

WORKSHOP ON
DYNAMIC GAMES AND
APPLICATIONS

in Honor of Professor Leon A. Petrosyan

October 3-5, 2023

Tashkent, Uzbekistan



PROGRAM

Tashkent 2023

Workshop
DYNAMIC GAMES AND APPLICATIONS – 2023
in Honor of Professor Leon A. Petrosyan

October 3-5, 2023
Tashkent, Uzbekistan

Organized by
Institute of Mathematics of Uzbekistan Academy of Science,
Russian Chapter of the International Society of Dynamic Games,
Uzbek Mathematical Society

International Scientific Committee

Shavkat Ayupov (*Uzbekistan*), Massimiliano Ferrara (*Italy*), Gafurjan Ibragimov (*Uzbekistan*), Abbas Ja'afaru Badakaya (*Nigeria*), Shравan Luckraz (*China*), Nikolai Lukoyanov (*Russia*), Vladimir Mazalov (*Russia*), Mikhail Nikol'skii (*Russia*), Nikolay Petrov (*Russia*), Marks Ruziboyev (*Uzbekistan*), Bakhrom Samatov (*Uzbekistan*), Aleksandr Tarasyev (*Russia*), David W.K. Yeung (*Hong Kong*)

Local Organizing Committee

Abdulla Azamov (*Uzbekistan*), Mansur Bekimov (*Uzbekistan*), Asliddin Tilavov (*Uzbekistan*), Numan Mamadaliyev (*Uzbekistan*), Elena Parilina (*Russia*), Utkir Rozikov (*Uzbekistan*), Artem Sedakov (*Russia*), Nikolay A. Zenkevich (*Russia*), Obidjon Zikirov (*Uzbekistan*)

Institute of Mathematics of Uzbekistan Academy of Science

University st., 9, Tashkent, Uzbekistan

<https://dyngaa.uz/>

Program

Institute of Mathematics of Uzbekistan Academy of Science
University st., 9, Tashkent, Uzbekistan

Tuesday, October 3

08:00 – 09:00	REGISTRATION	4th floor
09:00 – 09:15	WELCOME ADDRESS	Room 401
09:15 – 10:15	PLENARY TALK (1)	Room 401
10:15 – 11:15	PLENARY TALK (2)	Room 401
11:15 – 12:00	COFFEE BREAK	Room 402
12:00 – 13:30	PARALLEL SESSIONS (1)	Rooms 104, 105, 401
13:30 – 15:00	LUNCH	Canteen
15:00 – 17:00	PARALLEL SESSIONS (2)	Rooms 104, 105, 401
19:00 – 21:00	WELCOME PARTY	

Wednesday, October 4

09:00 – 10:00	PLENARY TALK (3)	Room 401
10:00 – 11:00	PLENARY TALK (4)	Room 401 (online)
11:00 – 11:30	COFFEE BREAK	Room 402
11:30 – 12:15	PARALLEL SESSIONS (3)	Rooms 104, 105, 401
12:15 – 13:15	PLENARY TALK (5)	Room 401
13:15 – 13:30	CLOSING SESSION	Room 401
13:30 – 15:30	LUNCH	Canteen
15:30 – 17:30	TASHKENT CITY TOUR	
18:00 – 21:00	CONFERENCE DINNER	

Thursday, October 5

09:00 – 13:00	INFORMAL DISCUSSIONS	Room 401
11:00 – 11:30	DEPARTURE FOR SAMARKAND	
13:00 – 14:00	LUNCH	Canteen

Tuesday, October 3

- 08:00 – 09:00** **REGISTRATION**, 4th floor
- 09:00 – 09:15** **WELCOME ADDRESS. Room 401, 4th floor**
- 09:15 – 10:15** **PLENARY TALK (1). Room 401, 4th floor**
Abdulla Azamov – *“Fifty years in Dynamic Games”*
- 10:15 – 11:15** **PLENARY TALK (2). Room 401, 4th floor**
Georges Zaccour – *“Dynamic Games Played over Event Trees with Coupling Constraints”*
- 11:15 – 12:00** **COFFEE BREAK**
- 12:00 – 13:30** **PARALLEL SESSIONS (1)**
- S11: Room 401, 4th floor**
Chair: Elena Parilina
Cochair: Ibrokhimjon Zaynabiddinov
- 12:00 – 12:30** **Elena Parilina**, Fanjun Yao, Georges Zaccour
“Dynamic Pricing and Advertising in a Supply Chain with Environment- and Fairness-Concerned Consumers”
- 12:30 – 13:00** **Alexander Vasin**, Elizaveta Agadzhanyan
“Optimal strategies of agents and general equilibrium of electricity market with energy storages and RES”
- 13:00 – 13:30** Vitalii Kochevadov, **Artem Sedakov**
“Dynamic oligopoly with endogenous network formation”
- S12: Room 104, 1st floor**
Chair: Gafurjan Ibragimov
Cochair: Tuychivoy Tursunaliev
- 12:00 – 12:30** **Gafurjan Ibragimov**
“Evasion differential game of one evader and many slow pursuers”
- 12:30 – 13:00** Irina Marchenko, **Anna Tur**
“A Differential Game Model of Non-renewable Resource Extraction with Uncertainties”
- 13:00 – 13:30** **Nadezhda Smirnova**, Denis Kuzyutin
“On multistage bicriteria production game with pollution control”
- S13: Room 105, 1st floor**
Chair: Numanjon Mamadaliev
Cochair: Abdugani Abdullaev

- 12:00 – 12:20 **Numanjon Mamadaliev**, Khamdam Mustapukulov
“Sufficient Solvability Conditions for the Problem of Pursuit Under an Impulse Action”
- 12:20 – 12:40 **Tulanboy Ibaydullaev**
“The Pursuit and Evasion Problem for the Continuously Renewable Energy Case”
- 12:40 – 13:00 **Akmal Mamatov**
“Algorithm of Solution of One Game of Two Persons”
- 13:00 – 13:15 **Ibrokhimjon Zaynabiddinov**
“On a Linear Differential game of Pursuit with Integral Constraints in l^2 ”
- 13:15 – 13:30 **Kholmurodjon Qushaqov**, Dilrabo Mamatboyeva
“Guaranteed Pursuit Time in a Differential Game for an Infinite System in Hilbert Space l^2 ”

13:30 – 15:00 **LUNCH**

15:00 – 17:00 PARALLEL SESSIONS (2)

S21: Room 401, 4th floor

Chair: Elena Gubar

Cochair: Ulmasjon Soyibboev

- 15:00 – 15:30 **Elena Gubar**, Vladislav Taynitskiy, Ilyass Dahmouni
“Analysis of epidemic waves in a two-virus SIRS model in a scale-free network”
- 15:30 – 16:00 **Aleksandra L. Grinikh**
“Equilibrium Strategy for n-Person Prisoner’s Dilemma with Imperfect Information on the Hypergraph”
- 16:00 – 16:30 Vassili N. Kolokoltsov, **Dmitri V. Vetchinnikov**
“Effective fine functions for evolutionary inspection-corruption games”
- 16:30 – 17:00 **Gennady A. Ougolnitsky**, Alexey V. Korolev
“Dynamic Game Theoretic Models of Cournot Oligopoly on Networks”

S22: Room 104, 1st floor

Chair: Yaroslavna Pankratova

Cochair: Akmal Kurbanov

- 15:00 – 15:30 **Yaroslavna Pankratova**, Leon Petrosyan
“Cooperation in Differential Network Games with Partner Sets”

- 15:30 – 15:45 **Akmal Kurbanov**
“Evasion from Many Slow Pursuers When the Control Set of Evader is a Sector”
- 15:45 – 16:15 **Anton Bondarev, Thorsten Upmann**
“Non-smooth harvesting efficiency variation in renewable resource optimization models”
- 16:15 – 16:30 **Tuychivoy Tursunaliev**
“A linear differential game of one evader and many slow pursuers”
- 16:30 – 16:45 **Mohisanam Turgunbayeva**
“The Π -strategy in a Nonlinear Differential Game of Pursuit”

S23: Room 105, 1st floor

Chair: Azamat Holboyev

Cochair: Ikrombek Yusupov

- 15:00 – 15:15 **Azamat Holboyev**
“Pursuit-Evasion Game on the 1-Skeleton Graph of the Regular Polyhedrons”
- 15:15 – 15:30 **Makhmud Khorilov, Azizbek Kakhkhorov**
“A Life-line Differential Game”
- 15:30 – 15:45 **Ikrombek Yusupov**
“Evasion Differential Game of Many Evaders and Many Slow Pursuers”
- 15:45 – 16:00 **Saboxat Uralova**
“A Linear Pursuit Problem With Langenhop Type Constraints”
- 16:00 – 16:15 **Bahodir Jurayev**
“On the Life-line Game of the Inertial Players with Integral and Geometric Constraints”
- 16:15 – 16:30 **Adakhambek Akbarov**
“Differential games with Gronwall type constraints on controls”
- 16:30 – 16:45 **Saidakbar Gulomov, Sarvar Zokirjonov**
“On a linear differential game of evasion with multiple pursuers and one evader in Hilbert space l_2 ”
- 19:00 – 21:00 **WELCOME PARTY**

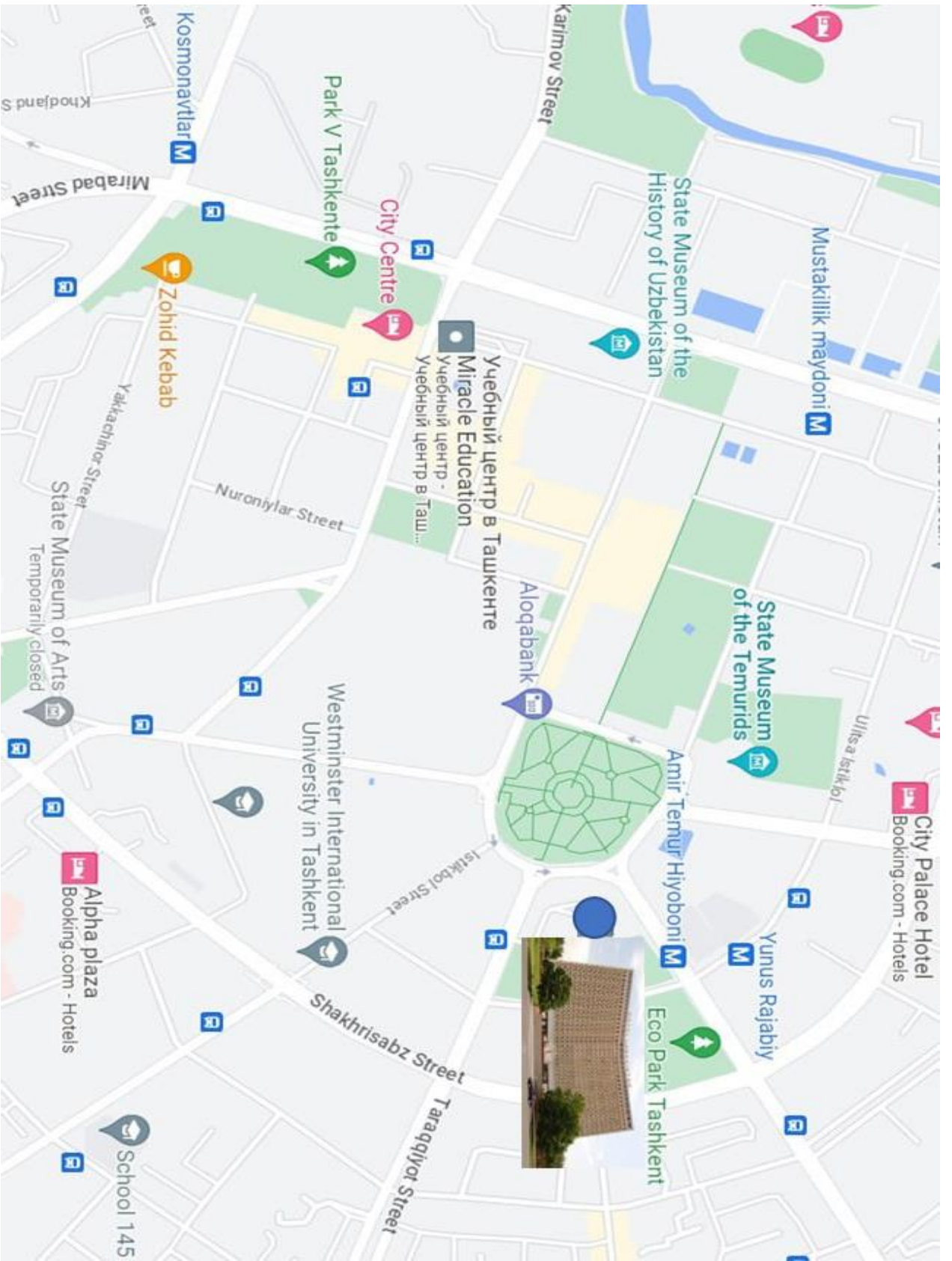
Wednesday, October 4

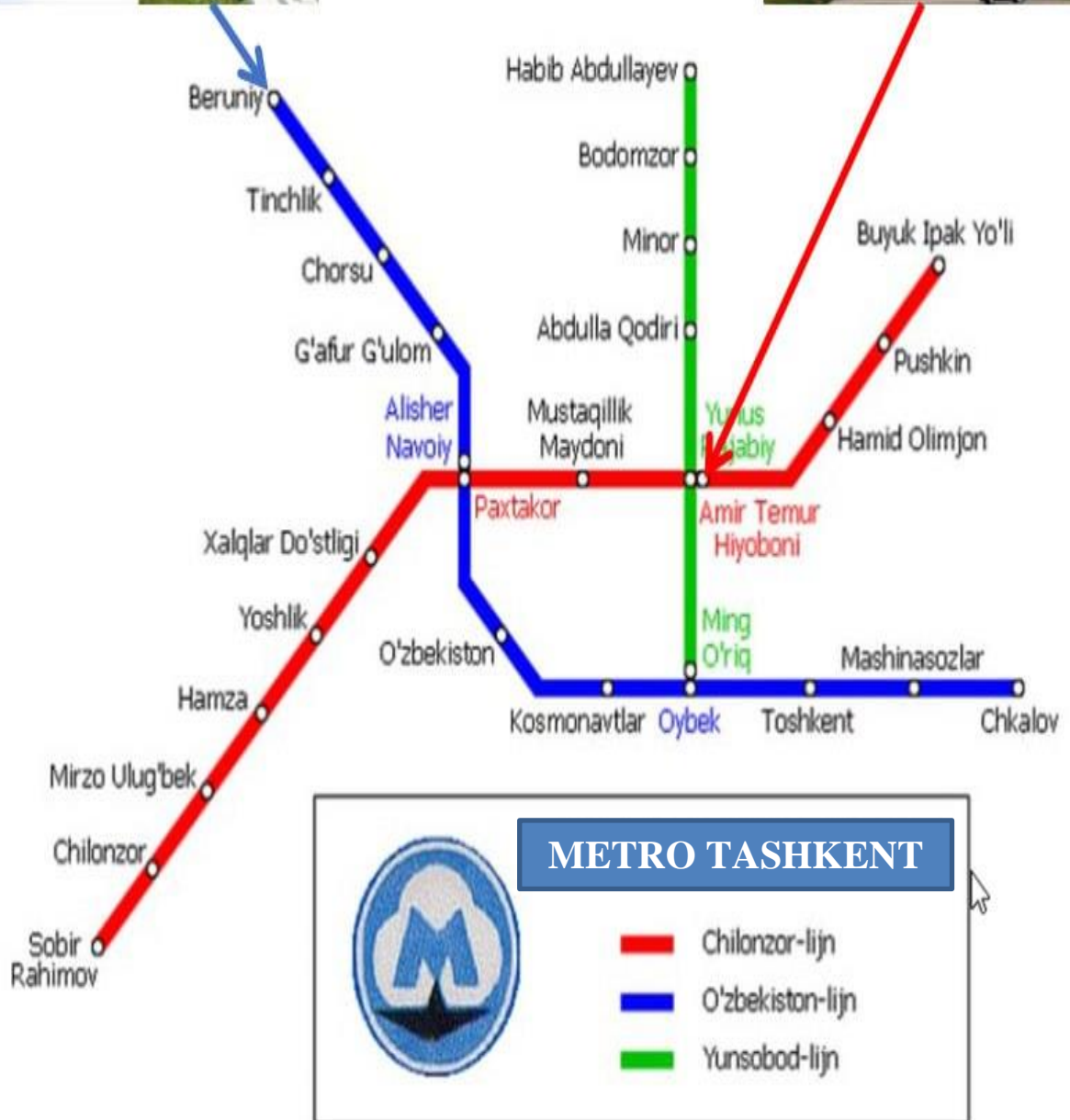
- 09:00 – 10:00** **PLENARY TALK (3). Room 401, 4th floor**
Vladimir Mazalov, Anna Ivashko – “*Learning in Game Attrition*”
- 10:00 – 11:00** **PLENARY TALK (4). Room 401, 4th floor**
David Yeung – “*A Large-scale Network Differential Game with the Application of the ‘Petrosyan’ Cooperative-trajectory Characteristic Function*” (*online*)
- 11:00 – 11:30** **COFFEE BREAK**
- 11:30 – 12:15** **PARALLEL SESSIONS (3)**
- S31: Room 401, 4th floor**
Chair: Anna Rettieva
Cochair: Artem Sedakov
- 11:30 – 12:00** **Anna N. Rettieva**
“*Cooperation Maintenance in Dynamic Multicriteria Games*”
- 12:00 – 12:15** **Shravan Luckraz**
“*Dismantlable Graphs and Pursuit-Evasion Games*” (*online*)
- S32: Room 104, 1st floor**
Chair: Vassili Kolokoltsov
Cochair: Akbarjon Muhammadjonov
- 11:30 – 12:00** **Vassili N. Kolokoltsov**
“*Quantum stochastic differential games*”
- 12:00 – 12:15** **Akbarjon Muhammadjonov, Dilnoza Qushaqova**
“*Guaranteed Evasion Time in a Differential Game for an Infinite System in Hilbert Space l^2* ”
- S33: Room 105, 1st floor**
Chair: Ping Sun
Cochair: Ulmasjon Soyibboev
- 11:30 – 12:00** **Ping Sun, Elena Parilina**
“*Stable and efficient networks with neighborhood-influenced externalities*”
- 12:00 – 12:15** **Bakhrom Samatov, Ulmasjon Soyibboev**
“*The Π -strategy for Objects with Accelerated Motions*”

- 12:15 – 13:15** **PLENARY TALK (5). Room 401, 4th floor**
Leon Petrosyan – “Trends in Dynamic Games”
- 13:15 – 13:30** **CLOSING SESSION**
- 13:30 – 15:30** **LUNCH**
- 15:30 – 17:30** **TASHKENT CITY TOUR**
- 18:00 – 21:00** **CONFERENCE DINNER**

Thursday, October 5

- 09:00 – 13:00** **INFORMAL DISCUSSIONS. Room 401, 4th floor**
- 11:00 – 11:30** **DEPARTURE FOR SAMARKAND**
- 13:00 – 14:00** **LUNCH**





Join Zoom Meeting

<https://us06web.zoom.us/j/2302313262?>

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Meeting ID: 2302313262

Passcode: 1