**MINISTRY OF HIGHER AND SECONDARY SPECIAL EDUCATION OF THE REPUBLIC OF UZBEKISTAN**

# PROGRAMM

OF THE UZBEKISTAN-MALAYSIA INTERNATIONAL CONFERENCE ON

**"COMPUTATIONAL MODELS AND TECHNOLOGIES (CMT2022)"**

NATIONAL UNIVERSITY OF UZBEKISTAN
NAMED AFTER MIRZO ULUGBEK

UNIVERSITI TEKNOLOGI MARA (UITM)

V.I. ROMANOVSKIY INSTITUTE OF MATHEMATICS
UZBEKISTAN ACADEMY OF SCIENCES

KAZAKH NATIONAL PEDAGOGICAL UNIVERSITY
NAMED AFTER ABAY, KAZAKHSTAN

UNIVERSITI MALAYSIA TERENGGANU (UMT), MALAYSIA

**SEPTEMBER 16-17, 2022**
**TASHKENT**

## *Welcome address*

**Dear colleagues and conference participants!**

The development and well-being of our country are closely related to the discovery of innovations in science and their implementation. Based on this goal, the National University of Uzbekistan named after Mirzo Ulugbek jointly with international partners has been organizing an international conference in the field of computational models and technologies. This is a continuation of the traditions started by our mentors, Professors G.N.Salikhov, M.I.Israilov and H.A.Muzafarov. The first international conference on computational models and technologies was held in 2020. Since then a lot of progresses have been made in the field of computational modeling and technologies.

The coronavirus pandemic and the economic crisis forced to look at applications of science in various areas of the human life. The role of mathematics in this process is extremely important. The researchers from the National University Uzbekistan also made great contribution here. That was judged by the "Quacquarelli Symonds" international rating agency ranking the National University of Uzbekistan among the top 500 universities in the "Subject Rankings".

In conjunction with the situation caused international cooperation between educational institutions is of great interest. Therefore, to improve cooperation in the field of science and research between institutes of Uzbekistan, Malaysia, the Republic of Kazakhstan and other leading higher educational institutions lectures by leading scientists, conferences and scientific seminars were organized.

The theoretical and practical solution to the problems set up by experts gives an opportunity for further development. This in its turn renews the content of the education and improves its essence.

Thus, I invite scientific organizations, higher educational institutions, public organizations, manufacturing enterprises, and all our well-intentioned friends to cooperate in the education of a free and free-thinking young generation that has modern knowledge, combines universal and national values, and feels responsible for the happiness of our countries.

In addition, I would like to take this opportunity on behalf of the organizing committee to express my sincere gratitude to the Ministry of Higher and Secondary Special Education and the Ministry of Innovative Development of the Republic of Uzbekistan.

I am confident that the international conference being held in cooperation today will raise the international scientific-research relations to a higher level between the nations, as well as between the educational institutions of Uzbekistan, Malaysia and Kazakhstan.

Let us enjoy the achievements in the field of science, discuss and debate the results obtained. The achievements are not the merit of one or another country, they belong to the humanity.

I wish the success in the work of the conference.

Welcome to the second Uzbekistan-Malaysia International Conference on Computational Models and Technologies (CMT 2022)!

***Khudoyberganov M.U.***
***Chairman of the Organizing Committee of***
***the International Conference***

**Contents**

## COMMITTEES

### Organizing committee

| | | | |
|---|---|---|---|
| Patron | Madjidov I.U. | Professor, DSc, Rector | National University of Uzbekistan (NUUz), Uzbekistan |
| | Hajah Roziah Mohd Janor | Professor Datuk Ts. Dr.<br>Vice-Chancellor | Universiti Teknologi MARA (UiTM), Malaysia |
| | Shirinova R.Kh. | Professor, DSc, Vice-Rector | National University of Uzbekistan (NUUz), Uzbekistan |
| Advisors | Rakhmonov Z.R. | Associate Professor, DSc, Dean of<br>Faculty of Applied Mathematics and Intellectual Technologies | National University of Uzbekistan, Uzbekistan |
| | Mohd Zamri Bin Ibrahim | PROF. Ts. DR., Deputy Vice-Chancellor (Academic and International) | Universiti Malaysia Terengganu, Malaysia |
| Head of Scientific Committee | Aloev R.D. | Professor, DSc, Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |
| Chairman | Khudoyberganov M.U. | Associate Professor, Head of Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |
| Co-Chairman | Haryani Haron | Professor, Ts. Dr. Dean of Faculty Computer and Mathematical Sciences | Universiti Teknologi MARA (UiTM), Malaysia |
| Co-Chairman | Che Mohd Ruzaidi Ghazali | Professor, Ts. Dr. Dean of Faculty Ocean Engineering Technology and Informatics | Universiti Malaysia Terengganu (UMT), Malaysia |
| Deputy Chairman | Sumarni Abu Bakar | Dr., Head of Department of Mathematics, Faculty Computer and Mathematical Sciences | Universiti Teknologi MARA (UiTM), Malaysia |
| | Muhammad Suzuri Bin Hitam | Prof. Ts. Dr. Director of Digital Ecosystem Center | Universiti Malaysia Terengganu (UMT), Malaysia |

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|---|---|---|---|
| Secretary I | Varlamova L.P. | Lecturer, Department of Computational Mathematics and Information Systems y | National University of Uzbekistan (NUUz), Uzbekistan |
| Secretary II | Kabilova O.A. | Lecturer, Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |
| Treasurer | Akbarova A.A. | Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |
| | Eshkuvatov Z. K. | Associate Professor, Faculty of Ocean Engineering Technology and Informatics | Universiti Malaysia Terengganu (UMT), Malaysia |
| Protocol and Registration | Ne'matova D.E. | Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |
| | Rakhimov I.S. | Professor, DSc, Faculty of Computer and Mathematical Sciences | Universiti Teknologi MARA (UiTM), Malaysia |
| | Hayotov A.R. | Professor, DSc, Head of Computational Mathematics Laboratory | V.I.Romanovskiy Institute of Uzbekistan, Uzbekistan Academy of Sciences, Uzbekistan |
| Website and Publicity | Khudoyberganov M.U. | Associate Professor, Head of Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |
| | Eshkuvatov Z. K. | Associate Professor, Faculty of Ocean Engineering Technology and Informatics | Universiti Malaysia Terengganu (UMT), Malaysia |
| | Kakhkhorov A. | Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |
| | Kabilova O.A. | Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |
| Technical and Logistic | Dadaboyev S. | Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |

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|---|---|---|---|
| | Bakhromov S.A. | Associate Professor, Department of Computational Mathematics and Information Systems | National University of Uzbekistan (NUUz), Uzbekistan |
| | Hayotov A.R. | Professor, Head of Computational Mathematics Laboratory | V.I.Romanovskiy Institute of Uzbekistan, Uzbekistan Academy of Sciences, Uzbekistan |
| Programme Book, Abstract | Rakhimov I.S. | Professor, DSc, Faculty Computer and Mathematical Sciences | Universiti Teknologi MARA (UiTM), Malaysia |
| | Normi Abdul Hadi | Dr, Faculty Computer and Mathematical Sciences | Universiti Teknologi MARA (UiTM), Malaysia |
| | Iskandar Shah Mohd Zawawi | Dr, Faculty Computer and Mathematical Sciences | Universiti Teknologi MARA (UiTM), Malaysia |
| Sponsorship | Aloev R.D. | Professor, DSc, Scientific Head of Project UZB-Ind-2021-87 «Analysis of Li symmetry, analysis and modeling of the stability of hyperbolic systems on Lyapunov » | National University of Uzbekistan (NUUz), Uzbekistan |

## Programm committee

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|---|---|
| **Ayupov Sh.A.** | V.I.Romanovskiy Institute of Mathematics, Uzbekistan |
| **Alimov Sh.A.** | National University of Uzbekistan, Uzbekistan |
| **Sumarni Abu Bakar** | Universiti Teknologi MARA (UiTM), Malaysia |
| **Aloev R.D.** | National University of Uzbekistan, Uzbekistan |
| **Aripov M.M.** | National University of Uzbekistan, Uzbekistan |
| **Azamov A.** | V.I.Romanovskiy Institute of Mathematics, Uzbekistan |
| **Akhmedov A.B.** | National University of Uzbekistan, Uzbekistan |
| **Beshimov R.B.** | National University of Uzbekistan, Uzbekistan |
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| **Haryani Haron** | Universiti Teknologi MARA (UiTM), Malaysia |
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| **Nik Mohd Asri Nik Long** | Universuti Putra Malaysi, Malaysia |
| **Rasulov A.S.** | University of World Economy and Diplomacy, Uzbekistan |
| **Rakhmonov Z.** | National University of Uzbekistan, Uzbekistan |
| **Rakhimov I.S.** | Universiti Teknologi MARA (UiTM), Malaysia |
| **Rozikov U.A.** | V.I.Romanovskiy Institute of Mathematics, Uzbekistan |
| **Shadimetov Kh.M.** | Tashkent State Transport university, Uzbekistan |
| **Sharipov O.Sh.** | National University of Uzbekistan, Uzbekistan |
| **Zikirov O.S.** | National University of Uzbekistan, Uzbekistan |
| **Roslan Hasni Bin Abdullah** | Universiti Malaysia Terengganu, Malaysia |
| **Ahmad Termimi Ab Ghani** | Universiti Malaysia Terengganu, Malaysia |

**Important tips**

| GMT + 5 | | Audio and Video | | Wire Speed |
|---|---|---|---|---|
| • All formal session arranged by Tashkent Time.<br>• Please transfer into your correct local time, and attend on time | | • Turn on your Audio & Video.<br>• Use headset to enhance the audio effect and avoid the speaker echo or howling.<br>• Stay in a quiet place without noise. | | • With high-speed Wi-Fi or Wired network.<br>• Equipment with enough battery or connected with charger. |
| **ZOOM** | | **Presentation** | | |
| • Join with Room ID on ZOOM APP or webiste https://zoom.us/<br>• Learn how to use ZOOM via: http://icmae.org/zoom.html<br>• or https://us06web.zoom.us/j/7871108678?pwd=Y0JvZ3IvSHJsa1k3U04rM3JaUlF3UT09 | | • Send us a 15 Mins Video as back-up.<br>• Stay online at least during KN talk time and your own session for Q&A.<br>• English and Russian can be used.<br>Certificate & receipt will be emailed after event. | | |

# Program overview

**UTC + 5**

**September 16– Keynote talk 1 and Sessions**

**September 17 – Keynote talk 2 and Sessions**

**Main Sessions of the Conference**

**Session 1. ROOM A. CMT- Computational Mathematics. Computational Technologies**

**Session 2. ROOM B. AMC- Applied Mathematics. Applied Statistics. Engineering Mathematics and Technologies. Fuzzy Analysis**

**Session 3. ROOM C. MMH- Mathematical Modeling. Hydrodynamics**

**Session 4. ROOM D. TFCA - The Theory of Functions. Computational Algebra**

**Please, note that in the conference the following ZOOM ID addresses for ROOM's A, B, C and D will be used.**

ROOM A ZOOM ID: 7871108678

*https://us06web.zoom.us/j/7871108678?pwd=Y0JvZ3IvSHJsa1k3U04rM3JaUlF3UT09)*

Password: 123456

**September 16, 2022 – Keynote talk and Session Day 1 UTC + 5**

| **Time** | **ROOM A ID: 7871108678**<br>**Moderator:** Ass. Prof., Dr. Z. Eshkuvvatov, National University of Uzbekistan, Uzbekistan | |
|---|---|---|
| 09.00-09.10 | **Opening Remark** | **Prof., Dr. Sh.Ayupov,** Director of V.I.Romanovskiy Institute of Mathematics, Uzbekistan |
| 09.10-09.20 | **Welcome Talks** | **Prof., Dr. I.Majidov,** Rector of National University of Uzbekistan, Uzbekistan |
| 09.20-09.40 | | **Prof., Dr. Haryani Haron,** Co-Chairman, University Teknologi MARA, Malaysia |
| 09.40-09.50 | | **Prof., Ts. Dr. Mohd Zamri Bin Ibrahim,** Deputy Vice Chancellor (Academic and International), Universiti Malaysia Terengganu, Malaysia |
| 09.50-10.20 | **Keynote Talk 1** | **Prof., M. Aripov,** National University of Uzbekistan, Uzbekistan, *"Mathematical modeling of diffusion processes in nonlinear medium with variable density and source"* |
| | **Keynote Talk 2** | **Prof., Dr. Daud Mohamad,** Universiti Teknologi MARA, Malaysia, *"Hierarchical Fuzzy Inference System for Medical Diagnosis Prediction"* |
| | **Keynote Talk 3** | **Prof., Dr. R.D. Aloev,** National University of Uzbekistan, Uzbekistan, *"Investigation of the Exponential Stability of an Upwind Difference Splitting Scheme with Control Parameters for Hyperbolic Systems"* |
| **Coffee break** | | |
| 13.00-14.00 | **Lunch Time** | |
| 14.00-18.00 | **Session work** | |

**Session 1**
**Computational Mathematics. Computational Technologies**

**14:00-18:00**

**Chair: Dr Iskandar Shah Mohd Zawawi, University Teknologi MARA, Malaysia,**

**Prof., Dr. Shadimetov Kh.M. Tashkent State Transport University, Uzbekistan**

**September 16, 2022, THR (UTC+5)**

**Room A ID: 787 110 8678**

| Time | |
|---|---|
| **14.00-14.15** | **Nik Long, N.M.A., Alsadi, K.S.M.** *Numerical Approaches for Solving Caputo-Conformable Volterra-Fredholm Fractional Integro-Differential Equations* |
| **14.15-14.30** | **Nurul Fatin Azara Zulkarnain, Abdul Kadir Jumaat** *An improved total variation based model for denoising and segmentation of vector-valued images* |
| **14.30-14.45** | **Aloev R.D., Dadabaev S.U., Turayev R.N.** *Investigation of the Exponential Stability of an Upwind Difference Splitting Scheme with Control Parameters for Hyperbolic Systems* |
| **14.45-15.00** | **Aloev R.D., Akbarova A., Baxriddinova N.** *Bir o'lchovli o'zgarmas koeffitsiyentga ega bo'lgan chiziqli giperbolik tenglamalar sistemasi uchun qo'yilgan aralash masalaning sonli yechimini python dasturlash tilida hisoblash dasturini tuzish* |
| **15.00-15.15** | **Aloev R.D., Berdyshev A., Akbarova A.** *Calculation of a two-dimensional problem for the system of Saint-Venantequations* |
| **15.15-15.30** | **Aloev R.D., Berdyshev A., Rikhsiboev D.** *Explicit-implicit upwind difference scheme of splitting in directions for a two-dimensional symmetric t-hyperbolic system with variable coefficients and lowest terms* |
| **15.30-15.45** | **Aloev R.D., Nematova D.E., Rikhsiboev D.R.** *Calculation of numerical stability by Lyapunov boundary control for system of linear balance laws* |
| **15.45-16.00** | **Aloev R., Ovlayeva M., Norqulova Z.** *Checking the stability of a system of hyperbolic equations with two-line linear variable coefficients in the Lyapunov sense using a program written in the Python programming language.* |
| **16.00-16.15** | **Baigereyev D. R., Alimbekova N.B.** *Parallel implementation of the algorithm for solving the problem of fluid flow in fractured porous media* |
| **16.15-16.30** | **Baigereyev D. R., Berdyshev A. S., Alimbekova N.B.** *Numerical methods for fractional models of fluid flow in fractured porous media* |
| **16.30-16.45** | **Bakhromov S.A., Ismatullaev G.P.** *Construction of a Cubature Formula of the Fifth Degree of Accuracy Containing the Values of Partial Derivatives* |
| **16.45-17.00** | **Nasrul Azizi Kon, Muhammad Danial Adzlizan Suhaizi, Abdul Kadir Jumaat** *Active contour models for boundary extraction with application to medical images with noise* |
| **17.00-17.15** | **Darus Muhammad Ashraf, Abdul Aziz Nurul Huda, Deraman F., Mohd Asi S., Anuar M.S., Zakaria H.L.** *Numerical Approximation of Volterra Integro-Differential Equation of Second Kind using Boole's Quadrature Rule Method* |
| **17.15-17.30** | **Eshkuvatov Z.K., Ismail Shahrina, Saburov H., Aloev R.D.** *Automatic quadrature scheme for bounded and unbounded weighted hypersingular integrals* |
| **17.30-17.45** | **Eshkuvatov Z.K., Ismail Sh., Aloev R.D., Saburov H., Shirinova R.H.** *Automatic quadrature scheme for bounded and unbounded weighted hypersingular integrals* |
| **17.45-18.00** | **Farah Izzati Ahmad Ramli, Normi Abdul Hadi, Suhaila Abd Halim** *A 3D Point Cloud Filtering Algorithm Based on Weighted Eigenvectors in Principal Component Analysis and Region Classification* |

**Session 2**
**Applied mathematics. Applied statistics. Engineering mathematics and technologies. Fuzzy analysis**

**14:00-18:00**

**Chair: PM Dr Seripah Awang Kechil, University Teknologi MARA, Malaysia,**

**Prof., Dr. Rasulov A.S.**
**University of World Economy and Diplomacy, Uzbekistan**

**September 16, 2022, THR (UTC+5)**

**Room B ID: 787 110 8678**

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|---|---|
| **14.00-14.15** | **Akhmedov O., Sotvoldiyev A., Tilavov A.** *On Prove an Existence of "Bendixson's Bag", for Non-Linear Dynamical System* |
| **14.15-14.30** | **Durdiev D., Boltaev A.** *Inverse problem for anisotropic viscoelasticity* |
| **14.30-14.45** | **Durdiev D., Jumaev J., Atoev D.** *Inverse problem for nonlocal initial-boundary conditions of integro-differential heat equation* |
| **14.45-15.00** | **Iskandar Shah Mohd Zawawi, Zarina Bibi Ibrahim** *Convergence of the block backward differentiation formula with independent parameter for solving damped mass-spring problems* |
| **15.00 - 15.15** | **Jumanov I., Safarov R.** *Optimization of recognition of microorganisms based on histological information structures of images* |
| **15.15-15.30** | **Najah Ghazali, Dzati Athiar Ramli, Abdul Aziz Nurul Huda, Deraman Fatanah, Mohd Asi Salina, Mat Safar Anuar, Zakaria Hasneeza Liza** *A Strategy using Deterministic Annealing on EM Algorithm for Microembolus Detection* |
| **15.30-15.45** | **Vincent Daniel David, Arifah Bahar, Zainal Abdul Aziz** *Approximate Analytic Solution for forced Korteweg-de Vries Equation with wavy forcing function* |
| **15.45-16.00** | **Бекиев А.Б.** *Разрешимость одной краевой задачи для уравнения четвертого порядка* |
| **16.00-16.15** | **Бозоров З.Р.** *Обратная коэффициентная задача для уравнения вязкоупругости с переменным коэффициентом* |
| **16.15-16.30** | **Жалолов И.Ф.** *Некоторые свойства топологического пространства, компактное и локально компактное пространство* |
| **16.30-16.45** | **Кадиркулов Б.Ж., Жалилов М.А.** *Об одной обратной задаче для нелокального уравнения смешанного типа с дробной производной* |
| **16.45-17.00** | **Маматкабилов А.Х.** *Об устойчивости криволинейного движения автомобиля с учетом упругости и деформируемости шин* |
| **17.00-17.15** | **Рахмонов А.А.** *Обратная коэффициентная задача для дробного-диффузионного уравнения с оператором Бесселя* |
| **17.15-17.30** | **Сафаров Ж.Ш., Хасанов К.Х.** *О разрешимости одного интегро-дифференциального уравнения гиперболического типа* |
| **17.30-17.45** | **Суяров Т.Р.** *О спектре смешанной задачи для системы интегро-дифференциальных уравнений* |
| **17.45-18.00** | **Турдиев Х.Х.** *Начально-краевая задача для системы интегро-дифференциальных уравнений гиперболического типа первого порядка* |

**Session 3**
**Mathematical modeling. Hydrodynamics**

**14:00-18:00**

**Chair: Dr Vincent Daniel s/o David, University Teknologi MARA, Malaysia,**

**Prof., Dr. Aripov M.M. National University of Uzbekistan, Uzbekistan**

**September 16, 2022, THR (UTC+5)**

**Room C ID: 787 110 8678**

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|---|---|
| **14.00-14.15** | **Bakhromov S.A.** *Construction of A Two-Dimensional Local Interpolation Spline Model For Geophysical Signals And Comparative Analysis* |
| **14.15-14.30** | **Dalabaev U., Xasanova D.** *Moving node method for solving problems of a viscous fluid in pipes with different cross sections* |
| **14.30-14.45** | **Elov B.B., Axmedova X.I.** *Determining homonymy using statistical methods* |
| **14.45-15.00** | **Ganiev J., Nuritdinov S., Omonov A.** *Models of small-scale structures in disk-like self-gravitating objects* |
| **15.00-15.15** | **Guan Xuelin** *Numerical calculation of potential and space charge in nonstationary EHD flows of incompressible polymer fluid* |
| **15.15-15.30** | **Ikramov A., Juraev G.** *Finding proper linear transformation in a new SPONGE structured stream cipher* |
| **15.30-15.45** | **Ikramov A., Polatov A., Pulatov S.** *Computational model of non-stationary process of heat distribution in fibrous composites* |
| **15.45-16.00** | **Imomnazarov Kh.Kh., Mikhailov A.A., Omonov A.T.** *Excitation of seismoacoustic waves from a singular source acting on the boundary of a liquid layer and a poroelastic half-space* |
| **16.00-16.15** | **Khuzhayorov B., Fayziev B., Begmatov T.** *Suspension filtration model in a dual-zone porous medium with "charging" effect* |
| **16.15-16.30** | **Khuzhayorov B., Kholiyarov E.** *Identification of relaxation and flow coefficients during filtration of a homogeneous liquid in fractured-porous media* |
| **16.30-16.45** | **Khuzhayorov B., Kholiyarov E., Khaydarov O.** *Inverse problem of contaminant transport in porous media* |
| **16.45-17.00** | **Makhmudov J., Usmonov A., Kulzhanov J.** *The problem of anomalous filtration and solute transport in an inhomogeneous porous medium* |
| **17.00-17.15** | **Mamatov A. Z., Bakhramov S.A., Dadabayev S. U., Nasirdinov M.M.** *On The Generalized Solution of The Problem of Parabolic Type when The Boundary Condition Contains The Time Derivative of The Desired Function* |
| **17.15-17.30** | **Mamatov A., Nurumova A.** *Asymptotic property and localization of solutions of mutual cross-diffusion systems* |
| **17.30-17.45** | **Mohd Noor Noor Syamsiah, Abu Bakar Sumarni, Ahmad Tahir** *Bounded Autocatalytic Set and its Basic Properties* |
| **17.45-18.00** | **Nuritdinov S.N., Botirov F.U.** *Modelling of pulsating and collapsing self-gravitating systems* |

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|---|---|---|
| **Session 4**<br>**The Theory of Functions. Computational Algebra** | **14:00-16:45**<br><br>**Chair: Dr Nur Hazwani Aqilah Abdul Wahid, University Teknologi MARA, Malaysia,**<br><br>**Prof., Dr. I.Rakhimov, University Teknologi MARA, Malaysia,** | **September 16, 2022, THR (UTC+5)**<br><br>**Room D ID: 787 110 8678** |

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|---|---|
| **14.00-14.15** | Aitzhanov S.E., Berdyshev A.S., Bekenayeva K.S. ***Boundary value problems for pseudo-parabolic equation with fractional order derivatives*** |
| **14.15-14.30** | **Juraboyev S.S.** *Finite system of differential generators in skew-field* $A[[x_1, x_2; \bar{x}_1, \bar{x}_2]]^{Sp(n)}$ |
| **14.30-14.45** | **Nur Hazwani Aqilah Abdul Wahid, Daud Mohamad** *Hankel Determinant of Logarithmic Coefficients for Tilted Starlike Functions with Respect to Conjugate Points* |
| **14.45-15.00** | **Rakhimov A.** *On the approximation of the function on the unite sphere by the spherical harmonics* |
| **15.00-15.15** | **Safarov U., Akhadkulov H.** *Quasi-symmetric conjugation of critical circle homeomorphisms with infinite number of break points* |
| **15.15-15.30** | **Zhabborov N., Husenov B.** *The Cauchy integral formula for the class of* $H_A^1$ *functions* |
| **15.30-15.45** | **Адил Н., Бердышев А.С., Эшматов Б.Э.** *Разрешимость нелокальной задачи для волнового уравнения дробного порядка* |
| **15.45-16.00** | **Deraman F., Abdul Aziz Nurul Huda, Mohd Asi Salina, Zakaria Hasneeza Liza, M. S. Anuar** *The Cardinality of Double Character Sums associate with Beatty Sequence* |
| **16.00-16.15** | **Rakhimov I.** *Isomorphism Criteria for a subclass of filiform Leibniz algebras* |
| **16.15-16.30** | **Selvarajoo Mathuri, Mohd Pawiro Santono, Wan Heng Fong, Sarmin Nor Haniza** *A Review: Restricted Splicing Systems* |

## September 17, 2022 – Keynote talk and Session Day 2 UTC + 5

| Time | ROOM A ID: 7871108678 | |
|---|---|---|
| 09.00- 09.30 | **Keynote Talk 1** | **Prof., Dr. A.S.Rasulov,** University of World Economy and Diplomacy, Uzbekistan "*Monte Carlo Method for pricing weather derivatives"* |
| 09.30- 10.00 | **Keynote Talk 2** | **Zabidin Bin Salleh,** Universiti Malaysia Terengganu, Malaysia, *"Pairwise Lindelof Bitopological Spaces and Their Product Properties"* |
| 10.00- 10.30 | **Keynote Talk 3** | **Mohd Zamri Ibrahim,** Universiti Malaysia Terengganu, Malaysia, *Marine Renewable Energy: The Potential in Southeast Asia and Device Technologies* |
| **Coffee break** | | |

**Session 1**
**Computational Mathematics. Computational Technologies**

**11:00-18:00**
**Chair: Dr Iskandar Shah Mohd Zawawi, University Teknologi MARA, Malaysia,**

**Prof., Dr. Shadimetov Kh.M. Tashkent State Transport University, Uzbekistan**

**September 17, 2022, THR (UTC+5)**

**Room A ID: 787 110 8678**

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| **11.00-11.15** | **Amirgaliyev Y., Jantayev R., Kozhaly Kairzhan, Kenchimov Ch.** *Handwritten Kazakh Text Recognition using Optimized Neural Networks Model* |
| **11.15-11.30** | **Jumanov I., Djumanov O., Kholmonov S.** *Optimization of recognition and classification of micro-objects with adaptive image filtering mechanisms* |
| **11.30-11.45** | **Merembayev T., Amirgaliyev Y.** *Real-time anomaly events detection: An application to biogas station using Neural ODE* |
| **11.45-12.00** | **Mohd Asi Salina, Zakaria H.L., Deraman F., Anuar M.S., Nurul Huda Abdul Aziz** *GLCM Feature Extraction and Classification for Healthy and Unhealthy Chili Leaves* |
| **12.00-12.15** | **Rizauddin Saian, Muhamad Hasbullah Mohd Razali, Yap Bee Wah, Ku Ruhana Ku-Mahamud** *Classifying Imbalanced Medical Data with Ant Colony Optimization* |
| **12.15-12.30** | **Zakaria H. L., Mohd Asi Salina, Deraman F., Nurul Huda Abdul Aziz, Anuar M.S.** *Solving the Travelling Salesman Problem with Hybrid Falling Tide and Simulated Annealing Optimization Algorithm* |
| **12.30-12.45** | **Hayotov A.R., Babaev S.S.** *Construction optimal quadrature formula for the right Riemann-Liouville integral* |
| **12.45-13.00** | **Hayotov A.R., Boytillayev B.A.** $W_2^{(1,0)}(0,t)$ *fazoda umumlashgan Abel integral tenglamasini taqribiy yechish uchun optimal kvadratur formula* |
| **13.00-14.00** | **Lunch time** |
| **14.00-14.15** | **Hayotov A.R., Doniyorov N.N.** $K_2(P_m)$ *fazoda optimal interpolyatsion formula* |
| **14.15-14.30** | **Hayotov A.R., Khayriev U.N.** *A Sharp Estimate for the Error of the Optimal Quadrature Formula in the Space* $\widetilde{W}_2^{(m,m-1)}$ *of Periodic Functions* |
| **14.30-14.45** | **Herrini Mohd Pauzi, Lazim Abdullah** *Intuitionistic Fuzzy Inference System with Weighted Comprehensive Evaluation Considering Standard Deviation-Cosine Entropy: A Fused Forecasting Model* |
| **14.45-15.00** | **Khayrullaev D.B., Eshkuvatov Z.K., Nurillaev M.E., Mahalis SH.M.** *Application of HAM for Nonlinear Integro-Differential Equations of Higher Order with Mixed Boundary Condition* |

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| | **Mamatova Kh.Kh., Eshkuvatov Z.K., Ismail Sh., Bahromov S.** *Modified HPM for solving singular integral equations of the first kind* |
| | **Muhammad Syawal Abd Halim, Normi Abdul Hadi, Mohd Agos Salim Nasir** *Bibliometric Analysis Of Research In Triangular Surface Reconstruction Using Scopus Database* |
| | **Арипов М.М., Утебаев Б.Д., Казымбетова М.М.** *Схемы повышенной точности для обыкновенных дифференциальных уравнений второго порядка с обобщенными решениями* |
| | **Akhmedov D.M.** *On optimal quadrature formulas for approximate solution of the first kind singular integral equations* |
| | **Nuraliyev F., Ulikov Sh., Usmanjanova N.** *Sobolevning* $W_2^{(2)}(0,1)$ *faktor fazosida kvadratur formula xatolik funksionalining normasi* |
| | **Rasulov A.S.** *Monte Carlo Algorithms for the Solution of Some Quasi-Linear Boundary Value Problems of Elliptical Typy* |
| | **Shadimetov Kh.M., Karimov R.** *The norm of the error functional of the optimal explicit difference formula in the Hilbert space* $W_2^{(3,2)}(0,1)$ |
| | **Shadimetov X.M., Toshboyev O.N., Turg`unboyev B.SH.** *Riman-Liuvill kasr tartibli integralini taqribiy hisoblash uchun optimal kvadratur formulalar* |
| | **Tverdyi Dmitrii** *Parallel algorithm for a non-local implicit finite difference scheme and evaluation of its efficiency on a super computer* |
| | **Шадиметов Х.М.** *Оптимизация разностных формул* |
| | **Boltaev N., Qurbonnazarov A.** *Furye integrallarini taqribiy hisoblash uchun giperbolik funksiyalarga aniq optimal kvadratur formulalar* |
| | **Акбарова А.А., Алимова В.** *Некоторые аспекты корректной постановки задачи для системы уравнений Сен-Венана* |
| | **Алоев Р.Д., Неъматова Д.Э., Рихсибоев Д.Р.** *Расчет модельной задачи граничного управления гиперболическими задачами случай 2x2* |
| | **Bozorova O., Qarshiboyev X., Kulibayeva M.,** *Stability of the difference scheme for a mixed problem for hyperbolic system* |
| | **Бекиев А.Б.** *Разрешимость одной краевой задачи для уравнения четвертого порядка* |
| | **Бердышев А.С., Абдираманов Ж.А.** *Разностный аналог смешанной задачи для гиперболического уравнения с памятью* |
| | **Болтаев А.К., Давронов Ж.Р.** *Система для нахождения оптимальных коэффициентов квадратурных формул в пространстве Соболева* |
| | **Исматуллаев Г.П., Мирзакабилов Р.Н.** *Кубатурные формулы по параболической области* |
| | **Жалолов Ф.И.** *Построение оптимальной весовой квадратурной формулы типа Эрмита в пространстве периодических функций Соболева* $\widetilde{W}_2^{(m)}(T_1)$ |
| | **Каримов К.Т., Шокиров А.М.** *Об одной задаче на собственные значения для вырождающегося уравнения эллиптического типа* |
| | **Хаятов Х.У.** *Построении квадратурных формул с помощью оптимальной интерполяционной формулы в пространстве Соболева* $\widetilde{W}_2^{(m)}(T_1)$ |
| | **Нуралиев Ф.А., Кузиев Ш.С., Кудратуллаев М.И.** *Система для коэффициентов оптимальных квадратурных формул* |
| | **Нуралиев Ф.А., Тухтасинов Ш.Ш.** *Оптимальные интерполяционные формулы типа эрмита в пространстве Соболева* $L_2^{(3)}(0,1)$ |
| | **Xudoyberganov M., Jo`rayev Sh., Sanoqulova Yu.** *The method of artificial neural networks for solving shallow water equations* |

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| | **Шадиметов Х.М., Давлатова Ф.И.** *Норма функционала погрешности оптимальной формулы приближенного интегрирования для интегралов Фурье* |
| | **Шадиметов Х.М., Гуломов О.Х.** *Соответствующей квадратичные формы области Вороного совершенной формы* $\varphi_1^5(x)$ |
| | **Шадиметов Х.М., Жабборов Х.Х.** *Оптимальные квадратурные формулы для сингулярных интегралов с ядром гильберта* |
| | **Шадиметов Х.М., Жалолов Ик.И.** *Построение преобразования Фурье функции* $\overline{v}_m(x)$ *для нахождении дискретного аналога одного дифференциального оператора* |
| | **Шадиметов Х.М., Жалолов О.И.** *Оптимальные по порядку сходимости весовые кубатурные формулы типа Эрмита в пространстве Соболева* $L_2^{(3)}(S)$ |
| | **Утебаев Б.Д.** *Компактные и монотонные разностные схемы для обобщенного уравнения Фишера с нелинейной конвекцией* |
| | **Утебаев Д., Нуруллаев Ж.А.** *Численное решение уравнения ионно-звуковых волн в замагниченной плазме* |

**Session 2**
**Applied Mathematics. Applied Statistics. Engineering Mathematics and Technologies. Fuzzy Analysis**

**11:00-13:00**
**Chair: PM Dr Seripah Awang Kechil, University Teknologi MARA, Malaysia,**

**Prof., Dr. Rasulov A.S.**
**University of World Economy and Diplomacy, Uzbekistan**

**September 17, 2022, THR (UTC+5)**

**Room B ID: 787 110 8678**

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| **11.00-11.15** | **Хашимов А.Р.** *Энергетические оценки специального вида для решений уравнения третьего порядка типа псевдоэллиптических* |
| **11.15-11.25** | **Abdujalilova G.** *The importance of statistical criteria in assessing the reliability of socio-economic research results* |
| **11.25-11.35** | **Muhamedov A.** *Invariance principle for kernel estimates of a density function from stationary sequence of strongly linearly positive quadrant dependent random variables* |
| **11.35-11.50** | **Normurodov D.G.** *Implementing a binomial option pricing model in python* |
| **11.50-12.00** | **Nurmukhamedova N.S.** *Local asymptotic normality of statistical experiments in an inhomogeneous competing risks model* |
| **12.00-12.20** | **Che Mohd Ruzaidi Bin Ghazali** *The upcycling of carbon based wastes to graphitic compound via furnace pyrolysis* |
| **12.20-12.40** | **Moorthy V., Nawawi N.M., Anuar M.S., Junita M.N., Zakaria H. L., Mohd Asi S., Deraman F., Abdul Aziz Nurul Huda** *Simulation Modelling of Hybrid Optical Fiber and Radio -Frequency transmission towards user-end VLC System* |
| **12.40-13.00** | **Ahmad Shamudin Nurul Atiqah, Kamis Nor Hanimah, Mohamad Daud, A Kadir Norhidayah** *Interdependent Relationship of Criteria in Similarity Social Influence Network Group Decision Making Model* |
| **Cultural programs** | |
| **14.00-14.30** | **Closing ceremony** |

**Session 3**
**Mathematical Modeling. Hydrodynamics**

**11:00-15:00**
**Chair: Dr Vincent Daniel s/o David, University Teknologi MARA, Malaysia,**

**Prof., Dr. Aripov M.M. National University of Uzbekistan, Uzbekistan**

**September 17, 2022, THR (UTC+5)**

**Room C ID: 787 110 8678**

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| **11.00-11.15** | **Omonov A.T., Martinov V.N., Mikhailov A.A.** *Carrying out Numerical Experiments on Propagation of acoustic-gravity and seismic waves excited by various types of singular sources in the coupled Earth-Atmosphere model* |
| **11.15-11.30** | **Vasiliev S.G, Imomnazarov Kh.Kh., Mamasoliev B.J.** *Studing a non-dissipative system of the two-velocity hydrodynamics* |
| **11.30-11.45** | **Бабаджанов Ш.Ш.** *Градиентно подобное отображение классического функционала вариационного исчисления в одном банаховом пространстве* |
| **11.45-12.00** | **Байшемиров Ж.Д., Бердышев А.С., Жанбырбаев А.Б.** *О построении аналитических решений задач переноса с запаздыванием* |
| **12.00-12.15** | **Бердышев А.С., Абдираманов Ж.А., Шавкаева Э.Э.** *Задачи с условием Бицадзе-Самарского для линейного гиперболического уравнения с памятью* |
| **12.15-12.30** | **Дурдиев У.Д., Одинаев Р.Р.** *Обратная задача нахождения коэффициента жесткости в уравнении вынужденных колебаний балки* |
| **12.30-12.45** | **Миртаджиева К.Т., Маннапова К.А.** *Математическое моделирование формирования кольцеобразных систем во Вселенной* |
| **12.45-13.00** | **Мусурмонова М.О.** *Распространение нестационарных поперечных волн сдвига от сферической полости в пористо-упругом полупространстве* |
| **13.00-14.00** | **Break** |
| **15.00-15.15** | **Неъматиллаева М.Д.** *Теорема Вейерштрасса для $A(z)$ – аналитических функций* |
| **15.15-15.30** | **Нормуродов Ч.Б., Тойиров А.Х., Зиякулова Ш.А.** *Сходимость спектрально-сеточного метода для уравнения бюргерса с начально-краевыми условиями* |
| **15.30-15.45** | **Варламова Л.П., Бахромов С.А., Кобилов С.Ш., Муйдинов Л.А.** *Обработка медицинских изображений бикубическими интерполяционными сплайн-моделями* |
| **15.45-16.00** | **Mat Tahir Norazuwin Najihah, Awang Kechil Seripah** *Effects of magnetic field on the convective instabilities of viscoelastic fluid with gravity modulation* |
| **16.00-16.15** | **Байшемиров Ж.Д., Жанбырбаев А.Б., Мухтаргалиева А.Т., Бекенаева К.С.** *О построении вычислительного алгоритма для решения задач переноса* |

**13:00- 14:00 Break**
**Cultural programs**
**14.00 Closing ceremony**

## THANKS A LOT.

ENJOY THE EVENT!