

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
KYIV NATIONAL UNIVERSITY OF
CONSTRUCTION AND ARCHITECTURE



Conference program and proceedings

INTERNATIONAL
SCIENTIFIC-PRACTICAL
CONFERENCE
OF YOUNG SCIENTISTS



KYIV
UKRAINE
16-18
NOVEMBER
2016

**BUILD
MASTER
CLASS**

BUILD-MASTER-CLASS



MINISTRY OF EDUCATION AND SCIENCE OF
UKRAINE



KYIV NATIONAL UNIVERSITY OF
CONSTRUCTION AND ARCHITECTURE



POLISH ACADEMY OF SCIENCES (KYIV OFFICE)

WORKING PROGRAM AND PROCEEDINGS

INTERNATIONAL
SCIENTIFIC - PRACTICAL CONFERENCE
OF YOUNG SCIENTISTS

«BUILD-MASTER-CLASS-2016»



**BUILD
MASTER
CLASS 2016**

16-18 of November 2016
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, reconstruction 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)

Ploskyi Vitalii (Deputy Chairman)

Pidlutskyi Vasyl (Scientific Secretary)

Skochko Volodymyr (Head of working Committee)

Mykhailovskyi Denis (Head of technical Committee)

Andropova O.	Kopasova H.	Sakh R.
Berdnykh A.	Kovalenko S.	Sakharov V.
Bolharova N.	Kozhedub S.	Shabala Ye.
Bondarenko O.	Kukharuk A.	Shkrobot M.
Chepurna N.	Lavrukhina K.	Shkryl O.
Chernenko A.	Lisun I.	Sobchuk H.
Derevynskyi V.	Mikhaleva M.	Sobolevska L.
Grabovskyi A.	Mishchuk D.	Tormosov R.
Heher A.	Piskunov S.	Tsiutsiura M.
Honta V.	Pochka K.	Velychko S.
Horelenko O.	Priymak O.	Yehorov V.
Hubert Yu.	Pronevych O.	Yermakovych I.
Kashchenko T.	Pronevych Yu.	Yerukaiev A.
Klymchuk M.	Prymachenko O.	Zolotar L.

THEMES OF SECTIONAL AND PLENARY MEETINGS

Plenary meetings. Energy saving and ecological concepts in the new architecture. System solutions in design and construction. Modern training and information projects of construction industry.

Section 1. Architecture and Design. Theory of Architecture. Architectural design of civil buildings. Design of Architectural Environment. Architectural design. Information technologies in architecture, computer-aided engineering and design of architectural objects. Technical aesthetics, applied geometry. Energy and resource saving in construction and architecture.

Section 2. Urban planning and land use planning. Urban planning and land use planning. Urban planning information systems and City planning cadastre. Urban Construction and Management. Improving the efficiency of urban construction. Landscape architecture. Cadastre and land monitoring. Engineering geodesy, geoinformatics and photogrammetry.

Section 3. Construction, materials and design technology of building production. Structural mechanics. Building designs, buildings and constructions. Foundation Engineering. Numerical modeling of building structures. Construction materials and products. Construction Technology of production. Standardization and certification in construction..

Section 4. Engineering systems, automated systems and environmental aspects of construction. Heat and gas supply. Ventilation systems of buildings and constructions. Water supply and sanitation. Use of water and thermal energy resources. Automated systems and measuring systems. Electronics and electrical engineering. Ecological problems in construction and architecture. Technical thermal physics and industrial heat power. Energy efficiency of construction objects.

Section 5. Construction vehicles and equipment. Machines for the production of building materials and structures. Machines for earthworks, road and forestry engineering work. Handling machinery. Building Machinery Services.

Section 6. Organization, economics and management in construction. Organization of building production. Commodity and commercial activities. Construction Economics. Management in construction and architecture.

Section 7. Information Technology. Computer science. Information Technology. Information technology in education. Project and Program Management. Computer networks. Cybersecurity.

Section 8. Historical, socio-cultural, political, legal and philosophical aspects of architecture and construction development. Social-political development of society. Physical education and sports in the conditions of building production. History of Ukrainian culture. Pedagogy, philosophy and psychology of relationships in construction. Legal relations in construction and architecture.

CONFERENCE VENUE

Kyiv, Kyiv National University of Construction and Architecture,
Povitroflotskyi 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

Sobchuk H. (PAN) – Poland

Klymchuk M. – Ukraine

Kozhedub S. – Ukraine

Kochetov G. – Ukraine

Mykhailovskiy D. – Ukraine

Pidlutskiy V. – Ukraine

Piskunov S. – Ukraine

Priymak O. – Ukraine

Ryzhakova G. – Ukraine

Sakharov V. – Ukraine

Skochko V. – Ukraine

Slietsov O. – Ukraine

Tovbych V. – Ukraine

Tuhai O. – Ukraine

Shebek N. – Ukraine

Shults R. – Ukraine

CONFERENCE PARTNERS

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



MUNICIPAL
DEVELOPMENT
INSTITUTE



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Commission



ENERGY
CENTRE



Train-to-NZEB

The Building Knowledge Hubs

Scientific and Educational Center for
Architectural Designing and Research of
Nearly Zero Energy Buildings of
Kyiv National University of
Construction and Architecture

HORIZON 2020

CONFERENCE'S REGULATIONS

November, 16 (Wednesday)

- 9:00 – Participants' registration, Coffee break
- 10:00 – Opening of the conference, first plenary meeting
- 12:30 – Official opening of the Scientific and Educational Hub for Architectural Designing and Research of Nearly Zero Energy Buildings (NZEB) of Kyiv National University of Construction and Architecture. Excursion.
- 13:30 – Lunch
- 14:30 – Sectional meetings
- 16:00 – Expositional program, continuation of sectional meetings

November, 17 (Thursday)

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

November, 18 (Friday)

- 10:00 – Sectional meetings
- 13:00 – Lunch
- 14:00 – Continuation of sectional meetings. Expositional program
- 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

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WORKING PROGRAMM

FIRST PLENARY MEETING

16th of November, 2016, aud. 466

- 9:00 – Participants' registration, coffee break
- 10:00 – Opening of the conference, first plenary meeting
- 12:30 – Official opening of the Scientific and Educational Hub for Architectural Designing and Research of Nearly Zero Energy Buildings (NZEB) of Kyiv National University of Construction and Architecture. Excursion.
- 13:30 – Lunch

1. Welcome speech by Chairman of the Organizing Committee, Rector of KNUCA, Prof. Kulikov P.

2. Kononowicz W., professor, Head of the department of architecture and urban planning (University of Zielona Góra)

ISSUES OF THE MODERN URBAN PLANNING IN WROCLAW DURING THE INTERWAR PERIOD IN THE 20TH CENTURY

3. Ruwinski R., senior energy expert (Kyiv City State Administration)
DEVELOPMENT OF ENERGY EFFICIENCY IN GERMANY AND UKRAINE. PARALLEL AND MODERN CHALLENGES

4. Kozak Y., senior lecturer (KNUCA); Andropova O., assistant (KNUCA)
PROBLEMS OF ALTERNATIVE ENERGY USING AND ENERGMODERNISATION FOR OLD KYIV BUILDINGS OF XIX CENTUR

5. Sulatskov O., technical consultant (FDI «URSA»)
URSA – ENERGY EFFICIENCY AND SUSTAINABLE ENERGY DEVELOPMENT.

6. Shevchenko O., director of «heating and energy saving technologies» direction (LLC «AKLIMA»)
MODERN HEAT PUMPS. RECUPERATION.

7. Tormosov R., Ph.D., associate professor, executive director (All-Ukrainian Charitable Organization «Municipal Development Institute»); Skochko V., Ph.D., associate professor, director (NZEB Hub of KNUCA)

SCIENTIFIC AND EDUCATIONAL HUB FOR ARCHITECTURAL DESIGNING AND RESEARCH OF NEARLY ZERO ENERGY BUILDINGS (NZEB) OF KYIV NATIONAL UNIVERSITY OF CONSTRUCTION AND ARCHITECTURE: EUROPEAN ENERGY EFFICIENT TECHNOLOGIES IN CONSTRUCTION AND ARCHITECTURE

8. **Krutius V., sales and marketing director; Grechin V., technical consultant («Wienerberger» LLC)**

CERAMIC BLOCKS POROTHERM OPTIMAL WALL MATERIAL FOR CONSTRUCTION OF HOUSES WITH LOW POWER CONSUMPTION

9. **Machulko A., CEO («Gefest» LLC)**

EXTERNAL ACTIVE INSULATION SYSTEM – HEATING/COOLING SOLUTION. COMPLEX SYSTEMS

10. **Lakshantov A., key project engineer (Hilti (Ukraine) LTD)**

INNOVATIVE TECHNOLOGIES IN ENERGY EFFICIENT CONSTRUCTION

11. **Bashynsky D., sales department engineer (LLC «NPP Technologiya»)**

FOAM GLASS – ECOLOGICAL COMPATIBILITY AND RELIABILITY.

SECTION 4.

Engineering systems, automated systems and environmental aspects of construction

17th of November, 2016, aud.150

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

1. **Chupakova Katya-Hanna**, student (KNUCA); **Marchenko postgraduate (KNUCA)**; **Kotovenko O., Ph.D.,** associate professor (KNUCA)
PLACE IRON ORE INDUSTRY IN THE OVERALL TECHNOGENESIS OF UKRAINE

2. **Kropyvka Ya.,** student (KNUCA); **Miroshnychenko O.,** senior lecturer (KNUCA)
ANALYSIS OF SOLID HOUSEHOLD WASTE LANDFILL NO. 5 IMPACT ON THE ENVIRONMENT

3. **Orel V., Ph.D.,** associate professor (National University «Lviv Polytechnic»); **Semkiv I.,** student (National University «Lviv Polytechnic»)
GEAR PUMP DISPENSER HYDRODYNAMICAL ACTIVE POLYMERS

4. **Sych M.,** postgraduate (NUFT); **Kyshenko V., Ph.D.,** professor (NUFT)
SYNTHESIS OF SYSTEMS OF THE SYNERGISTIC CONTROL OF MATERIAL FLOWS IN SUGAR PRODUCTION

5. **Radionov V.,** student (SHEI «Kryvyi Rih National University»); **Morkun V., Ph.D.,** associate professor (SHEI «Kryvyi Rih National University»)
THE ADAPTIVE CONTROL SYSTEM FOR THE IDENTIFICATION OF HYDROCYCLONE TYPE

6. **Fesik L., Ph.D.,** associate professor (OSACEA); **Sorokina N., Ph.D.,** associate professor (OSACEA)
COMPACT INSTALLATIONS OF SEMISUBMERGED DISK BIOFILTERS FOR DEEP TREATMENT OF DOMESTIC SEWAGE

7. **Matsiyevska O., Ph.D.,** associate professor (National University «Lviv Polytechnic»); **Harasymchuk B.,** student (National University «Lviv Polytechnic»)
THE QUALITY OF TOWN WATER IN THE CITY OF LVIV

8. Pankov D., postgraduate (NUFT); Kyshenko V., professor (NUFT)
DYNAMIC PEER EVALUATION SYSTEM OF QUALITY BAKERY PRODUCTS

9. Kronh Ye., postgraduate (NUFT); Vaselenko L., Ph.D., associate professor (NUFT)
THE IMPACT OF THE UNCERTAINTY AND SUBJECTIVITY OF EXPERTS ASSESSMENTS OF THE QUALITY OF DECISION MAKING

10. Gnativ I., student (NU»Lviv Polytechnic»); Gnativ R., Doctor of Science, associate professor ("NU»Lviv Polytechnic»)
INFLUENCE OF QUARRYING IN THE RIVERBED STRYI AT WATER INTAKE FACILITIES OF WATER SUPPLY SYSTEMS

11. Markov M. (KNUCA); Samoilenko M. (KNUCA);
COMPARISON OF CLASSICAL AND STANDARDIZED PROGRAMMING LANGUAGES FOR AVR CONTROLLERS

12. Prokopenko B., student (KNUCA); Kopanitsia Yu., Ph.D., associate professor (KNUCA);
ANALYTIC CALCULATION OF HYDROSTATIC PRESSURE ON A FLAT SURFACE USING OF THREE COMMANDS METHOD K123

13. Kotova L., student (KNUCA); Azizov L., student (KNUCA); Kopanitsia Yu., Ph.D., associate professor (KNUCA)
ACCURACY EVALUATION OF NUMERIC CALCULATION OF HYDROSTATIC PRESSURE ON A FLAT SURFACE USING METHOD K123

14. Lysokon A., student (KNUCA); Sergeychuk O., Doctor of Sciences, professor (KNUCA)
DESIGN ENERGY EFFICIENT MULTI-STOREY HOUSES USING BIM-TECHNOLOGIES IN UKRAINE

15. Cherniuk V., Doctor of Science, professor (LPNU); Ivaniv V., postgraduate (LPNU); Podibka N., student (LPNU);
INFLUENCE OF THE VALUE OF JET JOINING ANGLE ON NON-UNIFORMITY OF WATER INFLOW INTO PRESSURE COLLECTOR-PIPELINE ALONG THE PATH

16. Nekrashevych A., student (KNUCA); Tischuk M., student (KNUCA); Wolters A., assistant (KNUCA); Sobolevska L., assistant (KNUCA)
AUTOMATED SYSTEM OF CONTROL AND ACCOUNTING OF GAS FLOW

DYNAMIC PEER EVALUATION SYSTEM OF QUALITY BAKERY PRODUCTS

The relevance of the topic. To ensure optimal management of technological complex of bakery production is necessary to use a support system and making decisions based on expert system of quality assessment of raw materials, semi-finished and finished products. In forming the expert evaluation of quality bakery products created qualimetric tools based on the methodology of computer dynamic quality control, including the formalization of using quality evaluation functions, verbal-numeric scale quality products, providing operational analysis of quality in terms of production and implementation of effective strategies for process control.

A statement of the main research and method of implementation of the problem. Assessing the level and quality of products is the basis for appropriate control actions in the system of quality control. The purpose of evaluation is due: What quality should choose to consider what methods and accuracy with which to determine their value, which means this will need a process and a form to submit results of the evaluation. Properties of products can be described quantitatively and qualitatively. It is necessary to use the system of causality for the optimal form of presentation of data for the analysis of quality control bakery products. The method of expert estimates and adaptive resonance, which is to hold expert-based ontologies intuitive and logical analysis of quantitative assessment and judgment followed a formal data processing system with the establishment of operational values for effective solutions for process control.

Expected results. The dynamic expert system which is implemented systematic and logical approach to learning and using the system of causality to describe the subject area and is a component of the process control systems.

Conclusion. Expert system developed quantitative estimation of consumer properties of bakery products as part of the process control system, which represents a set of management and control objects, events, methods and means to install, support and maintain a high level of product quality.

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Working program and proceedings
of international scientific-practical conference
of young scientists

Editors: Anna Heher, Volodymyr Skochko, Vasyl Pidlutskyi

Correctors: Kozhedub Sergii, Iryna Yermakovych,
Kopasova Hanna, Lavrukhina Kateryna,

Editorial Committee is not responsible for the content of conference proceedings

Kyiv National University of Construction and Architecture
Ukraine, Kyiv, Povitroflotskyi av., 31

The background is a complex geometric composition. It features a dense arrangement of overlapping triangles in various shades of yellow, green, and red. A prominent white, angular shape resembling a stylized 'K' or a mountain peak is positioned in the center-left. To the right, a light blue wireframe structure of interconnected lines is visible against a white background. The overall aesthetic is modern and architectural.

Kyiv2016