



---

## THE CONTENT

---

### MATHEMATICS, PHYSICS AND INFORMATICS

<i>Skornyakova A.Ju.</i> Genesis of the Concept "Derivative" on the Basis of E-Learning	7
<i>Perov N.I., Kondratieva A.V.</i> A Celestial Mechanical Model of Unclosed Rings' Formation near Giant-Planets	12
<i>Gustokashin M.S.</i> Effects of Preparation Methods for Contests in Informatics at the Results and Motivation of Students	16
<i>Tikhomirov S.A.</i> Generalisation of Spectrum Notions and a Splitting Type for Some Sheaves and Bundles on the Projective Space	20
<i>Bondarenko V.A., Nikolaev A.V.</i> Some Properties of Cut Polytope Relaxations	23
<i>Tikhomirova E.N.</i> To the Question about Radiants' Displacement of Meteoric Streams	30
<i>Janovskaya N.B.</i> Realization of the Integrity Principle at Geometry Studying	36
<i>Smirnov E.I., Trofimets E.N.</i> Construction and the Analysis of Optimizing Models of Economics in Mathematics Training with the Use of Computer Technologies	38
<i>Ganicheva A.V.</i> Optimum Solution of Organizational Questions and Estimation of Utility	53
<i>Rublev V.S., Smirnov A.V.</i> Flows in Multiple Networks	60

### BIOLOGY

<i>Bakulin V.S.</i> Maximal Aerobic Productivity of Sportsmen after Dosed Contrast Thermal Influence in Conditions of Sauna	69
<i>Gorbaniova E.P., Vikulov A.D.</i> Qualitative Characteristics Meaning and Peculiarities in the Structure of Sportsmen's Functional Readiness	74
<i>Borisova O.L., Vikulov A.D.</i> The State of Humoral Immunity, Activation of Vascular Endothelium and Platelet Aggregation of Sportsmen	83
<i>Mityagova A.A., Tyatenkova N.N.</i> Dynamics of Physical Development Indicators of Junior School Age Children in Yaroslavl	88
<i>Soboleva T.V.</i> Dynamics of Indicators of Children's Physical Development Being in a Camp	91
<i>Mikhailov P.V., Kruglova E.V., Miloradov M.Ju., Muraviov A.V.</i> Microcirculation Parameters of Persons with Various Rate of Arterial Pressure	95
<i>Oslyakova A.O., Bubnov A.Ju., Tikhomirova I.A.</i> Estimation of Reserve Capacities of the Microcirculation System under Hypoxia	99
<i>Digurova I.I., Gushchin A.G.</i> Influence of Mezaton on Microhemorheological Indexes of Blood	106
<i>Usilov A.A., Gushchin A.G., Golovin N.L.</i> Comparative Characteristic of Functional Indicators of Teenagers with the Different Level of a Physical Working Capacity	110
<i>Muchnik E.E., Kondakova G.V., Lazareva O.L.</i> To the Studies of the Lichens Biota in the Parks of the Mansion Museum "Karabikha" (Yaroslavl region)	114

### GEOGRAPHY AND ECOLOGY

<i>Kolbovsky E.Ju.</i> Using Historical Geoinformation Systems to Research Cultural Landscapes: Great Britain Experience	119
<i>Bragin P.N., Pashkina M.V.</i> Reading Mende's Maps	127
<i>Georgitsa I.M.</i> Specificity of a City Ecological Frame	133
<i>Zhikharev A.M.</i> Calculation of a Plane Superficial Drain of Rain Waters from the Urbanized Central Territories of Yaroslavl (Part I)	137
<i>Zhikhareva O.I.</i> Some Aspects of Geography of a Settlement System of Yaroslavl Verhnevolzhje	143
<i>Pashkina M.V.</i> Modern Approaches to Estimate Comfort of City Territories	148

<i>Selishchev E.N.</i> An Optimal Territorial Strategy of the Russian Region's Development: a Current State and Geographical Priorities	<b>154</b>
<i>Sinitsyn I.S.</i> Spatial and Age Peculiarities of Ecology-Caused Diseases of the Yaroslavl Region Population	<b>160</b>

**CHRONICLE AND INFORMATION**

<i>Gustokashin M.S.</i> Peculiarities of Carrying out the National Competitions on Informatics in Different Countries	<b>165</b>
<i>Pervin Yu.A.</i> Early childhood informatics education – government or regional policy	<b>169</b>

<b>INFORMATION ABOUT THE AUTORS</b>	<b>175</b>
-------------------------------------	------------