

# SUMMARY

**UDC 744 (075.8)**

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**CONCEPTUAL DESIGN  
OF MULTI-FUNCTIONAL HYDROFOIL  
«AFALINA»**

*The work is devoted to the conceptual modeling of a multifunctional hydrofoil ship «Afalina». A review of analogues is presented, the main characteristics of this type of vessels, their multifunctionality are described. A search for the contours of the vessel based on biological prototypes was carried out, the search process is illustrated with options for sketches. The ship's drawings were designed based on the selected sketch, design features, ergonomics of various modifications are described. The methods and means of three-dimensional computer modeling are selected, the stages of coloring and rendering are presented. As a result of the development, scenes of realistic rendering of a multifunctional hydrofoil were obtained.*

*Keywords:* conceptual modeling, computer modeling, hydrofoil, biological prototype, polygonal extrusion method, ergonomics, shading, rendering.

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**UDC 7.012**

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**THE ROLE OF HISTORICAL EVENTS  
OF THE BOARD OF LANCASTERS IN  
CREATING AN IMAGE OF «AZENKUR»  
PAIRS BY PLOTS OF COMPOSITIONS OF  
GOTHIC NOVELS**

*This paper discusses modern methods of creating images of design objects presented by visual cognitive information dynamic systems in an annex to the design of jewelry*

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*images based on the results of research by the linguistic-combinatorial method of the Gothic novel, dedicated to the major battle held on October 25, 1415 between French and English troops near Azencourt in Northern France during the Centennial War.*

**Keywords:** jewelry, visual cognitive information dynamic systems, information technologies, post-non-classical research methodology, heraldry.

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## UDC 7.05

### E. S. Prozorova, L. A. Dzhikija

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### RADICAL CHANGES IN DESIGN FOR BUILDING A CIRCULAR ECONOMY

*«Circular economy» as a new model for resources use is becoming a fundamental principle that defines many areas of human activity. Design as a creative industry has great potential for solving global problems, generating and implementing innovations. The article discusses radical changes in contemporary design.*

**Keywords:** sustainable design, circular economy, resources, consumption model, new materials, alternative forms of housing.

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**UDC 658.512.23:796.02:615.47–056.24**

**Y. P. Khmelevsky, M. S. Kukhta**

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**APPLICATION OF SEMANTIC DIFFERENTIAL METHOD IN DESIGN EVALUATION OF REHABILITATION SIMULATORS**

*The visual impact on humans of industrial products has been studied extremely little. In this regard, the relevance of assessing the design quality of rehabilitation simulators is not in doubt since it will allow you to create visually-comfortable and aesthetically attractive objects. The purpose of the research is to develop a method of using the method of semantic differential in assessing the design of rehabilitation simulators.*

**Keywords:** rehabilitation simulator, semantic differential method, sensory perception, evaluation, scale, design.

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**UDC 174.4**

**R. I. Mamina, E. V. Pirinen**

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**IMAGE AS AN ART OF SELF-PRESENTATION: DESIGN COMPONENT**

*The article considers image communication in the digital age from the standpoint of methodological grounds. Special attention is paid to the design component of the image and its tools in building the desired image. The factors determining the stability and effectiveness of both image design projection and image communication in General are highlighted.*

**Keywords:** Image, image communication, design project, design component, the laws of image, the art of self-presentation, reputation, personal brand, corporate brand.

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**UDC 687.01**

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**MEANS OF ACHIEVING FIGURATIVE EXPRESSIVENESS IN THE DESIGN STAGE COSTUMES**

*The article is devoted to the analysis of the use of effective compositional means to create expressive artistic im-*

## ■ Summary

*ages in the design of stage costumes. The priority means of achieving figurative expressiveness are considered — form, color, texture, ornamental motifs of the decor and their influence on the nature of the decision of the costume.*

*Keywords:* costume, image, expressiveness, means of achievement.

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## UDC 111+7.01

### V. L. Zhukov

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#### **ANTHROPOLOGICAL DESIGN AND CONFIGURATION STRUCTURES MORPHOLOGY VKIDS DOMINANTS AND COMPOSITION ELEMENTS IN THE INTERIOR**

*Philosophy, Visual patterns of cognitive information dynamic systems, database knowledge, expert systems, artistic and stylistic Historicism, compositional arrangement in theory when you create design concepts images of contemporary interior design.*

*Keywords:* anthropology, design, Visual cognitive information systems, modern, postmodern, tree of evolution, composition, space

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## UDC 671.121.5

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#### **APPLYING OF BRANCHES AND TREE BARKS BY WAY OF A MODEL AT CUSTING AS A STYLING METHOD OF NATURAL OBJECTS FOR SILVER JEWELRY DESIGNING**

*Different kinds of styling are considered to design jewelry in this paper. Technology of using objects of nature (branches and barks of a tree) as the models at casting of the brooch/pendant from Sterling silver is described. CKH-40M с ХД rubber on a base of artificial caoutchouc is suggested to apply.*

*Keywords:* styling, objects of nature, jewelry, technology of design, press form, casting, inserts, Sterling silver.

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## UDC 662.74

**N. R. Tourkina, O. I. Shershneva**

BSTU «VOENMEH» named after D. F. Ustinov, Saint Petersburg

### STRENGTH CALCULATION OF STRUCTURES BASED ON THE SOFTWARE COMPLEX «GUIDE TO DESIGN MATERIALS»

*The paper presents the development and filling of the library of structural materials for the ANSYS software package, as well as the calculation of structures from materials of the extended library.*

**Keywords:** ANSYS, ENGINEERING DATA, WORK-BENCH, development, XML, XML NOTEPAD, construction materials, data library, finite element method.

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## UDC 678+531.782

**O. A. Moskaliuk, A. I. Stogova**

St. Petersburg State University of Industrial Technologies and Design

### RESEARCH OF RELAXATION PROPERTIES OF COMPOSITE MATERIALS OF SPORTS EQUIPMENT IN THE LOADING MODE CLOSE TO OPERATIONAL

*Badminton rockets made of composite materials based on epoxy resin reinforced with carbon fibers of various manufacturers were investigated. The main operational characteristics of composite materials that ensure the reliability and durability of finished products with prolonged mechanical stress.*

**Keywords:** composite materials, CFRP, three-point bending, mechanical properties, relaxation.

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### UDC 7.021

**Y. S. Tikhonova, A. B. Afanasyeva**

St. Petersburg State University of Industrial Technologies and Design

#### **TECHNOLOGY OF THE STENCIL PROCESS IN THE THEATRICAL SCENERY**

*In article the technology of a manual stencil process, its characteristics and realization in theatrical and decorative art on the example of registration of the performance «Leningrad» put on the Small stage of Myuzik-hall theater in St. Petersburg is considered.*

*Keywords:* theatre artist, art of scenery, stencil printing, serigraphy.

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### UDC 7.04

**E. N. Maksimova-Anohina**

Kostroma State University

#### **TECHNIQUES OF WORKING WITH COLORED PENCILS WHEN CREATING CREATIVE WORKS AND JEWELRY SKETCHES**

*The article considers the techniques of working with colored pencils used in the creation of artistic graphic and pictorial works and jewelry sketches. The analysis of features of use of the considered techniques in works of different artists, and also the analysis of their manner of work with this material is carried out.*

*Keywords:* colored pencils, artistic image, jewelry sketch, graphic work, painting, color mixing.

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### UDC 687.03

**Zh. A. Fot, M. V. Obukhova, A. A. Starovoitova**

Omsk State Technical University

#### **PROCESSING TEXTILE MATERIALS BY DECORATIVE PLASTER**

*The article considers the method of using non-traditional decorative coatings for textile materials. Decorative plasters were used as the main material. The object of the study are samples of textile materials with decorative plaster applied to the surface. Tests of the strength of the coating during hand washing and friction showed its stability. The use of non-traditional material for textile decoration allows to obtain unique decorative effects, give the material new properties and attract buyers.*

*Keywords:* surface decoration; material processing; decorative impregnation; outerwear.

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#### UDC 378.147

#### M. M. Chernykh

Kalashnikov Izhevsk State Technical University, Izhevsk

#### RESEARCH WORK OF MASTER STUDENTS

*The aspects of preparing master theses by students specializing in Technology of Artistic Material Processing are discussed in the paper. The topics of the theses and content of the internship «Research work» are given.*

*Keywords:* research, master student, thesis, internship, educational standard.

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#### UDC 74.01/.09

#### M. G. Dudnik, L. T. Zhukova

St. Petersburg State University of Industrial Technologies and Design

#### THE AESTHETIC PROPERTIES OF COPPER POWDER COATINGS CAUSED BY COLD GAS-DYNAMIC SPRAYING

*This article explores the use of powder coatings caused by cold gas-dynamic spraying (GHDN). When forming protective and decorative coatings it is important to take into account not only the protective properties of coatings, but also decorative. Describes the possibility of designing the color of the spray coating by changing the technological parameters*

*Keywords:* surface design, protective-decorative coatings, spraying

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**UDC 675.016**

**T. M. Ivantsova, L. V. Yuferova**

*Omsk State University of Technologies*

**DETERMINATION OF STABILITY OF DECORATIVE FINISHING OF FUR SKIN FABRIC TO EXTERNAL INFLUENCE**

*The work is devoted to the study of the resistance of the decorative finishing of the leather fabric of fur to physical and mechanical influences. The article presents the results of determining the welding temperature, as well as the resistance of the decorative coating and coloring of sheepskin leather fabric to external influences-to dry, wet friction and light.*

**Keywords:** decorative finishes, fur skins, sheepskin, fur leather, film coating, coating stability, color fastness, welding temperature.

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**UDC 167:658:512**

**R. S. Klevtsova, V. L. Timofeev**

*Kalashnikov Izhevsk State Technical University*

**MAIN METHODOLOGICAL BACKGROUND WHEN STUDYING DECORATIVE INVOICE OF PRODUCTS**

*The article clarifies and organizes the basic scientific terminology in the study of decorative invoicing of art-industrial and technical products*

**Keywords:** methodology, abstraction, subject, object, subject of study, decorative billing of products.

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**UDC 7.730**

**S. V. Kasim**

*Gallery of Modern Sculpture and Plastic Arts, St. Petersburg*

**INFLUENCE OF MODERN TECHNOLOGIES FOR CREATING NEW FORMS IN SCULPTURAL ART**

*The influence of modern technology on shaping in sculpture is described. How the use of new textures and*



equipment contribute to the emergence of revolutionary ideas in plastic. The result of the synergy of scientific and technological progress and modern plastic in the works of foreign and domestic artists and sculptors (A. Kapur, T. Murakami, T. Craig, E. Howe, A. Kogan, S. Borisov). The areas of influence of scientific and technological progress on the development of plastic art are considered. The relationship between technological progress, masculine culture and the artistic image of a work of art is a departure from high ideas in art. The prevailing design approach in creating works of art

**Keywords:** modern technology and shaping in contemporary sculpture, new textures, plastic and fiberglass, electronics used in sculpture and art objects, mass culture and technological progress in the arts, design approach.

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### UDC 7.032

**T. Yu. Chuzhanova,  
O. V. Beschastnova**

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### CLASSICAL ART AND REGULARITIES OF THE DYNAMICS OF THE DEVELOPMENT OF ARTISTIC DECORATION IN THE INTERIOR

*Analyzing European furniture, it becomes obvious that it is based on all forms of ancient Greek and Roman furniture. In styles Empire was mass focus on maintaining Roman and ancient Greek forms of. The article explores how the ancient Roman and Greek furniture design found implementation in the modern European interior in the classical style.*

**Keywords:** style, artistic decoration, classics, antiquity, furniture.

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### UDC 76.03

**M. V. Asalkhanova, S. A. Klubnikina**

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### AUTHOR PUPPETS OF THE NAMDAKOV FAMILY: HISTORY, MATERIALS, TECHNOLOGIES. EXHIBITION PROJECT «ULGER»

*Author's dolls of the Namdakov family are studied (sketches of the artist Dasha Namdakov), in the manufacture of which a variety of traditional (typical for decorative and applied art is drilled) and modern materials and technologies are used. Particular attention is paid to several works of the Ulger exhibition project.*

**Keywords:** author's dolls, the Namdakov family, Dasha Namdakov, traditions and national heritage are being drilled, materials, technologies, history, modernity.

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## UDC 7.045; 7.011

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### IMAGES, SIGNS, SYMBOLS IN THE DESIGN OF BANKNOTES OF THE REPUBLIC OF BELARUS

*The article deals with the images, signs and symbols found in banknotes of the Republic of Belarus, in circulation in 2019. The results of the study can be used to develop new and redesign old banknotes.*

**Keywords:** banknotes of the Republic of Belarus, banknotes, monetary symbols, banknote design, banknotes of Europe.

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## UDC 739:24

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### THE DECORATION HANDICRAFT OF BUDDHISTIC SYMBOLS

*The article reveals the semiotic significance of Buddhist symbols in the decorating products. Conducted a comprehensive semiotic and aesthetic analysis. When decorating the jewelry Buddhist symbols, the need for an integrated semiotic approach, as the impact of the semantic field of such symbols is especially significant. Research Buddhist symbols indicate that they are hidden attitudes and orientations of traditional ethnicity — Buryat.*

**Keywords:** semiotics, semantics, mythological code, Buddhist symbols, aesthetics, decor, decoration.

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## UDC 74.01/09

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### MODERN APPROACHES TO WEB NARRATIVE DESIGN: PROJECT-BASED EXPERIENCE OF THE DEPARTMENT OF ADVERTISING DESIGN OF SAINT PETERSBURG STATE UNIVERSITY OF INDUSTRIAL TECHNOLOGIES AND DESIGN

*This paper analyzes the experience of creating multimedia web projects by the students of the Graphic Design Institute of Saint Petersburg State University of Industrial Technologies and Design, major: «Graphic Design in Multimedia». It examines existing approaches to designing web narratives in the field of education and advertising. The paper provides examples of student projects which of*

*fer innovative design solutions that allow creating a meaningful user experience.*

**Keywords:** graphic design, web narratives, interactive design, visual design, user experience, web technologies, multimedia student projects

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## UDC 7.01

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### **METHODS OF HISTORIOGRAPHY AND ARTMETRY IN THE RESEARCH OF THE HEROIC EPIC OF HELLAS WHEN CREATING THE IMAGE OF THE «ARGONAUTS» PARURE**

*The article shows new approaches in ongoing research in the subject area of design objects at the intersection of the humanities and natural sciences. The research of the images of works of plastic art created on the basis of the development of historiography in the Hellenic mythological understanding of nature. Involved are modern objective scientific methods, analyzes and communication syntheses of cognitive information technologies that reveal artometric content as a specific visual-symbolic cognitive information dynamic system with a locally stable structure with synergistic abilities for self-organization and self-tuning.*

*This provides new unlimited opportunities to enhance the effect of harmonization of creative processes in design.*

**Keywords:** visual-symbolic cognitive information dynamic systems (VKIDS), post-non-classical methodology, design theory, cultural code, mythology, jewelry and accessories.

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### **MODELING FUNCTIONAL-OPERATIONAL PROPERTIES OF POLYMERIC TEXTILE MATERIALS**

*Methods of studying the functional and operational properties of polymeric textile materials — based on mathematical modeling of deformation and relaxation processes, allow not only to predict these properties, but also provide a tool for the technological selection of materials that have the best properties from the operational and consumer point of view.*

**Keywords:** mathematical modeling, system analysis, computational forecasting, viscoelasticity, polymer textile materials, functional and operational properties, deformation processes.

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