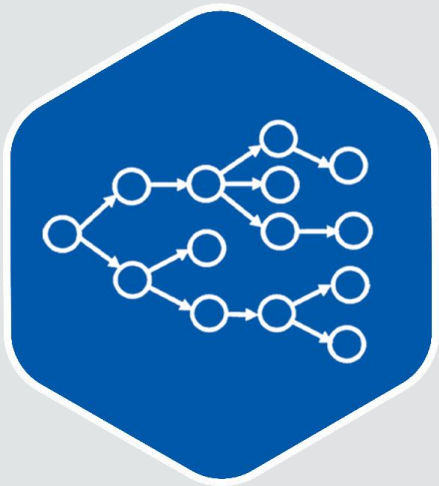
V.I. Romanovskiy Institute of Mathematics of the AS RUz
National University of Uzbekistan named after Mirzo Ulugbek
Samarkand State University named after Sh.R. Rashidov

PROGRAM

INTERNATIONAL CONFERENCE

BRANCHING PROCESSES AND THEIR APPLICATIONS

September 18 – 22, 2023
Tashkent – Samarkand



TASHKENT – 2023

CONFERENCE SCHEDULE

Monday, September 18, 2023

$09^{30} – 10^{30}$	**Registration** *Hall of the Institute of Mathematics*
$10^{30} – 12^{00}$	**Opening and Plenary Session** *Institute of Mathematics, Room 401*
$12^{00} – 14^{00}$	**Lunch**
$14^{00} – 16^{15}$	**Plenary Sessions** - *Institute of Mathematics, Room 401*
$16^{15} – 16^{30}$	**Coffee Break**
$16^{30} – 18^{00}$	**Sectional Sessions** **Section A.** Branching processes and trees *Institute of Mathematics, Room 105* **Section B.** Branching random walks *Institute of Mathematics, Room 104* **Section C.** Stochastic analysis *Institute of Mathematics, Room 102*
$18^{00} – 20^{30}$	**Welcome Party**

Tuesday, September 19, 2023

$10^{30} – 12^{30}$	**Plenary Sessions** - *Institute of Mathematics, Room 401*
$12^{30} – 14^{00}$	**Lunch**
$14^{00} – 16^{15}$	**Plenary Sessions** - *Institute of Mathematics, Room 401*
$16^{15} – 16^{30}$	**Coffee Break**
$16^{30} – 17^{45}$	**Sectional Sessions** **Section A.** Branching processes and trees *Institute of Mathematics, Room 105* **Section B.** Branching random walks *Institute of Mathematics, Room 104* **Section C.** Stochastic analysis *Institute of Mathematics, Room 102*
$18^{00} – 20^{00}$	**Dinner**

Wednesday, September 20, 2023

$10^{30} – 12^{30}$	**Plenary Session** - *Samarkand State University, Room P105*
$12^{30} – 14^{00}$	**Lunch**
$14^{00} – 15^{00}$	**Discussion of Poster Presentations** *Samarkand State University, Room P105*
$15^{00} – 18^{00}$	*Excursion to the Historical Places of Samarkand*
$18^{00} – 19^{00}$	**Dinner**
$19^{00} – 20^{00}$	**Break**
$20^{00} – 21^{00}$	*Excursion to the Registan Ensemble*

Thursday, September 21, 2023

$09^{00} – 16^{00}$	**Excursion to the Historical Places of Samarkand**

Friday, September 22, 2023

$10^{30} – 11^{30}$	**Discussion of Poster Presentations** *Institute of Mathematics, Room: 105*
$11^{30} – 12^{00}$	**Round Table** *Institute of Mathematics, Room: 105*
12^{00}	**Closing of Conference** *Institute of Mathematics, Room: 105*

Monday, September 18, 2023

OPENING CEREMONY

Chairman: U.A. Rozikov
Date and Time: September 18, 10^{30} – 12^{00}
Room: 401 (Institute of Mathematics)
Zoom ID: 880 3179 8514
Passcode: 1
https://us02web.zoom.us/j/88031798514?pwd=SHAzL1kwTmcyYm1PdkdzNVNLNUZ6dz09

10^{30} – 11^{00}	**Welcome Speeches** **Sh.A.Ayupov**, Chairman of the Organizing Committee, Director of the Institute of Mathematics, Academician; **I.U.Madjidov**, Rector of the National University of Uzbekistan, Professor; **R.I.Khalmuradov**, Rector of Samarkand State University, Professor.
11^{00} – 11^{30}	**Sylvie Méléard** *Time reversal of spinal processes for branching processes near stationarity*
11^{30} – 12^{00}	**Vladimir Vatutin** *Random walks conditioned to stay nonnegative and branching processes in non-favorable random environment*
12^{00} – 14^{00}	**Lunch**

PLENARY SESSIONS

Chairman: Vincent Bansaye
Date and Time: September 18, 14^{00} – 16^{15}
Secretary: Abdurahmon Aliev
Room: 401 (Institute of Mathematics)
Zoom ID: 880 3179 8514
Passcode: 1
https://us02web.zoom.us/j/88031798514?pwd=SHAzL1kwTmcyYm1PdkdzNVNLNUZ6dz09

14^{00} – 14^{30}	**Cloez Bertrand** *Recent results on eigenvalues for branching processes and related fields*
14^{30} – 15^{00}	**Vitali Wachtel** *Near-critical branching processes considered as Markov chains with small drift*
15^{00} – 15^{15}	**Break**
15^{15} – 15^{45}	**Emma Horton** *Long-term behavior of the neutron transport equation at criticality (online)*
15^{45} – 16^{15}	**Peter Mörters** *Branching with selection and mutation (online)*
16^{15} – 16^{30}	**Break**

SECTIONAL SESSIONS

Section A.	Branching processes and trees

Chairman: *Vitali Wachtel*
Secretary: *Zuhriddin Nazarov*
Date and Time: September 18, 16^{30} – 17^{45}
Room: 105 (Institute of Mathematics)
Zoom ID: 880 3179 8514
Passcode: 1
https://us02web.zoom.us/j/88031798514?pwd=SHAzL1kwTmcyYm1PdkdzNVNLNUZ6dz09

$16^{30} – 16^{45}$	**Delmas Jean-Francois** *SIS model on (random) dense graphs: probabilistic approach and remarks on optimal vaccinations*
$16^{45} – 17^{00}$	**Pavel Chigansky** *Approximation of size-density dependent branching processes*
$17^{00} – 17^{15}$	**Minuesa Abril Carmen** *Bayesian inference in controlled branching processes via ABC methodology (online)*
$17^{15} – 17^{30}$	**Sophie Hautphenne** *Consistent estimation for population-size-dependent branching processes (online)*
$17^{30} – 17^{45}$	**George Yanev** *Branching Processes with Migration Subordinated by Renewal Process (online)*

Section B.	Branching random walks
Chairman: *Elena Yarovaya* **Secretary:** *Ibrohim Mukhtorov* **Date and Time:** September 18, $16^{30} – 17^{45}$ **Room: 104** (Institute of Mathematics) **Zoom ID:** 825 9019 7002 **Passcode:** 1 https://us06web.zoom.us/j/82590197002?pwd=dTVreXJLQXFzdVNrTUp0aVpZUzdJUT09	
$16^{30} – 16^{45}$	**Sergei Zuyev** *Branching self-decomposability and limit theorems for superposition of point processes*
$16^{45} – 17^{00}$	**Alexander Shklyaev** *Large Deviations of Bisexual Branching Processes in Random Environment*
$17^{00} – 17^{15}$	**Hong Wengmin** *Conditional central limit theorem for critical and subcritical branching random walk (online)*
$17^{15} – 17^{30}$	**José Hermenegildo Ramírez González** *Occupation time fluctuations of a Bellman-Harris critical binary branching particle system: large dimensions (online)*
$17^{30} – 17^{45}$	**Ekaterina Bulinskaya** *Asymptotic Shape of Branching Random Walks on Periodic Graphs (online)*

Section C.	Stochastic analysis
Chairman: *Olimjon Sharipov* **Secretary:** *Misliddin Murtazaev* **Date and Time:** September 18, $16^{30} – 18^{00}$ **Room: 102** (Institute of Mathematics) **Zoom ID:** 825 9019 7002 **Passcode:** 1 https://us06web.zoom.us/j/82590197002?pwd=dTVreXJLQXFzdVNrTUp0aVpZUzdJUT09	
$16^{30} – 16^{45}$	**Vladimir Lotov, Vali Khodjibayev** *On the distribution of the crossing number of a strip by trajectories of the Levy process*
$16^{45} – 17^{00}$	**Sherzod Mirakhmedov** *Asymptotic approximation associated with generalized random allocation schemes*
$17^{00} – 17^{15}$	**Nasir Ganikhodjaev** *Quadratic Stochastic Operators with Countable State Space*

$17^{15} – 17^{30}$	**Abdujabbor Rasulov** *Branching process for the solution of semi-linear Helmholtz boundary value problem*
$17^{30} – 17^{45}$	**Makhamat Gafurov** *Convergence Rate Estimates in the Hartman-Wintner Law of the Iterated Logarithm*
$17^{45} – 18^{00}$	**Yuliya Korablina** *Boundedness of the classical operators in weighted quasi-Banach spaces of entire functions (online)*
$18^{00} – 20^{00}$	**Welcome Party**

Tuesday, September 19, 2023

PLENARY SESSIONS

Chairman: *Vladimir Vatutin*

Secretary: *Abdurahmon Aliev*
Date and Time: September 19, $10^{30} – 12^{30}$
Room: 401 (Institute of Mathematics)
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$10^{30} – 11^{00}$	**Valeriy Afanasyev** *Weakly supercritical branching process in non-favorable random environment*
$11^{00} – 11^{30}$	**Matthias Meiners** *Asymptotic fluctuations of supercritical general branching processes (online)*
$11^{30} – 12^{00}$	**Elena Yarovaya** *Spectral methods and their applications in the theory of branching random walks*
$12^{00} – 12^{30}$	**Irina Lukashova** *A periodic branching random walk with immigration on* $\mathbb{Z}^d$
$12^{30} – 14^{00}$	**Lunch**

PLENARY SESSIONS

Chairman: *Cloez Bertrand*

Secretary: *Sadillo Sharipov*
Date and Time: September 19, $14^{00} – 16^{15}$
Room: 401 (Institute of Mathematics)
Zoom ID: 880 3179 8514
Passcode: 1
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$14^{00} – 14^{30}$	**Alex Watson** *Growth-fragmentation and quasi-stationary methods (online)*
$14^{30} – 15^{00}$	**Wang Hua-Ming** *Times of a branching process with immigration in varying environment attaining a fixed level (online)*
$15^{00} – 15^{15}$	**Break**
$15^{15} – 15^{45}$	**Martin Kolb** *Explosion phenomena for Fleming-Viot-type processes (online)*
$15^{45} – 16^{15}$	**Clément Foucart** *Explosions and dualities in logistic continuous state branching processes (online)*
$16^{15} – 16^{30}$	**Break**

SECTIONAL SESSIONS

Section A.	Branching processes and trees
Chairman: Delmas Jean Francois **Secretary:** *Ibrohim Mukhtorov* **Date and Time:** September 19, 16^{30} – 17^{45} **Room:** 105 (Institute of Mathematics) **Zoom ID:** 880 3179 8514 **Passcode:** 1 https://us02web.zoom.us/j/88031798514?pwd=SHAzL1kwTmcyYm1PdkdzNVNLNUZ6dz09	
16^{30} – 16^{45}	**Ines del Puerto** *Large Deviation for Supercritical Controlled Branching Processes (online)*
16^{45} – 17^{00}	**Miguel González** *Randomly Indexed Controlled Branching Processes (online)*
17^{00} – 17^{15}	**Márton Ispány** *Periodic branching processes with immigration and their implicit multi-type representation (online)*
17^{15} – 17^{30}	**Wang Ren-Yi** *A Countable-Type Branching Process Model for the Tug-of-War Cancer Cell Dynamics (online)*
17^{30} – 17^{45}	**Zuhriddin Nazarov** *The Total Progeny in the Positive Recurrent Q-processes*

Section B.	Branching random walks
Chairman: *Sylvie Méléard* **Secretary:** *Abdurahmon Aliev* **Date and Time:** September 19, 16^{30} – 17^{45} **Room: 104** (Institute of Mathematics) **Zoom ID:** 825 9019 7002 **Passcode:** 1 https://us06web.zoom.us/j/82590197002?pwd=dTVreXJLQXFzdVNrTUp0aVpZUzdJUT09	
16^{30} – 16^{45}	**Break**
16^{45} – 17^{00}	**Sarah Penington** *Gaussian waves in BBM with mean-dependent branching (online)*
17^{00} – 17^{15}	**Konstantin Denisov** *Lower Large Deviations of Strongly Supercritical Branching Process in Random Environment with Geometric Number of Descendants: Local Asymptotic*
17^{15} – 17^{30}	**Yadav Sumit Kumar** *Coalescence in Bisexual Branching Processes*
17^{30} – 17^{45}	**Shuai Yubo** *Asymptotic for the site frequency spectrum associated with the genealogy of a birth and death process (online)*

Section C.	Stochastic analysis
Chairman: *Nasir Ganikhodjaev* **Secretary:** *Zuhriddin Nazarov* **Date and Time:** September 19, 16^{30} – 17^{45} **Room: 102** (Institute of Mathematics) **Zoom ID:** 825 9019 7002 **Passcode:** 1 https://us06web.zoom.us/j/82590197002?pwd=dTVreXJLQXFzdVNrTUp0aVpZUzdJUT09	
16^{30} – 16^{45}	**Olimjon Sharipov** *Central limit theorem for ρ-mixing random variables with values in* $L_p[0,1]$.
16^{45} – 17^{00}	**Jakhongir Azimov** *Limit theorems for the branching process with decreasing immigration*
17^{00} – 17^{15}	**Igamnazar Mamurov** *Limited Theorem for Members of the Variational Series with a Random Sample Size*
17^{15} – 17^{30}	**Azam Imomov** *On explicit expression of the Generating Function of Invariant Measures of Critical Galton-Watson Branching Systems*
17^{30} – 17^{45}	**Isakjan Khamdamov** *Weakly Dependent Properties of Vertex Processes of a Convex Hull*

Wednesday, September 20, 2023

PLENARY SESSION

Chairman: *Sergei Zuyev* **Secretary:** *Khamza Kudratov* **Date and Time**: September 20, 10^{30} – 12^{30} **Room: P105** (Samarkand State University) **Meeting ID:** 880 3179 8514 **Passcode:** 1 https://us02web.zoom.us/j/88031798514?pwd=SHAzL1kwTmcyYm1PdkdzNVNLNUZ6dz09	
10^{30} – 11^{00}	**Alexander Sakhanenko** *On random walks in random environment with random local constraints (online)*
11^{00} – 11^{30}	**Yerakhmet Zhumayev** *Theta positive branching processes in varying environment*
11^{30} – 12^{00}	**Emmanuel Schertzer** *Pushed and pulled waves in population genetics (online)*
12^{00} – 12^{30}	**Sadillo Sharipov** *Functional limit theorems and the asymptotic normality of estimators based on partial observations.*
12^{30} – 14^{00}	**Lunch**

DISCUSSION OF POSTER PRESENTATIONS

14^{00} – 15^{00}	**Khamza Kudratov** *A limit theorem for the critical Galton-Watson branching processes* **Khamza Toshqulov** *On the rate of convergence in limit theorems for fluctuation critical branching processes with immigration* **Alloberdi Sattarov** *Classification of non-strongly nilpotent filiform Leibniz algebras of dimension 12*

	Saidakhmat Abdukhakimov *Note on critical mappings of the circle with rotation number of algebraic type* **Inomjon Mizomov** *On the identity of the theta functions*
$15^{00} – 18^{00}$	*Excursion to the Historical Places of Samarkand*
$18^{00} – 19^{00}$	**Dinner**
$19^{00} – 20^{00}$	**Break**
$20^{00} – 21^{00}$	*Excursion to the Registan Ensemble*

Thursday, September 21, 2023

$9^{00} – 16^{00}$	*Excursion to the Historical Places of Samarkand*

Friday, September 22, 2023

DISCUSSION OF POSTER PRESENTATIONS

Date and Time: September 22, $10^{30} – 11^{30}$
Room: 105 (Institute of Mathematics)

$10^{30} – 11^{30}$	**Shoturgun Sharakhmetov** *Extremal values of integral type functional* **Abdurahmon Aliev** *Central limit theorem for stochastic perturbations of PL circle maps with two break points* **Shukur Juraev** *On refinements of the asymptotic expansion of the continuation of critical branching processes* **Toliboy Adirov** *Estimation of the Parameter of one Class of Distributions* **Talat Zuparov** *Central limit theorem for a 1-order autoregressive process with random coefficients* **Vladislav Litvinov** *Stochastic longitudinal oscillations viscoelastic rope with moving boundaries, taking into account damping forces* **Yagub Aliev** *Digits of Powers of 2 in Ternary Numeral System* **Misliddin Murtazaev** *On refinement of some limit theorems for the noncritical Galton-Watson Branching Systems* **Soltan Aliyev** *Limit theorem for a subcritical branching process with continuo us time and migration* **Xusniddin Mamatov** *Limited Theorem for Stochastic Integrals over Semi-Martingales* **Utkir Kobilov** *On the maximum of dependent random variables*

$11^{30} – 12^{00}$	**Round Table** *Institute of Mathematics, Room 105*

CLOSING CEREMONY

Chairman: U.A. Rozikov
Date and Time: September 22, 12^{00}
Room: 105 (Institute of Mathematics)