

## Biological Sciences

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### **Age-Related Changes in Histological Structures of Rabbit Spleen**

**Keywords:** spleen; histology; postnatal ontogenesis.

page 7-9

**Abstract:** The article deals with the problem of age-related changes in histological structures of rabbit spleen (from neonatal stage to four years). The author determined the increasing thickness of organ capsule, trabeculae and the lymph nodules changing.

## Pedagogy and Psychology

*S.N. Eremin, A.I. Dmitriev*

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### **Pedagogical Bases of Management of Military Collectives of Interior Ministry Troops of Russia as an Urgent Problem**

**Keywords:** administrative activity; pedagogical principles of management; teaching and educational activity; professional competence; military collective.

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**Abstract:** In this paper, the authors discuss the problem of implementation of pedagogical principles of management of military collectives, analyze managerial activities of commanders on the formation of their professional competence on the basis of personal development of commanders, superiors and military staff of the MIA of Russia as a whole.

*V.D. Sidorova*

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### **Topical Problems of the Work on Polyphonic Works in Senior Classes of Music Schools**

**Keywords:** microagogs; pedaling; theme and countersubject; tempo; terraced dynamics; three-part texture; nature of countersubject.

page 14-17

**Abstract:** This article discusses some of the problems encountered in the work on polyphonic works in senior classes of music school on piano. Consideration of the matter allows clearly understand the complexity and the need to study polyphonic compositions in music schools.

## Professional Training

*A.V. Andriyevskaya*

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### **Interaction between Business and Government in Introducing Innovative Technologies in Education**

**Keywords:** business; education; government; innovative technologies.

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**Abstract:** State policy of the Russian Federation for the long term has recognized an innovative type of development, which is based on a continuous and focused search process, preparation and implementation of innovations that improve the efficiency of social production and degree of implementation to meet the needs of society. Today education is one of the most innovative sectors; it determines the creation of innovation climate and the development of society as a whole. Universities are increasingly oriented to the needs of business, involving the organization of educational process that allows training knowledgeable and qualified professionals for the company.

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### **Psychological Essence of Management Control in Administrative Systems**

**Keywords:** administrative control; psychological features; standard model; administration; administrative sanctions.

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**Abstract:** The paper deals with psychological features of control in management systems, in particular, the influence of formalization of organizational behavior and observance of standards of behavior models on insufficient exploitation of the resources and opportunities administrative workers.

*I.A. Sokolova*

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**Methodological Level of Solving the Problem of Developing Environmental Awareness in Technical Universities**

**Keywords:** methodology of pedagogy; general scientific approach; approach; development of environmental awareness; empirical approach.

**Abstract:** The author proposes the system of generally scientific and pedagogical approaches to interaction of ecological education and development of environmental awareness.

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## History, Philosophy and Sociology

*S.E. Martynova*

*National Research Tomsk State University, Tomsk*

**Model of “Service” Municipal Management: Conceptual System and Implementation**

**Keywords:** municipal community; municipal management; municipal services; participation; ‘service’ model; social communication technology; functions of the municipal government.

**Abstract:** The timeliness of the topic is estimated by the development of «service» management in the Russian Federation. Thus, scientifically, «the service model» of social management at municipal level is not actually formed. The absence of clear concept doesn't allow to design and implement appropriate social technologies. The novelty of the research results in the definition of the basic concepts of the model and the conditions for its implementation is expressed. The contradiction between the content model and practiced technologies, in particular, communicative ones, in empirical aspect is illustrated by the example of municipalities' websites.

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## Philology

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**The Theme of War-Time Childhood in F. Isyagulov's Short Story “Oaks on the Edge”**

**Keywords:** literature; children's prose; theme of war-time childhood; young hero; character development; spiritual development; moral and patriotic education.

**Abstract:** The works of literature devoted to the Great Patriotic War take a special place in the development of Bashkir children's prose and have a great educational value. The paper deals with the theme war-time childhood on the material of the story by F. Isyagulov “Oaks on the edge”.

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## Engineering

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**Review of Studies of Domestic Engineering Transformations**

**Keywords:** competition; engineering; intellectual property; organizational change and innovation.

**Abstract:** It is shown that the work of scientists in the field of Karelian transformations of domestic engineering started in the field of forest engineering and then it was extended to domestic mechanical engineering in general, including tractors and nuclear engineering, aimed at improving its competitiveness.

page 41-44

*A.V. Ziganshina, R.A. Ziganshin*

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**Analysis of Indicators of Gear Oil Properties**

**Keywords:** gear oil; extreme pressure resistance; anti-wear properties.

**Abstract:** This article describes the indicators characterizing the properties of gear oils. The authors produced a generalized dimensionless criterion for gear oil quality, which can be used to evaluate and select the gear oil.

page 45-47

## Mathematical Methods and Models

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### **An Efficient Algorithm for Preliminary Calculations in Multiplication of Elliptic Curve**

**Keywords:** elliptic curves; fast pre-computations in ECC; algorithms for point multiplication.

page 48-54

**Abstract:** Multiplication of group of points on an elliptic curve is an expensive operation in digital signature scheme computing. This article provides an efficient algorithm to accelerate pre-computation for point's multiplication algorithm. The author provides the proof of the upper bound for the computational complexity of the proposed algorithm.

## Electronics, Measuring Equipment, Radiotechnics and Communication

*E.A. Zuenko, L.I. Likhareva, L.A. Tugarinov, A.A. Shulunova*

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*Université Paris-Sud, Paris (France)*

### **Cable Deformation Tracking via Optical Measurements**

**Keywords:** cable measures in drive mode and flexural mode; cable deformation; image processing; LISMAA; LabView virtual tools; optical measurement; test stand; video camera.

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**Abstract:** The purpose of the work is to perform automatic measurements of cable stress by using optical measurements. The authors developed tools and methods for measurements of cable extension in drive mode and flexural mode. A video camera was installed on the test stand; data was transmitted to the computer for further processing with help of the LabView virtual tools.

## Economic Sciences

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### **Performance Management in Tourism Sector on the Basis of Statistical Indicators**

**Keywords:** efficiency; world tourist industry; analysis of management efficiency in tourism; tourist product; tourist expenses; economic benefit.

page 59-61

**Abstract:** The article reveals the role of tourism in the world economy. The author focuses on the methods of analysis of management effectiveness of in tourism sector. The author identifies and describes the two main components of the effectiveness of management: economic and social. Based on the analysis of these two directions the author gives recommendations on the improvement of performance in tourism industry.

*L.A. Vatutina, E.B. Khomenko*

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*Izhevsk State Technical University named after M.T. Kalashnikov, Izhevsk*

### **Management of Regional Infrastructure of Business: Methodological Aspects**

**Keywords:** infrastructure of entrepreneurship; regional management.

page 62-65

**Abstract:** The paper explores the stages and technologies of strategic planning of regional development and infrastructure support. The authors identified the key factors determining the effectiveness of implementation of strategic priorities of regional development.

*A.S. Vetrov*

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### **Servisization of Economy: Features and Experience**

**Keywords:** paid services; economy servisization; classification of services; customer service.

**Abstract:** Due to the increase in the volume of paid services in many branches of national economy in our country, the author analyzes the expediency of conducting a purposeful service policy by domestic industrial enterprises. The quality of providing such services, methods and ways of their implementation, competitiveness of enterprises and competent work of service and maintenance at Russian enterprises of mechanical engineering is analyzed. The new definition 'servisization of national economy' is given in the paper; it implies a full-scale reorientation of economic activity by industrial enterprises of Russia to rendering a full volume of service to the consumers. A lot of attention is paid to counterfeit production, which undermines trust of clients and has negative impact on development of domestic market of services.

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E.A. Nevgod

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**Improving the Assessment of Targeted Program Effectiveness at Industrial Enterprises**

**Keywords:** integral indicator; assessment of effectiveness; program-objective management; balanced scorecard; targeted program; private indicator; economic efficiency.

**Abstract:** The paper describes a method of objective quantitative assessment of program-objective activities at industrial enterprises.

page 70-73

E.V. Pashkova, Yu.I. Lebedev

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**Strategies of Innovative Development of China, India and Russia: Results and Prospects**

**Keywords:** concentration of intellect; models of science and technology development management; scientific and technological priorities; technical personnel competitiveness; strategic planning and management; nanotechnologies; structure of industry.

**Abstract:** The authors of the article look into innovative aspect of economic development of emerging economies of China, India and Russia. A brief analysis of the countries' economic achievements is carried out. It is pointed out that China constantly refines its model of scientific and technical progress management and focuses on the choice and support of priority directions of the science and technology development at the present stage of development. It is also pointed out that India, despite the pressure of the demographic factor, has managed to become one of the leading knowledge economies in the world. Some recommendations are discussed which, according to the authors, could foster Russia's innovative development, first thing, strategic planning and industrial development on the basis of the scientific and technical progress where priority should be given to nanotechnologies.

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**New Tendencies in the US National R&D**

**Keywords:** innovative global economy; R&D activity; R&D indexes; R&D of US multinational corporations.

**Abstract:** The article looks into the new tendencies in R&D currently observed in the global economy. Some new research into business R&D and innovations in the USA is considered. A system of R&D indexes is developed, which includes financial indexes, indexes of companies, using debt financing, indexes of employment, intellectual property, exchange of technologies and innovations, indexes linked to R&D management and strategic planning. The leading role of US multinational corporations in R&D activities is stressed.

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**Classification and Calculation of Key Performance Indicators of Effectiveness of Information Systems**

**Keywords:** effectiveness of information systems; key performance indicators; qualitative effects.

**Abstract:** The article describes the classification of key performance indicators and the group of measured quality indices, harmonized with the world practice and statistical reports. The criteria for decision-making of direct and indirect effects are considered.

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Syzran Affiliate of Samara State Technical University, Syzran

**The Role of Strategic Management in Achieving Company Success in Competitive Struggle**

**Keywords:** competences; competitiveness; environment; planning; forecasting; strategic management; strategy; factors.

**Abstract:** The paper considers the questions of strategic business management contributing to the creation of 'balance' of relationships between the organization and an external environment, allowing the organization successfully to achieve goals, using the internal opportunities and remaining susceptible to external changes.

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S.V. Fedorchukova

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**Reasons for Emergence of Virtual Enterprises as New Forms of Business**

page 90-92

*Keywords:* intellectualization of enterprises; production flexibility; virtual model.

*Abstract:* Widespread introduction of advanced information and communication technologies that enable almost instantly receive and transmit business information without any restrictions into all areas caused the development of new features of traditional businesses.

*S.G. Chepik, N.N. Levin*

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**Some Aspects of Development of Small Businesses of Regional Agrarian and Industrial Complex**

page 93-96

*Keywords:* individual entrepreneurs; peasant (farmer' s) economy; private farms of citizens; small business entities.

*Abstract:* Some aspects of organization and functioning of small forms of managing in the Ryazan region are considered, separate tendencies and regularities are revealed.

## **Legal Science**

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**Some Features of Criminological Characteristics among Students**

*Keywords:* determinants of crime; criminological characteristics; criminality; student environment; student crime.

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*Abstract:* The author pays attention to student crime, reveals criminological characteristic of crimes done by the students, examines the current trends in the student crime, and analyzes the problems of delinquency in the student environment.

## **Management, Computer Engineering and Information Science**

*A.B. Afanaskin*

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**Decision-Making in Risk Analysis of Communication Services in Railway Transport**

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*Keywords:* risk analysis; decision making.

*Abstract:* The paper deals with the decision-making regarding the risks of communication services in railway transport.