

Program of International Conference
”Stochastic Analysis, Statistics of Random Processes and Optimization”
dedicated to the 90th anniversary of Academician Albert Shiryaev
9 - 15 December, 2024, Tbilisi – Bakuriani, Georgia

Day 1, December 9, Monday, 10.00 - 13.00, Conference Hall at Wyndham Grand Tbilisi Hotel

9.00 - 9.45	Registration. Conference Hall
10.00 -11.00	
1. N. Kordzakhia (Sydney), O. Purtukhia (Tbilisi), A. Novikov (Sydney)	Opening the conference
2. P. Babilua (Tbilisi), M. Mania (Tbilisi)	Welcome from Georgia Mathematical Institute and Tbilisi State University.
3. H.Kalantarova (Heidelberg, Springer), P. Chigansky (Jerusalem) N.Kordzakhia (Sydney)	Information on the Festschrift “Albert Shiryaev - 90” volume
4. A. Novikov, M. Mania	PhD students of Albert Shiryaev
5. Colleagues of Albert Shiryaev’s from around the world	Greetings by M. Grossinho, R. Dalang, A. Zvonkin, J. Stoyanov
11.00 -11.30	Coffee break
11.30 -13.00	Short talks (15 min, including questions)
1. Andrew Lyasoff (Boston)	Self-Aware Transport of Economic Agents
2. T. Schmidt (Freiburg)	Affine semimartingales and their application to interest rate markets
3. J. Kallsen (Kiel)	Remarks on limit theorems for stochastic processes
4. E. Mordecki (Montevideo)	TBA
5. A. Shiryaev (Moscow)	TBA
13.00 -15.00	Lunch time

15.00: BUS from WYNDHAM GRAND TBILISI HOTEL to BAKURIANI

From December 10 to December 13 all sessions will be held at the Conference Hall of Crystal Hotel & Spa in Bakuriani

The chairmen of the sessions are: A. Novikov (day 2), G. Peskir (day 3), E. Feinberg (day 4), J. Jacod (day 5).

Plenary talks (in bold) 45 min, all other talks 30 min (including discussions)

Day 2, December 10, Tuesday, 15.00 - 19.30

1. **A. Novikov (Sydney), A. Shiryaev (Moscow), N. Kordzakhia (Sydney)**
2. M. Kleptsyna (Le Mans), P. Chigansky (Jerusalem)
3. I. Pavlyukevich (Jena)
4. D. Muravey (Abu Dhabi)
5. L. Vostrikova (Angers)
6. V. Volkov (St. Petersburg)
7. Ar. Prokhorov (Sydney)
8. A. Skrobotov (Moscow)

**On parameter estimation of diffusion-type processes:
sequential approach revisited**

- Asymptotic analysis in problems with fractional processes
Stochastic Energy-Balance Model With A Moving Ice Line
Multilayer heat equations and their solutions via oscillating integrals
F-divergences and Predictable Processes in Probability and Mathematical Finance
Mutually exciting point processes with latency
Change-Point Detection in Time Series Using Mixed Integer Programming
On the asymptotic behavior of bubble date estimators
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Day 3, December 11, Wednesday, 15.00 - 19.30

1. **Goran Peskir (Manchester)**
2. Ph. Ernst (London)
3. P. Gapeev (London)
4. E. Boguslavskaya (London)
5. I. Sonin (Charlotte)
6. V. Mazalov (St. Petersburg)
7. M. Zhitlukhin (Moscow)
8. A. Tokaeva (Moscow)

The Gapeev-Shiryaev Conjecture

- Yule's "nonsense correlation": Moments and density
Some non-additive change-point (disorder) detection problems for diffusion processes
Optimal Stopping Reversed
Blotto Game with Testing (The Locks, Bombs and Testing Model)
Attrition Game and Polya Urn Models
Martingales and stochastic evolutionary games
Necessary and sufficient conditions for survival strategies in asset markets with endogenous prices
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Day 4, December 12, Thursday, 15.00 - 19.30

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| 1. E. Feinberg (New York) | Probabilistic foundations of generative models based on stochastic processes |
| 2. Y. Beloipolskaya (Technion, Israel) | Probabilistic approaches to nonlinear parabolic equations and systems |
| 3. A. Veretennikov (Moscow) | On Dobrushin's central limit theorem for non-homogeneous Markov chain. |
| 4. D. Donchev (Sophia, Bulgaria) | The Disorder Problem. An approach based on partially observable Markov decision processes |
| 5. L. Efremidhze (Kutaisi, Georgia) | Stationary processes, Wiener-Granger causality, and matrix spectral factorization |
| 6. A. Savitski (Moscow) | Fractional Brownian motion, problems of prediction and estimation |
| 7. N. Kordzakhia (Sydney) | On generalisations and applications of Kolmogorov maximal inequalities |
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Day 5, December 13, Friday, 15.00 - 19.30

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| 1. J. Jacod (Paris) | Systematic Jump Risk |
| 2. R. Douady (Paris) | SABR type stochastic volatility operator in Hilbert space |
| 3. L. Galtchouk (Paris) | Optional semimartingales: a new perspective. |
| 4. M. Esquivel (Lisbon) | Auto-induced regime switching diffusions and applications |
| 5. M. Mania (Tbilisi) | Martingale functions of a Brownian motion and their relation with general solutions of several functional equations |
| 6. O. Mostoviy (Connecticut) | An approach to the Greeks for indifference pricing |
| 7. D. Kramkov (Pittsburgh) | Backward martingale transport maps and equilibrium with insider |
| 8. I. Karatzas (New York) | Hereditary and Lacunary Limit Theorems in Probability and Analysis |
| 9. A. Shiryaev (Moscow) | TBA |
| 10.A. Novikov (Sydney) | Closing remarks |
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December 13. Conference dinner will start at 20.00 in Dinning Hall of Crystal Hotel & Spa.

**Day 6, December 14, Saturday, Bakuriani
Discussions and Collaboration meetings**

Day 7, December 15, Sunday, 8.00 am. Bus from Crystal Hotel to Tbilisi Airport