

## **Section I**

### **Waterways, ports and hydraulic engineering constructions**

**Lisin A.A.**

Logistic approaches to non-metallic construction materials delivery management in river ports

Keywords: *methods of management, approaches and principles of logistics, non-metallic construction materials delivery, optimum variant, operations performance rational variant, delivery technology, «precisely in time» principle.*

*In this article the explanation of logistics basic principles and the optimum variant of non-metallic construction materials delivery technology in a river port including the logistic principle «precisely in time» are considered.*

## **Section II**

### **Informatics, management systems, telecommunications and radiolocation**

**Emelyanov A.A.**

the reflexive recognizing grammar

Key words: *artificial language, programming language, syntax, context-free grammar, Backus–Naur form.*

*The paper contains the definition of the reflexive recognizing grammar. The statements connected with it are formed and proofed; it also contains examples which demonstrate advantages of using the reflexive recognizing grammar in the tasks describing syntaxes of the artificial languages.*

**Lebedeva S.V.**

The Research of limit of stability of the fourth order linear system

Key words: *Stability, control system, linear system, the regulator.*

*The stability boundary of the system of the fourth order is investigated in this article. The analytical expression of the stability boundary is received. It allows to formulate requirements to the elements of the control system.*

## **Section III**

### **Materials science. Machinery maintenance and ship systems modernization**

**Frantsev M.A.**

Project argumentation of high-resistance steel usage in combination with composite materials in the gliding passenger ship construction for the small rivers of Siberia and the Far East

Keywords: *High-resistance steel, composite materials, gliding passenger ship*

*The report contains the project argumentation of high-resistance steel usage in a gliding passenger vessel hull with a superstructure made of composite materials on the basis of the resistance formula. Calculations show that when using steel, the vessel loses about 9% of full speed with a simultaneous increase of flow characteristics by about 10%. A steel body in combination with composite materials can be an alternative way to light alloys, especially for high-speed vessels designed for using in difficult conditions in remote areas of the country where there are no high-tech repair facilities.*

## **Section IV**

### **Reliability and resource in transport engineering**

**Volkov I.A., Yablokov A.S., Otdelkin N.S., Volkov A.I.**

Estimation of fatigue life of a floating crane boom CPL 16-30 on the basis of the equations of damaged environment mechanics

Keywords: *floating crane, metal structure, cycle fatigue, the mechanics of the damaged environment, micro-defects, strength, life*

*The article considers the problem of estimating the fatigue life of a metal floating crane boom in its actual operational loading. To assess the generated life and to predict the residual life of the crane steel structures, the final element analysis of the kinetics of the stress-strain state of the dangerous zones of the floating crane boom KPL 16-30 is performed and an assessment of their fatigue life is made on the basis of the equations of damaged environment mechanics. Analysis of the results allows approaching the problem of extending the life of the cranes, which have worked out the standard period, in a reasonable way.*

## **Section V**

### **Shipbuilding, ship repair, and ecological safety of the ship**

**Gorokhov M.S.**

Mathematical model for the design of reinforced concrete hull of a stationary vessel in the problem of substantiation of its framing system

Key words: *reinforced concrete hull, framing system, mathematical model, reinforcement, reinforced concrete plate, carcass, breaking force, force, width of cracks, bundled software, weight of the hull, construction cost.*

*The mathematical model of reinforced concrete hull of the stationary vessel is worked out. The model reflects the structural characteristic properties, characteristics of weight, manufacturing content, construction cost considering the requirements of standards.*

**Feoktistov V.S., Firsov A.A.**

Doubled deformation puller

Keywords: *puller, mechanism, shape memory, tool.*

*In this article it is shown the puller with an actuator made of alloy with shape memory to perform repairs to the ship's auxiliary machinery of various purposes.*

## **Section VI**

### **Financial and accounting-analytical problems of the modern economy**

**Afinogenova T.D., Nabokikh G.M.**

Analytical methods in conducting internal monitoring of the labour use and remuneration

Keywords: *monitoring, internal monitoring, the average number of employees, labour productivity, payroll, average wage, economic analysis*

*One of the effective methods of monitoring is economic analysis, and the main source of information for management is accounting and statistics. The article covers the internal monitoring content, stages, procedures and methods in one of the time consuming areas of accounting and monitoring in organizations, which is labour use and remuneration. Scientific methods of statistics and economic analysis can be adapted in external monitoring and audit. Their application in practice will increase the efficiency and effectiveness of monitoring and audit.*

**Birukov E.S.**

Special economic port zones of the Arabian Monarchies

Keywords: *Special economic zones, port zones, free trade zones, UAE.*

*The article examines the policy of four Arabian monarchies (Bahrain, Kuwait, UAE, Oman) in development of free trade port zones (PZ). The region's largest PZs – zones of Dubai, Ras Al Khaimah, Kuwait, Abu Dhabi – are described in detail. It is shown that PZs have an important impact on the diversification of the economy of the United Arab Emirates. The development trends of other special economic regions of the Arabian Peninsula are considered, such as creation of specialized zones and industrial cities. The policy in PZ development in the Arabian monarchies and Russia is compared. The article contains recommendations for usage of foreign experience in Russia.*

**Bogdanov A.V.**

Accounting for market transactions in a company balance sheet

Key words: *accounting, mathematical model, feedback, market value*

*The given probabilistic (market) company balance sheet model offers a new subject definition of «accounting», «company balance sheet» by means of which the balance assets and liabilities, business operation, double entry, company potential, currency exchange rate and other economic notions are defined. An accounting mechanism for market operations is given. Besides, a mathematical programming problem, explaining the accounting structure is written.*

**Dreyband D.V., Zhmachinskaya I.V.**

The Volga-Vyatka macroregion territories social and economic development diagnostics in an economic crisis conditions

Keywords: *crisis, instability, gross regional product, investments, monetary income, population employment, inflation, consumer prices, nominal wage payments, credit portfolio, regions differentiation, projection.*

*In the article the Volga-Vyatka macroregion territories economic and social development indicators dynamics in 2015 is analysed. The tendency of the situation instability and high differentiation in regions development is revealed. Some macroregional economic and social development indicators projection in 2016 is given.*

**Kraynova V.V.**

An internal control method for shipping companies

Keywords: *internal control method, control techniques, control procedures, control means classification, a shipping company.*

*In the article the author's definition of «an internal control method» is given. A multi-level internal control method system for shipping companies is explained. The system is characterised with the use of general scientific methods and techniques, some peculiar techniques, related economic sciences specific methods. Within the water transport branch specificity, the author's own methodical techniques classification of the internal control for shipping companies is offered.*

**Markova N.A., Lyubimova Ye.A.**

The finance use for social problems solving

Key words: *social sphere, the population incomes, social guarantees.*

*This article is devoted to the problems existing in the social sphere. In the article Russia and Nizhny Novgorod region population incomes are briefly analysed. The main ways of the social benefits and payments system reforming for the population life quality improving are outlined.*

**Pumbrasova N.V., Folomkina S.A.**

The services sector development in the crisis conditions

Keywords: *services, business activity, business confidence, crisis, inflation, economic development.*

*In the article the key positions and aspects concerning the services sector in Russia in the crisis conditions are considered. As a result, the business confidence index dynamics in the services sector is revealed. The business activity studying necessity in the crisis period is explained.*

## **Section VII**

### **Economics, logistics and transport management**

**Volynskiy I.A., Titov A.V.**

Preconditions of forming transport and logistics cluster in Astrakhan Region

Keywords: *transport and logistics cluster, the Volga-Caspian Sea shipping channel, cargo transshipment, international transport corridor «North-South».*

*In the context of the anticipated growth of trade turnover between Russia and the countries of the Caspian region, as well as the promising large-scale transit of goods from India and China, the importance of international transport corridors increases. In addition to the expansion of foreign trade by organizations of Astrakhan region, the most important condition for realizing the potential of the region in the field of transport is the development of transit within the framework of the international transport corridor «North-South». Creation of transport and logistics cluster in Astrakhan region should become the basis for propelling the transport component of the region to a new level.*

**Mordovchenkov N.V., Novikova T.E.**

Providing competitiveness of innovative development of Russia in the system of the international economic relations

Keywords: *competitiveness, innovative development, national economy, world level, market infrastructure.*

*In the article the questions connected with providing competitiveness of innovative development of Russian economy are considered. Russia has no future without innovative economy and the effective state policy in the field of innovative activities is necessary for this purpose.*

**Salmin P.S.**

Designing process-oriented management system based on balanced scorecard for FGU «Volga GBU»

Keywords: *Balanced scorecard, key performance indicators, strategic business unit, organizational process.*

*The article is devoted to the management system elements of a budgetary institution on the basis of the process approach. They include elements of strategic management of the organization. The method of designing structure of strategic business units is proposed. On the basis of the proposed method scorecards for SBU (strategic business unit) are formed, and ways of combining them are suggested.*

## **Section VIII**

### **Operation of water transport, navigation and safety of navigation**

**Guseva J.V.**

Current state and ways of improving the planning system of The fleet Use

Ключевые слова: *Судно, движительно-рулевой комплекс, винторулевая колонка, ледовые качества, ледовые условия, упор, рулевая сила, САЕ-системы, конечноэлементное моделирование.*

*В работе с применением САЕ-технологий исследован характер работы винторулевой колонки в условиях чистой воды и в тёртых льдах различной толщины и сплочённости. Проведены количественные оценки чистого гидродинамического упора и ледовых нагрузок на комплекс. Получены кривые полезной тяги комплекса в исследованных ледовых условиях. Выявлено существенное падение этой характеристики комплекса при его работе во льдах по сравнению с условиями чистой воды. Показаны качественные особенности характера и соотношения рулевой силы винторулевой колонки во льдах и в условиях чистой воды.*

**Lobanov V.A.**

Propulsion performances of rudder-propeller thruster in ices

Keywords: *Vessel, propulsion and steering complex, rudder-propeller thruster, ice quality, ice condition, thrust, steering force, CAE-systems, finite element modeling.*

*The kind of work of the propulsion and steering rudder-propeller thruster in the conditions of clear water and in small ice cakes of various thickness and concentration is investigated in this work with use of CAE-technologies. Quantitative evaluations of a pure hydrodynamic thrust and ice loadings on a complex are made. The curves of useful thrust of a complex in the studied ice conditions are received. The considerable falling of this characteristic of a complex during its work in ices in comparison with clear water conditions is revealed. The qualitative features of the character and ratio of the steering force of a rudder-propeller thruster in ices and in the conditions of clear water are shown.*

## **Section IX**

### **Operation of ship power equipment**

**Arefyev N.N.**

Experience of creation and test results of arc hydoroar

*Keywords: hydromechanization, dredge, hydoroar, enrichment of sand and gravel.*

*The method of calculation and design of arc hydoroar is proposed, which ensures enrichment of sand by removing non-monetized fractions. When designing the results of the experimental unit tests are considered.*

**Epikhin A.I.**

The algorithms of data collecting and processing in decision support systems for gas-carrying vessels

*Keywords: intelligent system, human factor, control and monitoring of parameters, neural network system, fuzzy algorithms, precedent, knowledge base.*

*The article discusses the basic principles of using modern technical decision in construction of specialized decision support systems for gas tankers with regard to conditions of operation and prospects of LNG and LPG shipping development, suggests the best practices for organizing the collection and processing of data, as well as an original method of the DSS implementation, allowing to ensure their versatility and a wide range of instruments for adaptation to specific vessels, with regard to modernization of STS perspectives.*

**Sukharev I.S.**

Experimental evaluation of bubble size in the air/water system

*Keywords: dredger, aerator, water and air mixtures, gas and liquid flow, approximating function*

*Determination and possible evaluation of the bubble size generated in the injection of gas into liquid is an important objective in various technical fields. The detachable radius of the gas bubble and its shape when afloat are the main design parameters in flotation devices of ship's wastewater treatment facilities. Bubbled air and water stream is used for turbulence of the liquid flow in outboard coolers. Under the conditions of fine bubbled structure of gas and liquid mixture flow, one of the major effects is reduction friction losses during pipeline transport, which is especially important for pressure drop of dredger's soil pipeline. The calculation complexities are attributed to the large number of parameters in the process, their measurement and variation problem. Therefore, the experimental determination of geometry and obtaining empirical relationships of various kinds have become most widely spread for determining the size of the gas bubbles in the liquid. Following a series of experiments, a regression equation was obtained and linear and power approximation function depending on the basic parameters of the process were defined.*

## **Section X**

### **Information technology and the education development**

**Gordyaskina T.V., Rubtsov A.V.**

The methodology of end-to-end designing of radio devices in the Circuit Design Suite 12.0

*Keywords: radio device, designing, the software MCU, printed circuit assembly.*

*The work is dedicated to the end-to-end design methodology for radio devices in the Circuit Design Suite 12.0.*

## **Section XI**

### **Actual problems of law and state**

**Balacshin A.S.**

Legal culture as a social phenomenon

*Key words: law, culture, law culture, legal conscience, values, man, norm, law, conscience, activity, society.*

*In the article the culture essence, its main features as a social phenomenon and also its role and meaning for the modern Russia development are considered.*

**Garnik L.Yu.**

The rules of law interpretation in the judicial practice

Keywords: *the interpretation process, Superior Court, constitutional interpretation, techniques, methods, legal act, judicial practice.*

*The author of the article believes that the judicial interpretation is the most interesting and scientifically attractive topic. Traditionally the law science focused on the judicial interpretation acts. It is necessary to mention that it has succeeded in it greatly. For us, the judicial interpretation is presented in a newer and broader context. That's why we consider the judicial interpretation up-to-date, because the very essence of the judicial power must be determined by the right to interpret laws.*

**Kravets I.P.**

The road traffic offences delimitation from the related offences legal regulation

Keywords: *the Russian Federation Criminal Code; the Supreme Court Plenum resolution; Traffic Laws; traffic accidents.*

*In this article the questions concerning the related offences delimitation connected with the self-propelled vehicles use are considered.*

**Kruchinin M.V., Potapova N.N., Dolgacheva O.I.**

Some investigative activities carried out in order to solve crimes on public transport

Keywords: *transport system, public transport, solving, investigative activities, crimes, law enforcement officers, criminal acts, investigative activities.*

*The article considers the process of organizing the law enforcement bodies activities aimed at solving crimes in the field of public transport. The focus is on implementation of some investigative activities aimed at solving the problems of fighting against crime.*

**Sokolov S.A.**

The State of military criminal lawmaking in modern Russia: features, trends and some issues of its further improvement

Keywords: *military criminal rulemaking, military criminal lawmaking, crime against military service, military crime.*

*The work is dedicated to the current state of military criminal lawmaking, its features, issues and trends in development of criminal law regarding the responsibility of the military men for crimes against military service.*

**Sosenkov F.S.**

The ideas of the Russian Empire Unity in the programs of extreme right parties of the early XX century

Key words: *state unity, territorial integrity, separatism, centralization of power, unity, extreme right parties, the black hundreds.*

*The article considers political and legal ideas of the state unity of Russia and counteraction towards separatism, expressed in the programs of the extreme right ("black hundreds") parties of the early XX century. It is noted that the program of "the black-hundred" movement in general and particularly in relation to these issues was a specific processing of conservative and Slavophile ideas. It is concluded that, though the movement made some proposals implemented in legal acts, it could not introduce to the Russian society an effective and attractive program of preserving the state unity.*

**Chikh N.V., Belova M.K.**

Investment Tax Deductions for individuals in Russia

Keywords: *investment, individual investment account, tax deduction, investment income, legal framework.*

*The article discusses a new type of tax deductions for income tax. Since 2015, individuals can exercise their right to receive investment tax deduction when opening an individual investment account.*

## **Section XII**

### **Philosophical, socio-pedagogical and philological sciences**

**Volkova V.V.**

Place and role of counterculture and subculture in present paradigm

Keywords: *culture, subculture, counterculture, modern society, protest.*

*This article is an attempt to analyze a correlation of such social phenomena as «subculture» and «counterculture» in the modern world. The author studies the essence and the basic signs of these phenomena. Nowadays the given phenomena get new value for social and cultural life of the society. It is possible to assume, that subculture and counterculture opposition is based not on the presence or absence of the protest, but on its level and scale.*

**Guro-Frolova Y.R.**

Module technology during the process of foreign language teaching at the non-linguistic higher educational institution

Key words: *Module teaching, foreign language, non-linguistic higher educational institution, approach, students' autonomy and self-organization development.*

*The article deals with the foreign language module teaching technology at the non-linguistic higher educational institution. The basic module technology approaches are focused. Peculiarities and advantages of this technology are highlighted. The author offers the example of the module that can be used during the foreign (English) language teaching at the Economy faculty.*

**Koval O.I.**

Project technique in teaching a professionally oriented foreign language communication

Keywords: *project technique, business game, projective, personality-active approach, professionally oriented foreign language communication.*

*This paper deals with the use of project technique in teaching a professionally oriented foreign language communication. The author describes the goals and objectives to be achieved during the project, the terms of effective organization, stages of a project.*

**Orlova L.G., Kornilova E.S.**

Conceptual Basis of the Terms of «Ecology» Sublanguage

Key words: *technical translation, terms, generic concept, specific concept*

*The article deals with terminology and concepts. There are two main types of concepts: generic and specific. Term formation is closely connected with different types of concepts.*

**Sedova E.A.**

The analysis of the experimental programme aimed at forming of the girls and boys' integrative and instrumental motivation of learning the foreign language

Key words: *an experimental programme, an integrative motivation, an instrumental motivation*

*In this article the results of introducing the programme aimed at forming of the girls and boys' integrative and instrumental motivation of learning the foreign language are analysed.*

**Sokolova E.G.**

Law students' independent work in the process of foreign language learning

Key words: *independent work, out-of-classroom work, non linguistic high school, competence approach, competence, reading, work organization*

*The subject of the article is the law bachelor students' independent work organization in the process of foreign language learning. The problem is considered in the context of modern requirements to the linguistic education of future lawyers. The author names the main types of students' independent work emphasizing the individual reading of authentic texts with further creative result presentation. The stages and conditions of the considered learning form are described.*

**Soloveva O.B.**

Speech situations in foreign languages teaching: typification and structure

Key words: *professional communication, speech situation, modeling, simulation*

*The article touches upon the importance of speech situations in the process of foreign language teaching. The author analyzes types of classroom communication and the components of different situations.*

**Chuvilina O.V.**

Students' readiness for autonomous learning of a foreign language and it's control

Keywords: *independent work, self-reliance, creative initiative, the level of self-sufficiency, effective exercises, self-control.*

*The article targets at the development of students' skills of independent work, which is one of the priority tasks of education at the tertiary level of professional foreign language education. These skills are fundamental due to the transition to a multi level higher education system of training and the reduction of class hours in «Foreign Language».*

## **Section XIII**

### **Philosophy. Society. Culture**

**Balakshin A.S.**

The synergetic model of the modern cultural policy

Keywords: *culture, cultural policy, synergetic, methodology, dialectics, society, human, activity, management, wealth, spirituality.*

*The article touches upon the problems of synergetic methodology and their significance for the development of modern cultural policy.*

**Balakshin A.S.**

The system analysis of cultural policy

Keywords: *culture, cultural policy, system, methodology, dialectics, society, human, activity, management, wealth, spirituality.*

*The article deals with the problems of system methodology and their significance for the development of modern cultural policy.*

**Vladimirov A.A., Zelenov L.A.**

Universal science in the system of individual science

Key words: *science, philosophy, history, logic, mathematics, universal, private.*

*The article deals with the general pattern of categorical and methodological penetration of universal science, such as philosophy, history, logic, mathematics into all types of the specialized science.*

**Zelenov L.A., Vladimirov A.A.**

Social forecasts of bourgeois sociologists

Key words: *social forecasting, capitalism, fascism, socialism, an apology, social conflicts.*



*The article, dealing with social philosophy, estimates positive and negative forecasts about the future state of the world capitalism, presented by the leading contemporary bourgeois sociologists.*

***Tikhovodova A.V.***

Community Advisory boards of Russia and France: General and special

*Keywords: civil society, Public Advisory Councils, the Public chamber of the Russian Federation, the Economic and Social Council of France, public-state dialogue, peer review, public organizations.*

*The article provides a comparative analysis of Public Advisory Councils of France and Russia: their legal status, composition, structure and functional purpose. The drawbacks and advantages of these public-state interaction institutions are mentioned.*