**Formulating and solving scientific and technological problems in a technical college.**

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The article tells about the problems faced by the Technical Department in the non-technical university. Variants of solutions to this problem.

Keywords: technical science, technical challenges, higher education.

**DECREASE IN THE ACOUSTIC NOISE OF THE HYDRAULIC STAND AT THE EXPENSE OF CONTROL THE FREQUENCY OF ROTATION OF THE ELECTRIC DRIVE OF THE PUMP AND APPLICATION OF MUFLERS OF HYDRODYNAMIC NOISE**

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In article are devoted of methods of decrease in own noise of the hydraulic stand by the regulations of productivity of the pump unit based on the organization by control of frequency rotation of the electric drive and application of mufflers of pulsations of a stream are considered. It is offered to organize remote control of the frequency of rotation of a shaft of the three-phase asynchronous short-circuited electric drive by means of the specialized frequency converter intended for controling of electric motors as a part of drives of centrifugal pumps and to use on a measuring site when carrying out tests q mufflers of hydrodynamic noise.

*Keywords:* acoustic noise; hydrodynamic noise; vibroacoustic characteristics; adjusting valves; frequency converter; mufflers of hydrodynamic noise.

**CONTROL ECOLOGICAL EFFICIENCY AND FIRE SAFETY OF FUEL-CATALYTIC SYSTEMS OF TRANSPORT ENGINES**

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Results of modeling of physical and chemical processes, designing and technical diagnosing of emergency operation of work of catalytic converters of transport engines are given in article.

*Keywords:* automobile engine, block converter, ecological efficiency, fire safety.

**ENSURING ENVIRONMENTAL SAFETY AT WORK VEHICLES AND SPECIAL EQUIPMENT WITH INTERNAL COMBUSTION ENGINES IN CONDITIONS OF LIMITED QUANTITIES**

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Results of theoretical and experimental researches on a substantiation of necessity of automated operational control health CST OG using the onboard systems automatic diagnostic work vehicles and special vehicles equipped with internal combustion engines, in the conditions of limited quantities.

*Key words*: ecological safety, means of transport and special machinery with internal combustion engines, the limited amount of toxic components of exhaust gases, the maximum permissible concentration (MPC), automated diagnostics of elements, the system for emission.

**APPLICATION OF MODERN FREQUENCY CONVERTERS AS A WAY TO IMPROVE ENERGY SAVING IN THE HOUSING SECTOR**

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This article highlights the importance of energy saving for development of the fuel and energy complex of Russia. The current state of energy saving, water and heat supply in the housing sector is described. "Old ways" of regulation of water and heat supply systems are proved to be uneconomic, the benefits of using modern frequency converters are explained. The graphical analysis of changes for the better energy parameters in frequency regulation is presented.

*Keywords*: energy saving, energetic resources, asynchronous motors, frequency converters, pumping stations, inverters, choking.

**MICROFLORA´S STERILIZATION OF AIR PREMISES**

**WITH THE RECHARGE OF PARTICLES**

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There is substantiated possibility of use of electrofield impacts on air microflora (single living bacterial cells and spores of allergenic fungi) of living accommodations for the purpose of its inactivation in article. It is shown impossibility of application of direct or impulse current flowing effects for sterilization of biologically active aero disperse systems (bioaerosols) in the water environments containing microorganisms, which often used for these purposes. The results of the pilot studies showing possibility of a highly effective inactivation of biological particles as a result of their charging and a recharge in a stream through consistently connected cameras with the corona discharge of opposite signs are given. Values of parameters of devices (digit currents, speed of movement of a stream and others), necessary for realization of a way are received.

*Keywords*: indoor air, bioaerosol, sterilization, corona discharge, charging and recharge of particles

**Improvement of mechanical properties of thermally toughened structural steels with additional processing of pulsating gas flow**

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This paper examines the impact of the processing of pulsed gas flow on the structure and mechanical properties of thermally toughened products of structural steels.

*Keywords:* pulsating gas flow, mechanical properties, heat treatment, structural steel.

**ON THE IMPLEMENTATION OF A SYSTEMATIC APPROACH IN THE DESIGN OF THE MAIN PARTS AND COMPONENTS OF COMPLEX TECHNICAL SYSTEMS**

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Here is considered theoretical basis of optimal design of main parts and components of complex technical systems. The main principle is to define the health conditions complete system, that achieves the conditioning part or site to different systems and subsystems. Provides a practical example of such design. This designing of barrel gas dynamic system shells medium or large caliber.

*Keywords*: complex technical systems; the main parts and components; the health conditions of the system; computer-aided design; the optimized design; gas dynamic system; shells.

**MODELING EXPERIENCE STRESS AT THE LEVEL OF TRACK CHAINS FOR TRACTORS**

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Mechanical tension in flat multicoherent models of links of caterpillars of heavy tractors is determined. Criteria of similarity for transition to tension in real links are calculated. Are constructed эпюры the main tension on a link contour.

*Keywords:* tractor, caterpillar link, photoelasticity, criteria of similarity, durability, reliability.

**PROMISING TECHNICAL SOLUTIONS IN SINTESISADORI AUTOMATIC CONTROL SYSTEMS CENTURIES**

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We consider a new method of constructing the witness system of automatic control of technological processes in technological systems, the results of calculations of the main characteristics of the transition process, provides practical guidelines and a sample implementation

*Key words:* nonlinear tracking system, PID control, dynamic error, reference model, invariance

**AIR CONDITIONING OF LIVING ACCOMMODATIONS**

**WITH AERO IONIZATION**

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There was substantiated expediency of use of aero ionization for air conditioning of living accommodations in article. It is shown that wider use of technical means (firstly industrial ionizers of air) is interfered by insufficient study of conditions and results of application of these technical means. Results of the exact solution of the objective of purification of living accommodation air from particles of various origins and various natures when using ionization of air volume are given in article. Practical parameters, primarily the necessary productivity of an ionic source and the air environment cleaning time from particles of the pollution (with effect of 95%), which define efficiency of process of conditioning, were determined.

*Keywords*: indoor air, aero ionization, particles of pollution, charging and drift of particles, time of release from pollution.

**ANALYSIS OF THE FACTORS CONTRIBUTING TO THE TECHNOLOGICAL PROCESS OF WATER FROM NATURAL SOURCES IN THE LENINGRAD REGION**

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Examines the factors influencing the choice of method of purification of natural waters. The analysis of the chemical composition of natural waters of the Leningrad region, depending on the source and environmental factors. Are some technological features of cleaning of waters of St. Petersburg and Leningrad region.

*Keywords:* types of sources of water supply of cottage settlements; chemical composition of groundwater and surface water of Leningrad region; anthropogenic pollution of the waters of Leningrad region; standards on potable water quality in comparison; technological process of water purification on the Vodokanal SPb; technological solutions for water purification for cottage villages of the Leningrad region.

**CIRCUIT DECISIONS OF THE HIGHLY EFFECTIVE SPECIAL CAR**

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In article the basic circuit decisions of the case, engine, transmission and a suspension bracket of the highly effective special car to-wood for police, the Ministry of Emergency Measures, transportations of values and VIP are considered.

*Keywords:* highly effective special car, circuit decisions, case, transmission, suspension bracket.

**TECHNOLOGIES AND METHODS OF WORKING OUT OF THE CONCEPT OF THE COLLECTION OF SUITS IN THE COURSE OF DESIGN DESIGNING**

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In article the problem of working out of technologies and methods of the concept of a collection of suits in the course of design designing is put. The new technique on the basis of three components which gives the chance to isolate and use a conceptual kernel of a collection for project finishing up to the end is offered.

*Keywords:* design of a suit, the fashion designer, clothes, the concept, designing, a collection

**ARTISTIC IMAGE AS THE COMPONENT OF TECHNOLOGY OF CREATION OF THE FASHIONABLE COLLECTION**

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In article questions of use of an artistic image are considered at technology creation of a fashionable collection. Results of statistical research are given and priority sources of inspiration come to light at creation of collections of last years.

*Key words:* artistic figure, fashion collections, ХХth century art.

**FUNCTIONAL INGREDIENTS USED IN FOOD FOR PREVENTION OF IODINE DEFICIENCY DISEASES**

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In article studied the chemical composition of kelp and justified the use of these algae as a functional ingredient for producing food for the prevention of iodine deficiency diseases.

*Keywords:* iodine deficiency disorders, thyroid hormones, kelp sugary, Japanese, seaweed, hyaluronic acid.

**IMPROVING THE RECIPE AND SPREADS fat component to satisfy needs CONSUMERS**

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Research of consumer preferences of inhabitants of megalopolises is given in article at a choice of spreads - popular oil and fat products. Need of expansion of the range of functional foodstuff is proved. The product quality control model on the example of spreads is developed. On the basis of sociological poll, methodology of structuring function of quality the nomenclature of consumer preferences is made, the compounding with addition of oil of a Nigeria Sativa campaign is developed.

*Keywords:* indicators of quality of spreads, consumer preferences, Nigeria Sativa, oncostatic, Litesse

**THE ELECTROPHORETIC PROPERTIES OF PROTEINS DURING THE PROCESSING OF SEEDS IN THE PRODUCTION OF VEGETABLE OILS**

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In article research the electrophoretic properties in processing sunflower seeds and soybeans in the production of vegetable oils. It is established that the largest changes of these properties are at the stage of roasting the chopped kernel seeds.

*Keywords:* protein, oil seeds, pulp, sunflower seeds, polyacrylamide gel, production, vegetable oils, soybeans, electrophoresis.

**FORMATION AND DEVELOPMENT OF INDUSTRIAL CLUSTERS**

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In article researchinfluence of the external and internal environment on activity of industrial clustersis conducted, the main directions of the state support of clusters, and also structure and the principles of functioning of industrial clusters are formulated.

*Keywords:*industrial cluster, participants of a cluster, food industry, competitive advantages.

**BIG DATA TECHNOLOGY IN SERVICES: NEW MARKETS,**

**OPPORTUNITIES AND CHALLENGES**

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The analysis of the prospects for market development, technology-based analysis of big data. The possibility of using Big Data technologies to improve the competitiveness of enterprises. Makes recommendations on the use of services marketing Big Data technologies in marketing strategies for innovative development.

*Keywords:* technology Big Data, innovation, marketing, scope of service.

**Organizational and economic mechanisms IMPROVE LIVING STANDARDS IN THE REGION AFTER LOCATION OF HOTEL CLUSTERS**

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The paper presents the structure of the local hospitality cluster. Local hotel cluster is represented as a meso-economic structure. Proposed organizational-economic mechanism of improving the standard of living of the population of the region after localization of hotel clusters.

*Keywords:* cluster, regional economy, standard of living, the hotel cluster.

**THE COST OF COMMERCIAL ENTERPRISE, THE MAIN INDICATOR IN THE MARKET COMPETITION**

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The paper presents the terms used in financial evaluation of commercial enterprise, disclosed and discussed types of commercial enterprise value are disclosed methods of approach to the definition of market value of commercial enterprise, through the process of tax policy of commercial enterprise.

*Keywords:* cost of commercial enterprise, capital, financial structure, buying and selling.

**THE GRADUATE OF THE UNIVERSITY – ELITE LABOUR MARKET OF THE REAL SECTOR OF THE ECONOMY?**

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The article analyzes the situation with the reform of higher professional education in modern Russia. The paper proposed the concept of «elite». Contents of Russian material factors and the place of Russia in the modern world based on ratings. Opened the reasons that impede the country's modernisation. The characteristic of the role of the Russian elite in the renewal of Russia's image. Presents concrete proposals to improve the social climate in the society and higher professional education.

*The Keywords:* elite, high vocational training, real sector of the economy, competitiveness, demographic situation.

**THE EDUCATIVE PORTAL AS THE BASE OF TRAINING SERVICE SPECIALIST IMPROVEMENT**

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The article is considered ways of specialist quality training improvement, which is based on development of common educative IT environment. It’s analyzed the hierarchical system of educative portal and its structure. The article is placed high emphasis on two branches model of networking cooperation development.

*Keywords:* two branches model of networking cooperation, a structure of educative portal, cooperation of educative portal, the system of educative portal cooperation, common educative informative sphere.