

PROGRAM
of 10th International Conference
"Computer Hydromechanics"
Institute of Hydromechanics of
the NAS of Ukraine

ПРОГРАМА
Десятої міжнародної науково-
практичної конференції
«Комп'ютерна гідромеханіка»
Інститут гідромеханіки НАН
України

September 29, 2026

29 вересня 2026

ZOOM :

<https://us05web.zoom.us/j/6865256253?pwd=ZrIJ7UMGPuVS89kyYr0Vhc7O2oy43.1&omn=82845287006>

Kyiv time 9:00-9:40	Registration	Ресстрація учасників
9:40-10:00	<i>Conference Opening</i>	<i>Відкриття конференції</i>
First session		
10:00-10:40	Dovhyi S.O. Computational Hydromechanics as a Distinct Branch of Hydrodynamics	
10:40-11:00	Yu.A. Semenov, Yu.M. Savchenko, H.Yu. Savchenko, O.I. Naumova IMPULSIVE IMPACT OF A BODY FULLY SUBMERGED IN AN OPEN CONTAINER	
11:00-11:20	Shkvar Ye. PARTICLE IMAGE VELOCIMETRY OF SYNTHETIC JETS, GENERATED IN A BOUNDARY LAYER	
11:20-11:40	Lancmanová A., Bodnár T., Linkeová I. NUMERICAL SIMULATIONS OF TURBULENT FLOW IN A SIMPLE VENTRICULAR ASSIST DEVICE	
11:40-12:00	<i>Coffee Break</i>	<i>Перерва на каву</i>
Second session		
12:00-12:20	Avramenko A.O., Kobzar A.S. ANALYSIS OF VORTEX FILAMENT STABILITY IN SUPERFLUID LIQUID	
12:20-12:40	Lukianov P.V., Pavlova K.S. HYPOTHESIS-FREE THEORY OF CLASSICAL TURBULENT FLOWS	
12:40-13:00	Horban I.M., Horban N.V. SELF-CONSISTENT NUMERICAL SCHEME FOR SOLVING THE EBRO-LECQ KINETIC EQUATION IN RHEOLOGY PROBLEMS OF COMPLEX FLUIDS	
13:00-13:50	<i>Lunch Break</i>	<i>Обідня перерва</i>

Third session.	
13:50-14:20	Grinchenko V.T., Matsypura V. T. COEXISTENCE OF THE DISCRETE AND THE CONTINUOUS IN MODELING IN MECHANICS
14:20-14:40	Bastiaan J.T. Piëst, Ajay G.P. Kottapalli, Pablo D. Druetta, Anastasiia O. Krushynska MECHANICAL METAMATERIALS FOR MODULATING TURBULENT FLOW DYNAMICS
14:40-15:00	Q.L. Hopman, Kamiel Politiek, Nicholas Waterson, Pablo Druetta and Anastasiia Krushynska CAN TRIPLY PERIODIC MINIMAL SURFACE INSERTS REDUCE TURBULENCE-INDUCED EFFECTS IN HIGH-REYNOLDS-NUMBER INTERNAL FLOWS?
15:00-15:20	Uhlíř V., Bodnár T., Fraunié Ph. ASSESSMENT OF TEMPORAL AND THERMAL MODELLING STRATEGIES FOR SIMULATING FLOW AND HEAT TRANSFER OVER A WALL-MOUNTED CUBE
15:20-15:40	P. Fraunié HIGH RESOLUTION MONITORING AND MODELING THE OCEAN SURFACE
15:40-16:00	<i>Speech by representatives of Ercoftac</i>
Fourth session	
16:00-16:40	Chaoqun Liu LIUTEX – A MILESTONE IN FLUID DYNAMICS
16:40-17:00	Rozumniuk N.V. INFLUENCE OF LONGITUDINAL VORTICES GENERATED BY DIMPLES ON THE TURBULENT BOUNDARY LAYER
17:00-17:20	Julian Tishkoff, Nina Yurchenko PLASMA-ASSISTED PROCESSES IN AERODYNAMIC APPLICATIONS
17:20-18:00	Round-Table Discussion <i>Круглий стіл</i>

September 30, 2026

30 вересня 2026

ZOOM :

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First session	
Kyiv time 9:00-9:40	Chernii D.I., Dovhyi S.O., Vanin V.A., Lebid O.H. COMPUTATIONAL TECHNOLOGIES FOR DUAL-USE HYDRODYNAMIC SYSTEMS
9:40-10:00	Sibgatullin I, Deleuze J., Sylvain J. FROM WAVE ATTRACTORS TO MULTISTABLE QUANTIZED MODES: INTERNAL-WAVE DYNAMICS IN BOUNDED DOMAINS
10:00-10:20	Vasin P.O., Hurzhii R.O., Lebid O.H., Chernii D.I. DISCRETIZED MATHEMATICAL MODELS FOR INITIAL-BOUNDARY VALUE PROBLEMS IN DOMAINS WITH MOVING AND FREE BOUNDARIES
10:20-10:40	Koval S. O., Dimitrieva N. F., Krivonog O. I., Fadeichev V. V., Romanenko P. Y. FLOW STRUCTURE IN AN AIRLIFT PUMP
10:40-11:00	Lukan A.V., Lukianov P.V. BENDING VIBRATIONS OF A CURVED HELICOPTER BLADE
11:00-11:20	Lukianov P.V., Utiuhov Ye.V. LAMINAR COMPRESSIBLE BOUNDARY LAYER: ABSENCE OF REVERSIBILITY BETWEEN FLOWS WITH AND WITHOUT PRESSURE GRADIENTS
11:20-11:40	Coffee Break Перерва на каву
Second session.	
11:40-12:00	Dovhyi S. O., Bulanchuk H. H., Bulanchuk O. M. ANALYSIS OF NUMERICAL ERROR ACCUMULATION IN GPU-BASED MODELING OF POINT VORTEX MOTION
12:00-12:20	Sokhatskyi A.V., Dreus A.Yu. COMPUTER MODELING OF THE EFFECT OF A WAVY SURFACE ON THE AERODYNAMIC CHARACTERISTICS OF AN AIRFOIL
12:20-12:40	Pechuk Ye.D., Krasnopolska T.S., Pechuk V.D. HYBRID METHOD FOR SYSTEMS OF DELAY DIFFERENTIAL EQUATIONS IN THE MECHANICS OF CROSS-SHAPED WAVES IN A FINITE-SIZED BASIN WITH A WAVE GENERATOR
12:40-13:00	Horskyi Yu.V., Krasnopolska T.S. TWO-MODE MODEL OF CROSS-SHAPED SURFACE WAVES IN WATER IN A CYLINDRICAL CONTAINER
13:00-14:00	Lunch Break Обідня перерва

Third session	
14:00-14:20	Jalladova I.A., Kaminskyi O.Ye., Liutyi O.I. QUANTUM TECHNOLOGIES OF INTELLIGENT DATA ANALYSIS TO INCREASE THE EFFICIENCY OF ENERGY AND HYDROMECHANICAL SYSTEMS
14:20-14:40	Rudnytskyi O.H., Rudnytska M.O., Tkachenko L.V. ADAPTIVE ALGORITHM FOR QUALITY ENHANCEMENT OF NOISY OPTOACOUSTIC IMAGES
14:40-15:00	Onanko A.P., Yatsiuk M.V., Onanko Yu.A., Voropai H.V., Kuzmych S.A., Dmytrenko O.P., Kulish M.P., Naumenko A.P., Matsui L.Yu., Pinchuk-Ruhal T.M., Ruhal O.H., Pavlenko O.L., Kurochka L.I., Ilyin P.P. "SPEED" SOFTWARE FOR MEASURING ACOUSTIC VELOCITIES IN CONCRETE, SiO ₂ , AND NANOCOMPOSITES BASED ON MULTI-WALLED CARBON NANOTUBES AND POLYMERS; SCIENTIFIC AND TECHNICAL PRINCIPLES FOR ENSURING THE STABILITY OF LAND RECLAMATION HYDRAULIC STRUCTURES AMID CLIMATIC AND ANTHROPOGENIC CHALLENGES
15:00-15:20	Alekseyenko S.V., Zolotarenko S.A. EXPERIMENTAL INVESTIGATION OF AERODYNAMIC NOISE FROM A NACA 0012 AIRFOIL SEGMENT
15:20-15:40	Karmazin S.V., Lukianov P.V. HELICOPTER BLADE VIBRATION NOISE
15:40-16:00	Coffee Break <i>Перерва на каву</i>
Fourth session	
16:00-16:20	Semenenko V.M., Savchenko H.Yu., Naumova O.I. COMPUTER SIMULATION OF THE DYNAMICS OF MODELS ENTERING WATER THROUGH A ROUGH SURFACE
16:20-16:40	Nesteruk I. H. UNSTEADY VERTICAL ENTRY OF A SLENDER BODY OF REVOLUTION INTO AN INCOMPRESSIBLE FLUID
16:40-17:00	V.V. Serebryakov STUDY OF THE FEATURES OF UNSTATIONARY FLOW DURING GLIDING OF BODIES IN A CAVITY
17:00-18:00	Round-Table Discussion Круглий стіл

October 01, 2026

01 жовтня 2026

ZOOM :

<https://us05web.zoom.us/j/6865256253?pwd=ZrIJ7UMGPuVS89kyYr0Vhc7O2oy43.1&omn=82845287006>

First session.	
Kyiv time 9:00-9:40	Voropaiev G.O. RESPONSE OF A VISCOELASTIC LAYER TO TURBULENT FLOW PERTURBATIONS
9:40-10:00	Dovhyi S.O., Redchyts D.O., Vieskov Ye.V. NUMERICAL MODELING OF THE AERODYNAMICS OF AN OSCILLATING NACA0012 AIRFOIL AT A TRANSITIONAL REYNOLDS NUMBER
10:00-10:20	Fedorcev K.O. RAYLEIGH'S THEOREMS ON INSTABILITY FOR A VISCOUS FLUID AND THREE-DIMENSIONAL RAYLEIGH INSTABILITY
10:20-10:40	Overko V.S. DETERMINATION OF THE FEASIBILITY OF ACCURATE RECONSTRUCTION OF VELOCITY FIELDS AND, CONSEQUENTLY, WALL SHEAR STRESSES (WSS)
10:40-11:00	Glushchak V. V. COMPUTATIONAL TECHNOLOGIES BASED ON THE VORTON VORTEX FRAME METHOD
11:00-11:20	Tkachenko R.V. REFINEMENT OF SOLUTIONS TO THE PROBLEM OF THE EFFECT OF AN IMPULSIVE FORCE ON THE MOTION OF A RESERVOIR-LIQUID WITH A FREE SURFACE-PLATFORM SYSTEM
11:20-11:40	Coffee Break Перерва на каву
Second session	
11:40-12:00	Ostroverkh B.M., Potapenko L.S., Khyzha I.A. ANALYSIS AND FORECASTING OF NAVIGATIONAL CHANNEL SILTATION IN A RIVER SHOAL REACH BASED ON FIELD DATA ON SEDIMENT DISCHARGE
12:00-12:20	Moroz V.V., Kochin V.O., Horban I.M., Basovskyi V.H. OPTIMIZATION OF UNDERWATER GLIDER PATH PLANNING UNDER BLACK SEA STRATIFICATION CONDITIONS
12:20-12:40	Voropaiev G.O., Voskobiinyk V.A., Onyshchenko A.M., Voskoboinyk O.A., Makhammedov Zh.K., Voskobiinyk A.V. MUTUAL INFLUENCE OF BRIDGE PIERS ON SOIL SCOUR
12:40-13:00	Kushnir D.I., Zahumennyi Ya.V. COMPUTER MODELING OF THE GROUND EFFECT: COMPARATIVE ANALYSIS OF APPROACHES
13:00-14:00	Lunch Break Обідня перерва

Third session	
14:00-14:20	
14:20-14:40	Savytskyi O.A. SOIL MEDIUM UNDER SURFACE DYNAMIC LOADING
14:40-15:00	Grigorenko O. Ya., Fil Ye. V. ANALYSIS OF THE INFLUENCE OF PHYSICOMECHANICAL PROPERTIES OF TITANIUM ALLOYS AND PLANFORM SHAPE ON THE STRESS-STRAIN STATE OF SHALLOW NON-RECTANGULAR SHELLS
15:00-15:20	Serafymovych R.V. NUMERICAL INVESTIGATION OF STRESS CONCENTRATION IN A THREE-LAYER CYLINDRICAL ROCKET SHELL ELEMENT WITH A CIRCULAR HOLE
15:20-15:40	Hrysevych R.Yu. ON THE EVOLUTION OF DESIGNS AND MODERN TRENDS IN THE DEVELOPMENT OF ANTHROPOMORPHIC HAND PROSTHESES
15:40-16:00	Coffee Break <i>Перерва на каву</i>
Fourth session	
16:00-16:20	Moroz V.V., Basovskyi V.H., Horban I.M., Kochin V.O. ON THE ISSUE OF MODELING UNDERWATER GLIDER MOTION
16:20-16:40	Zahumennyi Ya.V., Kochin V.O., Moroz V.V., Starovierov D.K., Oryshichev V.O. EXPERIMENTAL VALIDATION OF A NUMERICAL MODEL FOR CALCULATING THE HYDRODYNAMIC CHARACTERISTICS OF A GLIDER-TYPE UNDERWATER VEHICLE
16:40-17:00	Filonov V.V., Bohdan A.V. , Filonova Yu.S., Kovalenko O.V., Fedorov D.O. ASPECTS OF DEVELOPING AN EXPERIMENTAL TEST RIG FOR REPRODUCING THERMAL STRATIFICATION IN SHORT PIPES
17:00-17:20	Merhenher Yu.P., Voskobiinyk V.A., Voskoboinyk O.A., Kharchenko A.H., Polosukhina O.V., Voskoboinik S.I. REFLECTION AND TRANSMISSION OF GRAVITY WAVES BY A PERMEABLE VERTICAL WALL
17:20-17:40	Korobov V.I., Yarosh D.V., Korobova M.V., Kolodii N.O. TEMPERATURE DISTRIBUTION IN THE NEAR-WALL REGION OF A HIGH-SPEED SEMI-CONFINED GAS EJECTOR JET
17:40-18:00	Round-Table Discussion Круглий стіл

Posters**Стендові доповіді:**

1. Dimitrieva N. F., Bistrova M. O., Sidko M. I., Bilous D. A. FLOW STRUCTURE IN A VENTILATED CAVITY
2. Voropaiev G.O., Voskobiinyk V.A., Onyshchenko A.M., Kovalchuk V.V., Voskoboynyk O.A., Makhammedov Zh.K. RECONSTRUCTION OF THE DAM FOR THE DANUBE–BLACK SEA DEEP-WATER NAVIGATION CHANNEL
3. Voskobiinyk V.A., Kovalchuk V.V., Voskobiinyk O.A., Makhammedov Zh.K., Voskobiinyk A.V. IMPROVING THE COOLING OF SOUTH UKRAINE NPP NUCLEAR REACTORS USING THE TASHLYK RESERVOIR JET-DIRECTING STRUCTURE
4. Voropaiev H.O., Baskova O.O. CHARACTERISTICS OF VORTEX STRUCTURE FORMATION DURING TRANSIENT PROCESSES IN PARTIALLY CORRUGATED PIPES