

**“RİYAZİYYAT VƏ MEXANİKANIN MÜASİR  
PROBLEMLƏRİ”  
XII BEYNƏLXALQ ELMİ KONFRANSIN**

# **PROQRAMI**

**“MODERN PROBLEMS OF MATHEMATICS AND  
MECHANICS”**

# **PROGRAM**

**OF THE XII INTERNATIONAL SCIENTIFIC CONFERENCE**

*September 03-06, 2025  
Baku/AZERBAIJAN*

**Chairman:** Corres. Member of ANAS, Prof. Mardanov Misir.

**Vice-chairmen:** Abdullayev Fahreddin, Akhundov Adalat.

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### **Working group:**

Mammadov Mehdi (Chairman), Aliyev Ramil, Aliyeva Esmira, Aliyeva Lale, Isayeva Gunel, Mammadov Ibrahim, Mirzazadeh Irada, Muradova Shamsiyya, Sadygova Gumru, Salmanova Sabina, Shikhverdiyev Nemat, Tahirova Aynur

**Technical editors:** Musayeva Tahira, Safarov Zaman.

<i>Date</i>	<i>Time</i>	
03.09.2025	10:00-11:30	<b>Opening</b>
	11:30-12:30	<b>Plenary session</b>
	15:00-18:00	<b>Sections session</b>
04.09.2025	10:00-12:30	<b>Plenary session</b>
	15:00-18:00	<b>Sections session</b>
05.09.2025	10:00-12:30	<b>Plenary session</b>
	15:00-18:00	<b>Sections session</b>
	12:30-13:00	<b>Glos. ceremony</b>
06.09.2025	10:00-18:00	<b>Social Program</b>

### ***Program of the opening meeting of the Conference***

The opening meeting of the Conference:

***Date: 03.09.2025, Time: 10:00-11:30***

***Location: Institute of Information Technologies (2nd floor) Azerb.***

***Rep. (the building where the Institute of Math. and Mech. is located),***

***Address: Baku city, Bakhtiyar Vahabzade street 9.***

### *Opening speeches:*

- **Misir Mardanov**- General director of the Institute of Mathematics and Mechanics of the Ministry of Science and Education of the Republic of Azerbaijan, corr. member of ANAS, prof;
- **Rasim Aliguliyev** - Vice-President of ANAS, Director General of the Institute of Information Technologies of the Ministry of Science and Education of the Republic of Azerbaijan, Academician;
- Representative of the Ministry of Science and Education of the Republic of Azerbaijan
- **Maksat Kalimoldayev** -Academician of the Kazakh National Academy of Sciences;
- **Misir Mardanov** - “Azerbaijani Mathematics - Yesterday, Today and Tomorrow”;

## **PLENARY SESSION**

### **HALL - I**

**03 September (11.30-12.30)**

**Chairman:** *Misir Mardanov, Yusif Mammadov*

**11.30-12.00:** Akhmedov Azer (North Dakota State University, Fargo, USA) -

*Discrete subgroups of diffeomorphism groups of 1-manifolds*

**12.00-12.30:** Mustafazade Ali (Koç University, Istanbul, Türkiye) - *Some*

*recent developments in scattering theory: Fundamental transfer matrix, propagating-wave approximation, and exactness of the Born approximation*

## **PLENARY SESSION**

### **HALL - I**

**04 September (10:00-12:30)**

**Chairman:** *Varga Kalantarov, Azer Akhmedov*

**10.00-10.30:** Markina Irina (University of Bergen, Norway) –

*On rolling of manifolds*

**10.30-11.00:** Efendiyev Yalchin (University of Texas, USA)-

*Multicontinuum homogenization for dynamic problems*

### **11:00-11:30 Coffe break**

**Chairman:** *Irina Markina, Maksat Kalimoldaev*

**11.30-12.00:** Mustafayev Heybetkulu (Azerb. State Oil and Ind. University, Baku, Azerbaijan)- *Mean Ergodicity of Essentially Normal Operators*

**12.00-12.30:** Ozsari Türker (Bilkent University, Ankara, Türkiye) - *Low-regularity solutions of the NLS on the 2D Quarter-Plane*

## **PLENARY SESSION**

### **HALL - I**

**05 September (10:00-12:30)**

***Chairman: Ali Mustafazade, Vugar Ismailov***

10.00-10.30: **Kalimoldaev Maksat** (RSE "Institute of Infor. and Comp. Tech." of the SC MES Kazakhstan)- *Information system for optimal control of complex power systems*

10.30-11.00: **Kalantarov Varga** (Koç University, Istanbul, Türkiye) – *Navier - Stokes - Voigt equations: existence and estimates of dimensions of global attractors*

### **11:00-11:30 Coffe break**

***Chairman: Yalchin Efendiyev, Türker Özşarı***

11.30-12.00: **Ismailov Vugar** (IMM, Azerbaijan)- *Uniform approximation by a sum of two algebras*

12.00-12.30: **Konstatinas Pileckas** (Lithuania) *Regularity Criterion for 3D navier-stokes equations in terms of the behavior of kinetic energy*

12.30-13.00: **Yuce Salim** (Yildiz Technical University, Türkiye)- *Fractal Structures Based on the Silver Ratio and Pell Number System: An Entropic Analysis of Fractal Dimension*

## **SECTIONS SESSION**

### *Section – Algebra, Geometry and Topology*

**HALL -VI**

**Thursday , September 03, 2025**

**15:00-18:00**

***Chairmen: Sadi Bayramov, Irina Markina***

1. Irina Markina (Norway) On rolling of manifolds,
2. Azer Akhmadov (USA) Discrete subgroups of diffeomorphism groups of 1-manifolds,
3. Nurida Museyibova, Kamala Veliyeva, Sadi Bayramov (Azerbaijan), The inverse systems of Shostak topological spaces of soft sets,
4. Ali Babayev, Vafa Mammadova (Azerbaijan) About the Algebraization of Geometry,
5. Habil Fattayev (Azerbaijan) The weighted Sasaki type metric on the coframe bundle,
6. Vagif Jabarzade (Azerbaijan) Construction of a factor-probabilistic propositional calculus based on the 8-valued logic,
7. Vafa Mammadova, Zumrud Panahaova (Azerbaijan) Criteria on compactness of the weighted composition operator,
8. Irakli Chitaia, Roland Omanadze (Georgia) Quasi reducibilities and minimal pairs,
9. Pelin Dursun, Nurten Gurses (Türkiye) A novel perspective on eigenvalue-eigenvector theory of hyperdual number matrices,
10. Ipek E. Karaçay, Salim Yuce, Kübra Cetinberk (Türkiye) Fractal structures based on the silver ratio and Pell number system: an entropic analysis of fractal dimension,
11. Kübra Cetinberk, Salim Yuce Ipek E. Karaçay (Türkiye) Fractal structures based on the bronze ratio number system: entropic investigation and fractal dimension analysis,

12. Duygu Çağlar Çay, Nurten Gürses (Türkiye) Characterizations of Bertrand offsets of ruled surfaces with Laplace operator via first fundamental form,
13. Çiğdem Zeynep Yılmaz, Gülsüm Yeliz Saçlı (Türkiye) On the francois 3-parameter generalized quaternions
14. Çiğdem Zeynep Yılmaz, Gülsüm Yeliz SAÇLI (Türkiye) A study on the q-analogues of DGC Fibonacci, and DGC Lucas numbers,
15. Taras Goy (Ukraine) On Pell and Pell-Lucas identities derived from the generalized Trudi formula,
16. Y.Alkhezia, A. Shafeeb (Kuwait ) Fractional view analysis of Algebra application for nonlinear physical model,
17. Vladimir A. Edemskiy (Russia) The linear complexity one family of quaternary sequences over the finite ring of order four,
18. Norbert Mahoungou Moukala, Come Chancel Likouka (Congo) on symplectomorphisms of generalized Lie-Rinehart algebras,
19. Shariefuddin Pirzada (Inda) Adjacency matrix and graph energy

## ***Section – Computational Mathematics and Mathematical Modeling***

**HALL -V**

**Thursday, September 03, 2025**

**15:00-18:00**

***Chairmen: Vagif Ibragimov, Yalcin Efendiyev***

1. Maksat A. Kalimoldaev, Maksat Akhmetzhanov (Kazakhstan) Information system for optimal control of complex power systems,
2. Yalchin Efendiev (USA) Multicontinuum homogenization for dynamic problems,
3. Vagif R. Ibrahimov, Farida Guliyeva, (Azerbaijan) A comparative study of Runge-Kutta and Adams-Moulton methods in solving ordinary differential equations
4. Sabir Hamidov (Azerbaijan) Constructing effective trajectories of economic dynamics model by means of equilibrium mechanism,



5. K.V.Tandiverdili, Huseyn B. Ibrahimov, Mohsun R. Alizada (Azerbaijan) Physics-informed neural network modelling of nonlinear quantum size effects in semiconductor nanowires
6. Aykhan Hasanov (Azerbaijan) Using unity for integration of sustainable transportation simulation in hight-density district of Baku,
7. Mirsaid.Aripov, Makhmud Bobokandov (Uzbekistan) About a Double Nonlinear Cross-Wise Diffusion System With a Time-Dependent Source
8. Suleyman Cengizci, Aybike (Turkiye) Numerical Simulations for Pricing of Asian Options under Heston's Stochastic Volatility Model,
9. Cemile N. Haciosmanoglu, Bengisen Pekmen (Turkiye) Different DQM examinations for KdV equations
10. Meryem Terzioglu, Bengisen Pekmen (Turkiye), Comparison Between Five RBF Types for Third and Fifth-Order KdV equations
11. Tinatin Mshvidobadze (Georgia) Using Python to solve mathematical problems in scientific computing
12. Lali Osadze (Georgia) Possibilities of using mathematical methods in logistics,
13. Maryam Koberidze (Georgia), Mathematical modeling of scientific language,
14. Lali Sreseli (Gerogia) Computational mathematics and labor market analysis: mathematical modeling for unemployment dynamics,
15. Joanna. Slawinska, Dimitros Giannakis (USA) Data-driven reconstruction of dynamical systems with the spectral exterior calculus,
16. Sergei S. Sherbakov, Mamookho Elizabeth Makhatha, Pawan Kumar (Republic of Belarus) Mechanical and mathematical modeling of fatigue crack growth rate in the radial direction in steel pipe using geometrical parameters and crack driving force,
17. Vasili D. Drachou, Arseny S. Grishchenkov, Daria A. Podgayskaya, Pawan Kumar, Sergei S. Sherbakov, (Republic of Belarus) Mechanical and mathematical modeling of the human dental system at the moment of occlusion: considering components of enamel, dentin, periodontium and bone tissue,
18. Elizabaete Alberdib , H. Hern´andeza, A. Goti (Spain, Chile) A machine learning algorithmm to classify mineral resources,
19. Muhammad I. Asjad (Pakistan) Mathematical modeling of some fractional problems appear in heat and mass transfer,

20. Baya Takhedmit, F. Cheurfa (Algeria) Sensitivity analysis of Kirk's model,
21. Ramana. B. Kaligatla, P. Panja, B. N. Mandal (India) Wave interaction with a rectangular breakwater with two unequal legs in oblique sea,
22. A.I. Abioye, O.J. Peter (Nigeria) Mathematical modeling of malaria transmission to assess the impact of uncomplicated and severe infected rates on individuals,

***Section – Differential Equations and  
Optimal Control-1***

**HALL -IV**

***Thursday, September 03, 2025***

***15:00-18:00***

***Chairmen: Hamlet Guliyev, Elimhan Mahmudov***

1. Misir J. Mardanov, Hamlet F. Guliyev, Hikmet T.Tagiyev (Azerbaijan) An optimal control problem for parabolic equation with nonlocal boundary condition
2. Elmhan Mahmudov, Dilara Mastaliyeva (Azerbaijan) Optimization of Goursat-Darboux type Polyhedral differential inclusions,
3. Rafiq K.Tagiyev, Aytac K.Mammadova (Azerbaijan) Difference approximation of the optimal control problem for an elliptic equation with periodic boundary conditions,
4. Kamil Mansimov (Azerbaijan) On optimality of singular controls in the problem of optimal control of discrete systems with delay,
5. Kamil Mansimov (Azerbaijan) On the necessary conditions of second-order optimality in a discrete two-parameter optimal control problem,
6. Narmina Gubatova (Azerbaijan), Quadratic functional in isoperimetric problem with free ends,
7. Aygun Isayeva (Azerbaijan) Analogues of Euler-Poisson equations in variational problems with delayed argument,
8. Saadat T. Aliyeva (Azerbaijan) A nonsmooth discrete optimal control problem,

9. Zahala.B. Ahmadova (Azerbaijan) On the second-order optimality in a variable structure control problem with fractional Caputo derivatives,
10. Vafa G. Rzayeva, Leyla Shadlinskaya, Gulnara S.Zulfelyeva (Azerbaijan) Studying a variable structure optimal control problem described by Volterra type integral equations,
11. Nazim I. Mahmudov, Javad A. Asadzade (Turkiye, Azerbaijan) Characterization of relative controllability in second-order delayed difference equations,
12. Shahlar Meherrem, Erbil Cetin (Turkiye) Neural network-based approximation for optimal control of general McKean-Vlasov stochastic differential equations with jumps
13. Amel Merghad, S.E. Rebiai (Algeria) On the generalization of controllability results to Caputo fractional proportional systems in Banach spaces,
14. Amel Berhail (Algeria) Controllability of nonlinear fractional system in the generalized Caputo sense with nonlocal condition,
15. Javid Ali (India) Controllability of fractional dynamical systems involving Hilfer derivatives.

## ***Section – Differential Equations and Optimal Control-2***

**HALL -II**

***Thursday, September 03, 2025***

**15:00-18:00**

***Chairmen: Ziyadkhan Aliyev, Abdurrahim Guliyev***

1. Ziyatkhan.S. Aliyev, R.S. Hasanova (Azerbaijan) Nodal solutions of some nonlinear boundary value problem with indefinite weight,
2. Abdurrahim F. Guliyev, Aisha.V.Mammadova, Aydan.J. Namatova (Azerbaijan) On the R-identity class of parabolic. operators of the second order,
3. Manaf Manafov (Turkiye) Trace formula for energy-dependent Sturm-Liouville operator with delta'-interaction point

4. Elmagha Gasymov (Azerbaijan) Formula for solving parametric problems with irregular boundary conditions for variable coefficients equations,
5. Nihan A.Aliyev, Ramin M.Zeynalov (Azerbaijan) Steklov problem for a fractional derivative equation,
6. Tahir S.Gadjiev, Aybeniz Yagnaliyeva, Khalil Kh. Aliyev (Azerbaijan) The behavior of solution of degenerate parabolic non-linear equations,
7. Rovshan Z. Humbataliev, Shahin M. Aghazade, M. M. Mamedov (Azerbaijan) Modeling of information systems,
8. Shamsiya A. Muradova (Azerbaijan) Investigation of parabolic fractional integral operators with rough kernels in parabolic local generalized Morrey spaces,
9. Vagif Yu. Mastaliyev (Azerbaijan) On the solvability of a mixed problem for a class of equations degenerating in type,
10. Gulshan Kh. Shafiyeva (Azerbaijan) Analysis of a mixed problem for the one - dimensional wave equation with strong dissipation and functional transmission conditions,
11. Yelena Mustafayeva (Azerbaijan) Basic relations of solvability for a nonlocal boundary value problem for 3-dimensional elliptic equation of 4-th order,
12. Eldar M. Mustafayev (Azerbaijan) Spectral analysis of one differential operator,
13. Yeter M. Farhadova (Azerbaijan) Influence of linear aerodynamic resistance in the absence of external forces on a coupled suspension bridge system,
14. Gunay G. Ismayilova (Azerbaijan) The problem of finding the coefficient of the lowest term in a mixed problem for a weakly nonlinear wave equation,
15. Sevinc S.Hadiyeva, Vusala H. Babajanova, Kamala A. Agamaliyeva (Azerbaijan) Approximation of the solution of a problem described by a differential equation in a class of analytic functions.

***Section – Differential Equations and  
Optimal Control-3***

**HALL –II**

***Wednesday, September 04, 2025***

**15:00-18:00**

***Chairmen: Varga Kalantarov, Sevda Isayeva***

1. Varga K. Kalantarov, Turker Özşarı, K.Cem. Yılmaz (Türkiye) Stabilization of solutions to damped wave equations by finite-dimensional boundary feedback controllers,
2. Sevda Isayeva (Azerbaijan) Structural stability of nonlinear strongly dissipative transmission acoustic problem,
3. Sadeddin S. Akhiev (Azerbaijan) A priori estimate of solution for a linear nonlocal hyperbolic boundary value problem with loading arguments,
4. Samed Aliyev, Arzu Aliyeva (Azerbaijan) On the existence of classical solution to one-dimensional fourth order non-linear differential equations,
5. Nigar R.Ahmedzade, Zaur A.Kasumov, Tarlan Z.Garayev (Azerbaijan) Some properties of functions of the weighted grand lebesgue class  $h_{p);\rho}$
6. Saleh Z. Akhmedov, Atif A. Namazov (Azerbaijan) Global stabilization of solutions to marine riser equations
7. Sahib A. Aliyev, Elshad V. Aghayev (Azerbaijan) A new approach to solving differential equations for ultraspherical Jacobian polynomials based on weighted functions,
8. Famil V. Mammadov, Mesud G. Gahramanov (Azerbaijan) On the existence and uniqueness of a local weak solution to the Cauchy problem for an anisotropic semilinear hyperbolic equation with elliptic-type components,
9. Davron A. Juraev, Gulsum.A. Aghayeva (Uzbekistan, Azerbaijan) About the Cauchy problem for the Helmholtz equation,

10. Burak.Ogul, Tarek F. Ibrahim, Dagistan Simsek (Turkiye, Saudi Arabia) Analysis of dynamics in a nonlinear rational difference equation system with delayed feedback,
11. Burak Ogul, Dagistan Simek (Turkiye) On the dynamics and closed-form solutions of the nonlinear difference equation

$$x_{n+1} = \frac{x_{n-7}}{\pm 1 \pm x_n x_{n-1} x_{n-2} x_{n-3} x_{n-4} x_{n-5} x_{n-6} x_{n-7}}$$

12. Abdelkerim Moussaoui (Algeria) Multiple solutions to Gierer-Meinhardt type systems,
13. Djamila Chergui, Chattouh Abdeldjalil (Algeria) On the inverse problem of determining a two-term source in reaction-diffusion system,
14. Salah-Eddine Rebiai, Fatima Zohra Sidiali, Nedjema Mekseh (Algeria) Stabilization of the Schrödinger equation through boundary interaction with a heat equation.

## ***Section – Functional Analysis and Theory of Operators-1***

**HALL -I**

**Thursday, September 03, 2025**

**15:00-18:00**

***Chairmen: Hamidulla Aslanov, Veli Kurbanov***

1. Hamidulla Aslanov, Gunel M.Eyvazli (Azerbaijan) Investigation of resolvent of operator generated by differential expressions with operator coefficients in hilbert space,
2. Veli M.Kurbanov, Khadija R. Gojayeveva (Azerbaijan) Influence of the module of continuity of the coefficient on the rate of convergence of expansions in root functions of the second order ordinary differential operator,
3. Sadi Bayramov, Çiğdem Araş Gündüzç Arzu Erdem Coşkun (Azerbaijan, Turkiye) A study of g-inner product formulations within soft vector space theory,

4. Telman B.Gasymov, Zahra E. Aliyeva (Azerbaijan) A differential operator with intersection point and summable potential equivalent basis in Lebesgue and weighted Lebesgue spaces,
5. Misreddin Sadygov (Azerbaijan) On the characterization of biconvex functions,
6. Rauf Kh.Amirov (Turkiye) On the inverse nodal problem for Sturm-Liouville operator,
7. Leyla Z.Buksayeva (Azerbaijan) On absolute and uniform convergence of spectral expansion in eigen-functions of Dirac operator,
8. Sahil Aliyev (Azerbaijan) Boundary value problem with regularity defect equal to 1
9. Asim Akbarov (Azerbaijan) Advanced structural properties of generalized Hölder spaces,
10. Elchin J. Ibadov (Azerbaijan) Equiconvergence of orthogonal expansions in eigen-functions of  $2m$ -th order Dirac-type operator,
11. Yuliya G. Abbasova (Azerbaijan) Convergence of the spectral expansion of a functions from the class in the vector eigen-functions of a differential operator of the third order,
12. Gulsum A. Aghayeva, Ilkin G.Feyzullayev, Davron A.Juraev (Azerbaijan , Uzbekistan) Solution of the boundary value problem for operator-differential equations with non-separated boundary conditions,
13. Çiğdem Araş Gündüz, Arzu Erdem Coşkun, Sadi Bayramov, Orhan Dalkilic (Turkiye) From abstract theory to clinical practice: Decision-making via fuzzy soft set-valued mappings,
14. Arzu Erdem Coşkun, Çiğdem Araş Gündüz, Sadi Bayramov, Orhan Dalkilic (Turkiye) Applying soft set theory to group decision making for robust set-valued matching,
15. Kamilla Alimardanova (Azerbaijan) The scattering problem for the system of first order linear hyperbolic equations on semi-axis in case of  $(n-3)$  incident waves,
16. Sabina Kasumova (Azerbaijan) The boundedness of maximal operator in Calderon weighted B-Lebesgue spaces,
17. Soltan S.Aliyev, Irada A. Ibadova (Azerbaijan) Existence of limit distribution for semi-Markov process in a scheme of series,

18. Khalifa Es-Sebaiya, Fares Alazemib (Kuwait) New Kolmogorov Bounds in the Clt for Random Ratios and Applications,
19. Siham Kebailia, Megdouda Ourbih-Tari (Algeria) Optimized Adaptive Descriptive Sampling Algorithm for Dependent Variables Using the Iman and Conover Method in Monte Carlo Simulation,
20. Iwan Krykun (Ukraine) On the Weak Convergence of Stochastic Equations Involving Local Time and Non-Regular Coefficients.
21. Kheira Mecheri, Djamila Zirem (Algeria) Econometric modeling of OVITAL company sales,

***Section – Functional Analysis and  
Theory of Operators-2***

**HALL - I**

**Wednesday, September 04, 2025**

**15:00-18:00**

***Chairmen: Ekrem Savaş Araz Aliev***

1. Ekrem Savas, Rabis Savash (Turkiye)  $[V_{\lambda,q}]_p$  - summable of order alpha via ideal,
2. Araz R.Aliev, Elshad Eyvazov (Azerbaijan) Properties of Eigenfunctions of One Non-Self-Adjoint Operator
3. Heybetkulu Mustafayev (Azerbaijan), Mean Ergodicity of Essentially Normal Operators
4. F. Loran, Ali Mostafazadeh (Iran, Turkiye) some recent developments in scattering theory: Fundamental transfer matrix, propagating-wave approximation, and exactness of the born approximation
5. Ibrahim Nabiev, Leyla I.Mammadova (Azerbaijan) Some Spectral Properties of a Boundary Value Problem With a Boundary Condition Depending on a Parameter,
6. Eldar Sh. Mammadov, Sadiq T. Mustafayev (Azerbaijan) On the set of minimizing elements of one spectral problem,
7. Eminaga Mamedov, Yonca Sezer (Turkiye, Azerbaijan) Schauder Estimates for Banach-Sobolev Spaces.



8. Narmin N. Aliyeva, Yaqub N. Aliyev (Azerbaijan) , On the Inner Products of Eigenfunctions and Associated Functions of a Class of Differential Operators,
9. Bilal Basti, Farid Nouioua (Algeria) Stability Analysis and Existence of Solutions for a Modified SIRD Model of COVID-19 with Fractional Derivative
10. Aissa Benseghir, Mourad Dilimi (Algeria) On the asymptotic convergence of a non-Newtonian fluid
11. Saima Noreen, Anum. Zehra (Pakistan) Some new result on interval-valued Volterra integro differential equations for Caputo fractional derivative,
12. Zumrud Naghiyeva, Gozel Jafarli (Azerbaijan) A new approach on Ladyzhenskaya inequality and its applications in Sobolev spaces
13. Ilham. Nasrallah (Algeria) Investigation of Ulam-type stability for an implicit fractional integro-differential equation with boundary conditions,
14. Hande Posul (Turkiye) Some fixed point results with hybrid-interpolative Reich-İstrateşcu-type contractions on parametric soft s-metric spaces,
15. Aouafi Rabiaa (Algeria) Memory-Based fractional Fourier transform (MB-FrFT),
16. İlgar Safarlı, Leyla Nasırlı, Konul Abdullayeva (Azerbaijan) Fluid motion in cracked porous media,
17. Khayala.I. Seyfullayeva, Konul H. Aliyeva (Azerbaijan) Applications of functional analysis and differential equations in engineering

## ***Section – Functions Theory***

**HALL – V**

***Wednesday, September 04, 2025***

**15:00-18:00**

***Chairmen: Daniyal Israfilov, Vugar Ismailov***

1. Fahreddin G. Abdullayev, Merrim Imashkyzy (Turkiye, Kyrgyzstan) On enhancing the convergence of extremal polynomials depending on the geometry of the region,

2. Aida Asgarova, Vugar Ismailov (Azerbaijan) Uniform approximation by a sum of two algebras,
3. Daniyal Israfilov (Turkiye) Maximal convergence of Faber series in Bergman spaces,
4. Ilgar Sh.Jabbarov, J.Abdullayev (Azerbaijan) On new Fubini type theorems for the Riemann integral in high dimensions
5. Ibrahim K. Maharov (Azerbaijan) On the error of approximation by RBF neural networks with two centers,
6. Yagub N. Aliyev (Azerbaijan) Maximum and minimum values of the ratio of differences of means,
7. Roman Dmytryshyn, Ivan Nyzhnyk (Ukraine) A priori bounds for truncation error of branched continued fraction expansions of Lauricella-Saran's hypergeometric functions  $F_M$  and their ratios.

## ***Section – Harmonic and Non-Harmonic Analysis***

**HALL - VI**

***Wednesday , September 04, 2025***

**15:00-18:00**

***Chairmen: Rahim Rzaev, Rashid Aliev***

1. Rahim Rzayev, Lale Aliyeva (Azerbaijan) On Pointwise Multipliers of the Space,
2. Rashid Aliev, A.F.Huseynli (Azerbaijan) On the summability of the Riesz transform of Lebesgue integrable functions,
3. Vagif Guliyev, Mehriban Omarova (Azerbaijan) Commutator of parabolic fractional maximal operator on total parabolic Morrey spaces,
4. Eminaga Mammadov, Yonca Sezer (Azerbaijan, Turkiye) Some Remarks on One Class of Banach Function Spaces,
5. Sabina Sadigova, Natavan Nasibova, Asmar Mirzebalayeva (Azerbaijan) t-basisity of Faber polynomials in X-valued Smirnov Classes

6. Aynur Mammadova, Aytenkin Abdullayeva (Azerbaijan) On continuity of multidimensional Hausdorff operators on weighted Lebesgue spaces,
7. Aygun Omarova, Konul Omarova (Azerbaijan) Elliptic boundary value problems in Sobolev-Morrey spaces and applications to heat conduction models,

***Section- History of Development of Mathematics and  
Mathematical Education***

**HALL –IV**

***Wednesday, September 04, 2025***

**15:00-18:00**

***Chairmen: Eminaga Mamedov***

1. Shahin Aghazade, Fidan Sarmasli (Azerbaijan) Understanding geometry through culture and cognition: insights from azerbaijani classrooms,
2. Rena Q. Babaeva, Eminaga M. Mamedov (Azerbaijan) Determination of the results of syllogisms consisting of the modal propositions,
3. Aygun T. Omarova, T.T. Orujov (Azerbaijan) Formation of students' economic skills in the mathematics education process in general secondary schools,
4. Leyla A. Sheykhzamanova, A.S. Aliyev (Azerbaijan) Theorems on rotations of inscribed polygons about the diameter of a great circle of a sphere,
5. Asiman Ismayilov (Azerbaijan) Fundamentals of information security,
6. Aynur Seyidova (Azerbaijan) Application of modern educational technologies in teaching mathematics for economists.

***Section – Mechanics-I***

**HALL - VII**

***Thursday , September 03, 2025***

**15:00-18:00**

***Chairmen: Geylani Panahov, Elkhan Abbasov***

1. Geylani Panahov, Gulnar Salmanova, Gulshan Agayeva (Azerbaijan) Investigation of the influence of periodic pressure gradient on the displacement process in pipes using viscous-elastic systems,
2. Geylani Panahov, Perviz Museibli, Aynur Kazimova (Azerbaijan) Model basis of electrokinetic processes in complex heterogeneous systems,
3. Elkhan M. Abbasov, Shamil Z.Talibli (Azerbaijan) Simulation of fluid motion hydrodynamics in a pipe with a permeable wall,
4. Elkhan M. Abbasova, Nurlana A.Agayeva (Azerbaijan) Dynamics of Motion of Gas-Liquid Mixture in a Pipe Taking into Account Mass Transfer and Exchange,
5. Eldar Abbasov, Afet Yuzbashiyeva, Ibrahim Mammadov (Azerbaijan) Heat Distribution Resulting From gas Generation in Porous Media,
6. Irada Mirzazade, Hasan R. Nagizade (Azerbaijan) Artificial Intelligence in the Tasks of Diagnostics of Acute Poisons,
7. Shusha A.Kerimova (Azerbaijan) Movement of Gas-Liquid Mixture in the Central Channel
8. Elkhan M.Abbasov , Serkar A.Imamaliyev(Azerbaijan) Modeling The Dynamics of The Movement of a Gas-Liquid Mixture in a Pipe Taking Into Account the Mass Transfer of Exchange and Deformation of the Pipe Wall,
9. Aynur Darishova (Azerbaijan) Modeling the dynamics of fluid movement in a complex profile pipe taking into account heat exchange,
10. Aynur Khudiyeva (Azerbaijan) Disturbance dynamics in layered viscous fluid flows.

## ***Section – Mechanics-2***

**HALL - VII**

***Thursday , September 03, 2025***

**15:00-18:00**

***Chairmen: Latif Talybly, Tabriz Shamiyev***

1. Latif Talybly (Azerbaijan) On a condition for the Constancy of Poisson 's Ration in Linear viscoelasticity,
2. Tabriz Shamiyev, Rena Ismayilova (Azerbaijan) The stability of a rectangular plate when compressed taking into account behavior,
3. Parvana Akhundova, Gunel Sh.Huseynova (Azerbaijan) Minimizing The Abrasive Wear in the Hub-Plunger Friction Pair,
4. Hicran Mammadova (Azerbaijan) A method for determining the time to corrosion failure of metals depending on deformation, temperature and potential as it changes over time during the corrosion process,
5. Mehriban Mammadova (Azerbaijan) Taking into account the influence of groundwater on the durability of a vertical well,
6. Vusala Rzayeva (Azerbaijan) Vibrations of a cylindrical shell stiffened with inhomogeneous rods and rings,
7. Emin Bagirov (Azerbaijan) On some peculiarities of the influence of imperfect contact conditions on the dispersion of axisymmetric waves in a two-layer hollow cylinder with inhomogeneous initial stresses,
8. Nigar Nagiyeva (Azerbaijan) Theoretical investigation of elastic-plastic cyclic torsion and fatigue features minimum cross-section rectangular torque structural elements,
9. Ayten Muradova (Azerbaijan) The action of a vertical load uniformly distributed over the circular part of the boundary of a viscoelastic mechanically incompressible half-space,
10. S. Alam, S. Karan, S. C. Mandal (India) Analysis of magnetoelasticity on semi-infinite moving crack embedded in an Orthotropic half-space under the influenced of anti-plane shear wave,
11. Ritiga Singh (India) Transient response of collinear Griffith cracks in a functionally graded strip bonded between dissimilar elastic strips under shear impact loading,

12. Jagannath Pattar, I. Sowjanya, Ravichander Pasunoori, Mohammad Abdul Fazal, and Pawan Kumar (India, South Africa) Modeling of the peak stress and drop strength for jute fibre-reinforced paper composite.

## ***Section – Nonlinear Problems of Mathematical Physics***

### **HALL –III**

**Thursday, September 03, 2025**

**15:00-18:00**

#### ***Chairmen: Adalat Akhundov, Turker Ozsari***

1. Konstatinas Pileckas (Lithuania) Regularity Criterion for 3D Navier-Stokes equations in terms of the behavior of kinetic energy
2. Adalat Akhundov, Areste Habibova (Azerbaijan) On an inverse problem for a parabolic equation of Burgers type,
3. Turker Ozsari (Turkiye), Low-regularity solutions of the NLS on the 2D Quarter-Plane,
4. Varga K. Kalantarov (Turkiye) Navier - Stokes - Voigt equations: existence and estimates of dimensions of global attractors
5. Yagub Sharifov, Ayten Mammadli (Azerbaijan) Investigation of a system of hyperbolic equations with nonlocal boundary conditions,
6. Rabil A. Amanov, A. I. Ismailov, Narmina R. Amanova (Azerbaijan) Existence of strong solutions to systems of second order quasilinear elliptic equations,
7. Elchin Mamedov (Azerbaijan) On blow Up and stabilization of solution for the equation of fourth order with nonlinear boundary conditions,
8. Mansur I. Ismailov (Turkiye) Inverse nonstationary scattering for a hyperbolic problem on the semi-axis with a nonzero boundary condition,
9. Joanna Slawinska, Dimitrios Giannakis (USA) Data-Driven modeling of nonlinear dynamics with quantum-inspired frameworks for Koopman operator,

10. Emil Novruzov (Turkiye) Local-in-space blow-up criteria for nonlinear dispersive wave equations and systems,
11. Alirzeza Kh. Golmankhaneh, Elmira Isayeva (Iran, Azerbaijan) Stochastic foundations of the fractal Schrödinger equation,
12. Elmira Isayeva, A.Kh. Golmankhaneh (Azerbaijan, Iran) A fuzzy logic view on simplex, quaternion, and quantum operators,
13. E.R. Hasanov, L.Ch. Suleymanova, Sh. G. Khalilova, R.K. Mustafayeva (Azerbaijan) Injection instabilities in two-valley semiconductors in an external electric field,
14. Narmin Amanova (Azerbaijan) The Harnacks inequality for solutions of non-uniformly degenerate elliptic-parabolic equations of the second order,

## ***CLOSING OF THE CONFERENCE***

### **HALL –I**

***Date: 05.09.2025, 12:30 -13:00***