

Thursday, 4th of December 2025
Opolanka Restaurant & Leisure, Żerkowicka 2K, 45-850 Opole

8.00 – 9.00
9.00 – 9.30

Registration
Opening Ceremony

Session no 1 Chairman: Romuald Tarczewski

- 9.30 – 9.55 **Invited lecture - I. Calotescu, D. Bîtcă**
DYNAMIC RESPONSE ANALYSIS OF TELECOMMUNICATION LATTICE TOWERS UNDER SYNOPTIC AND DOWNBURST WINDS
- 9.55 – 10.10 **A. P. Szesztay, A.F. Guerra, P.L. Várkonyi**
FORM FINDING TECHNIQUES OF COUPLED FUNICULAR PAIR
- 10.10 – 10.25 **B. Yakak, B. Atmaca, T. Dede, M. Grzywiński**
OPTIMAL SENSOR PLACEMENT FOR STRUCTURAL HEALTH MONITORING USING A LUMPED MASS MODEL
- 10.25 – 10.40 **D. Bysiec, T. Maleska, P. Obara**
MEMBER GROUPING PROCESS IN GEODESIC DOME STRUCTURES
- 10.40 – 10.55 **J. Szafran, M. Skubina**
THE EVOLUTION OF TOWERS DESIGN METHODOLOGY IN THE CONTEXT OF TECHNOLOGICAL INTEGRATION AND DUAL-USE STRUCTURES
- 10.55 – 11.25 Coffee break**

Session no 2 Chairman: Seweryn Kokot

- 11.25 – 11.50 **Invited lecture - A. Behnejad**
TACTILE APPROACHES FOR TEACHING LIGHTWEIGHT STRUCTURES IN AN INTERNATIONAL CONTEXT
- 11.50 – 12.05 **R. Tarczewski**
GEOMETRIC FORM AND STRUCTURAL PERFORMANCE OF APERIODIC GRID SYSTEMS
- 12.05 – 12.20 **G. Tish**
SINUSOIDAL RIPPLE TRANSFORMATIONS FOR DIMENSIONAL PROFILE ESTIMATION AND OPTIMIZATION
- 12.20 – 12.35 **P. Obara, P. Zabojszcza, U. Radoń**
NONLINEAR BUCKLING AND MODAL ANALYSIS OF SCHWEDLER AND GEIGER DOMES
- 12.35 – 12.50 **M. Sondej, J. Górski**
RELIABILITY ESTIMATION OF STORAGE STEEL TANKS IN DIRECT ENGINEERING APPLICATIONS
- 12.50 – 13.45 Lunch**

Session no 3 Chairman: Damian Bęben

- 13.45 – 14.00 **A. Tomaszewska, M.A. Zmuda Trzebiatowski, M. Chronowski, F. Neubauer, Z. Michniewicz, B. Łazarczyk, P. Kłosowski**
TENSEGRITY STRUCTURE INCORPORATING A TECHNICAL FABRIC – PRACTICAL ASPECTS OF CONSTRUCTION
- 14.00 – 14.15 **A. Franus, S. Jemioło**
QUASI-STATIC AND DYNAMIC DEFORMATIONS OF FIBRE-REINFORCED HYPERELASTIC SHELLS
- 14.15 – 14.30 **V. Beatini**
RECONCILING MECHANISM AND STRUCTURE IN DEPLOYABLE INFRASTRUCTURE
- 14.30 – 14.45 **K. Juszczuk-Andraszyk, P. Kaszubska, J. Szafran**
THE ISSUE OF REPLACING WELDS IN EXISTING STEEL STRUCTURES
- 14.45 – 15.00 **MIDAS SOFTWARE PRESENTATION**
- 15.00 – 15.30 Coffee break**

Session no 4 Chairwoman: Ileana Calotescu

- 15.30 – 15.45 **A. Elmagarhe, M. Alamri**
INFLUENCE OF RECYCLED CONCRETE AGGREGATES AND SEDIMENT SIZE ON THE CLOGGING BEHAVIOR OF ASPHALT MIXTURES
- 15.45 – 16.00 **H. Brodacki, M. Cwyl, M. Gajewski**
THE EFFECT OF GAS ON PANE INTERACTION AND LOAD CAPACITY OF INSULATING GLASS UNITS
- 16.00 – 16.15 **K. Rzeszut, V. Semko, S. Abdusattarkhuja**
DIFFERENT APPROACHES TO THE ANALYSIS OF A SIGMA-TYPE CROSS-SECTION SUBJECT TO COMPRESSION WITH INTERMEDIATE COMPRESSION
- 16.15 – 16.30 **P. Kaszubska, J. Szafran, K. Juszczuk-Andraszyk, E. Kubacka**
STEEL MEMBERS STRENGTHENING EFFECTIVENESS IN THE CONTEXT OF EXISTING LOADING
- 16.30 – 16.45 **DLUBAL SOFTWARE PRESENTATION**
- 17.00 Transport to the center of Opole
- 18.30 Transport to Opolanka Restaurant
- 19.00 – 22.00 Gala Dinner**
- 22.00 Transport to the center of Opole

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Ministry of Science and Higher Education
 Republic of Poland



**Doskonała
 Nauka II**

Friday, 5th of December 2025
Faculty of Civil Engineering and Architecture, Katowicka 48, 45-061 Opole



Session no 5 Chairman: Alireza Behnejad (KS-2)

- 9.00 – 9.25 **Invited lecture – E. Błazik-Borowa**
THE DYNAMIC RESPONSE OF CIRCULAR CYLINDERS TO AERODYNAMIC INTERFERENCE
- 9.25 – 9.40 **C. I. Coşoiu, I. Calotescu**
EXPERIMENTAL TESTS AND NUMERICAL SIMULATION OF THE FLOW AROUND A LATTICE TOWER SECTIONAL MODEL
- 9.40 – 9.55 **G. Dzierżanowski**
ON THE STATIC EQUILIBRIUM OF CABLE STRUCTURES
- 9.55 – 10.10 **R. Piotrowski, A. Szychowski**
ANALYSIS OF THE INFLUENCE OF THE ELASTIC SUPPORT RESTRAINTS OF STEEL BEAMS ON THE CRITICAL MOMENT OF LATERAL TORSIONAL BUCKLING
- 10.10 – 10.25 **K. Winkelmann, J. Ferszt**
PROBABILISTIC ASSESSMENT OF THE IMPACT OF EXECUTION IMPERFECTIONS ON RELIABILITY OF AN RC FRAME BUILDING
- 10.25 – 10.50 **Coffee break**

Session no 6 Chairwoman: Ewa Błazik-Borowa (KS-2)

- 10.50 – 11.05 **M.M. Hudert**
MODULAR AND REVERSIBLE TIMBER STRUCTURES USING HYPAR-BASED SEGMENTED SHELLS: PRINCIPLES AND POTENTIAL IMPACT OF DOUBLE-LAYERED CONFIGURATIONS
- 11.05 – 11.20 **A. J. Kysiak, M. Grzywiński**
SIZE AND SHAPE OPTIMIZATION OF A TRUSS ROOF USING BIM TOOLS
- 11.20 – 11.35 **M. Siedlecka**
AN INVESTIGATION OF BUCKLING MODES AND EIGENVALUES FOR TRUSS' DURING LIFTING WITH DIFFERENT HOISTING POINTS
- 11.35 – 11.50 **A. Padewska-Jurczak, D. Cornik, P. Szczepaniak**
INFLUENCE OF THE STROUHAL NUMBER VALUE ON THE DISPLACEMENT OF THE STEEL CHIMNEY
- 11.50 – 12.05 **K. A. Sodal**
PRELIMINARY ANALYSIS OF EXPERIMENTAL AND THEORETICAL RESULTS OF THERMAL RADIATION OF FIRE RESISTANCE GLASS-ALUMINIUM SYSTEMS

Session no 7 Chairman: Piotr Górski (KS-4)

- 10.50 – 11.05 **M. Goldyn**
APPLICATION OF LIGHTWEIGHT CONCRETE IN SLAB-COLUMN STRUCTURES: SELECTED ISSUES
- 11.05 – 11.20 **R. Walentyński, R. Cybulski, H. Myrcik**
ANALYSIS OF DOUBLE-CORRUGATED PANELS MADE OF THIN-WALLED STEEL SHEETS SUBJECTED TO BENDING
- 11.20 – 11.35 **N. Szypulska, A. Tomaszewska**
KNITTED MEMBRANE MODELLED AT MEZOSCALE. A PRELIMINARY STUDY
- 11.35 – 11.50 **S. Dudziak, Ł. Czerwiński**
EXPERIMENTAL AND ANALYTICAL VERIFICATION OF VIBRATION COMFORT OF A TIMBER FLOOR
- 11.50 – 12.05 **D. K. Sokołowski, T. Wudkiewicz**
WEIGHT OPTIMISATION OF STEEL TIED-ARCH FOOTBRIDGE
- 12.05 – 12.30 **Coffee break**

Session no 8 Chairman: Jacek Szafran (KS-2)

- 12.30 – 12.45 **J. Rantala, R. Hao, A. Hamdallah, L. Keränen, E. Kurvinen, A.H. Niemi**
STRUCTURAL DESIGN OF HYDROGEN STORAGE SHELLS – BALANCING STRENGTH AND EFFICIENCY
- 12.45 – 13.00 **A. Rutkiewicz, C. Suchocki, E. Kowalska, J. Katzer**
ESTIMATION OF A CABLE TENSION BASED ON LASER SCANNER MEASUREMENTS
- 13.00 – 13.15 **R. Walentyński, A. Jurkiewicz**
FROM GROWTH TO STRUCTURE: EXPLORING MYCELIUM MATERIALS IN LIGHTWEIGHT DESIGN
- 13.15 – 13.30 **A. Piotrowski, M. D. Gajewski, S. Jemioło**
EFFECT OF BOUNDARY CONDITION MODELING ON THE LOAD CAPACITY AND POST-BUCKLING BEHAVIOR OF THIN-WALLED PERFORATED SHELLS UNDER AXIAL COMPRESSION USING FEM
- 13.30 – 13.45 **A. F. A. O. Ibrahim, K. Jeleniewicz**
SHAPING EFFICIENCY: PARAMETRIC DESIGN FOR SCHWEDLER DOMES

Session no 9 Chairman: Grzegorz Dzierżanowski (KS-4)

- 12.30 – 12.45 **D. Cornik, A. Padewska-Jurczak, A. Cińcio**
EXPERIMENTAL INVESTIGATION OF THE DYNAMIC RESPONSE OF A SCALED STEEL MODEL OF THE OPOLE POWER PLANT COOLING TOWER ON A SHAKING TABLE
- 12.45 – 13.00 **B. Zgorzelski, J. Szer**
COMMON DAMAGES IN THE BUILDINGS OF THE CITY CENTER LODZ, THAT WAS BUILT IN THE YEARS 1890-1920
- 13.00 – 13.15 **D. Jasińska, M. Dutkiewicz**
ASSESSMENT OF MECHANICAL PROPERTIES OF FIBER-REINFORCED CEMENTITIOUS COMPOSITES WITH A NON-DESTRUCTIVE TESTING
- 13.15 – 13.30 **P. Świątkiewicz, Z. Więckowski**
SOLUTION OF THE THIN ORTHOTROPIC PLATE BENDING PROBLEM BY THE EQUILIBRIUM FINITE ELEMENT METHOD
- 13.45 – 14.30 **Lunch**
- 14.30 – 14.45 **Closing Ceremony**
- 15.00 **Guided tour**