

Contents

BUILDING AND ARCHITECTURE

ARCHITECTURE, URBAN PLANNING, DESIGN

- V. S. Zazulya, Yu. N. Lobanov, G. E. Rusanov, V. I. Volkov.* Tactical urbanism as a method of fast «updating» of the city bedroom communities5
- M. V. Zolotareva, Ghaleb Bannoud.* Spatial development of the city of Aleppo during the period from 1920 to 1949.....10
- Kagninhoun A. A. Miguel Olodo.* Formation of urban housing development in Benin taking into account the sustainable development objectives18
- L. N. Kondrat'eva, N. S. Novokhodskaya, R. A. Mangushev, T. A. Datciuk.* Vasilievsky Island canals as the first step to Russian regular urban planning...27
- R. A. Mangushev, N. S. Novokhodskaya, T. A. Datsyuk, L. N. Kondrat'eva.* St. Petersburg «genetic code». The XVIII century and the XXI century.....33
- E. G. Molotkova.* About the morphotypes of city quarters in the historical center of St. Petersburg. Transparency and connectivity41
- V. D. Filippov.* «Linear city»: urban planning and social aspects of the Arturo Soria project55
- E. A. Chernaya, G. E. Rusanov, V. I. Volkov, Yu. N. Lobanov.* Architectural graphics by Yu. S. Ushakov in solving professional tasks: compositional aspect.....68

BUILDING DESIGNS

- N. D. Korsun, D. A. Prostackishina.* Application of thin-walled structures for energy-savings in steel structure construction83
- V. I. Morozov, V. V. Belov, E. K. Opubl, Phan Van Phuc, E. O. Hegay.* Numerical research of the stressed state of the bearing wall of high pressure shells depending on the type of the wall's connection with abutting members.....90
- A. G. Chernykh, A. N. Petrov, P. S. Koval, E. V. Danilov.* Experimental investigation of deformability of pre-stressed laminated timber slabs using continuous laser scanning method.....97

STRUCTURAL MECHANICS AND CALCULATION OF STRUCTURES

- V. G. Sokolov, Yu. V. Ogorodnova, A. V. Dmitriev, A. M. Maslennikov.* Oscillations of underground thin-walled pipelines taking into account internal pressure and longitudinal force105
- V. D. Kharlab.* Concerning the operation of the bitumen concrete layer covering placed on the metal slab of bridge superstructure113

GEOENGINEERING

- V. V. Lushnikov, [V. M. Kirillov], V. V. Konyushkov.* Adaptive management of fundament and base parameters.....119

TECHNOLOGY AND ORGANIZATION OF CONSTRUCTION

- V. Z. Velichkin, D. A. Zhivotov, V. V. Latuta, Yu. I. Tilinin.* Modern technologies for strengthening wooden rafters in tenement buildings in the historical part of St. Petersburg.....125
- A. N. Gaido, V. Z. Velichkin.* To the issue of substantiating the rational fields of combined piles` application132

BUILDING MATERIALS AND PRODUCTS

- R. O. Krasnovskij, D. E. Kapustin, P. S. Sulygova, P. V. Travkin.* Change of the elasticity modulus at heating of steel-fiber concrete with high-strength cement-sand matrix.....144

SANITARY ENGINEERING AND ECOLOGY

- V. P. Verkhoturov, A. V. Kudryavtsev, N. D. Kniyazev, N. A. Chernikov.* Criteria for selection of polymer pipelines for water supply and sanitation systems, taking into account the limit conditions.....153

Scientific-technical peer reviewed journal

The Founder — the Federal State Budgetary Educational Institution of Higher Education “Saint Petersburg State University of Architecture and Civil Engineering” (SPSUACE)

The Editor-in-Chief

Ye. I. Rybnov, Dr. Sci. Ec., Professor, Honorary Worker of Higher School of the Russian Federation (SPSUACE)

Assistants to the Editor-in-Chief

Yu. P. Panibratov, Dr. Sci. Ec., Professor, Winner of the State Award of the Russian Federation and the Award of the Government of the Russian Federation, Honorary Worker of Sciences of the Russian Federation, Academician of RAACS (SPSUACE)

I. V. Drozdova, Dr. Sci. Ec., Professor (SPSUACE)

V. I. Morozov, Dr. Sci. Tech., Professor, Winner of the Award of the Government of the Russian Federation (The Senior Editor) (SPSUACE)

Editorial council

A. A. Akaev, Dr., Prof., Foreign Member of the RAS (Lomonosov Moscow State University, Russia)

L. Ungvari, Dr. Sci., Professor, (Technical University of Applied Sciences Wildau, Germany)

N. V. Kazhar, Dr. Arch., Professor (Czestochowa University of Technology, Poland)

G. Kipiani, Dr. Sci. Tech., Professor (Georgian Technical University, Georgia)

H. V. Tokmajyan, Dr. Sci. Tech., Professor, Rector of SEUA (State Engineering University of Armenia)

J. Eberhardsteyner, Dr. Sci. Tech., Professor (Vienna University of Technology, Austria)

S. N. Leonovich, Dr. Sci. Tech., Professor (Belarusian National Technical University, Belarus)

Y. Iwasaki, Dr. Sci. Tech. (Geo-Research Institute, Japan)

T. Tanaka, Dr. Sci. Tech., Professor (University of Tokyo, Japan)

A. Zh. Zhusupbekov, Dr. Sci. Tech., Professor (L. N. Gumilyov Eurasian National University, Astana, Kazakhstan)

Editorial Board

G. V. Yesaulov, Dr. Arch., Professor, Academician of RAACS

N. I. Karpenko, Dr. Sci. Tech., Professor, Winner of the Award of the Government of the Russian Federation, Honorary Worker of Sciences of the Russian Federation, Academician of RAACS (NIISF RAACS)

L. S. Lyahovich, Dr. Sci. Tech., Professor, Honorary Worker of Sciences of the Russian Federation, Academician of RAACS (TSUAB)

V. Sargsyan, Dr. Sci. Tech., Professor (National University of Architecture and Construction of Armenia)

V. I. Travush, Dr. Sci. Tech., Professor, Winner of the Award of the Government of the Russian Federation, Academician of RAACS (RAACS)

V. S. Fedorov, Dr. Sci. Tech., Professor, Academician of RAACS (MSURE)

S. V. Fedosov, Dr. Sci. Tech., Professor, Winner of the Award of the Government of the Russian Federation, Honorary Worker of Sciences of the Russian Federation, Academician of RAACS (IVGPU)

E. M. Tchernyshov, Dr. Sci. Tech., Professor, Honorary Worker of Sciences of the Russian Federation, Academician of RAACS (VSUACE)

M. I. Alekseev, Dr. Sci. Tech., Professor, Winner of the Award of the Government of the Russian Federation, Honorary Worker of Sciences of the Russian Federation, Academician of RAACS

G. I. Belyy, Dr. Sci. Tech., Professor, Honorary Worker of Sciences of the Russian Federation

B. G. Vager, Dr. Sci. Phys.-Math., Professor, Honorary Worker of Higher School of the Russian Federation
 T. A. Datciuk, Dr. Sci. Tech., Professor
 S. P. Zavarikhin, Dr. Arch., Professor, Honorary Architect of the Russian Federation
 B. N. Karpov, Dr. Sci. Tech., Professor
 L. N. Kondrat'eva, Dr. Sci. Tech., Professor
 L. P. Lavrov, Dr. Arch., Professor, Honorary Architect of the Russian Federation, Correspondent Member of RAACS
 R. A. Mangushev, Dr. Sci. Tech., Professor, Honorary Worker of the Higher School of the Russian Federation, Correspondent Member of RAACS
 A. M. Maslennikov, Dr. Sci. Tech., Professor, Honorary Worker of Sciences of the Russian Federation
 S. N. Nikiforov, Dr. Sci. Tech., Professor
 Yu. V. Puharenko, Dr. Sci. Tech., Professor, Winner of the Award of the Government of the Russian Federation, Correspondent Member of RAACS
 S. V. Sementsov, Dr. Arch., Professor
 V. D. Kharlab, Dr. Sci. Tech., Professor
 V. M. Ulyasheva, Dr. Sci. Tech., Professor
 S. A. Evtuykov, Dr. Sci. Tech., Professor, Honorary Worker of Higher School of the Russian Federation
 P. A. Kravchenko, Dr. Sci. Tech., Professor, Honorary Worker of the Higher School of the Russian Federation
 V. N. Dobromirov, Dr. Sci. Tech., Professor
 Ju. G. Kotikov, Dr. Sci. Tech., Professor
 A. E. Pushkarev, Dr. Sci. Tech., Professor
 A. A. Kapustin, Dr. Sci. Tech., Professor
 R. N. Safiullin, Dr. Sci. Tech., Associate Professor (SPSUACE)
 V. S. Lukinskiy, Dr. Sci. Tech., Professor (HSE in St. Petersburg)
 V. N. Lozhkin, Dr. Sci. Tech., Professor, Honorary Worker of Sciences of the Russian Federation (Saint-Petersburg University of State Fire Service of EMERCOM of Russia)
 A. N. Asaul, Dr. Sci. Ec., Professor, Honorary Builder of the Russian Federation, Honorary Worker of Sciences of the Russian Federation
 G. A. Tokunova, Dr. Sci. Ec., Professor
 A. A. Petrov, Dr. Sci. Ec., Professor
 N. G. Pletneva, Dr. Sci. Ec., Professor
 A. I. Solodkiy, Dr. Sci. Ec., Professor
 V. V. Asaul, Dr. Sci. Ec., Professor
 E. G. Guzhva, Dr. Sci. Ec., Professor (SPSUACE)
 G. F. Shcherbina, Dr. Sci. Ec., Associate Professor (AO SSMO "LenSpetsSMU")
 L. M. Kaplan, Dr. Sci. Ec., Professor (St. Petersburg Union of Construction Companies)
 R. A. Faltinskiy, Dr. Sci. Ec., Professor (JSC «Lenenergo»)

The address of the Founder and the Editorial Office:
 2nd Krasnoarmeyskaya St. 4, 190005, St. Petersburg, Russia
 Ph./ Fax: (812) 316-49-06
 E-mail: vestnikspb@mail.ru

The contents and abstracts of articles are presented on the site: <http://vestnik.spbgasu.ru>

The journal is registered by the Federal Service for Supervision of Communications, Information Technology and Mass Media (Roskomnadzor). The registration certificate of the mass media organization is ПИИ № ФС77-69753, of 05.05.2017.

The journal is included by the Higher Attestation Commission (HAC) of the Russian Federation into the List of leading reviewed scientific journals and editions in which the major scientific results of theses on competition for the academic degree of the Doctor of Science are to be published.

In case of reprinting, the link to the "Vestnik grazhdanskikh inzhenerov – Bulletin of Civil Engineers" is obligatory. On the cover one can see the monument to Nicholas I, the Emperor, in honour of whom the Institute of Civil Engineers (nowadays SPSUACE) was named on December 17, 1892.

T. A. Datciuk, E. A. Anshukova. Impact of the heat-humidity regime of warm attics on the condition of enclosing structures.....160
 O. N. Medvedeva, A. Yu. Chilikin. Methodology for carrying out hydraulic calculations of gas distribution systems.....166
 S. V. Fedorov, V. M. Vasilyev, Yu. V. Stolbikhin, N. A. Chernikov. Development of measures aimed at reducing gas contamination of the sewer network.....175
 L. I. Tsvetkova, A. M. Teliatnikova, A. Ya. Feskova. Predicting sheet membrane performance182

ПРОЕКТИРОВАНИЕ И СТРОИТЕЛЬСТВО ДОРОГ, МЕТРОПОЛИТЕНОВ, АЭРОДРОМОВ, МОСТОВ И ТОННЕЛЕЙ

R. N. Gorbunov. Service level assessment based on the travel time index189
 A. M. Simanovskiy. Elastic deflections of road pavement with thermal insulation from expanded polystyrene in the conditions of St. Petersburg.....197

TRANSPORT

S. A. Azemsha, S. V. Skirkovskiy, A. E. Gorev. Determination of regularities in the change of the passenger transportation volume depending on the number of residents in residential places206
 S. S. Evtuykov, I. S. Gladushevskiy. Evaluation of car deceleration properties when using winter type tires on rolled snow covering217
 N. A. Kalyuzhnyy, Yu. I. Malyavka. The method of selecting the types of public passenger transport to ensure a high level transport availability at the Pulkovo International Airport222
 I. V. Karnaukhova, O. V. Karnaukhov, V. N. Karnaukhov, O. V. Ryndina. Determination of the amount of dissociated water when ethanol is added to gasoline fuel228
 Ju. G. Kotikov. Three-dimensional model of using the quantumobile engine thrust237
 A. I. Petrov, S. A. Evtuykov, V. I. Kolesov. Evolution of the system organizational structure of road traffic safety in Russian Northwestern regions.....249
 S. V. Repin, V. N. Dobromirov, D. S. Orlov, A. A. Kapustin. The study of the elastic characteristics of the new hydro-pneumatic shock absorber260
 V. V. Saplinova, S. N. Glagolev, A. N. Novikov, I. A. Novikov. Development of the brake system of the formula-type racing car of the «Formula student» class270

ECONOMICS

A. O. Berezin, I. S. Petrov. Economic substantiation for decision-making in the operation of housing and communal services.....278
 S. A. Sitdikov, R. A. Faltinskiy, K. V. Yarkina. Systematization of methods and models of forming the strategies for ensuring the competitiveness of housing and communal service enterprises285
 A. G. Tutygin, V. B. Korobov, T. V. Menshikova. Problems of consistency of expert judgments in the method of hierarchy analysis.....291
 R. A. Faltinskiy, K. V. Malinina, E. V. Gridnev. Actual problems of financing housing construction projects in the Russian Federation.....298

CHRONICLE

Congratulations on the award!303
 Abstracts304
 Submitting materials requirements320
 Subscription rules321