELOPMENT OF MODERN FOOTWEAR DESIGNING AND MANUFACTURING USING DIRECT PRINTING METHODS

*The article describes the analysis of innovative leather products patterning methods and the rationalization for direct printing method on footwear is provided. The researches of direct printing on leather made and pros and cons of direct method educed, help providing the development of stock variety when selecting the material.*

*Keywords:* direct printing, technology, decoration, leather, research.

#### References

1. Filatova O. UF-pechat' v natural'noj otdelke Bentley i na kozhzameniteljah/Pечатник.com. Available at: <http://pechatnik.com/articles/yf-pechat-v-natyralnoi-otdelke-bentley-i-na-kojzamenitelyah> (accessed 25 February 2017)

2. Kislyakova A., Tatarov S., Yakovleva N., Analiz modnykh tendentsiy i obosnovaniye vybora sovremennogo metoda naneseniya risunka na detali izdeliy iz kozhi. Vestnik molodykh uchenykh SUTD, 2016, no.3, pp. 237–243. (In Russian).

3. Chmel' Ye., Cifrovaya pechat ustrojstvo strujnogo printera klassifikaciya po vidam chernil. Dokumental'nyj-centr 39Print. Available at: [http://39print.ru/files/file/article\\_15.pdf](http://39print.ru/files/file/article_15.pdf) (accessed 12 August 2016)

4. Markov O. Proizvodstvo UF-otverzhdaemyh chernil s nanochasticami / Nanoindustry. — 2012-No.5 Available at: <http://www.nanoindustry.su/journal/article/3353> (accessed 05 April 2016)

5. Fukin V. A. Tekhnologiya izdeliy iz kozhi / Fukin VA, Kalita A. N. // Textbook for high schools. Part 1 — Moscow: Legprombytizdat, 1988 — P.272 (In Russian).

6. Morozova L. P. Spravochnik obuvshchika. Proyektirovaniye obuvi, materialy/ L. P. Morozova, V. D. Poluektova, E. Ya. Mikheev and others. Ed. A. N. Kalita 1988. — Moscow: Legpromizdat, 1988. — P. 432. (In Russian).

#### UDC 677.017

**N. A. Belkin, A. F. Davydov,  
E. B. Demokratova**

Russian state University A. N. Kosygin

#### PREDICTION OF SERVICE LIFE OF THE TENT FABRICS

*The study examines the changes in the breaking load and water resistance tent fabrics under the action of light and weather. The influence of various factors on the lifetime of the tent fabrics is investigated.*

*Keywords:* natural light and weather, water resistance, breaking load, lifetime, awning fabric.

#### References

1. Kiryuhin S. M., SHustov YU. S. Tekstil'noe materialovedenie — M.: KolosS, 2011. (In Russian).

2. Solov'ev A. N., Kiryuhin S. M. Ocenka i prognozirovaniye svojstv tekstil'nyh materialov. — M., 1984–215 s. (In Russian).

3. Nauchno-prikladnoj spravocnik po klimatu SSSR. Seriya 3. Mnogoletnie dannye. CHasti 1–6. Vypusk (In Russian).

8. Moskva i Moskovskaya oblast' / redkol.: F. YA. Klinov i dr. — L.: Gidrometeoizdat, 1990 g. — 256 s.

#### UDC 739.2:671.1

**S. I. Galanin, G. K. Bukalov,  
E. V. Krivosheina, M. G. Egorova**

Kostroma State University

#### MODELING OF WEARING OF JEWELRY AND BIJOUTERIE

*Conditions of jewelry and bijouterie usage and their abrasive wearing are considered. The main types of relative motions of the elements of their design are determined. A mathematical model for describing the wearing of the contacting elements of products is proposed, taking into account the material properties, the conditions of usage, the normal pressure on the friction surface and the friction way of the conjugate elements.*

*Keywords:* jewelry, bijouterie, modeling of usage, abrasive wear, mathematical model.

#### References

1. Grigorenko I. V. Sistematizatsiya defektov yuvelirnykh izdeliy i ikh vliyaniye na pokazateli nadezhnosti i bezopasnosti / I. V. Grigorenko // Molodoy uchonyy. — 2013. — № 9. — S. 43–46. (In Russian).

2. Ekspertiza kachestva yuvelirnykh izdeliy, v tom chisle byvshikh v eksploatacii. Sayt Torgovo-promyshlennoy palaty Kostromskoy oblasti [Elektronnyy resurs]. — Rezhim dostupa: <http://kostroma.tpprf.ru/ru/services/130646/> (data obrashcheniya 10.04.2017).

3. Galanin S. I. Design, materials and manufacturing techniques of the modern jewelry and art products. Monograph / S. I. Galanin, K. N. Kolupaev. — Kostroma: Kostroma State Technol. Univ., 2014. — 183 p. (In Russian).

## ■ Summary

4. Rukovodstvo po gigiyene truda. Tom 1 / Pod obschey red. N. F. Izmerova. — M.: Me-ditsina. 1987. — 237 s. (In Russian).

5. Kontaknyye mekhanicheskiye napryazheniya. Glossariy po fizike. Real'naya fizika [Elektronnyy resurs]. — Rezhim dostupa: <http://bourabai.ru/physics/1735.html> (data obra-shcheniya 10.04.2017).

6. Pronikov A. S. Nadozhnost' mashin / A. S. Pronikov. — M.: Mashinostroyeniye, 1978. — 345 s. (In Russian).

7. Galanin S. I. Principles of Modern Jewelry and Art Products / S. I. Galanin, K. N. Kolupaev // Proceedings of the Academy of Technical Aesthetics and Design. — 2013. — № 1. — PP. 19–21. (In Russian).

**UDC 620.22:667.12**

**T. M. Ivantsov, L. V. Yuferova,  
E. Yu. Dolgova**

Omsk state technical university

### **STUDY OF COLOR FASTNESS TO LIGHT MATERIALS FOR VARIOUS PURPOSES**

*The article describes the experience of using an improved technique for determining the resistance of coloring to light of various materials used in design. The ratio of the time of irradiation of materials with an evaluation in points according to the blue standards scale has been established, which makes it possible to carry out tests for determining the resistance of color to light of various materials without using the blue standards scale.*

*Keywords:* resistance of color to light, method of determination, scales of blue standards, textile materials, wall-paper, paints and varnishes.

#### **References**

1. Melnikov B. N., T. L. Scheglova, G. I. Vinogradova Application of dyes: the manual for high schools 3rd ed., Rev. and extra — M.: BINOM. Laboratory of knowledge, 2010. — P.94. (In Russian).

2. GOST 9733.1–91 (ISO 105-B01-88) Of textile Materials. Test method of color fastness to light. — Instead of GOST 9733.1–83; date of introduction 01.01.93. — M.: Publishing house of standards, 1992. — 14 s. (In Russian).

3. GOST 33265–2015 Pelts fur and sheepskin tanned dyed. A method of determining the lightfastness of color — Instead of GOST R 53016–2008; date of introduction 01.07.2016 G. — M.: STANDARTINFORM, 2016–6 s. (In Russian).

**UDC 677.077: 675.62**

**L. A. Terskaya**

Vladivostok State University of Economy and Service

### **METHODOLOGICAL APPROACHES TO THE DEVELOPMENT OF CLASSIFICATION OF TECHNOLOGIES OF FUR FINISHING CLOTHING**

*The article is devoted to the systematization of fur finishing technologies. The results of the work are aimed at using the full range of technological capabilities of fur de-*

*sign provided by modern technologies. The developed classification is based on the study of the practice of using fur trim and will help optimize the choice of design solutions.*

*Keywords:* clothing, natural fur, fur finishing, technologies of finishing clothes, classification.

#### **References**

1. Shchedrovitskiy G. P. *Sintez znaniy: problemy i metody* [Synthesis of knowledge: problems and methods]. Moskva, Nauka Publ., 1984, pp. 67–109. (In Russian).

2. Genisaretskiy O. I. *Specificheskie cherty ob'ektov sistemnogo issledovaniya* [Specific features of objects of system research]. Moskva, 1965. (In Russian).

3. Blauberg I. V., YUdin E.H.G. *Stanovlenie i sushchnost' sistemnogo podhoda* [Formation and essence of the system approach]. Moskva, Nauka Publ., 1973. 270 p. (In Russian).

4. Terskaya L. A. *Dizajn mehovoj odelki odezhdyy* [Design of the fur finishing clothing]. Vladivostok, Dalnauka Publ., 2012. 144 p. (In Russian).

5. Terskaya L. A. *Tekhnologii mehovoj odelki* [Technologies of the fur finishing]. Rostov na Donu, Feniks Publ., 2014. 187 p. (In Russian).

6. Morozova M. V. *Innovacionnye kompleksnye resheniya v dizajne mekhovyh izdelij* [Innovative integrated solutions in the design of fur products]. Sankt-Peterburg, Sankt-Peterburgskij gosudarstvennyy universitet tekhnologii i dizajna, 2010. 27 p. (In Russian).

7. *Sovetskij ehnciklopedicheskij slovar* [Soviet encyclopedic dictionary]. Moskva, Sovetskaya ehnciklopediya Publ., 1979. 1600 p. (In Russian).

8. Terskaya L. A., Sinenko R. I. *Sistematizatsiya ob'ektov mekhovogo dizajna po napravleniyu predmetnogo tvorchestva dizajnera* [Systematization of objects of fur design in the direction of the subject creativity of the designer]. Ulan-Udeh, Conference materials, 2014, pp. 260–265. (In Russian).

9. Medvedev V. YU. *Sushchnost' dizajna* [The essence of design]. Sankt-Peterburg, Sankt-Peterburgskij gosudarstvennyy universitet tekhnologii i dizajna, 2009. 109 p. (In Russian).

10. Novikov A. M., Novikov D. A. *Metodologiya nauchnogo issledovaniya* [Methodology of scientific research]. Moskva, Librokom Publ., 2010. 280 p. (In Russian).

**UDC 687.016.5**

**O. V. Revyakina, L. M. Boldyreva**  
Omsk state technical university; Armavir state  
pedagogical university

### **ADJUSTMENT OF THE DESIGNING METHOD WOMEN'S TROUSERS FOR FIGURES OF DIFFERENT TYPES WITH DEVIATIONS FROM THE TYPICAL PHYSIQUE**

*The authors proposed universal principles of adjusting the methods for designing women's trousers for figures of different types in accordance with the developed quantitative classification of the lower support surface in order to improve the technological processes of garment production.*

*Keywords:* universal quantitative classification, design methods, design of women's trousers, sewing industry.

## References

1. Boldyreva, L. M. Statisticheskaja obrabotka jeksperimental'nyh izmerenij zhenskikh figur bol'shikh razmerov /L. M. Boldyreva // Estestvennye i tehnicheckie nauki, 2015. № 5 (83). — S. 182–186. (In Russian).
2. Lashina, I. V. Obosnovanie vybora ishodnyh dannyh dlja proektirovaniya pojasnyh izdelij na zhenskie figury razlichnogo teloslozhenija/ I. V. Lashina, L. M. Boldyreva, N. S. Shtejngardt // Shvejnjaja promyshlennost', 2014. № 3. — S. 32–34. (In Russian).
3. Boldyreva L. M. Optimizacija i sovershenstvovanie tehnologicheskikh processov shvejnjego proizvodstva na osnove shablona zhenskikh brjuk / L. M. Boldyreva, N. S. Shtejngardt, O. V. Revjakina // Vestnik Kazanskogo tehnologicheskogo universiteta, 2016. T. 19. № 6. — S. 93–95. (In Russian).

## UDC 621.74.045

**O. A. Kazachkova, E. A. Kulishova**

Moscow technological university

### CREATING REPLICAS OF NATURAL OBJECTS'S SHAPE AND TEXTURE IN JEWELRY DESIGN

*The analysis of natural objects and technologies for creating jewelry design by making their replicas is carried out. The possibilities of application of technologies which are correlated with the sizes of natural objects are revealed. The technology that allows to make replicas of natural objects accurately conveying their shape and texture (using precious metal clay PMC3 by Mitsubishi Materials) is considered. The tendencies are outlined.*

*Keywords:* jewelry design, natural objects, 3d-prototyping, art casting, precious metal clay.

## References

1. Dryukova A. E., Kazachkova O. A., Komissarova L. A., Livshits V. B., Kushnir A. P., Navrotskiy A. G. Tehnologiya obrabotki materialov (Izgotovlenie izdelij iz drevesiny i metallov): uchebnik, M.: Onto-Print, 2016. — 256 s. (In Russian).
2. Moldable mixture for use in the manufacturing of precious metal articles: pat. 5328775 SShA; zayav. 18.11.1992; vyidan 12.07.1994. [Elektronnyy resurs] Rezhim dostupa: <http://www.google.com.ua/patents/US5328775?hl=ru> (data obrascheniya 26.02.2017).
3. Hrusheva I. G. Eksperimenty po tehnologii otlivok dlja dizayna yuvelirnykh izdelij na baze prirodnykh tsvetov i listev // I. G. HruschYova, R. M. Lobatskaya. Dizayn. Teoriya i praktika. 2012 g. #9. S. 77–87. [Elektronnyy resurs] Rezhim dostupa: [http://enidtp.ru/ru\\_RU/588](http://enidtp.ru/ru_RU/588) (data obrascheniya 26.02.2017).
4. Hrusheva I. G. Sozdanie yuvelirnykh izdelij sposobom vakuumnogo litya po prirodnyim modelyam // I. G. HruschYova, R. M. Lobatskaya. Trudy akademii tehnicheckoy estetiki i dizayna. 2014 g. T.2. #1. S. 36–43. [Elektronnyy resurs] Rezhim dostupa:

<http://elibrary.ru/item.asp?id=22457765> (data obrascheniya 26.02.2017).

5. Dobryinina I. G. Tehnologicheskie priemy polucheniya tochnykh kopiy prirodnykh ob'ektov v dizayne yuvelirnykh izdelij. Dizayn. Teoriya i praktika. 2015 g. #22. S. 17–25. [Elektronnyy resurs] Rezhim dostupa: [http://enidtp.ru/ru\\_RU/1676](http://enidtp.ru/ru_RU/1676) (data obrascheniya 26.02.2017).

6. Rodvilova I. S., Chuplina S. V., Issledovanie sostava i struktury yuvelirnykh glin dlja dekorativnykh pokrytiy. // Izvestiya Sankt-Peterburgskogo Tehnologicheskogo Instituta — S.-P. 2012, #16 (42), str.112–114. (In Russian).

7. Argentarium [Elektronnyy resurs] Rezhim dostupa: <https://www.argentarium.ru/> (data obrascheniya 26.02.2017).

8. Mini Metal Maker — metal clay 3d printer [Elektronnyy resurs] Rezhim dostupa <https://3d-expo.ru/ru/article/blizitsya-zapusk-massovogo-proizvodstva-byudzhnogo-fdm-printera-dlya-pechati-metallami> (data obrascheniya 26.02.2017).

## UDC 667.7+661.8

**Yu. A. Boyko, E. P. Dragunova**

Moscow technological university

### EFFECT OF CRYSTAL POWDER ON THE OPTICAL PROPERTIES OF PIGMENT BASED ON TRIVALENT CHROMIUM OXIDE

*This article compares the paints production techniques of painters of the 16–17 centuries, Soviet and modern production. Authors propose to add crystal powder to improve optical properties of chrome oxide pigments in artistic paints. Research-based recommendations on pigment and crystalline component percentage are given.*

*Keywords:* optical properties, modern paints, binders, mineral pigments, chromium oxide.

## References

1. Dionisij Furnoagrafiot. Erminija, ili nastavlenie v zhivopisnom iskusstve, sostavlennoe ieromonahom i zhivopiscem Dionisijem Furnoagrafiotom, 1701–1733 gg. Kiev: perevod: Porfirija episkopa Chigirinskogo, tipografija Kievo-Pecherskoj Lavry, 1868. 250 s. // M.: Izdatel'stvo Svjato-Vladimirskogo Bratstva, 1993. 238 s. (In Russian).
2. Ovchinnikov A. N. Kristallicheskie pigmenty//Tehnika i materialy// «Hudozhestvennyj sovet» № 4, 2010. S 14–19. (In Russian).
3. Sljotov V. A. Mineral'nye pigmenty v ikonopisnoj tradicii. Kak prigotovit' iz mineralov kachestvennye kraski? Prakticheskie svedeniya i rekomendacii po rabote s mineralami — pigmentami [Elektronnyy resurs]: Pravoslavie i cerkovnoe iskusstvo. Ikona, mineral'nye pigmenty, ikonopis'. URL: <http://mindraw.web.ru> (data obrashhenija: 17.03.2017). (In Russian).
4. Shhavinskij V. A. Ocherki po istorii tehniki zhivopisi i tehnologii krasok v Drevnej Rusi. Moskva; Leningrad: Gos. soc. — jekon. izd., 1935. 158 s. (In Russian).
5. Alekseev-Aljurvi Ju. V. Krasochnoe syr'e i kraski, ispol'zuemye v zhivopisi. M.: CITI, 2004. 308 s. (In Russian).

UDC 677.025

**S. B. Kataeva, G. I. Drozdova**

Omsk state technical university

**DESIGN KNITWEAR  
FROM MODERN YARN**

*In the article is proposed the method of determining the material consumption of jersey, at basis of which lies the dependence of the parameters of the structure of jersey on the thread diameter and on the size of the operating units of the knitting machines. For the determination of filament diameter using a technique based on the measurement of the digitized image. Calculation of yarn consumption is based on the location of the yarn on the needles of the knitting machine.*

**Keywords:** consumption of hosiery, knitted fabric, thread, filament diameter, weave knit, the characteristics of structure elements of a structure.

**References**

1. Nemirov, L. F. Improving the design of knitted fabrics / L. F. Nemirova, S. B. Kataeva, G. I. Drozdova. — Omsk: Omsk state Institute of service, 2011. — 161 s. (In Russian).
2. Krutikova, V. R. Forecasting the length of the filament structure element kalinago knit / V. p. Krutikova, L. A. Krutikova // news of higher educational institutions. Technology of Textile Industry. — 2005, № 2. — P. 72–76 (In Russian).
3. Drozdova, G. I. The use of numerical methods in calculations of the parameters of the looped structure of knitted fabrics / G. I. Drozdova, L. F. Nemirova // Scientific Herald Novosibirsk State Technical University. — 2008, № 2 (31). — S. 3–14 (In Russian).

UDC 7.032:729.7

**A. I. Larionov, A. P. Frolov**

Saint-Petersburg Stieglitz State Academy of Art and Design

**AN AFTERWORD TO THE EXHIBITION  
OF MOSAIC FROM LOD (ISRAEL) AT THE  
HERMITAGE**

*To the question about stylistics, art-technological and teknik-technological aspects of mosaic from Lod (Israel).*

**Keywords:** Late Antiquity, mosaic, hypothesis about technology of creating mosaic panel, controversy, Lod, Israel, The State Hermitage Museum.

**References**

1. Ovadiah A., Mucznik S. Classical Heritage and Anti-Classical Trends in the Mosaic Pavement of Lydda (Lod) // Assaph, Studies in Art History. 1998. № 3. P. 1–16.
2. Larionov A. I. Iskusstvo antichnoj napol'noj mozaiki. SPb.: Izdatel'stvo im. N. I. Novikova, 2014. 483 s.
3. Lavin I. The Hunting Mosaics of Antioch and their Sources: a Study of Compositional Principles in the Development of Early Mediaeval Style // *Dumbarton Oaks Papers*. Vol. 17. 1963.

4. Haddad E., Avissar M. A Suggested Reconstruction of one of the Merchant Ships on the Mosaic Floor in Lod (Lydda), Israel // *The International Journal of Nautical Archaeology*. 2003. Vol. 32. Issue 1. P. 73–77.

5. Friedman Z. The Ships depicted in the Lod Mosaic Reconsidered // *The International Journal of Nautical Archaeology*. 2004. Vol. 33. Issue 1. P. 164–168.

6. Avissar, M. Lod — a Mosaic Floor. Excavations and Surveys in Israel 17 (1998), pp. 169–172.

7. Lightfoot C. S. The Roman Mosaic from Lod, Israel // *The Metropolitan Museum of Art*. [Jelektronnyj resurs]. URL: <http://www.metmuseum.org/about-the-museum/now-at-the-met/features/2010/the-roman-mosaic-from-lod-israel>

8. Piovesan R., Maritan L., Neguer J. The polychrome synopia of Roman mosaic at Lod (Israel): pigments characterization and micrastratigraphic study // *Euromed, 2012–4<sup>th</sup> International Conference: Progress in Cultural Heritage Preservation (short papers)*. Lemessos (Cyprus), 2012. P. 203–208.

9. Dunbabin K. M. D. *Mosaics of the Greek and Roman World*. Cambridge: University Press, 1999. 357 p.

10. Vitruvij Mark Polion. *Desjat' knig ob arhitekture* / Per. F. A. Petrovskogo. M.: Vsesojuzn. Akademiya Arhitektury, 1936. 331 s. (In Russian).

11. Butjgin A. M., Kuznecov A. V., Radolickaja Ja. S. *Nemerknu shhie kraski (Iskusstvo drevnerimskoj mozaiki)* // *Gosudarstvennyj Jermitez. SPb.: Izdatel'stvo Gosudarstvennogo Jermitegha*, 2014. 48 s. (In Russian).

12. Kochetov V. A. *Rimskij beton (iz istorii stroitel'stva i stroitel'noj tehniki Drevnego Rimaelnoy tehniki Drevnego Rima)*. M.: Strojizdat, 1991. 111 s. (In Russian).

13. Rinova L. Ja. *Freska (kurs monumental'no-dekorativnoj zhivopisi)* // *Nauchnye materialy LVHPU im. V. I. Muhinoy (nyne SPGHPA im. A. L. Shtiglica)*. Arhiv kafedry MDZh. 1955–1956. 21 s. Kurs ne opublikovan. (In Russian).

14. Kiplik D. I. *Tehnika zhivopisi*. M.: Iskusstvo, 1950. 504 c. (In Russian).

15. Kuks Ju, M., Luk'janova T. A. *Istorija razvitija freski (Drevnerusskaja freska — dve transformacii)*. Chast' 1 // *Perspektivy nauki i obrazovanija*. 2014. № 4 (10). S. 127–135. (In Russian).

16. Smirnov Ja. I. *Cromskaja mozaika*. Tiflis: muzej iskusstva “Metehi”. (In Russian).

UDC 74.01/.09

**E. N. Maksimova-Anohina**

Kostroma state University of Technology of art processing of material, artistic design and technical services

**TECHNIQUES IMAGE OF METAL  
OBJECTS IN THE STILL LIFE BY  
GOUACHE**

*The author analyzes the image of metal objects in the still lifes of the Dutch painters and a sequence of images with metallic objects by gouache.*

**Keywords:** still life, metal objects, gouache, Dutch still life, patch of light, reflex, shadow.

## References

1. Bolotin, I. S. Problems of Russian and Soviet still life. (Picture things in painting XVIII–XX centuries). — Moscow: Soviet artist, 1989. — S. 18. (In Russian).
2. Whipper, B. the Problem and the development of still life. Kazan, 1922. — P.37. (In Russian).
3. Puchkov, A. S., Trisuli, A. V. Method of work on a still life: Proc. manual for students of the art.-graph. FAK. PED. in-tov on spec. “Drawing, painting and labor.” — M.: Passage, 1982. — S. 9. (In Russian).
4. Aswhin, A. P. Painting: Proc. a textbook for students of PED. colleges specials. “The teaching of drawing and portray. art.” — M.: Education, 1985. — P. 162. (In Russian).
5. Sekachev, V. A., Chulkina, A. M., Pimenov, L. G. painting and drawing: a Textbook for middle. spec. proc. institutions. — M: Light and food industrial industry, 1983. — S. 47. (In Russian).
6. Maria Jose Berenguer Forcedel. “Dibujo para joyeros”, 2003. Translated from Spanish by Y. V. Sevostianova the “drawing for jewelers”. Publishing house “Art-Rodnik”, publishing in Russian, 2005. — P. 124–126. (In Russian).

UDC 746.25:611.781.1:398.3 (091)

O. A. Pechurina

St. Petersburg State University of Industrial Technologies and Design

**A THREAD AND A ROPE AS SYMBOLS OF THE ROAD**

*The article focuses on the fact that in many cultures one of the symbolic values of the thread and the rope — designation of the road still to travel.*

**Keywords:** thread, cord, rope, path, road, symbols.

## References

1. Mythological dictionary / Under editorship by E. M. Meletiskii. Moscow: Sov. encyclopedia, 1991. 736 pp. (In Russian)
2. Sagalaev A. M. the Mythology and beliefs of Altaians. Central Asian influence. Novosibirsk: Nauka, 1984. — 121 pp. (In Russian)
3. Schwabedissen H. Ertebøle / Ellerbek — Mesolithikum oder Neolithikum? // Mesolithikum in Europa. Bd 14 / 15. — Berlin: VEB Deutscher Verlag, 1981. — P. 129–140. (in German)
4. Religion the least cultural of the tribes. A collection of ethnographic materials / Editors: V. K. Nikolsky, M. V. Berdonosov. Moscow — Leningrad: OGIZ “Moscow worker”, 1931. — 328 p. (In Russian)
5. Semenov, V. A. Prehistoric art: Stone age. Bronze age. SPb.: Azbuka-Klassika, 2008. — 592 pp. (In Russian)
6. Kak v Nepale sobirajut med (23 foto + 1 video) // NLO World. Internet-journal. URL: <http://nlo-mir.ru/palnetazemla/31989-kak-v-nepale-sobirajut-med-23-foto-1-video.html> (date of access: 30.09.16).
7. Eliade M. Shamanism: Archaic Trance Techniques / Translation from English — Kiev: Sophia, 2000. — 480 pp. (In Russian)
8. The fording through water obstacles. Guidelines —M.: Central advertising information office Tourist, 1984. — 62 pp. (In Russian)
9. Lukina A. G. Traditional dances Sakha: Ideas, images, vocabulary. — Novosibirsk: Nauka, 2004. — 356 pp. (In Russian)
10. Seroshevsky V. L. The Yakuts. The experience of ethnographic research. M.: ROSSPEN, 1993. — 736 pp. (In Russian)
11. Tribes of the World, Their Mores and Traditions. Chapter XVII. Parker G. Sinhalese / Translated from English by S. A. Ratner-Shternberg, E. L. Petri and F. I. Pavlova. — Petrograd: P. P. Soykin, 1916. — P. 406–411. (In Russian)
12. Gerasimova K. M. Tibetans’ Cultural Beliefs in Lamaism Hieratic System/ Under editorship by N. V. Abaev. — Novosibirsk: Nauka, Siberian Branch, 1989. — 320 pp. (In Russian)
13. Tribes of the World, Their Mores and Traditions. Chapter XII. Kabaton A. French Indo-China. Louts, Cambodians and Annullity / Translated from English by S. A. Ratner-Shternberg, E. L. Petri and F. I. Pavlova. — Petrograd: P. P. Soykin, 1916. — P. 296–307. (In Russian)
14. Tribes of the World, Their Mores and Traditions. Chapter XIII. Waddell, L. A. Tibet / Translated from English by S. A. Ratner-Shternberg, E. L. Petri and F. I. Pavlova. — Petrograd: P. P. Soykin, 1916. — P. 308–321. (In Russian)
15. Ashvaghosha. The Life Of The Buddha / Ashvaghosha. Drama / Kalidasa: Ed. K. Balmont; Introduction, joined. Articles, essays, research. Ed. G. Bongard-Levin. Moscow: Khudozh.-lit., 1990. — 573 pp. (In Russian)
16. Ponomarev V. T. “Indian rope” // Secrets of famous magicians / V. T. Ponomarev. — Rostov-n/Donu: Feniks; Donetsk:Publishing house “Credo”, 2007. — 329–249 pp. (In Russian)
17. Goran V. P. Ancient Greek Mythologem of Fate. / Under editorship by V. N. Karpovich, PhD. — Novosibirsk: Nauka, Siberian Branch, 1990. — 335 pp. (In Russian)
18. Kolpinsky Yu. D. Gretest Heritage of Ancient Greeks and What It Means for the Modern Times / Yu. D. Kolpinsky. — Moscow: Izobrazitelnoye Iskusstvo, 1977. — 344 pp. (In Russian)
19. Popov A. A. The Braiding and weaving of the peoples of Siberia in XIX and the first quarter of the twentieth century / collection of the Museum of anthropology and Ethnography. T. XVI / A. Popov. — M. — L.: Izd-vo Akad. Of Sciences of the USSR, 1955. — P. 41–146. (In Russian)
20. Kabakova G. I., the Structure and geography of the legend of the old woman March // Slavic and Balkan folklore. Beliefs. Text. Ritual. Moscow: Nauka, 1994. — S. 209–222. (In Russian)
21. Toporov V. N. Hittite <sup>san</sup>ŠU.GI and the Slavic Baba Yaga / Slavic linguistics. Brief messages. No. 38. M.: Publishing house academic Sciences of the USSR, 1963. — 104 p. (In Russian)
22. Afanasiev A. N. The tree of life. Featured articles. Moscow: Sovremennik, 1982. — 464. (In Russian)



UDC 738, 74, 745/749

I. B. Kuzmina, O. S. Dzhurinskaya

Saint-Petersburg State University of Industrial Technologies and Design

**CLASSIC LAWS OF FORMATION IN ARCHITECTURE AND ART**

*This article discusses the classic laws of formation (the golden ratio, the dichotomy etc), implemented in the restored historic buildings and architecture in the art and architecture of the XX–XXI centuries.*

*Keywords:* classical laws of formation, golden ratio, golden proportions, classical proportions, Anthropometry in art.

**References**

1. Kuzmina I. B. *Problemi vossozdaniya cerkovnykh interjerov i bogoslužebnoj utvari drevnerusskikh khramov (na primere Vladimiro-Suzdaljskikh cerkvej XII–XIII vv.)* [The problem of recreating the Interior of the Church and liturgical utensils ancient temples (on the example of Vladimir-Suzdal churches of XII–XIII centuries)]: dissertaciya kand. isk. Saint-Petersburg, 2015, 268 p. (In Russian).

2. Voznyak E. R. *Osnovih teorii arkhitekturnikh form istoricheskikh zdaniy* [Theory of architectural forms of historical buildings]. S.-Peterb. gos. arkhitektur.-stroit. un-t (SPbGASU). Izd. 2-e, s ispr. i izmen. Saint-Petersburg, Kolo, 2016, 192 p. (In Russian).

3. Vitruvivyj. *Desyatj knjig ob arkhitekture* [The ten books on architecture]. Moscow, VAA, 1936, 327 p. (In Russian).

4. Pakhomov V. A. *Antropometricheskaya moduljnaya koordinaciya geometricheskikh parametrov* [Anthropometric modular coordination geometry] // *Kompoziciya i standart*. 1971. pp. 66–77. (In Russian).

5. Mikhaylovskiy I. B. *Teoriya klassicheskikh arkhitekturnikh form* [Theory of classical architectural forms]. Moscow, «Arkhitektura-S», 2014, 288 p. (In Russian).

6. Alekseev P. T. *Osnovih ehrgonomiki v dizajne: uchebno-metod. posobie* [The basics of ergonomics in design: teaching-method.]. Saint-Petersburg, GOU VPO SPbGTURP, 2010, 69 p. (In Russian).

7. Novikov N. V. *Antropometriya i somatografiya v akademicheskoy dizajne (metod. rekomendacii)* [Anthropometry and somatografija in the academic design (method: recommendations)]. Saint-Petersburg, SPbGKhPA, 1997, 50 p. (In Russian).

8. Korbyuzje Le. *Modulor* [Modulor]. perev. s fran. Zh. S. Rozenbauma Moscow, Stroyizdat, 1976. 239 p. (In Russian).

UDC 658.512.2.011.56

M. M. Chernyh, N. O. Rudenko

Izhevsk state technical university of M. T. Kalashnikov

**DEVELOPING SOFTWARE TOOLS FOR THE CREATION OF AN ORGANIZED SURFACE TEXTURE BASED ON THE TRANSFORMATION OF THE ORIGINAL POLYGONAL MODEL**

*The software tools have been developed by authors of article to create the three-dimensional models of textures to decorate surfaces with equally repeating irregularities. This program allows to create a height map with set parameters and generate the required texture by imposing pattern on the high poly sur-*

*face of the future product. The method was used for decorating surfaces of replica of the M. T. Kalashnikov's sculpture.*

*Keywords:* texture, polygonal surface, relief, three-dimensional modeling, rhythmic and metrical repetition, re-engineering.

**References**

1. Chernyh M. M., Sergeeva V. V. The aesthetics of the surface roughness of products in the art materials. *Dizajn. Materialy. Tehnologija*, 2008, no.1, pp. 22–25 (In Russian).

2. Ajrapetov D. P. *Arhitekturnoe materialovedenie: Uchebnik dlja vuzov. [Architectural Materials: A Textbook for universities]* Moscow, Strojizdat Publ., 1983. (In Russian)

3. Levandovskij S. The subject and composition. *Hudozhnik*, 1981, no. 4, pp. 58–61 (In Russian).

4. Goncharov A. About composition. *Hudozhnik*, 1981, no. 6, pp. 34–37 (In Russian).

5. Sandu O. M. Using the meter and rhythm as a means of generating regular relief for decorating wood products. *Dizajn i tehnologija hudozhestvennoj obrabotki materialov: Tp.VI Vserossijskoj nauchno-metodicheskoy konferencii po napravleniju 656700 «Tehnologija hudozhestvennoj obrabotki materialov»*, 2003, no.8, pp. 68–71 (In Russian).

6. Sandu O. M. Signs of division of the regular repeat. *Sostojanie, problemy i perspektivy razvitiya metallurgii i obrabotki metallov davleniem: Sb. tr. Moskovskogo gos. vechernego metallurgicheskogo instituta i Sojuza Kuznecov*, 2005, pp. 407–411 (In Russian).

7. Somov Ju. S. *Kompoziciya v tehnike* [Composition in the art]. Moscow, Mashinostroenie Publ., 1987. (In Russian)

8. Svidetel'stvo o gosudarstvennoj registracii programmy dlja EVM № 2013661683 «Modelirovshhik kart vysot dlja sozdaniya faktur s uporyadochennym risunkom na osnove poligonal'nyh poverhnostej «Faktura», 12.12.2013.

9. Chernyh M. M., Sergeeva V. V. Perceptions of systemic pattern texture. *Dizajn. Materialy. Tehnologija*, 2008, no. 4 (7), pp. 9–12 (In Russian).

10. *Rel'efnoe teksturovanie*. Available at: [http://ru.wikipedia.org/wiki/Rel'efnoe\\_texturovanie](http://ru.wikipedia.org/wiki/Rel'efnoe_texturovanie) (accessed 10 October 2016).

11. *Displacementmapping*. Available at: [http://en.wikipedia.org/wiki/Displacement\\_mapping](http://en.wikipedia.org/wiki/Displacement_mapping) (accessed 10 October 2016).

12. *A. Berillo. Sovremennaja terminologija 3D grafiki*. Available at: <http://www.ixbt.com/video2/terms2k5.shtml#us> (accessed 10 October 2016).

13. Je. Gamma, R. Helm, R. Dzhonson, Dzh. Vlissides. *Priemy obektno-orientirovannogo proektirovaniya. Patternyproektirovaniya* [DesignPatterns: Elements of Reusable Object-Oriented Software]. Saint-Petersburg, Piter Publ., 2007.

14. Gerbert Shildt. *Polnyj spravochnik po C++: The Complete Reference* [Complete Guide to C ++: The Complete Reference]. Moscow, Vil'jams Publ., 2011.

15. B'jorn Strastrup. *Jazyk programirovaniya C++* [The C++ Programming Language]. Saint-Petersburg, Moscow, Nevskij dialekt — Binom Publ., 1999. (In Russian).

16. *Biblioteka JUCE*. Available at: <http://www.juce.com> (accessed 10 October 2016).

17. Pavlov M. *Portal o licenzijah na programmnoe obespechenie na russkom jazyke*. Available at: <http://www.licenseIt.ru> (accessed 10 October 2016).