

## Content

### **HYDROTECHNICAL CONSTRUCTION, WATER ENGINEERING AND WATER TECHNOLOGIES**

Lukianchuk O. P., Stepaniuk B. I., Forsiuk S. L.	Experimental Study of Changes in Cutting Force Depending on Soil Development Conditions ..... 3
Kuzmych A. A., Volk P. P., Rokochynskyi A. M.	Assessment of Water Demand and Irrigation Efficiency on Drained Lands Under Changing Weather-Climatic and Agro-Meliorative Conditions ..... 13
Tokar L. O., Melnychuk I. M.	Evaluation of the Efficiency of Drainage Systems as a Function of Random Variables 31
Korchyk N. M., Romanenko O. P.	Processing of Industrial Wastewater from the Acid Refining Operation of Vegetable Oil . 41
Matus S. K.	Development of the Controller for Automatic Control of Irrigation ..... 63

### **ARCHITECTURE, CONSTRUCTION AND CIVIL ENGINEERING**

Isupova M. I.	Historicism in the Building Architectural Image at the Beginning of the XXI Century (on the Example of Rivne) ..... 71
Serhiuk I. M., Smolinska O. E.	Building Relocation as a Way of Preserving Local Architectural Heritage: the Swedish Experience ..... 81
Sikorska K. S.	Influence Of Architectural Complexes of Roman Catholic Churches on the Spatial Structure Formation and Development of Small Towns (Case Study of Dubrovytsia, Architectural Complex of St. John the Baptist's Church and Piarist Collegium) ..... 95

Trach V. M.,  
Podvornyi A. V. Influence of Reinforcement of Steel  
Cylindrical Shells of Tunnel Structures on  
Reliable Correction of Their Stability ..... 108

Abramov V. M. Bearing Capacity of Arch Bridge Structure  
Made of Corrugated Metal Under  
Unsymmetrical Loading ..... 115

### **AGROENGINEERING**

Valetska O. V.,  
Nalobina O. O.,  
Holotiuk M. V.,  
Pylypaka T. S.,  
Kolesnyk T. M.,  
Shymko A. V. Innovative Energy Saving Systems in Biofuel  
Production as a Way to Sustainable  
Development of the Agricultural Complex ..... 123

Nalobina O. O.,  
Holotiuk M. V.,  
Pylypaka T. S.,  
Valetska O. V.,  
Shymko A. V.,  
Bundza O. Z. Application of Modern Technologies in  
Teaching Technical Disciplines ..... 137

### **APPLIED MATHEMATICS**

Klymiuk Yu. Ye. Development of a Classifier of Grades  
Images For Recognition of Grades From  
Scan Copies of Attachments to Certificates  
of Complete General Secondary Education of  
Applicants ..... 150

Safonyk A. P.,  
Poliukhovych S. O. Development of a Model, Algorithm and  
Software Package for Analyzing and  
Optimizing the Aerobic Wastewater  
Treatment System ..... 168

## COMPUTER SCIENCES

- Stepaniuk O. Y. Problems and Prospects of the Development and Scaling of the Internet of Things ..... 178
- Melnychuk M. O. Biomarkers (Pulse Rate) Analysis Algorithms in Android Gaming Applications . 185

## TRANSPORT TECHNOLOGIES

- Holotiuk M. V.,  
Pylypaka T. S.,  
Valetska O. V.,  
Tkhoruk Y. I.,  
Doroshchuk V. O. Influence of Intelligent Transport Systems on Road Safety ..... 195

## GEODESY AND LAND SURVEY

- Dmytriv O. P.,  
Okseniuk V. B.,  
Dmytriv A. R. Research of Land Quality Using GIS Technologies ..... 206
- Yanchuk O. Ye.,  
Yanchuk R. M.,  
Liusak A. V. Concept of Enhancement of Tourist Attractiveness Using Geoinformation Technologies ..... 217

## ENGINEERING SCIENCE

- Demianiuk V. V.,  
Kondratiuk O. M. Study of Movement of Floor Abrasive Working Environment During Vibration Processing of Parts ..... 233
- Nikolaichuk V. V.,  
Tymeichuk O. Y.,  
Kostiuk O. P. Selection of Rational Parameters of Variable Stiffness Connection Details ..... 242
- Hrabar I. H.,  
Zhukovskyi O. Ye.,  
Talko A. M. Model of Regulation of Kinematic and Dynamic Parameters of Technological Machines ..... 252
- 274