



**LVIV POLYTECHNIC  
NATIONAL UNIVERSITY**



**INSTITUTE OF CIVIL  
ENGINEERING AND BUILDING  
SYSTEMS**

**CONFERENCE PROGRAMME**

**II International Scientific Conference**

**ECOCOMFORT AND CURRENT ISSUES OF CIVIL ENGINEERING  
LVIV, UKRAINE**



**LVIV, UKRAINE**

**SEPTEMBER 16-18, 2020**

# CONFERENCE PROGRAMME

## II International Scientific Conference

### ECOCOMFORT AND CURRENT ISSUES OF CIVIL ENGINEERING LVIV, UKRAINE

**Important:**

In order to take part in the EcoComfort 2020 online conference, you need to follow the links provided below - first for the opening ceremony, and then for the section meeting. To log in, you need to register an account on Google.com. Therefore, please try to join in advance.

All participants will be able to try to join the same links one day before the conference, 15.09.2020 from 12-00 to 14-00. Administrators will be waiting for you.

**First day - September 16, 2020**

10<sup>00</sup> - 11<sup>00</sup> Registration

<https://meet.google.com/ohx-hcco-dpf>

11<sup>00</sup> – 11<sup>30</sup> Opening Ceremony.

Prof. Zinoviy Blikharsky, Sc.D., Director of the Institute of Civil Engineering and Building Systems of the Lviv Polytechnic National University (Ukraine)

Prof. Vasyl Zhelykh, Sc.D., head of Department of Heat and Gas Supply and Ventilation, Institute of Civil Engineering and Building Systems of the Lviv Polytechnic National University (Ukraine)

11<sup>30</sup> – 13<sup>00</sup> Section meetings\*

13<sup>00</sup> - 14<sup>00</sup> Break for Lunch

14<sup>00</sup> – 17<sup>00</sup> Section meetings\*

\*Section 1 - Construction and Structural Mechanics

<https://meet.google.com/ohx-hcco-dpf>

	<b>Moderator –Roman Khmil</b> <b>Administrator – Taras Shnal</b>
11 <sup>30</sup> – 11 <sup>40</sup>	1. Andriichuk, Oleksandr (et al.) Experimental Research of Strength Characteristics of Steel Fiber Reinforced Concrete Gutters and Modeling of Their Work Using the Finite Element Method
11 <sup>40</sup> – 11 <sup>50</sup>	2. Babych, Evgen (et al.) Experimental Research of Strength Characteristics of Continuous Reinforced Concrete Beams with Combined Reinforcement, and Modelling Their Work by the Finite Element Method
11 <sup>50</sup> – 12 <sup>00</sup>	3. Barabash, Maria (et al.) Simulation of the Seismic Resistance of Buildings with Account of Unlimited Soil Space
12 <sup>00</sup> – 12 <sup>10</sup>	4. Bevz, Mykola Between Tradition and Innovation: The Search for Modern Architectural Forms and Structures in the Design of Wooden Churches
12 <sup>10</sup> – 12 <sup>20</sup>	5. Blikharsky, Zinoviy (et al.) Bearing Capacity of Stone Beam Reinforced by GFRP
12 <sup>20</sup> – 12 <sup>30</sup>	6. Bobalo, Taras (et al.) Influence of the Percentage of Reinforcement on the Compressive Forces Loss in Pre-stressed RC Beams Strengthened with a Package of Steel Bars
12 <sup>30</sup> – 12 <sup>40</sup>	7. Borysiuk, Oleksandr (et al.) Experimental Research Results of the Bearing Capacity of the Reinforced Concrete Beams Strengthened in the Compressed and Tensile Zones
12 <sup>40</sup> – 12 <sup>50</sup>	8. Bula, Serhiy (et al.) Experimental Study of Compressed Ceramic Hollow Brick Masonry Structures Strengthened with GFRP Meshes
12 <sup>50</sup> – 13 <sup>00</sup>	9. Chernieva, Olena (et al.) Methods of Reinforcing for Engineering Restoration of Architectural Monuments

13 <sup>00</sup> – 14 <sup>00</sup>	Break for Lunch
	<b>Moderator –Roman Khmil</b> <b>Administrator – Taras Shnal</b>
14 <sup>00</sup> – 14 <sup>10</sup>	10. Vitaliy, Dorofeyev (et al.) The Influence of Concrete Structure on the Destruction of Reinforced Concrete Bended Elements
14 <sup>10</sup> – 14 <sup>20</sup>	11. Khmil, Roman (et al.) The Probabilistic Calculation Model of RC Beams, Strengthened by RC Jacket
14 <sup>20</sup> – 14 <sup>30</sup>	12. Klymenko, Yevhenii (et al.) Operation of Damaged H-Shaped Columns
14 <sup>30</sup> – 14 <sup>40</sup>	13. Kochkarev, Dmitro (et al.) Designing of Standard Cross Sections of Composite Bending Reinforced Concrete Elements by the Method of Design Resistance of Reinforced Concrete
14 <sup>30</sup> – 14 <sup>40</sup>	14. Koval, Petro (et al.) Influence of Basalt Fiber Dispersed Reinforcement on the Work of Concrete Beams with Non-metallic Composite Reinforcement
14 <sup>40</sup> – 14 <sup>50</sup>	15. Kovalchuk, Bogdan (et al.) Strength of Reinforced Concrete Beams Strengthened Under Loading with Additional Reinforcement with Different Levels of its Pre-tensio
14 <sup>50</sup> – 15 <sup>00</sup>	16. Kushchenko, Volodymir (et al.) Monitoring of Dynamic Loads on Steel Headframes
15 <sup>00</sup> – 15 <sup>10</sup>	17. Lobodanov, Maxim (et al.) Influence of Damages in the Compressed Zone on Bearing Capacity of Reinforced Concrete Beams
15 <sup>10</sup> – 15 <sup>20</sup>	18. Maksymovych, Solomiya (et al.) Experimental Study of Crack Resistance and Shear Strength of Single-Span Reinforced Concrete Beams Under a Concentrated Load at a/d= 1
15 <sup>20</sup> – 15 <sup>30</sup>	19. Romaniuk, Volodymyr (et al.) Influence of Flexibility of Bolted Joints on Rigidity of the Hingeless Frame
15 <sup>30</sup> – 15 <sup>40</sup>	20. Shnal, Taras (et al.) Determination of the Charring Rate of Timber to Estimate the Fire Resistance of Structures at Real Temperature Modes of Fires
15 <sup>40</sup> – 15 <sup>50</sup>	21. Shnal, Taras (et al.) Development of a Mathematical Model of Fire Spreading in a Three-Storey Building Under Full-Scale Fire-Response Tests

\*Section 2 - Building Materials

<https://meet.google.com/ozr-zstt-xdc>

	<b>Moderator – Khrystyna Sobol</b> <b>Administrator – Taras Markiv</b>
11 <sup>30</sup> – 11 <sup>40</sup>	1. Hohol, Marko (et al.) Effect of Nano-TiO <sub>2</sub> and ETS Antifungal Agent Addition on the Mechanical and Biocidal Properties of Cement Mortars
11 <sup>40</sup> – 11 <sup>50</sup>	2. Kropyvnytska, Tetiana (et al.) Effect of Plasticizing and Retarding Admixtures on the Properties of High Strength Concrete
11 <sup>50</sup> – 12 <sup>00</sup>	3. Markiv, Taras (et al.) Effect of Plasticizing and Retarding Admixtures on the Properties of High Strength Concrete
12 <sup>00</sup> – 12 <sup>10</sup>	4. Plugin, Andrii A. (et al.) Hydration Products that Provide Water-Repellency for Portland Cement-Based Waterproofing Compositions and Their Identification by Physical and Chemical Methods
12 <sup>10</sup> – 12 <sup>20</sup>	5. Pozniak, Oksana (et al.) Production of Fly Ash Aerated Concrete and Efficiency of Its Application
12 <sup>20</sup> – 12 <sup>30</sup>	6. Sanytsky, Myroslav (et al.) The Effect of Mechanical Activation on the Properties of Hardened Portland Cement
12 <sup>30</sup> – 12 <sup>40</sup>	7. Sydor, Nazar (et al.) Development of Component Composition of Engineered Cementitious Composites
12 <sup>40</sup> – 12 <sup>50</sup>	8. Tolmachov, Serhij (et al.) Physico-Chemical Investigations of Water Suspensions Microfillers
12 <sup>50</sup> – 13 <sup>00</sup>	9. Zhitkovsky, Vadim (et al.) Methodology for Calculating the Composition of Fine-Grained Concrete with High Resolution
13 <sup>00</sup> – 14 <sup>00</sup>	Break for Lunch
	<b>Moderator – Khrystyna Sobol</b> <b>Administrator – Taras Markiv</b>
14 <sup>00</sup> – 14 <sup>10</sup>	10. Demchuk, Yuriy (et al.) Comparison of Bitumen Modified by Phenol Formaldehyde Resins Synthesized from Different Raw Materials
14 <sup>10</sup> – 14 <sup>20</sup>	11. Sidun, Iurii (et al.) Cohesion of Slurry Surfacing Mix on Bitumens of Different Acid Numbers at Different Curing Temperatures

14 <sup>20</sup> – 14 <sup>30</sup>	12. Sobko, Yuriy The Methodology of Experimental Bending Moments Determination in Bridge Span Structures
14 <sup>30</sup> – 14 <sup>40</sup>	13. Turba, Yurii (et al.) Crack Resistance of Concretes Reinforced with Polypropylene Fiber

\*Section 3 - Environmental Engineering and Sustainability

<https://meet.google.com/wrh-oxge-naq>

	<p><b>Moderator – Orest Voznyak</b>  <b>Administrator – Stepan Shapoval</b></p>
11 <sup>30</sup> – 11 <sup>40</sup>	1. Antypov, Ievgen (et al.) Influence of Nanoparticles on the Processes of Heat Accumulation During Material Phase Transformations
11 <sup>40</sup> – 11 <sup>50</sup>	2. Buravchenko, Vsevolod (et al.) Simplified Method for Determining the Energy Efficiency of Window Blinds in the Field
11 <sup>50</sup> – 12 <sup>00</sup>	3. Fialko, Nataliia (et al.) Ukraine Energy Transition in Light of the EU Experience
12 <sup>00</sup> – 12 <sup>10</sup>	4. Gorobets, Valery (et al.) Investigation of Preparation Processes of Liquid Feed Mixtures in Rotary Pulsating Apparatus
12 <sup>10</sup> – 12 <sup>20</sup>	5. Gulay, Bohdan (et al.) Investigations of Compact Recuperators Acoustic Properties
12 <sup>20</sup> – 12 <sup>30</sup>	6. Ivaniv, Vasyl (et al.) Non-uniformity of Water Inflow into Pressure Collector-Pipeline Depending on the Values of Reynolds Criterion and of Inflow Jets Angles
12 <sup>30</sup> – 12 <sup>40</sup>	7. Kapalo, Peter (et al.) Examining the Interdependence of the Various Parameters of Indoor Air
12 <sup>40</sup> – 12 <sup>50</sup>	8. Kapalo, Peter (et al.) The Analysis of Heat Consumption in the Selected City
12 <sup>50</sup> – 13 <sup>00</sup>	9. Katunsky, Dusan (et al.) Assessment of Thermal Insulation Properties of Envelope Structures of a Burgher House in Kosice
13 <sup>00</sup> – 14 <sup>00</sup>	Break for Lunch
	<p><b>Moderators – Orest Voznyak</b>  <b>Administrator – Stepan Shapoval</b></p>
14 <sup>00</sup> – 14 <sup>10</sup>	10. Khmelniuk, Mykhailo (et al.) Performance Analysis of the Small-Scale Refrigeration System Using Natural Refrigerants and Their Mixtures
14 <sup>10</sup> – 14 <sup>20</sup>	11. Koval, Lidiia (et al.) Promising Trends in Design of LED Lighting Combined with Systems of Natural Lighting
14 <sup>20</sup> – 14 <sup>30</sup>	12. Labay, Volodymyr (et al.) Dependence of Evaporation Temperature and Exergetic Efficiency of Air Split-Conditioners Heat Pumps from the External Air Temperature
14 <sup>30</sup> – 14 <sup>40</sup>	13. Lys, Stepan (et al.) Influence of Humidity of Wood Fuel on the Gasification Process in a Continuous Layer
14 <sup>40</sup> – 14 <sup>50</sup>	14. Matsiyevska, Oksana (et al.) Analysis of the Water Consumption in the Apartment House – Case Study
14 <sup>50</sup> – 15 <sup>00</sup>	15. Mileikovskiy, Viktor (et al.) Precise Explicit Approximations of the Colebrook-White Equation for Engineering Systems
15 <sup>00</sup> – 15 <sup>10</sup>	16. Myroniuk, Khrystyna (et al.) Technical and Economic Efficiency After the Boiler Room Renewal
15 <sup>10</sup> – 15 <sup>20</sup>	17. Petrenko, Viktor (et al.) The Calculation of Indoor Air Forecast Temperature of a Space with the Replaceable Thermotechnical Characteristics of the Enclosure Structures While in Operation
15 <sup>20</sup> – 15 <sup>30</sup>	18. Poorova, Zuzana (et al.) Humidity, Air Temperature, CO <sub>2</sub> and Well-Being of People with and Without Green Wall
15 <sup>30</sup> – 15 <sup>40</sup>	19. Protsenko, Serhii (et al.) Analysis of the Current Methodology Disadvantage of the Consumed Thermal Energy Allocation Between Consumers for Heating of Multi-apartment Buildings and Ways of its Improvement
15 <sup>40</sup> – 15 <sup>50</sup>	20. Riabenko, Oleksandr (et al.) Impact of Undular Jump Characteristics on Erosion of Tailrace Channel
15 <sup>50</sup> – 16 <sup>00</sup>	21. Savchenko, Olena (et al.) Thermal Renewal of Industrial Buildings Gas Supply System
16 <sup>00</sup> – 16 <sup>10</sup>	22. Savytskyi, Mykola (et al.) The Sustainable Design of the Greenhouse by Criteria of Heat Losses and Solar Heat Gains
16 <sup>10</sup> – 16 <sup>20</sup>	23. Shapoval, Stepan (et al.) Clarification of Thermal Characteristics of the Solar Collector Integrated into Transparent Façade

16 <sup>20</sup> – 16 <sup>30</sup>	24. Snitynskyi, Volodymyr (et al.) Influence of Climatic Factors on Runoff Formation and Surface Water Quality of the Stryi River Basin
16 <sup>30</sup> – 16 <sup>40</sup>	25. Spodyniuk, Nadiia (et al.) Research of Temperature Regime in the Module for Poultry Growing
16 <sup>40</sup> – 16 <sup>50</sup>	26. Ulewicz, Malgorzata (et al.) Assessment of the Economic Feasibility of Using Alternative Energy Sources in Ukraine
16 <sup>50</sup> – 17 <sup>00</sup>	27. Velychko, Svitlana (et al.) Estimation of the Ecological Flow of Mountain River in Ukrainian Carpathians for Small Hydropower Projects
17 <sup>00</sup> – 17 <sup>10</sup>	28. Zhelykh, Vasyl (et al.) Influence of Orientation of Buildings Facades on the Level of Solar Energy Supply to Them
17 <sup>10</sup> – 17 <sup>20</sup>	29. Zhuk, Volodymyr (et al.) Maximum Daily Stormwater Runoff Flow Rates at the Inlet of the Lviv WWTP Based on the Results of Systematic Hydrologic Observations of the Catchment

### Second day - September 17, 2020

- 10<sup>00</sup> - 13<sup>00</sup> Section meetings\*
- 13<sup>00</sup> - 14<sup>00</sup> Break for Lunch
- 14<sup>00</sup> - 17<sup>00</sup> Section meetings\*

### Third day - September 18, 2020

- 10<sup>00</sup> - 13<sup>00</sup> Section meetings\*

#### Важливо:

для того, щоб взяти участь в онлайн конференції ЕкоКомфорт 2020, необхідно пройти за посиланнями, наданими вище - спершу для церемонії відкриття, а потім для секційного засідання. Для входу необхідна реєстрація акаунту на Google.com. Тому просимо спробувати приєднання заздалегідь.

Всі учасники зможуть спробувати приєднатись за тими самими посиланнями один день перед конференцією, 15.09.2020 з 12-00 до 14-00. Вас чекатимуть адміністратори.