

## Curriculum vitae

1. **Surname:** Sakhno
2. **First name:** Lyudmyla
3. **Birthdate:** 5 June, 1965
4. **Birthplace:** Kiev, Ukraine
5. **Address:** Office: Dept. of Probability Theory, Statistics and Actuarial Mathematics  
Mechanics and Mathematics Faculty, Taras Shevchenko National University of Kyiv  
Volodymyrska, 64, 01601, Kyiv, Ukraine

**Phone/Fax:** (+38 044) 259 03 92, **e-mail:** lms@univ.kiev.ua

### 6. **Current position:**

Head of Scientific Research Laboratory "Differential Equations and their Applications in Mechanics", Mechanics and Mathematics Faculty, Taras Shevchenko National University of Kyiv

### 7. **Education:**

Graduated from Dept of Probability Theory and Mathematical Statistics of Mechanics and Mathematics Faculty of Taras Shevchenko National University of Kyiv in 1987.

### 8. **Degrees:**

Doctor of Sciences in Mathematics and Physics (Probability Theory and Mathematical Statistics), 2013, Taras Shevchenko National University of Kyiv

Candidate of Sciences (Ph.D) in Mathematics and Physics (Probability Theory and Mathematical Statistics), 1992, Taras Shevchenko National University of Kyiv.

### 9. **Position held:**

Post-graduate student at Kyiv University, 1987-1990

Scientific researcher, Kyiv University, 1991-2006

Senior scientific researcher, Kyiv University, 2006-2013

Leading scientific researcher, Kyiv University, 2014

Head of Scientific Research Laboratory, Kyiv University, since 2015

### 10. **Professional experience:**

Experience in working out of algorithms and packages of applications for mathematical statistics and experiment design, data analysis. Participation in scientific-research work carrying out by Dept. of Probability Theory and Mathematical Statistics of Kyiv University.

*Courses taught:* Operation Research, Probability Theory, Statistical Analysis of Random Processes and Fields, Risk Theory, Spectral Analysis of Random Fields.

### 11. **Area of Research:**

The asymptotic methods in the theory of random processes and fields and its application to the statistics. Spectral analysis of random fields. Statistical problems for random processes and fields with long-range dependence. Statistical analysis of short- and long-range dependent data.

### 12. **Participation in the International Projects**

TEMPUS-TACIS grant JEP-10353-97 "Statistical Aspects of Economics" (1998-2000); NATO

Collaborative linkage grants: PST.CLG.976361 "Random Fields with Long-Range Dependence and Related Topics" (2001-2003), PST.CLG.980408 "Fractional Calculus and Related Stochastic Processes and Equations" (2003-2006); ARC Large Grant A10024117 "Stochastic analysis of long-range dependent multifractals", ARC Discovery Grant DP0345577 "Statistical estimation and approximation of anomalous diffusions"; Research European project Multifractionality, Grant Agreement N. 230804, "Multi-parameter Multi-fractional Brownian Motion", International Research Staff Exchange (IRSES), 2009-2012.

### 13. **Visiting Academic**

Queensland University of Technology, Brisbane, Australia (September 2000-December 2001, August-September 2003, August-October 2005, August-September 2006); University of Roma "La Sapeinza", Italy (December 2002, March 2003, November 2004, March 2007, May 2009, March 2010, November 2011), Cardiff School of Mathematics, Cardiff University, UK (October 2007-September 2008, May 2010), University of Nancy, France (October 2009, October 2010, May 2012)

### 14. **Recent Selected Publications**

E.Orsingher, M.D'Ovidio, L.Sakhno "Spectral functions related to some fractional stochastic differential equations", Electronic Communications in Probability, Vol. 21, n. 18 – 2016.

Avram F., Leonenko N., Sakhno L. "Limit theorems for additive functionals of stationary fields, under integrability assumptions on the higher order spectral densities". *Stochastic Processes and their Applications*, Vol.125, Iss.4, pp. 1629-1652 – 2015

Sakhno L. "Minimum Contrast Method for Parameter Estimation in the Spectral Domain ". In: *Modern Stochastics and Applications*, pp. 319-336 – 2014

Sakhno L. "Asymptotics for functionals of powers of a periodogram". *Modern Stochastics: Theory and Applications*, Vol.1, Iss.2, pp. 181-194 – 2014

Leonenko N., Sakhno L. "On Spectral Representations of Tensor Random Fields on the Sphere", Vol.30 , pp. 44-66 – 2012

Leonenko N., Sakhno L., Suvak N. "Parameter estimation for reciprocal gamma Ornstein-Uhlenbeck type processes ". *Theory of Probability and Mathematical Statistics*, Vol. 86, pp. 121-137 – 2012

Sakhno L. "Minimum contrast estimation of stationary processes based on the squared periodogram". *Lithuanian Mathematical Journal*, Vol. 52, № 4 , pp. 400-419 – 2012

L.Beghin, E.Orsingher, L.Sakhno "Equations of mathematical physics and compositions of Brownian and Cauchy processes". *Stochastic Analysis and Applications*, v. 29, pp. 551-569 – 2011

F. Avram, N. Leonenko, L. Sakhno "On Szego type limit theorem, the Holder-Young-Brascamp-Lieb inequality, and the asymptotic theory of integrals and quadratic forms of stationary fields". *ESAIM: Probability and Statistics*, Vol. 14 – 2010

E. Orsingher, F. Polito, L. Sakhno "Fractional non-linear, linear and sublinear death processes". *Journal of Statistical Physics*, V. 141 – 2010

F. Avram, N. Leonenko, L. Sakhno "Harmonic analysis tools for statistical inference in the spectral domain". In: *Dependence in Probability and Statistics* (Eds P. Doukhan, G.Lang, D. Surgailis, G.Teyssiere). *Lecture Notes in Statistics*, Vol. 200 – 2010

L.Beghin, L.Sakhno, E.Orsingher "Equation of mathematical physics and compositions of Brownian and Cauchy processes". – 2009

Anh V.V., Leonenko N.N., Sakhno L.M. "Evaluation of bias in higher-order spectral estimation". *Theory of Probability and Mathematical Statistics*, Vol. 80 – 2009

Sakhno, Ludmila "Bias control in the estimation of spectral functionals.". *Theory Stoch. Process.* 13, No. 29, Part 1-2, pp. 225-233 – 2007

Anh, V.V.; Leonenko, N.N.; Sakhno, L.M. "Statistical inference using higher-order information.". *J. Multivariate Anal.* 98, No. 4, pp. 706-742 – 2007

Anh, V.V.; Leonenko, N.N.; Sakhno, L.M. "Minimum contrast estimation of random processes based on information of second and third orders. ". *J. Stat. Plann. Inference* 137, No. 4, pp. 1302-1331 – 2007

Kabanov, Yuri; Mishura, Yuliya; Sakhno, Ludmila "Multiparameter generalizations of the Dalang-Morton-Willinger theorem.". Kabanov, Yuri (ed.) et al., *From stochastic calculus to mathematical finance. The Shiryaev Festschrift. Almost all papers based on the presentation at the second Bachelier colloquium on stochastic calculus and probability, Meatbief, France, January 9-15, 2005. Berlin: Springer (ISBN 3-540-30782-6/hbk).*, pp. 333-341 – 2006

Anh, V.V.; Leonenko, N.N.; Sakhno, L.M. "Spectral properties of Burgers and KPZ turbulence.". *J. Stat. Phys.* 122, No. 5, pp. 949-974 – 2006

Leonenko, N.N.; Sakhno, L.M. "On the Whittle estimators for some classes of continuous-parameter random processes and fields.". *Stat. Probab. Lett.* 76, No. 8, pp. 781-795 – 2006

De Gregorio, A.; Orsingher, E.; Sakhno, L. "Motions with finite velocity analyzed with order statistics and differential equations. ". *Teor. Jmovirn. Mat. Stat.* 71, 57-71 (2004) and *Theory Probab. Math. Stat.* 71, pp. 63-79 – 2005

Anh, V.V.; Leonenko, N.N.; Sakhno, L.M. "Quasi-likelihood-based higher-order spectral estimation of random fields with possible long-range dependence.". *J. Appl. Probab.* 41A, Spec. Issue, pp. 35-53 – 2004

Anh, V.V.; Leonenko, N.N.; Sakhno, L.M. "On a class of minimum contrast estimators for fractional stochastic processes and fields.". *J. Stat. Plann. Inference* 123, No. 1, pp. 161-185 – 2004

Anh, V.V.; Leonenko, N.N.; Moldavskaya, E.M.; Sakhno, L.M. "Estimation of spectral densities with multiplicative parameter.". *Acta Appl. Math.* 79, No.1-2, pp. 115-128 – 2003

Anh, V.V.; Leonenko, N.N.; Sakhno, L.M. "Higher-order spectral densities of fractional random fields." *J. Stat. Phys.* 111, No.3-4, pp. 789-814 – 2003