



**LVIV POLYTECHNIC  
NATIONAL UNIVERSITY**



**INSTITUTE OF CIVIL  
ENGINEERING AND BUILDING  
SYSTEMS**

**CONFERENCE PROGRAMME**

**III International Scientific Conference**

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



**LVIV, UKRAINE**

**SEPTEMBER 14-16, 2022**

# CONFERENCE PROGRAMME

## III International Scientific Conference

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

**Important:**

In order to take part in the EcoComfort 2022 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 before the conference, 14.09.2022 from 09-30 to 10-00. Administrators will be waiting for you.

**First day - September 14, 2022**

10<sup>00</sup> – 10<sup>10</sup> Registration

<https://meet.google.com/cdr-pjjs-wqj>

10<sup>15</sup> – 10<sup>45</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)

10<sup>45</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 and Building Materials

<https://meet.google.com/zkg-ywfw-tir>

	<b>Moderator – Pavlo Vegera</b> <b>Administrator – Taras Shnal</b>
10 <sup>50</sup> – 11 <sup>00</sup>	1. Olha Ahaieva, Pavlo Vegera, Vasyl Karpiuk, and Oleksandr Posternak <a href="#">Design Reliability of the Bearing Capacity of the Reinforced Concrete Structures on the Shear</a>
11 <sup>00</sup> – 11 <sup>10</sup>	2. Yevhenii Babych, Volodymyr Babych, and Olena Polianovska <a href="#">Determination of Parameters of Dispersed Reinforcement of the Flexible Reinforced Concrete Elements to Increase Their Crack Resistance</a>
11 <sup>20</sup> – 11 <sup>30</sup>	3. Yaroslav Blikharsky, Oleksandr Panchenko, Yuriy Sobko, and Andriy Tereshko <a href="#">Calculation of Eccentrically Compressed RC Columns Strengthened by CFRP Under Different Load Level</a>
11 <sup>30</sup> – 11 <sup>40</sup>	4. Taras Bobalo, Mykhailo Volynets, Yaroslav Blikharsky, and Iryna Dankevych <a href="#">Prestress Losses of Steel-Concrete Beams with Different Percent of Reinforcement</a>
11 <sup>40</sup> – 11 <sup>50</sup>	5. Serhiy Bula and Mariana Kholod <a href="#">Experimental Research of Damaged Clay Solid-Brick Masonry Strengthened with GFRP Wrapping</a>
11 <sup>50</sup> – 12 <sup>00</sup>	6. Vitaliy Dorofeyev and Natalia Pushkar <a href="#">The Bearing-Capacity of Precast Beams with Vertical Contact Plane</a>
12 <sup>00</sup> – 12 <sup>10</sup>	7. Oleksii Hunyak, Volodymyr Hidei, Khrystyna Sobol, and Nadiya Petrovska <a href="#">Valorization of Wastepaper Sludge Ash as Supplementary Cementitious Material in Concrete</a>
12 <sup>10</sup> – 12 <sup>20</sup>	8. Ihor Karkhut, Solomiya Maksymovych, and Olha Krochak <a href="#">Deformability and Crack Resistance of Reinforced Concrete Protective Shells Under the Action of Local Emergency Punching</a>

12 <sup>20</sup> – 12 <sup>30</sup>	9. Irina Karpiuk, Vasily Karpiuk, Roman Hlibotskyi, and Oleksandr Posternak <a href="#">Load-Bearing Capacity of Damaged Concrete Beams with Basalt Plastic Fittings, Reinforced with External Fiber-Reinforced Plastics</a>
12 <sup>30</sup> – 12 <sup>40</sup>	10. Yevgenii Klymenko, Iryna Grynova, Zeljko Kos, and Olena Maksiuta <a href="#">Method for Determining the Residual Bearing Capacity of Damaged I-Beam Reinforced Concrete Columns</a>
12 <sup>40</sup> – 12 <sup>50</sup>	11. Andrii Kramarchuk, Borys Ilnytsky, and Oksana Lytvyniak <a href="#">The Features of Preservation of Architectural Sights of National Significance in Modern Urban Space</a>
12 <sup>50</sup> – 13 <sup>00</sup>	12. Andrii Kramarchuk, Borys Ilnytsky, and Nadiia Kopiika <a href="#">Ensuring the Load-Bearing Capacity of Monolithic Reinforced Concrete Slab Damaged by Cracks in the Compressed Zone</a>
13 <sup>00</sup> – 14 <sup>00</sup>	Break for Lunch  <b>Moderator – Pavlo Vegera</b> <b>Administrator – Taras Shnal</b>
14 <sup>00</sup> – 14 <sup>10</sup>	13. Tetiana Kropyvnytska, Myroslav Sanytsky, Iryna Heviuk, and Ludmyla Kripka <a href="#">Study of the Properties of Low-Carbon Portland-Composite Cements CEM II/C-M</a>
14 <sup>10</sup> – 14 <sup>20</sup>	14. Marta Jagusiak-Kocik and Robert Ulewicz <a href="#">Implementation of the QFD Method in a Construction Industry Company</a>
14 <sup>20</sup> – 14 <sup>30</sup>	15. Maksym Lobodanov, Zinoviy Blikharsky, Pavlo Vegera, Taras Shnal, and Andrii Karpushyn <a href="#">Bearing Capacity of Reinforced Concrete Beams with Damages in the Compressed Area Obtained Before the Workload of 50–70%</a>
14 <sup>30</sup> – 14 <sup>40</sup>	16. Taras Markiv and Zinoviy Blikharsky <a href="#">Effect of Calcium Nitrate-Based Admixture on the Strength of Concrete and Corrosion Susceptibility of Reinforcing Steel Bars</a>
14 <sup>30</sup> – 14 <sup>40</sup>	17. Uliana Marushchak, Nazar Sydor, and Igor Margal <a href="#">Impact of Polypropylene Fibers on the Properties of Engineered Cementitious Composites</a>
14 <sup>40</sup> – 14 <sup>50</sup>	18. Uliana Marushchak, Oksana Pozniak, and Oksana Mazurak <a href="#">Assessment of Wall Structures for Reconstruction of Buildings</a>
14 <sup>50</sup> – 15 <sup>00</sup>	19. Ihor Melnyk, Myron Hohol, and Vlodymyr Partuta <a href="#">Research of Concrete Blocks Optimized by Cavity Formation</a>
15 <sup>00</sup> – 15 <sup>10</sup>	20. Vadim Nizhnyk, Olesya Savchenko, Yaroslav Ballo, and Valeriia Nekora <a href="#">Theoretical Approaches to Justify the Coefficients of Influence of Fire Protection Systems on Individual Fire Risk</a>
15 <sup>10</sup> – 15 <sup>20</sup>	21. Andrii Plugin, Nadiya Murygina, Serhii Miroshnichenko, and Olena Kaliuzhna <a href="#">Materials for Connecting Railway Reinforced Concrete Bridge Deck with Steel Bridge Structures</a>
15 <sup>20</sup> – 15 <sup>30</sup>	22. Stanislav Sidnei, Taras Shnal, Petro Kholod, and Serhii Pozdieiev <a href="#">Forecasting the Behavior of Steel Beams with Corrugated Walls Under the Thermal Exposure of a Fire</a>
15 <sup>30</sup> – 15 <sup>40</sup>	23. Iurii Sidun, Oleksiy Vollis, Volodymyr Bidos, and Yurii Turba <a href="#">Versions of Orthophosphoric Acids for Slurry Surfacing Mix</a>
15 <sup>40</sup> – 15 <sup>50</sup>	24. Roman Tytarenko, Roman Khmil, Jacek Selejdak, and Rostyslav Vashkevych <a href="#">Probabilistic Durability Assessment of RC Structures in Operation: An Analytical Review of Existing Methods</a>
15 <sup>40</sup> – 16 <sup>00</sup>	25. Yurii Vybranets and Svitlana Vikhot <a href="#">Spatial Calculation of Metal Truss Structure in Joint Work with Reinforced Concrete Slab</a>

\*Section 2 - Environmental Engineering and Sustainability

<https://meet.google.com/nrp-mkyx-qfv>

	<b>Moderator – Orest Voznyak</b> <b>Administrator – Yurii Furdas</b>
10 <sup>50</sup> – 11 <sup>00</sup>	1. Katarína Čákyová, Marián Vertal, Alena Vargová, and Zuzana Vranayová <a href="#">The Concept of Green Industrial Zones</a>
11 <sup>00</sup> – 11 <sup>10</sup>	2. Nataliia Fialko and Mykola Tymchenko <a href="#">Energy Climate Security and Energy Supply Systems of the Building Stock</a>
11 <sup>20</sup> – 11 <sup>30</sup>	3. František Vranay, Ján Domanický, and Michal Gorás <a href="#">Preparation of Experimental Measurement of Heat Pump Parameters</a>
11 <sup>30</sup> – 11 <sup>40</sup>	4. Peter Kapalo, Orest Voznyak, Vasyl Zhelykh, and Hanna Klymenko <a href="#">Determination of the Air Volume Flow in a Classroom Based on Measurements of Carbon Dioxide Concentration</a>
11 <sup>40</sup> – 11 <sup>50</sup>	5. Mariana Kasynets, Khrystyna Kozak, Bogdan Piznak, and Iryna Venhryn <a href="#">Enhancing of Efficiency of Solar Panels Combined with Buildings Coating</a>
11 <sup>50</sup> – 12 <sup>00</sup>	6. Olga Khymko, Myroslav Prytula, Nazar Prytula, and Zoia Prytula <a href="#">Methods of Optimal Development and Modernization of Existing Distribution Networks for Gas-Hydrogen Mixtures</a>

12 <sup>00</sup> – 12 <sup>10</sup>	7. Gennadiy Balasarian, Oleksandr Klymchuk, Yevhen Babaiev, and Andrii Semenii <a href="#">Improving the Efficiency of Heating Systems of Buildings Due to Intermittent Heating</a>
12 <sup>10</sup> – 12 <sup>20</sup>	8. Lidiia Koval, Oleg Sergeychuk, and Olga Andropova <a href="#">Patterns in Designing Energy-Efficient Light Environment by Means of LED Sources: Review</a>
12 <sup>20</sup> – 12 <sup>30</sup>	9. Igor Kozlov, Vyacheslav Kovalchuk, Oleksandr Klymchuk, and Lada Prokopovych <a href="#">Estimates of Environmental Impact on the Environment During Energy Generation</a>
12 <sup>30</sup> – 12 <sup>40</sup>	10. Volodymyr Labay, Oleksandr Dovbush, and Hanna Klymenko <a href="#">Choice of Energy-Saving Exploitation Conditions Acting Heat Pumps of Air Split-Conditioners</a>
12 <sup>40</sup> – 12 <sup>50</sup>	11. Khrystyna Myroniuk, Orest Voznyak, Olena Savchenko, and Mariana Kasynets <a href="#">Mathematical Modeling of an Air Flow Leakage with the Jets Interaction at the Variable Mode</a>
12 <sup>50</sup> – 13 <sup>00</sup>	12. Viktor Petrenko, Konstantin Dikarev, Anatolii Petrenko, and Irina Holiakova <a href="#">Impact of Changes of Performance Characteristics of Water Heating System on Indoor Air Temperature</a>
13 <sup>00</sup> – 14 <sup>00</sup>	Break for Lunch  <b>Moderators – Orest Voznyak</b> <b>Administrator – Yurii Furdas</b>
14 <sup>00</sup> – 14 <sup>10</sup>	13. Oleksandr Priymak, Nataliia Yefimenko, Volodymyr Shepichak, and Ihor Redko <a href="#">Ecological Expediency of Using Traditional Fuels as Opposed to Solar Energy</a>
14 <sup>10</sup> – 14 <sup>20</sup>	14. Oleksandr Riabenko, Oksana Kliukha, Oksana Halych, and Volodymyr Tymoshchuk <a href="#">Near-Critical Flows Impact on Constructions Operation and Environment</a>
14 <sup>20</sup> – 14 <sup>30</sup>	15. Olena Savchenko, Yuriy Yurkevych, Vasyl Zhelykh, and Orest Voznyak <a href="#">Review of Schemes of Geothermal District Heating and Recommendations for Their Use in Lviv Region</a>
14 <sup>30</sup> – 14 <sup>40</sup>	16. Olena Savchenko and Anna Lis <a href="#">Estimation of Efficiency of Use of Flat Solar Collectors in Temperate Climate Regions</a>
14 <sup>40</sup> – 14 <sup>50</sup>	17. Volodymyr Semko, Oleg Yurin, Nataliia Mahas, and Anastasiia Norka <a href="#">Insulation Thermal Conductivity (Providing Thermal Protection Norms Maintenance) Dependence on Size of a Wall Rounding Radius and an Insulation Thickness</a>
14 <sup>50</sup> – 15 <sup>00</sup>	18. Stepan Shapoval, Iryna Venhryn, Pavlo Shapoval, and Nadiia Paraniak <a href="#">Characteristics of a Solar Collector Combined with a Building Glass Facade Under Different Operating Modes of the Heat Carrier in the Solar Heat Supply System</a>
15 <sup>00</sup> – 15 <sup>10</sup>	19. Iryna Venhryn, Stepan Shapoval, Vasyl Zhelykh, and Bogdan Gulai <a href="#">Experimental Studies of Energy Efficiency of a Thermal Photovoltaic Hybrid Solar Collector Under the Influence of Wind Flow</a>
15 <sup>10</sup> – 15 <sup>20</sup>	20. Orest Voznyak, Yuriy Yurkevych, Iryna Sukholova, and Khrystyna Myroniuk <a href="#">Mathematical Modeling of Air Distribution in a Non-stationary Mode by Swirled-Compact Air Jets</a>
15 <sup>20</sup> – 15 <sup>30</sup>	21. Yurii Furdas, Yuriy Yurkevych, Vasyl Zhelykh, and Malgorzata Ulewicz <a href="#">The Impact of Wind Flow on Multi-storey Buildings: Experimental Studies</a>

## Second day - September 15, 2022

- 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 16, 2022

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

**Важливо:**

для того, щоб взяти участь в онлайн конференції ЕкоКомфорт 2022, 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 14.09.2022 з 09-30 до 10-00. Вас чекатимуть адміністратори.