WORKING PROGRAM AND PROCEEDINGS

INTERNATIONAL
SCIENTIFIC – PRACTICAL CONFERENCE
OF YOUNG SCIENTISTS

«BUILD-MASTER-CLASS-2017»

BUILD
MASTER
CLASS 2017

28.11-01.12.2017
In Kyiv National University of Construction and Architecture
Ukraine, Kyiv, Povitroflotskyi av. 31
ORGANIZER OF THE CONFERENCE
KYIV NATIONAL UNIVERSITY OF CONSTRUCTION AND ARCHITECTURE

CO-ORGANIZER OF THE CONFERENCE
POLISH ACADEMY OF SCIENCES (KYIV OFFICE)

CONFERENCE IS SUPPORTED BY:

- Ministry of education and science of Ukraine;
- Ministry of regional development construction, housing and municipal economy Ukraine;
- All-Ukrainian Charitable Organization "Municipal Development Institute";
- Project of the Eighth Framework Programme of European Union on Research and Technology "Horizon 2020": «Train-to-NZEB: Building Knowledge Hubs»;
- Laboratories for research of energy efficiency problems in construction and architecture "Energy Center-KNUCA";
- Scientific and Educational Hub for Architectural Designing and Research of Nearly Zero Energy Buildings (NZEB) of Kyiv National University of Construction and Architecture

CONFERENCE OBJECTIVE:

Comprehensive exchange of experience in the design and construction, re-construction and restoration of modern architecture objects. Dissemination and development of advanced computer-aided design technology and the practical aspects its implementation. Popularization of modern efficient materials, construction and technological equipment. Improving the qualification level of specialist of architectural and planning, design, construction, engineering and technical training program.

ORGANISING COMMITTEE:

Kulikov Petro (Chairman)
Ilosky Vitalii (Deputy Chairman)
Pidlutskii Vasyl (Scientific Secretary)
Skochko Volodymyr (Head of working Committee)
Mykhailovsky Denis (Head of technical Committee)

Andropova O., Koliakova V., Shkrobot M.
Berdnykh A., Kozhedub S., Shkryl O.
Bohcharova N., Kukharuk A., Shovkivska V.
Bondarenko O., Lavrukchina K., Shpakova H.
Chepurna N., Mikhailova M., Skochko L.
Chernenko N., Mishchuk D., Sobczuk H.
Denysenko N., Mishchuk Y., Sobolevska L.
Derevinskyi V., Piskunov S., Sukhanovych M.
Ivakhnovych I., Pochka K., Tomosov R.
Frolov A., Priymak O., Tsutsiura M.
Heher A., Pronyevych Yu., Tsutsiura S.
Horelenko O., Pryimachenko O., Yeksiariosa T.
Hubert Yu., Sakh R., Velychno S.
Kashchenko T., Sakerov V., Yorchko V.
Klymchuk M., Shabala Ye., Yerukaiev A.
Kopasov H., Sharapa S., Zolotar L.

THEMES OF SECTIONAL AND PLENARY MEETINGS


CONFERENCE VENUE
Kyiv, Kyiv National University of Construction and Architecture, Povitroflotskiy av. 31.
Plenary meeting – Scientific Council Hall, aud. 466
Sectional meetings are specified during registration.
CONFERENCE EXPOSITIONAL PROGRAM

During the Conference, the participants will be given the opportunity to present scientific and technical developments, new building materials and products, scientific and methodical publications, etc.

PUBLICATIONS

According to the results of the conference, the best materials will be selected, which will be recommended for publication in professional editions of KNUCA.

SCIENTIFIC COMMITTEE

Kulikov P. (Chairman) – Ukraine
Ploskyi V. (Deputy Chairman) – Ukraine
Bondar O. (Deputy Chairman) – Ukraine

Sobczuk H. (PAN) – Poland
Chepurna N. - Ukraine
Derevinskyi V. – Ukraine
Heher A. – Ukraine
Kashchenko T. – Ukraine
Klymchuk M. – Ukraine
Kozhedub S. – Ukraine
Koliakova V. – Ukraine
Kochetov G. – Ukraine
Mykhailovskyi D. – Ukraine
Perehuda Y. - Ukraine
Pidlutskyi V. – Ukraine
Piskunov S. – Ukraine
Pochka K. – Ukraine
Priymak O. – Ukraine
Priymachenko O. – Ukraine
Ryzhakova G. – Ukraine
Sakharov V.- Ukraine
Sharapa S. – Ukraine
Shebek N.- Ukraine
Shults R. – Ukraine
Skochko V. – Ukraine
Sliptsoy O. – Ukraine
Tovbych V. – Ukraine
Tsutsiuira S. - Ukraine
Tuhai O. – Ukraine

CONFERENCE PARTNERS

Organizing Committee cordially thanks to Polish Academy of Sciences (Kyiv office) and personally – Prof. Henryk Sobczuk

MUNICIPAL DEVELOPMENT INSTITUTE

European Commission

Train-to-NZEB

The Building Knowledge Hubs

CONFERENCE’S REGULATIONS

November, 28 (Tuesday)
9:00 – Participants’ registration, Coffee break
10:00 – Opening of the conference, first plenary meeting
13:30 – Lunch
14:30 – Sectional meetings
16:00 – Expositional program, continuation of sectional meetings

November, 29 (Wednesday)
10:00 – Sectional meetings
13:00 – Lunch
14:00 – Continuation of sectional meetings
16:00 – Expositional program, continuation of sectional meetings

November, 30 (Thursday)
10:00 – Sectional meetings
13:00 – Lunch
14:00 – Continuation of sectional meetings
16:00 – Expositional program, continuation of sectional meetings

December, 1 (Friday)
10:00 – Sectional meetings
14:00 – Lunch
15:00 – Second plenary meeting. Conference resolution adoption and closing

Duration of performances:
Plenary meetings – up to 15 min.
Sectional meetings – up to 10 min.

CONTACTS

Secretary of the 1st section: Andropova Olha, ph.: +38 (068) 322-93-18.
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SECTION 4.  
Engineering systems, automated systems  
and environmental aspects of construction  
30th of November, 2017, aud. 150

10:00 – Sectional meeting  
13:00 – Lunch  
14:00 – Continuation of sectional meeting  
16:00 – Expositional program, continuation of sectional meetings

1. Zhuk V., PhD, Associate Professor (LPNU); Vovk L., PhD, Senior Lecturer (LPNU); Trofimenkuk Y., Student (LPNU)  
COMPARING OF THE VOLUME OF STORMWATER RUNOFF FROM TYPICAL RESIDENTIAL CATCHMENTS IN LARGEST CITIES, CALCULATED ACCORDING TO UKRAINIAN NORMATIVE DOCUMENTS

2. Sobolevska L., Assistant (KNUCA); Vavrishuk D., Student (KNUCA)  
AUTOMATION SYSTEMS BASED ON FUZZY LOGIC

3. Lebedka S., PhD, Senior Lecturer (SSU); Zakharchenko V., Student (SSU)  
DEVELOPMENT OF MODEL OF TRANSIENT PROCESSES IN ELECTRIC NETWORKS, IN PHASE COORDINATES

4. Shvachko N., PhD, Associate Professor (KNUCA); Kyrill O., Student (KNUCA)  
ANALYSIS OF CENTRALIZED AND DECENTRALIZED SYSTEMS OF HEAT SUPPLY

5. Shvachko N., PhD, Associate Professor (KNUCA); Ogienko D., Student (KNUCA)  
DETERMINATION OF THE EFFICIENCY OF USING MULTI-ZONE METERS

6. Zemskaya D., Student (KNUCA); Voloshkina O., Doctor of Technical Sciences, Professor (KNUCA); Trofimovich V., Doctor of Technical sciences, Professor (KNUCA)  
ENVIRONMENTAL REST OF THE AREA – INDICATOR OF FORMATION OF ENVIRONMENTAL POLICY

7. Mazurenko L., Doctor of Professor (KNUCA); Shykhnchenko M., Postgraduate Student (IED of the NAS of Ukraine); Melnychenko A., Student (KNUCA)  
MODELING OF THE ELECTRIC DRIVE OF THE UNDERGROUND ESCALATOR

8. Mazurenko L., Doctor of Sciences, Professor (KNUCA); Shykhnchenko M., Postgraduate (IED of the NAS of Ukraine); Palamaria H., Student (KNUCA)  
MODELING OF THE PUMPJACK ELECTRIC DRIVES PROCESSES

9. Mazurenko L., Doctor of Sciences, Professor (KNUCA); Shykhnchenko M., Postgraduate (IED of the NAS of Ukraine)  
SWITCHED RELUCTANCE MACHINES

10. Koshak T.; Volynets M.  
THE USE OF DRONES IN THE "SMART CITY"

11. Klymivska K., Student (KNUCA); Nechiporenko D., Student (KNUCA); Chepurna N., PhD, Associate Professor (KNUCA)  
PROBLEMS CAUSED BY LEGIONELLA IN HOT-WATER SUPPLY SYSTEMS

12. Blazhaleva A., Student (KNUCA); Panova O., PhD, Associate Professor (KNUCA); Duginov V., PhD, Associate Professor (KNUCA)  
DETERMINATION OF THE LEVEL OF MIGRATION OF THE GEOMAGNETIC FIELD WITH THE AIM OF NORMALIZATION OF ENVIRONMENTAL CLEANING

13. Kozhushko O., Postgraduate (NUWEE); Kizieiev M., PhD, Associate Professor (NUWEE)  
HEAT RECOVERY IN SEWER SYSTEMS

14. Ostapuschenko O., PhD, Associate Professor (KNUCA); Klevetsov M., Student (KNUCA); Levytskyi V., Student (KNUCA)  
APPLICATION OF THE THEORY OF PLANNING OF AN EXPERIMENT WHEN MODELLING PROCESS OF ELECTRIC CONTACT WELDING

15. Shvets V., Graduate Student (KNUCA); Podoletsov O., Professor (KNUCA)  
MODELING OF OSCILLATORY ELECTROMECHANICAL PROCESS IN LINEAR MOTOR WITH PERMANENT MAGNETS FOR COMPACTION OF CONCRETE MIXTURE

16. Rogulsky Ya., Student (SSU KlnK KNUCA); Yurova T, Teacher of the highest category, teacher – methodologist (SSU KlnK KNUCA)  
SUPPLY AND EXHAUST VENTILATION

17. Moroz M., Postgraduate (Institute of Technical Thermophysics of the National Academy of Sciences of Ukraine)  
EFFECTIVE CONTROL OF HEATING OF BUILDINGS TAKING INTO ACCOUNT THE REDUCTION OF ELECTRICITY AT NIGHT

18. Krylyuk O., Student (KNUCA); Riznik V., Student (KNUCA); Apukhtina N., Student (KNUCA); Chepurna N., Associate Professor (KNUCA)  
MODERN PROBLEMS OF HOT WATER SUPPLY
identify methods of controlling this bacterium. Malfunction of existing hot water supply systems can lead to the growth and reproduction of "legionella".

To provide an effective bacterial control it is necessary to take into account not only the materials of the pipelines of hot water supply systems, but also the methods of disinfection, with the subsequent testing of the systems for the presence of bacteria.

The study of existing hot water supply systems proves that "legionella" bacteria grows especially quickly in systems where circulation failures occur, i.e., water cools rapidly to 38-42°C. Such a temperature is optimal for the bacterial growth.

So, when designing hot water supply systems, it is necessary:
- to design the circulating systems in such a way that the water temperature in the whole system does not decrease to 50°C during operation;
- it is desirable to use copper pipes to design areas that connect the risers with the pipe fittings;
- to perform thermal disinfection periodically.

Nowadays, the lowest cost of thermal energy is achieved with heat pumps. As a low-potential source of heat, it is proposed to use waste water, since their consumption is unchanged during the year, and the temperature is about 12-20 °C depending on the season. As a result, the coefficient of performance (COP) of these heat pumps is higher and less dependent on the air temperature than air heat pumps.

Wastewater heat transfer of the sewage system demands installation of the heat exchangers of the cold contour of heat pumps. It is possible to use pipes as a heat exchanger that can be installed in existing collectors in the following ways: to install new collectors in the space between the existing and new pipelines during the rehabilitation; to insert the inlays with heat exchangers; or to install pipes near the internal walls of collectors with their subsequent laying. During the laying of new networks it is advisable to use reinforced concrete pipes of factory production with built-in pipes of the heat exchanger. Also in existing and new systems it is possible to install heat exchangers in ventilation shafts of a sewage system, which will allow using heat of a mixture of gases emitted from sewage and removed from the collector.

Heat pumps with waste heat utilization can be used for heating and hot water supply of enterprises of the water supply and sewage enterprises, industrial enterprises, budgetary institutions and residential buildings. As a result, significant savings will be made from the purchase of heat.