Besarion Dochviri

Associate Professor

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Education:
- **1964 University Diploma in Mathematics, Ivane Javakhishvili Tbilisi State University**
- **1970 Candidate of Physical and Mathematical Sciences, Ivane Javakhishvili Tbilisi State University**
- **1994 Doctor of Physical and Mathematical Sciences, Ivane Javakhishvili Tbilisi State University**

Teaching Courses:
- **Probability Theory and Mathematical Statistics for Economists**
- **Statistics for sociologists and psychologists**
- **Stochastic Financial Analysis (Discrete and Continuous Time)**
- **Optimal Stopping and Financial Mathematics**

Research Interests
- **Statistical Sequential Analysis**
- **Markov's Chains Theory**
- **Optimal Stopping Theory**
- **Stochastic Financial Analysis**
- **Valuation and Hedging of American type Options**

Projects (Last 10 years)
- **2013 -- 2016 Shota Rustaveli National Foundation Project #FR/308/5-104/12**
- **2009 -- 2011 Georgian National Science Foundation Project # 09_383_3-106**
- **2006 -- 2009 Georgian National Scientific Foundation, Grant # 337/07, 06-223-3-104**
- **2005 -- 2006 Research Grant of Georgian Ministery of Education and Science, # 37**

Awards
- **Ivane Javakhishvili Medal**
- **Award of honor of the president**

Membership of the organization / association
- **Member of the Academy of Sciences of Abkhazia Autonomous Republics**
- **Member of the Georgian Academy of Natural Sciences**
- **Member of the Georgian Statistical Association (GSA)**
- **Member of the Georgian Mathematical Union (GMU)**
- **Member of the Bernoulli's International Society**

Participation in International Conferences (Last 10 years)

- **2017** 31st International Enlarged Sessions of the Seminar of Ilia Vekua Institute of Applied

Mathematics. Tbilisi, Georgia, April 19-21, 2017

- **2016** 7th International Joint Conference of the Georgian Mathematical Union & Georgian
- Mechanical Union. Batumi, Georgia, September 4-9, 2016
- **2015** International Conference on Probability Theory and Statistics. Tbilisi, Georgia, September 7-12, 2015
- **2015** The First SDSU – Georgia STEM WORKSHOP on Nanotechnology and Environmental Sciences. Tbilisi, Georgia, September 4-5, 2015
- **2015** 6th International Conference of Georgian Mathematical Union. Batumi, Georgia, July 12-16, 2015
- **2015** International Conference "Probability, Reliability and Stochastic Optimization" (PRESTO-2015). Kyiv, Ukraine, April 7-11, 2015
- **2014** 5th International Conference of Georgian Mathematical Union. Batumi, Georgia, September 8-12, 2014
- **2014** Caucasian Mathematics Conference CMC I. Tbilisi, Georgia, September 5-6, 2014
- **2013** 21st International Conference "Problems of Management of Safety of Difficult Systems". Moscow, Russia, December 17-19, 2013
- **2013** 4th International Conference of Georgian Mathematical Union. Batumi, Georgia, September 9-15, 2013
- **2013** International Conference: "Modern Problems in Applied Mathematics", TSU-95 &VAM-45. Tbilisi, Georgia, September 4-7, 2013
- **2012** 20th International Conference "Problems of Management of Safety of Difficult Systems". Moscow, Russia, December 19-21, 2012
- **2012** 20th International Conference "Problems of Management of Safety of Difficult Systems". Moscow, Russia, December 19-21, 2012
- **2012** International Conference: "Stochastic Optimization and Optimal Stopping", Moscow, Russia, September 24-28, 2012
- **2012** 4th International Conference "Problems of Cybernetics and Informatics". PCI'2012. Baku, Azerbaijan, September 12-14, 2012
- **2011** 19th International Conference "Problems of Management of Safety of Difficult Systems". Moscow, Russia, December 21-23, 2011
- **2011** 2nd International Conference of Georgian Mathematical Union. Batumi, Georgia, September 15-19, 2011
- **2011** International Conference:" Continuum Mechanics and Related Problems of Analysis" dedicated to the Anniversary Georgian National Academy of Sci. and the 120 Birthday of N. Muskhelishvili. Tbilisi, Georgia, September 9-14, 2011
- **2011** International Conference: Problems of Modern Mathematics (MMP'2011). Karshi, Uzbekistan, April 22-23, 2011
- **2011** 20th International conference of "Problem of management of safety of difficult systems". Moscow, Russia, December 21-23, 2011
- **2010** 18th International Conference "Problems of Management of Safety of Difficult Systems". Moscow, Russia, December 19-21, 2010
- **2010** International Conference Modern Stochastics: Theory and Applications II. Kyiv, Ukraine, September 7-11, 2010
- **2010** The Third International Conference "Problems of Cybernetics and Informatics". PCI'2010. Baku, Azerbaijan, September 6-9, 2010
- **2009** International Conference "Stochastic Analysis and Random Dynamical Systems". Lviv, Ukraine, June 14-20, 2009
- **2008** International Conference on Modern Problems in Applied Mathematics. Tbilisi, Georgia, October 7-9, 2008
- **2008** The Second International Conference "Problems of Cybernetics and Infotmatics". PCI'2008. Baku, Azerbaijan, September 10-12, 2008

<u>Selected Publications</u> (Last 10 years)

1. Optimal stopping problem on a finite time interval. *Bull. Georgian Acad. Sci.* **173** (2006), No. 2, pp. 250-253.
2. Reduction and convergence in optimal stopping for Kalman-Bucy's model. *Bull. Georgian Acad. Sci.* **173** (2006), No. 3, pp. 455-457.
3. Optimal stopping on a finite time interval of a Markov sequence with regard for the cost of observation. *Bull. Georgian Acad. Sci.* **174** (2006), No. 1, pp. 5-6.
4. On the modeling of the European option pricing theory. *Reports of Enlarged Sessions of the Seminar of I. Vekua Institute of Applied Mathematics* **21** (2006), No. 1, pp. 5-7
5. On the problem of convergence of costs. *Reports of Enlarged Sessions of the Seminar of I. Vekua Institute of Applied Mathematics* **21** (2006), No. 1, pp. 13-15.
6. On the simulation of the American option pricing process. *Appl. Math. Inform. Mech.* **11** (2006), No. 1, pp. 1-5.
7. Convergence of costs in an optimal stopping problem for a partially observable model. *Appl. Math. Inform. Mech.* **11** (2006), No. 1, pp. 6-11.
8. The American put option in a one-dimensional diffusion model with level-dependent volatility. *Stochastics* **79** (2007), No. 1-2, pp. 5-25.
9. On the generalization of one theorem of Bensoussa-Lions. *Bull. Georgian Acad. Sci.* **2** (2008), pp. 13-16.
10. On the optimal stopping problem of inhomogeneous Markov process. *AMIM* **13** (2008), No. 2.
11. On the pricing of a European option. *Problems of Cybernetics and Informatics, Baku* **II** (2008), pp. 246-248.
12. On the modeling of the European option pricing. *Bulletin of St. Andrew the First-Called Georgian University of the Patriarchy of Georgia*, (2009), No. 1, pp. 89-94.
13. On existence and uniqueness of solution of general second order elliptic type differential equation in Hilbert space. *Reports of Enlarged Session of the Seminar of I. Vekua Institute of Applied Mathematics*, **23**, (2009), pp. 20-24.
14. On optimal stopping for time-dependent gain function. *Theory Stoch. Process.* **15** (2009), No. 2, pp. 54-61.
15. The optimal stopping problem for the Kalman-Bucy scheme. *Teorya Veroyatnostei i ee Prilozhenya* **55** (2010), No 1, pp. 133-142.
16. On the modeling of the standard options pricing process. *Proceedings of the Sciences Conference "Problems of Modern Mathematics". Karshi, Uzbekistan.* 2011. pp. 7-10.
17. On One Problem of Disruption. Проблемы управления безопасностью сложных систем. *Труды XIX международной конференции. Москва, Декабрь*, 2011 г. с. 78-82.
18. On One Problem of Stephan. *Journal of Applied Mathematics, Informatics and Mechanics*. Vol. 16, No. 1. 2011. pp. 3-7.
19. О задаче редукции в оптимальной остановке по неполным данным. *Труды XX международной конференции «Проблемы управления безопасностью сложных систем». Москва*, 2012. С. 349-352.
20. The American Option and Modeling of Investment Process. *Information and Computer Technologies – Theory and Practice, Nova Scientific Publishers, New York*, 2012, pp. 519-523.
21. The European Option and Modeling of Investment Process. *Information and Computer Technologies – Theory and Practice, Nova Scientific Publishers, New York*, 2012, pp. 509-517.
22. On the Stochastic Model of a Chemical Reaction. *Bulletin of the Georgian National Academy of Sciences*, vol. 7, no. 2, 2013, pp. 92-96.
23. On the optimal stopping of partially observable processes. *Reports of Enlarged Sessions of the Seminar of I. Vekua Institute of Applied Mathematics. Volume* 27, 2013, pp. 5-9.
24. Radon-Nikodym derivative of solution of nonlinear equations with random right side and applications, *Transactions of National Academy of Sciences of Azerbaijan*, 2014, vol. XXXIV, No 4, pp. 45-52.
25. A New Approach to the Estimation of the Parameters of the Michaelis-Menten Equation. *Open Journal of Biochemistry. Vol. 2, Number 1, February*. 2015. pp. 1-7.
26. On One Discrete Model of the Financial Market. *Bulletin of the Georgian National Academy of Sciences*, vol. 10, no. 4, 2016, pp. 21-26.

<u>Textbooks</u>

1. P. Babilua, **B. Dochviri**, H. Meladze. The basics of financial mathematics. Publishing House "Universal", Tbilisi, 2008.
2. B. Dochviri. Probability, statistics, finances. Publishing House "Universal", Tbilisi, 2009.
3. B. Dochviri. Financial mathematics, probability, statistics. TSU Publisher, Tbilisi, 2012.