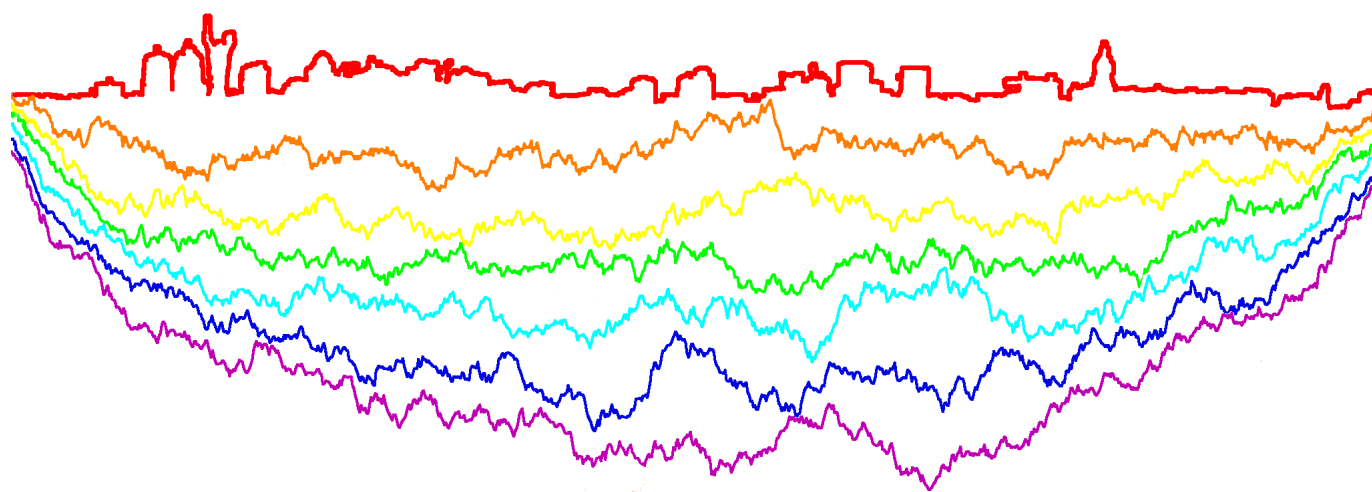


*International Conference*

# **Modern Stochastics: Theory and Applications II**

*September 7-11, 2010*

*Kyiv, Ukraine*



## **CONFERENCE PROGRAMME**

## ORGANIZERS

Kyiv National Taras Shevchenko University  
Institute of Mathematics of the National Academy of Sciences of Ukraine  
Dragomanov National Pedagogical University  
National Technical University of Ukraine “Kiev Polytechnical Institute”

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## General schedule

### Tuesday, September 7

- 09<sup>00</sup>–09<sup>30</sup> *Welcome from organizers*
- 09<sup>30</sup>–13<sup>00</sup> *Plenary talks*
- 13<sup>00</sup>–14<sup>30</sup> *Lunch*
- 14<sup>30</sup>–18<sup>10</sup> *Section talks*
- 18<sup>30</sup>–19<sup>10</sup> *Concert*
- 19<sup>20</sup>–21<sup>00</sup> *Welcome Party*

### Wednesday, September 8

- 09<sup>00</sup>–13<sup>00</sup> *Plenary talks*
- 13<sup>00</sup>–14<sup>30</sup> *Lunch*
- 14<sup>30</sup>–19<sup>20</sup> *Section talks*
- 14<sup>30</sup>–19<sup>20</sup> *Poster session*

### Thursday, September 9

- 09<sup>00</sup>–13<sup>00</sup> *Plenary talks*
- 13<sup>00</sup>–14<sup>30</sup> *Lunch*
- 14<sup>30</sup>–17<sup>00</sup> *Section talks*
- 17<sup>15</sup>–19<sup>15</sup> *Reminiscence evening and concert*
- 19<sup>15</sup>–00<sup>00</sup> *Conference dinner*

### Friday, September 10

- 09<sup>00</sup>–13<sup>00</sup> *Plenary talks*
- 13<sup>00</sup>–14<sup>30</sup> *Lunch*
- 14<sup>30</sup>–16<sup>30</sup> *Section talks*
- 16<sup>30</sup>–16<sup>45</sup> *Bus boarding*
- 17<sup>30</sup>–19<sup>30</sup> *Excursion along Dnieper*

### Saturday, September 11

- 09<sup>00</sup>–13<sup>00</sup> *Plenary talks*

## Tuesday, September 7

### Plenary Talks

#### Room o, Yellow Building

09<sup>00</sup>–09<sup>15</sup> O. Zakusylo *Welcome speech*

09<sup>15</sup>–09<sup>30</sup> A. Samoylenko *Welcome speech*

Morning session, chairman: A. Millet

09<sup>30</sup>–10<sup>10</sup> V. Koroliuk *Large deviation principle for Markov random evolution with independent increments in asymptotical small diffusion scheme*

10<sup>10</sup>–10<sup>50</sup> M. Röckner *Fokker-Planck equations on infinite dimensional spaces*

10<sup>50</sup>–11<sup>20</sup> *Coffee break*

Midday session, chairman: M. Rockner

11<sup>20</sup>–12<sup>00</sup> S.E. Ahmed *Adaptive and bias reducing estimation in some basic investment models*

12<sup>00</sup>–12<sup>30</sup> A. Millet *Large deviations for 2d Navier Stokes equations with small viscosity*

12<sup>30</sup>–13<sup>00</sup> N. Limnios *Discrete-time semi-Markov random evolutions*

### Queuing Systems

#### Room A, National Pedagogical University

Afternoon session, chairman: E. Lebedev

14<sup>30</sup>–15<sup>00</sup> A. Dudin, V.I. Klimenok *Structured multi-dimensional Markov chains and their application for investigation of queues*

15<sup>00</sup>–15<sup>30</sup> A. Gómez-Corral *Optimal balking strategies in the single-server queue with vacations*

15<sup>30</sup>–16<sup>00</sup> L. Lakatos *On a class of retrial systems*

16<sup>00</sup>–16<sup>30</sup> G. Mishkoy *Generalized priority systems*

16<sup>30</sup>–16<sup>50</sup> *Coffee break*

Evening session, chairman: L. Lakatos

16<sup>50</sup>–17<sup>10</sup> M. Pytka *Steady state analysis of an  $E_m/M/1/N$  queue with repeated calls*

17<sup>10</sup>–17<sup>30</sup> J. Sztrik *Tool supported analysis of queueing systems*

17<sup>30</sup>–17<sup>50</sup> A. Aissani *Light tailed asymptotics in an unreliable  $M/G/1$  retrial queue*

17<sup>50</sup>–18<sup>10</sup> E. Sudyko *Investigation of the system  $MAP/M/1/RQ$  by the method of asymptotical semiinvariants of third-order asymptotic*

## Statistics of Stochastic Processes

### Room B, National Pedagogical University

Afternoon session, chairman: I. Fazekas

14<sup>30</sup>–15<sup>00</sup> V. Zaiats *Application of irregular sampling in statistical models involving stochastic processes*

15<sup>00</sup>–15<sup>30</sup> A. Kukush, S.V. Shklyar, S.V. Masiuk *Estimation of radiation risk under uncertainty in doses from the Chernobyl accident*

15<sup>30</sup>–15<sup>50</sup> A. Mekler *Statistical method of selecting the genes for Tumor signature*

15<sup>50</sup>–16<sup>10</sup> I. Orlovsky *Asymptotic normality of M-estimates in classical nonlinear regression model*

16<sup>10</sup>–16<sup>30</sup> B. Zhurakovskiy, A.V. Ivanov *Detection of hidden periodicities in the model with long range dependent noise*

16<sup>30</sup>–16<sup>50</sup> *Coffee break*

Evening session, chairman: A. Ivanov

16<sup>50</sup>–17<sup>20</sup> S. Shklyar *Conditions for consistency of total least squares estimator in a multivariate linear regression model*

17<sup>20</sup>–17<sup>50</sup> O. Nakonechny *Minimax estimates of solutions of abstract Dirichlet and Neumann problems under nonstationary observations*

17<sup>50</sup>–18<sup>10</sup> I. Savych, A.V. Ivanov *Asymptotic properties of Koenker-Bassett estimator in the regression model with long-range dependence*

## Interacting Particle Systems

### Room C, National Pedagogical University

Afternoon session, chairman: Yu. Kondratiev

14<sup>30</sup>–15<sup>00</sup> T. Fattler *Construction of a Ginzburg-Landau dynamics on a wall with additional self-potential*

15<sup>00</sup>–15<sup>30</sup> D. Finkelshtein *Vlasov equation for the Glauber dynamics in continuum*

15<sup>30</sup>–16<sup>00</sup> M.J. Oliveira *Varadhan's construction for fractional Brownian motion: the Edward's model*

16<sup>00</sup>–16<sup>30</sup> J.L. da Silva *The fractional Poisson measure in infinite dimensions*

16<sup>30</sup>–16<sup>50</sup> *Coffee break*

Evening session, chairman: T. Fattler

16<sup>50</sup>–17<sup>20</sup> A. Rebenko, S.M Petrenko, M.V. Tertychnyi *On quasi-continuous approximation in classical statistical mechanics*

17<sup>20</sup>–17<sup>50</sup> T. Kuna *Realizability of correlation functions*

17<sup>50</sup>–18<sup>10</sup> F. Conrad *Construction and analysis of Langevin dynamics with singular interaction potentials*

## Stochastic Differential Equations

### Room D, National Pedagogical University

Afternoon session, chairman: S. Makhno

- 14<sup>30</sup>–15<sup>00</sup> Ya. Belopolskaya, *SDE's associated with fully nonlinear parabolic equations*  
 15<sup>00</sup>–15<sup>30</sup> A. Kulik *Averaging principle for random evolutions driven by the solutions to Itô-Lévy type SDE's*  
 15<sup>30</sup>–15<sup>50</sup> R. Melnik *Nonsmooth control and stochastic partial differential equations in modelling complex systems*  
 15<sup>50</sup>–16<sup>10</sup> O. Borysenko *Limit behavior of the fourth order oscillating system*  
 16<sup>10</sup>–16<sup>30</sup> S. Melnik *Stability of a damping mode for quazi-linear parabolic equation with a strong stochastic source*  
 16<sup>30</sup>–16<sup>50</sup> *Coffee break*

Evening session, chairman: V. Yasinsky

- 16<sup>50</sup>–17<sup>10</sup> O. Deriyeva, P. Knopov *On the control problem for stochastic differential equations with additive fractional Brownian motion*  
 17<sup>10</sup>–17<sup>30</sup> I. Kachanova *Limit behavior of the solutions of backward stochastic equations*  
 17<sup>30</sup>–17<sup>50</sup> V. Zubchenko *Properties of the solutions of stochastic differential equation with non-Lipschitz diffusion and Poisson measure*  
 17<sup>50</sup>–18<sup>10</sup> S. Posashkova *Stochastic differential equation with nonhomogeneous coefficients and non-Lipschitz diffusion: properties of solution and rate of convergence of Euler scheme to solution*

## Risk Processes and Actuarial Mathematics

### Room E, National Pedagogical University

Afternoon session, chairman: D. Silvestrov

- 14<sup>30</sup>–14<sup>50</sup> N. Kartashov *Asymptotic of solutions of inhomogeneous perturbations of the renewal equation*  
 14<sup>50</sup>–15<sup>10</sup> D. Konstantinides, Fotis Loukissas *Precise large deviations for consistently varying-tailed distributions in the compound renewal risk model*  
 15<sup>10</sup>–15<sup>30</sup> E. Ragulina *On a ruin probability of an insurance company that operates on a  $(B, S)$ -market*  
 15<sup>30</sup>–15<sup>50</sup> A. Tymko *On approximation by a mix of shifted exponential distributions*  
 15<sup>50</sup>–16<sup>10</sup> S. Volkotrub *Asset/liability management for life insurers: paid-up insurance increments*  
 16<sup>10</sup>–16<sup>30</sup> G. Saidi, A. Aissani *Inequalities of imperfect repair process*  
 16<sup>30</sup>–16<sup>50</sup> *Coffee break*

Evening session, chairman: D. Konstantinides

- 16<sup>50</sup>–17<sup>10</sup> O. Schyberg, A. Malyarenko, D. Silvestrov *Monte Carlo based software for analysis of reinsurance processes*  
 17<sup>10</sup>–17<sup>30</sup> V. Chernecky *Non-ruin probabilities in arithmetic case*  
 17<sup>30</sup>–17<sup>50</sup> Y. Ni *Nonlinearly perturbed renewal equations: the non-polynomial case*  
 17<sup>50</sup>–18<sup>10</sup> E. Ekheden, D. Silvestrov *Explicit rates of convergence for ruin probabilities for reinsurance risk processes*

## Wednesday, September 8

### Plenary Talks

#### Room o, Yellow Building

Morning session, chairman: E. Valkeila

09<sup>00</sup>–09<sup>40</sup> A. Dorogovtsev *Skorokhod impact on modern stochastic analysis*

09<sup>40</sup>–10<sup>20</sup> P. Doukhan *Applications of weak dependence to subsampling*

10<sup>20</sup>–11<sup>00</sup> A. Bulinski *Stochastic models describing the risks of diseases*

11<sup>00</sup>–11<sup>30</sup> *Coffee break*

Midday session, chairman: P. Doukhan

11<sup>30</sup>–12<sup>00</sup> E. Valkeila *Replication and pathwise integrals with respect to fractional Brownian motion*

12<sup>00</sup>–12<sup>30</sup> I. Molchanov, M. Schmutz *Symmetries of probability distributions in view of applications to multiasset derivatives pricing*

12<sup>30</sup>–13<sup>00</sup> A. Veretennikov *On McKean-Vlasov stochastic equations*

### Queuing Systems

#### Room A, National Pedagogical University

Afternoon session, chairman: A. Dudin

14<sup>30</sup>–15<sup>00</sup> E. Lebedev *Functional limit theorems for the  $[G|GI|\infty]^r$ -networks*

15<sup>00</sup>–15<sup>30</sup> K. Avrachenkov *Retrial queues and networks with constant retrial rates*

15<sup>30</sup>–15<sup>50</sup> V. Klimenok, O.S. Taramin *Tandem queues with semi-Markovian arrival process*

15<sup>50</sup>–16<sup>10</sup> A. Zorine *Stability of a tandem queueing system with delayed Bernoulli transition of customers*

16<sup>10</sup>–16<sup>30</sup> V. Dragieva *A finite source retrial queue: number of retrials*

16<sup>30</sup>–17<sup>00</sup> *Coffee break*

Evening session, chairman: K. Avrachenkov

17<sup>00</sup>–17<sup>20</sup> S. Pustova, E.V. Koba *Retrial queueing system with Erlang-2 distributed service times*

17<sup>20</sup>–17<sup>40</sup> V. Ivnitcki *Obtaining nonstationary moments of Markovian queueing networks*

17<sup>40</sup>–18<sup>00</sup> V. Ponomarov *On optimization of income in finitessource retrial queues*

18<sup>00</sup>–18<sup>20</sup> A. Gorbatenko *Research of retrial queueing system with input MAP in a condition of limit rare changes of its state*

### Stochastic Analysis

#### Room H, National Pedagogical University

Afternoon session, chairman: A. Kulik

14<sup>30</sup>–15<sup>00</sup> Yu. Gliklikh *An approach to non-random viscous hydrodynamics via stochastic perturbations of flows of perfect fluids*

15<sup>00</sup>–15<sup>30</sup> G. Martynov *Karhunen-Loeve decomposition for Gauss process connected with Cramer-von Mises tests*

15<sup>30</sup>–16<sup>00</sup> E. Shamarova *Solutions of the Navier-Stokes and Burgers equations via forward-backward SDEs*

16<sup>00</sup>–16<sup>20</sup> V. Radchenko *Properties of the integrals w.r.t. general stochastic measure in stochastic heat equation*

16<sup>20</sup>–16<sup>40</sup> S. Azarina *Stochastic inclusions with mean derivatives on  $H^1$ -loop manifolds*

## Statistics of Stochastic Processes

### Room B, National Pedagogical University

Afternoon session, chairman: S. Shalabh

- 14<sup>30</sup>–15<sup>00</sup> M. Kleptsyna, A. Brouste, A. Popier *Fractional diffusion with partial observations*
- 15<sup>00</sup>–15<sup>30</sup> I. Fazekas *Asymptotic normality of kernel type density estimators for random fields*
- 15<sup>30</sup>–15<sup>50</sup> L. Sakhno *Asymptotic normality of spectral estimates*
- 15<sup>50</sup>–16<sup>10</sup> I. Blazhievskaya *On the cross-correlogram estimation of impulse response functions in linear systems*
- 16<sup>10</sup>–16<sup>30</sup> O. Masyutka, M.P. Moklyachuk *Minimax estimation problem for multidimensional stationary processes*
- 16<sup>30</sup>–17<sup>00</sup> *Coffee break*
- Evening session, chairman: S. Baran
- 17<sup>00</sup>–17<sup>20</sup> G. Sokhadze, P. Babilua, E. Nadaraya *Limit distribution of a quadratic deviation of a nonparametric estimate of the Bernoulli regression*
- 17<sup>20</sup>–17<sup>40</sup> O. Sugakova *Estimation by mixtures of symmetric distributions*
- 17<sup>40</sup>–18<sup>00</sup> N. Shchestyuk *Minimax approach to kriging*
- 18<sup>00</sup>–18<sup>20</sup> A. Shatashvili, A.A. Fomin-Shatashvili, T.A. Fomina *Effective building of optimal prognosis for the solution of Riccati equation perturbed by a Gaussian random process*
- 18<sup>20</sup>–18<sup>40</sup> E. Usoltseva *Nonparametric estimation in survival analysis*

## Interacting Particle Systems

### Room C, National Pedagogical University

Afternoon session, chairman: J.L. da Silva

- 14<sup>30</sup>–15<sup>00</sup> C. Boldrighini *Random walk of two particles in  $\mathbb{Z}^d$  with local interaction*
- 15<sup>00</sup>–15<sup>30</sup> A. Daletskii *Cluster measures on configuration spaces*
- 15<sup>30</sup>–15<sup>50</sup> B. Baur *Feynman formula for parabolic equations in smooth bounded domains*
- 15<sup>50</sup>–16<sup>10</sup> W. Bock *Feynman integrands in phase space as white noise distributions*
- 16<sup>10</sup>–16<sup>30</sup> T.T. Mai *SPDEs by operator semi-groups and applications to industrial mathematics*
- 16<sup>30</sup>–17<sup>00</sup> *Coffee break*
- Evening session, chairman: A. Daletskii
- 17<sup>00</sup>–17<sup>20</sup> H.P. Suryawan *Some ideas on the Edwards model for  $dH > 1$*
- 17<sup>20</sup>–17<sup>40</sup> A. Vogel *A new Wick formula for products of White Noise distributions and application to Feynman path integrands*
- 17<sup>40</sup>–18<sup>00</sup> A. Yurachkivsky, N. Gorbovtsova *Functional law of large numbers for empirical processes generated by interacting particles*



## Stochastic Differential Equations

### Room D, National Pedagogical University

Afternoon session, chairman: Ya. Belopolskaya

- 14<sup>30</sup>–15<sup>00</sup> S. Makhno *Limit behavior of solutions of stochastic equations with unbounded coefficients*
- 15<sup>00</sup>–15<sup>30</sup> V. Yasinsky *Investigation of the asymptotic behavior of the impulse diffusion stochastic dynamical systems of the random structure*
- 15<sup>30</sup>–16<sup>00</sup> S. Anulova *SDE: weak uniqueness implies joint uniqueness*
- 16<sup>00</sup>–16<sup>20</sup> C. Aghayeva, G. Yapakci *Necessary condition of optimality for some stochastic switching system*
- 16<sup>20</sup>–16<sup>40</sup> A. Yershov *On weak convergence of integral type functionals of Markov sequences*

## Stochastic Models of Evolution Systems

### Room E, National Pedagogical University

Afternoon session, chairman: E. Orsingher

- 14<sup>30</sup>–15<sup>00</sup> V. Anisimov *Switching processes in queueing models*
- 15<sup>00</sup>–15<sup>20</sup> A. Swishchuk *Approximations of evolution systems by geometric Markov renewal processes*
- 15<sup>20</sup>–15<sup>40</sup> M. Fedotkin *Construction and analysis of probabilistic models for evolution systems with control*
- 15<sup>40</sup>–16<sup>00</sup> A. Korkhin *Modeling method of stochastic systems with parameters varying in time*
- 16<sup>20</sup>–17<sup>00</sup> *Coffee break*

Evening session, chairman: V. Anisimov

- 17<sup>00</sup>–17<sup>20</sup> I. Samoilenko *Some new results on weak convergence of random evolutions*
- 17<sup>20</sup>–17<sup>40</sup> S. Semenyuk, Ya.M. Chabanyuk *Asymptotic of stochastic approximation procedure with impulsive perturbations*
- 17<sup>40</sup>–18<sup>00</sup> V. Doobko *Integral invariants, invariants and and generalization of the Itô-Ventsel's formula for Itô generalized equations*
- 18<sup>00</sup>–18<sup>20</sup> Ya. Chabanyuk *Stochastic optimization in semi-Markov media*
- 18<sup>20</sup>–18<sup>40</sup> Yu. Virchenko, M.A. Saprykin *The infinite dimensional Gaussian random processes in the stochastic model of radiative conductance*

## Fractal Analysis

### Room F, National Pedagogical University

Afternoon session, chairman: O. Baranovskyi

14<sup>30</sup>–15<sup>00</sup> M. Pratsiovytyi, O.M. Baranovskyi *Random variables represented by the first Ostrogradsky series by means of arithmetic progression*

15<sup>00</sup>–15<sup>30</sup> G. Torbin *On some open problems related to infinite Bernoulli convolutions*

15<sup>30</sup>–15<sup>50</sup> R. Nikiforov, G. Torbin *Fractal properties of probability measures with independent  $q_\infty$ -symbols and their applications*

15<sup>50</sup>–16<sup>10</sup> A. Bărbulescu, A. A. Carsteanu *Statistical analysis and multifractals models of rainfall of Romania*

16<sup>10</sup>–16<sup>30</sup> O. Honzl *Asymptotics of surface area of Wiener sausage*

16<sup>30</sup>–17<sup>00</sup> *Coffee break*

Evening session, chairman: M. Pratsiovytyi

17<sup>00</sup>–17<sup>20</sup> I. Pratsiovyta, G. Torbin *On singularity of probability measures connected to the continued fractions, Ostrogradsky-Pierce and the second Ostrogradsky expansions*

17<sup>20</sup>–17<sup>40</sup> M. Lebid, G. Ivanenko, G. Torbin *On generalized infinite Bernoulli convolutions with overlaps and their fractal properties*

17<sup>40</sup>–18<sup>00</sup> L. Kirichenko, Z.V. Deineko, T.A. Radivilova *Application of DFA method in fractal analysis of time series of different nature*

18<sup>00</sup>–18<sup>20</sup> N. Vasylenko  *$\hat{\varphi}$  representations for real numbers and related probability distributions*

## Markov and Semi-Markov Processes

### Room G, National Pedagogical University

Afternoon session, chairman: A. Manita

14<sup>30</sup>–15<sup>10</sup> R. Manca *Insurance applications of Markov and semi-Markov reward processes*

15<sup>10</sup>–15<sup>40</sup> R. Aliyev, T.A. Khaniyev *On the moments of a semi-Markovian random walk with Gaussian distribution of summands*

15<sup>40</sup>–16<sup>10</sup> M. Bratiichuk *Creep probability for process with independent increments*

16<sup>10</sup>–16<sup>30</sup> I. Samoilenko, I. Malyk *Weak convergence of semi-Markov processes*

16<sup>30</sup>–17<sup>00</sup> *Coffee break*

Evening session, chairman: R. Manca

17<sup>00</sup>–17<sup>20</sup> V. Knopova *Some conditions on the existence of the transition probability density for Lévy processes*

17<sup>20</sup>–17<sup>50</sup> A. Manita *Brownian particles with synchronization*

17<sup>50</sup>–18<sup>20</sup> T. Nasirova, E.A. Hacıyev *Investigation of the distribution of semi-Markov process with difference walk with delaying screen in zero*

18<sup>20</sup>–18<sup>40</sup> I. Kartashov *Approximation of continuous time additive functionals from Markov chains with discontinuous characteristics*

18<sup>40</sup>–19<sup>00</sup> B. Yeleyko *Some limit theorem for semi-Markov process*

## Thursday, September 9

### Plenary Talks

#### Room o, Yellow Building

Morning session, chairman: M. Grothaus

- 09<sup>00</sup>–09<sup>40</sup> I. Kovalenko *Survey of my works, masters and colleagues*  
 09<sup>40</sup>–10<sup>20</sup> K. Kanatani *Hyperaccurate least squares and Its applications*  
 10<sup>20</sup>–11<sup>00</sup> G. Yin *Switching diffusions and applications*  
 11<sup>00</sup>–11<sup>30</sup> *Coffee break*

Midday session, chairman: G. Yin

- 11<sup>30</sup>–12<sup>00</sup> M. Grothaus *An invariance principle for a tagged particle process in continuum with singular interactions*  
 12<sup>00</sup>–12<sup>30</sup> A. Gushchin *Duality methods in robust utility maximization*  
 12<sup>30</sup>–13<sup>00</sup> M. Ruiz-Medina *On the limit results in the wavelet domain for multifractional random fields*

### Queuing Systems

#### Room A, National Pedagogical University

Afternoon session, chairman: G. Mishkoy

- 14<sup>30</sup>–15<sup>00</sup> N. Kuznetsov *On some research guidelines initiated by articles of I.N.Kovalenko, full member of the National Academy of Sciences of Ukraine*  
 15<sup>00</sup>–15<sup>30</sup> A. Zeifman *On  $M_t/M_t/N/N + R$  queue*  
 15<sup>30</sup>–15<sup>50</sup> M. Postan, N.V. Rumyantsev *Application of Markov drift processes to modeling the queueing/storage systems with servers' vacation*  
 15<sup>50</sup>–16<sup>10</sup> I. Usar, E.A. Lebedev *Retrial queues with controlled local parameters*  
 16<sup>10</sup>–16<sup>30</sup> R. Yamnenko *Storage processes from the class  $V(\varphi, \psi)$*   
 16<sup>30</sup>–16<sup>50</sup> A. Chechel'nitski, O.V. Kucherenko *Asymptotic properties of some queueing model with parallel structure*

### Statistics of Stochastic Processes

#### Room B, National Pedagogical University

Afternoon session, chairman: A. Kukush

- 14<sup>30</sup>–15<sup>00</sup> S. Shalabh *Instrumental variable estimation in measurement error model under exact restrictions*  
 15<sup>00</sup>–15<sup>30</sup> S. Zwanzig *On consistent R-estimators in errors-in-variables models*  
 15<sup>30</sup>–16<sup>00</sup> S. Baran *Asymptotic inference of a spatial unit root autoregressive model*  
 16<sup>00</sup>–16<sup>30</sup> N. Markovich *Modeling of dependence by moderate samples*  
 16<sup>30</sup>–16<sup>50</sup> A. Kitaeva, G.M. Koshkin *Semi-recursive nonparametric identification of a nonlinear heteroscedastic autoregression*

## Interacting Particle Systems

### Room C, National Pedagogical University

Afternoon session, chairman: A. Rebenko

- 14<sup>30</sup>–15<sup>00</sup> O. Kutovyi *Multiscale problems in individual based population models*  
 15<sup>00</sup>–15<sup>20</sup> T. Pasurek *Gibbs measures of continuous systems: an analytic approach*  
 15<sup>20</sup>–15<sup>40</sup> L. Derdziuk *Single- and multicomponent interacting particles systems in continuum*  
 16<sup>00</sup>–16<sup>20</sup> N. Kachanovsky *Elements of Wick calculus on parametrized Kondratiev-type test functions spaces of Meixner white noise*  
 16<sup>20</sup>–16<sup>40</sup> D. Hagedorn *On gamma measures and associated stochastic dynamics*  
 16<sup>40</sup>–17<sup>00</sup> F. Polito, E. Orsingher *Subordinated pure birth processes*

## Information Security

### Room D, National Pedagogical University

Afternoon session, chairman: A. Fall

- 14<sup>30</sup>–15<sup>00</sup> A. Alekseychuk, A.S. Shevtsov *Fast algorithms for statistical estimation of maximal probabilities of bilinear approximation of boolean mappings*  
 15<sup>00</sup>–15<sup>30</sup> M. Savchuk *Multidimensional statistical tests for binary sequences*  
 15<sup>30</sup>–16<sup>00</sup> A. Ronzhin, V.N. Surikov *Lifetime of random binary sequence in brute force*  
 16<sup>00</sup>–16<sup>30</sup> V. Masol, S.Ya. Slobodian *Properties of distribution of the number of solutions of a system of random equations over the field  $GF(q)$ ,  $q = \{2, 3\}$*   
 16<sup>30</sup>–17<sup>00</sup> L. Kovalchuk, V.T. Bezditnyi *Practical security estimations of block cipher "Kalina" against integer differential cryptanalysis*

## Diffusion Processes

### Room H, National Pedagogical University

Afternoon session, chairman: B. Kopytko

- 14<sup>30</sup>–15<sup>00</sup> A. Pilipenko *Stochastic flows generated by stochastic differential equations with reflection*  
 15<sup>00</sup>–15<sup>20</sup> A. Novosyadlo, B. Kopytko *Multidimensional generalized diffusion processes that are defined by a generating differential operators and Wentzel boundary conditions*  
 15<sup>20</sup>–15<sup>40</sup> P. Kononchuk, B. Kopytko *Operator semigroups associated with diffusion processes in medium with membrane with nonlocal boundary condition given on  $It$*   
 15<sup>40</sup>–16<sup>00</sup> O. Aryasova *Diffusion processes with semipermeable membranes on nonsmooth surfaces*  
 16<sup>00</sup>–16<sup>20</sup> V. Gasanenko *Small deviations of Markov processes with large trend*  
 16<sup>20</sup>–16<sup>40</sup> Yu. Prykhodko *On the limit behavior of a scaled random walk with a membrane*  
 16<sup>40</sup>–17<sup>00</sup> R. Shevchuk *Integral representation of a multiplicative operator family that describes nonhomogeneous diffusion process on a half-line with general Wentzel boundary condition*

## Mathematics of Finance

### Room E, National Pedagogical University

Afternoon session, chairman: V. Steblovskaya

- 14<sup>30</sup>–15<sup>00</sup> A. Langnau *A dynamic model for correlation*  
 15<sup>00</sup>–15<sup>30</sup> A. Swischuk *Stochastic volatility and change of time: overview*  
 15<sup>30</sup>–15<sup>50</sup> G. Shevchenko *Arbitrage in a model with an expenditure on the portfolio value*  
 15<sup>50</sup>–16<sup>20</sup> Y. Dolinsky *Applications of weak convergence for partial hedging of American options*  
 16<sup>20</sup>–16<sup>40</sup> Yu. Mishura *Long-range dependence and financial market models*  
 16<sup>40</sup>–17<sup>00</sup> J. Gáll *Model selection, statistical questions in some financial models*

## Gaussian and Related Processes and Random Fields

### Room F, National Pedagogical University

Afternoon session, chairman: V. Buldygin

- 14<sup>30</sup>–15<sup>00</sup> T. Pogány *On the stable  $S_\alpha(\beta, \gamma, \mu)$  distribution*  
 15<sup>00</sup>–15<sup>20</sup> T. Sottinen *Conditional full support for Gaussian processes with stationary increments*  
 15<sup>20</sup>–15<sup>40</sup> S. Krasnitskiy *On necessary conditions of equivalence of Gaussian generalized random fields distributions*  
 15<sup>40</sup>–16<sup>00</sup> O. Kurchenko, Yu. Kozachenko *Levy-Baxter theorems for one class of non-Gaussian random fields*  
 16<sup>00</sup>–16<sup>20</sup> K. Ralchenko *Absolute continuous approximations for multifractional Brownian motions and fields*  
 16<sup>20</sup>–16<sup>40</sup> Yu. Kozachenko, I. Rozora, Ye. Turchyn *On one expansion for a class of random processes*

## Limit Theorems for Stochastic Processes and Fields

### Room G, National Pedagogical University

Afternoon session, chairman: U. Stadtmüller

- 14<sup>30</sup>–15<sup>00</sup> O. Seleznev *Statistical inference of entropy characteristics*  
 15<sup>00</sup>–15<sup>30</sup> A. Shashkin *Tail estimates for stationary matching of two Poisson point processes*  
 15<sup>30</sup>–16<sup>00</sup> D. Gusak *Lévy's characteristics for the first intersection time of the level by semi-continuous process with stationary independent increments*  
 16<sup>00</sup>–16<sup>20</sup> M. Sibiceanu *Large deviations for occupation measures associated with mixed Markov chains*  
 16<sup>20</sup>–16<sup>40</sup> Yu. Khokhlov *The properties of some extension of the class of selfsimilar processes*  
 16<sup>40</sup>–17<sup>00</sup> K. Akbash, I.K. Matsak *On order law of large numbers of Marcinkiewicz-Zygmund type*

## Friday, September 10

### Plenary Talks

#### Room o, Yellow Building

Morning session, chairman: K. Kubilius

09<sup>00</sup>–09<sup>40</sup> I. Kátai *On  $q$ -additive and  $q$ -multiplicative function*

09<sup>40</sup>–10<sup>20</sup> K. Indlekofer *Tauberian Theorems and limit laws for decomposable combinatorial structures*

10<sup>20</sup>–11<sup>00</sup> U. Stadtmüller *Limit theorems for increments of random fields*

11<sup>00</sup>–11<sup>30</sup> *Coffee break*

Midday session, chairman: I. Kátai

11<sup>30</sup>–12<sup>00</sup> V. Anisimov *Statistical modeling in clinical trials*

12<sup>00</sup>–12<sup>30</sup> D. Silvestrov *Optimal stopping and convergence for American type options*

12<sup>30</sup>–13<sup>00</sup> K. Kubilius *Estimating the Hurst index of the solution of a stochastic integral equation*

### Generalized Renewal Processes

#### Room A, National Pedagogical University

Afternoon session, chairman: K. Indlekofer

14<sup>30</sup>–15<sup>00</sup> V. Buldygin *On the asymptotic behavior of solutions of some stochastic differential equations and their generalized renewal processes*

15<sup>00</sup>–15<sup>20</sup> O. Klesov *Pairwise independence: strong convergence*

15<sup>20</sup>–15<sup>40</sup> A. Iksanov *A perturbed random walk and the Bernoulli sieve*

15<sup>40</sup>–16<sup>00</sup> M. Runovska *On the almost sure convergence of sums of elements of Gaussian Markov sequences*

16<sup>00</sup>–16<sup>20</sup> N. Kruglova *Distribution of the maximum of the Chentsov random field on polygonal lines*

### Information Security

#### Room D, National Pedagogical University

Afternoon session, chairman: M. Savchuk

14<sup>30</sup>–14<sup>50</sup> A. Khurramov *Calculation of the generalized estimations of memberships of the classification objects by dominant intervals*

14<sup>50</sup>–15<sup>10</sup> S. Pometun *About security of the small modified stream ciphers against algebraic attacks*

15<sup>10</sup>–15<sup>30</sup> S. Yakovlev *Upper bounds of  $r$ -round differential probability of unbalanced MISTY-like ciphers*

15<sup>30</sup>–15<sup>50</sup> V. Sharapov *Usage of the hidden Markov models in analysis of random sequences*

15<sup>50</sup>–16<sup>10</sup> P. Endovytiskii *Asymptotic behavior of group size in the birthday paradox*

## Mathematics of Finance

### Room E, National Pedagogical University

Afternoon session, chairman: Y. Dolinsky

- 14<sup>30</sup>–15<sup>00</sup> V. Steblovskaya *Pricing and hedging of equity-linked life insurance products in discrete incomplete market*
- 15<sup>00</sup>–15<sup>20</sup> M. Romadanova, Ya. Belopolskaya *American option pricing in various financial market models*
- 15<sup>20</sup>–15<sup>40</sup> I. Morozov *On an extension of the class of admissible trading strategies in the robust utility maximization problem*
- 15<sup>40</sup>–16<sup>00</sup> S. Petherick *Fractal activity time risky asset models with dependence*
- 16<sup>00</sup>–16<sup>20</sup> M. Bratyk *On convergence of maximal success probability in the quantile hedging problem for price process model involving Brownian and fractional Brownian motions*

## Fractal Analysis

### Room F, National Pedagogical University

Afternoon session, chairman: G. Torbin

- 14<sup>30</sup>–14<sup>50</sup> A. Kalashnikov *Some fractal properties of classical singular functions*
- 14<sup>50</sup>–15<sup>10</sup> O. Panasenko *Some common properties of singular and nondifferentiable functions from the one class of self-affine functions*
- 15<sup>10</sup>–15<sup>30</sup> D. Kyurchev *Topological, metric and fractal properties of distributions of random variables with independent elements of  $A_2$ -continued fractions*
- 15<sup>30</sup>–15<sup>50</sup> N. Korsun *Fractal properties of distributions of infinite Bernoulli convolutions with some homogeneity condition*
- 15<sup>50</sup>–16<sup>10</sup> A. Shevchenko *Generalized Bernoulli convolutions and their fractal properties*
- 16<sup>10</sup>–16<sup>30</sup> Yu. Zhykhareva, M. Pratsiovytyi *Random variables with independent elements of their representation by positive Lüroth series and their fractal properties*

## Limit Theorems for Stochastic Processes and Fields

### Room G, National Pedagogical University

Afternoon session, chairman: O. Seleznev

- 14<sup>30</sup>–14<sup>50</sup> P. Banys *CLT for linear martingale-difference random fields*
- 14<sup>50</sup>–15<sup>10</sup> V. Semenov, E.A. Lebedev *Limit theorems for branching processes with immigration*
- 15<sup>10</sup>–15<sup>30</sup> E. Bulinskaya *The exponential law arising as a limit distribution in models of critical branching random walks on integer lattices*
- 15<sup>30</sup>–15<sup>50</sup> T. Khaniev, Z.I. Mammadova *On the weak convergence of the ergodic distribution of a semi-Markovian random walk with a normal distributed interference of chance*
- 15<sup>50</sup>–16<sup>10</sup> A. Imomov *On continuous time analogues of q-processes*

## Saturday, September 11

### Plenary Talks

#### Room o, Yellow Building

Morning session, chairman: A. Neuenkirch

09<sup>00</sup>–09<sup>30</sup> Yu. Kondratiev *Stochastic dynamics in spatial ecology models*

09<sup>30</sup>–10<sup>00</sup> M. Dozzi *Approximation of stochastic PDE's driven by fractional Laplace operators*

10<sup>00</sup>–10<sup>30</sup> N. Leonenko *Fractal activity time models for risky asset with long-range dependence*

10<sup>30</sup>–11<sup>00</sup> E. Orsingher *Fractional point processes*

11<sup>00</sup>–11<sup>30</sup> *Coffee break*

Midday session, chairman: M. Dozzi

11<sup>30</sup>–12<sup>00</sup> A. Neuenkirch *Deriving numerical methods for SDEs driven by fractional Brownian motion*

12<sup>00</sup>–12<sup>30</sup> L. Mattner *Combining individually valid and conditionally i.i.d. P-variables*

### Poster session

Will be held in National Pedagogical University on Wednesday, September 8 after lunch

#### Fractal Analysis

O. Banna *Approximation of fractional Brownian motion by Gaussian martingales*

#### Gaussian and Related Processes and Random Fields

O. Kamenshchukova, T.O. Yakovenko *Approximation of periodic  $L_p(\omega)$ -processes*

O. Mokliachuk *On conditions of convergence in some  $K_\sigma$  spaces of random variables*

O. Polosmak, Yu. Kozachenko, A. Olenko *Wavelet expansions of random processes and their properties*

L. Sakhno, N. Leonenko *On the spectral representation of tensor random fields on the sphere*

G. Shevchenko *Path properties of multifractional Rosenblatt processes*

E. Shramko *The buffer overflow probability for a queue with input process from class  $V(\varphi, \psi)$*

K. Veresh *The conditions for application of Fourier method to the solution of nonhomogeneous parabolic equation with Orlicz right side*

#### Limit Theorems for Stochastic Processes and Fields

A. Logachov *Functional iterated logarithm law for some martingales*

A. Olenko, Yu. Mishura *Limit theorems for Gaussian random fields with singularities at non-zero frequencies*

#### Mathematics of Finance

V. Tomashyk *Optimal Stopping Problems for Some Classes of Random Processes*

Yu. Yukhnovskiy *Application of functional limit theorems for stochastic integrals on multi-dimensional financial market*

#### Markov and Semi-Markov Processes

N. Buhrii, B. Kopytko *Some limit theorem for semi-Markov process*

V. Golomoziy *Stability estimate of time-homogeneous Markov chains*



**Queuing Systems**

N. Djellab, K. Nawel Arrar, J.-B. Baillon *Asymptotic behaviour of the number of customers in retrial group of the M/G/1 retrial queue with batch arrivals*

**Stochastic Analysis**

A. Makarova *On stochastic differential inclusions with current velocities*

**Stochastic Differential Equations**

S. Bodnarchuk *Conditions for smoothness of the distribution density of solution of multidimensional linear SDE with Levy noise*

I. Novak, O. Stanzhitskyi *Asymptotically equivalent stochastic systems with indefinite solutions*

A. Shvai *Approximate solutions of mixed stochastic differential equations*

**Stochastic Models of Evolution Systems**

K. Kosarevych, Ya. Yelejko *On random distributions in portfolio analysis*

**Statistics of Stochastic Processes**

I. Dubovetska, A.Yu. Masyutka, M.P. Moklyachuk *Interpolation problem for periodically correlated stochastic sequences*

V. Kuzmin, S. Lapach, S. Paltsun *The new approach to bimodal testing of small sample*

R. Maiboroda, O. Sugakova *Adaptive estimation by observations from mixture with varying concentrations*

A. Savchenko *Correction of  $T(q)$ -likelihood estimator in linear measurement error model*

N. Semenovska *Interpolation problem for random field by finite set of observations from infinite cylindrical surface*

A. Slyvka-Tylyshchak, O. Sunjavska *Modeling of solution of problem of round membrane's vibrations with random factors*

G. Sokhadze, Z. Zerakidze *On subordinate statistical structures*

N. Tovmachenko, I. Pylypenko, V. Karpov, Y. Karchev *Using distance learning platform for the application of predictive analytic software of statistics in statistical education in Ukraine*

## Event location

All events before lunch (plenary talks, welcome by organizers) and all events following section talks (welcome party, conference dinner, concerts) will be held in the **Institute of Philology of Taras Shevchenko University** (“Yellow Building”), marked by a house sign on the map below.

Address: 14 Tarasa Shevchenka blvd. Nearby underground stations: Teatral'na (Theatrical), Ploscha L'va Tolstogo (Lev Tolstoy Square), Universytet (University).

Section talks and posters will take place in the **Dragomanov National Pedagogical University**, marked by a balloon sign on the map below. You will also board buses for the excursion on Friday there.

Address: 9 Pyrogova str. Nearby underground stations: Universytet (University), Zoloti Vorota (Golden Gate).

