CURRICULUM VITÆ

YURIY KRVAVYCH

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PROFESSIONAL EXPERIENCE

Since Feb 2007

MANAGER DFA
Group Actuarial and Capital Planning,
Insurance Australia Group (IAG), Sydney, Australia

Skills/responsibilities: I am part of the corporate office division responsible for providing consulting services to the Group and its business divisions/entities. The main focus of the role is to perform various enterprise risk management analyses utilising the internal capital DFA model and present the modelling results to the Board and senior management. The DFA model we use in our day-to-day work is a robust stochastic tool with the ability to perform Monte Carlo simulations to output the full distribution of possible future outcomes to give our general insurance business divisions better predictability of financial results as well as visibility they would need to assess and manage risks. The range of typical ERM analyses performed includes capital adequacy, capital allocation, strategic asset allocation, optimisation of reinsurance and dividend policy.

Mar 2005 – Feb 2007

HEAD ACTUARIAL
Hollard Insurance Company, Sydney, Australia

Skills/responsibilities: The role was focusing on reserving, pricing (mainly home and motor business lines), DFA modelling (mainly capital allocation and reinsurance optimisation), and also quantitative marketing research often required to assist in performance measurement of newly launched products. Managed a team of three actuarial analysts.

Mar 1997 – Feb 2002

ACTUARY/HEAD ACTUARIAL
Oranta Insurance Company, Kiev, Ukraine

Skills/responsibilities: The role was mainly focusing on pricing, reserving, cashflow analysis and capital modelling, and reinsurance optimisation.

EDUCATION

Mar 2002 – Feb 2005

PH.D. (ACTUARIAL SCIENCE)
Actuarial Studies, The Australian School of Business, University of New South Wales, Sydney, Australia

Thesis: "Insurer Risk Management and Optimal Reinsurance"
Supervisior: Prof. Michael Sherris
Referees: Prof. Hans Gerber (Switzerland), Gary Venter (Guy Carpenter, USA) and Prof. Christian Hipp (Germany)

Sep 1996 – May 2001

PH.D. (PROBABILITY AND STATISTICS)
The Faculty of Mechanics and Mathematics, National Taras Shevchenko

	University of Kyiv, Kiev, Ukraine *Thesis:* "Stochastic integrals and stochastic differential equations involving fractional Brownian motion and their applications in Finance" *Supervisior:* Prof. Yuliya Mishura
Feb 1998 – Sep 1999	POSTGRADUATE DIPLOMA IN ACTUARIAL SCIENCE UK Institute of Actuaries, Kiev-Oxford-London. UK *Thesis:* "Large Loss Distributions: EVT tools"
Sep 1991 – Jun 1996	MASTER OF SCIENCE (MATHEMATICS) The Faculty of Mechanics and Mathematics, National Taras Shevchenko University of Kyiv, Kiev, Ukraine *Cum Laude*
Sep 1988 – Jun 1991	National Physical and Mathematical Lyceum (Selective School), Kiev, Ukraine *Cum Laude*

PROFESSIONAL ACCREDITATION/MEMBERSHIP

Fellow of the Society of Actuaries of Ukraine (SAU), Kiev, Ukraine

Member of the International Actuarial Association (IAA), SAU Delegate in the IAA

Member of the *Q* Group, Sydney, Australia

HONOURS AND AWARDS

2002	Recipient of the International Postgraduate Research Scholarship (IPRS Australian Ph.D. Scholarship)
2001	Recipient of the US CRDF Research and Travel Grant (Casualty Actuarial Society, US)
2000	Recipient of the EU Tempus TACIS Research and Travel Grant (University of Helsinki, Finland)
1999	Recipient of the Know How Education and Travel Grant (UK Institute of Actuaries, UK)
1995	Recipient of the Scholarship of the National Academy of Science of Ukraine for Scientific and Academic Achievement
1991	3rd place (Bronze Medal) at the All-Ukrainian (National) Mathematical Olympiad

SUMMARY OF WORK EXPERIENCE

My experience is a combination of actuarial work in insurance industry, and teaching and research in academia. My current duties at IAG involve enterprise risk management analysis including DFA internal capital modelling, risk assessment, risk share/transfer and reinsurance optimisation. Prior to joining IAG, worked for seven years as an actuary in general insurance industry and gained extensive experience in pricing, reserving, forecasting and risk management modelling. My main research interests are in topics of both fundamental mathematics (measure theory, probability/statistics and functional analysis) and

mathematical applications in actuarial science and finance. Author of several scientific publications, I am also a visiting lecturer of Masters Program in Actuarial Science at the UNSW and a frequent speaker at actuarial and mathematical conferences.

ACADEMIC AFFILIATIONS

2007	VISITING LECTURER of Masters Program in Actuarial Science, The Australian School of Business, University of New South Wales, Sydney, Australia *Courses taught:* ACTL 5106 Insurance Risk Models
Mar 2002 – Dec 2004	TEACHING INSTRUCTOR, The Australian School of Business, University of New South Wales, Sydney, Australia *Courses taught:* ACTL 3001 Actuarial statistics (3 semesters), ACTL 3002 Life Insurance (1 semester), ACTL 3003 Insurance Risk Models (3 semesters)
Sep 1996 – Jun 2001	TEACHING AND RESEARCH ASSISTANT (part-time), The Faculty of Mechanics and Mathematics, National Taras Shevchenko University of Kyiv, Kiev, Ukraine. Duties included teaching graduate courses in measure theory and functional analysis, and research (Tempus TACIS project)

RESEARCH INTERESTS

MEASURE THEORY AND FUNCTIONAL ANALYSIS.

PROBABILITY AND STATISTICS:
Stochastic processes and stochastic differential equations,
Long-memory processes and Fractional Brownian Motion.

ACTUARIAL MATHEMATICS AND INSURANCE:
Applications of Extreme Value Theory in Insurance,
Applications of Financial Economics in Actuarial Science,
Dependency and Copulae Modelling,
Integrated Risk Management: optimal risk transfer (reinsurance), alternative risk transfer, credit risk modelling,
Capital Modelling and Allocation.

RESEARCH PUBLICATIONS

BRITT, STEPHEN AND KRVAVYCH, YURIY. Reinsurance credit risk modelling: DFA approach. *IAG Working Paper (submitted to ASTIN)*, 2009.

KRVAVYCH, YURIY AND SHERRIS, MICHAEL. Enhancing insurer value through reinsurance optimisation. *Insurance: Mathematics and Economics*, (38):495–517, 2006.

JANG, JIWOOK AND KRVAVYCH, YURIY. Arbitrage-free premium calculation for extreme losses using the shot noise process and the Esscher transform. *Insurance: Mathematics and Economics*, (35):97–111, 2004.

KRVAVYCH, YURIY. Existence and uniqueness of a solution, changing measure, and the application of semilinear SDE involving FBM in finance. *Theory Probab. Math. Statist.*, (65):89–100, 2002.

KRVAVYCH, YURIY AND MISHURA, YULIYA. Problems of the stochastic analysis of Wiener integrals with respect to fractional Brownian motion. *Transactions of National Academy of Science of Ukraine*, (1):14–18, 2001.

KRVAVYCH, YURIY. On the stock price model defined by the fractional Brownian semilinear stochastic differential equation: measure transformation and equilibrium of stock market. *Proceedings of XI AFIR Coloquium, Toronto*, 2001.

KRVAVYCH, YURIY. On existence of insurer's optimal excess of loss reinsurance strategy. *Proceedings of XXXII ASTIN Coloquium, Washington DC*, 2001.

KRVAVYCH, YURIY AND MISHURA, YULIYA. Differentiability of fractional integrals with kernels involving fractional Brownian motion. *Ukrainian Mathematical Journal*, (53(1)):35–47, 2001.

KRVAVYCH, YURIY AND MISHURA, YULIYA. *Exponential formula and Girsanov theorem for mixed semilinear stochastic differential equation*, pages 230–238. In KOHLMANN M. AND TANG S., editors *Mathematical Finance*, Birkhauser, Boston, 2001.

KRVAVYCH, YURIY AND MISHURA, YULIYA. The stochastic Fubini theorem for integrals with random integrand and fractional Brownian motion as integrator. *Theory Stoch. Process.*, (6(22)):79–89, 2000.

KRVAVYCH, YURIY AND MERGEL, VICTOR. Large loss distributions: probabilistic properties, EVT tools, maximum entropy characterization. *Proceedings of XXXI ASTIN Coloquium, Italy*, 2000.

KRVAVYCH, YURIY AND MISHURA, YULIYA. The presence and absence of arbitrage conditions in the (B,S)-market defined by fractional Brownian motion. *Bulletin of the T. Shevchenko National University of Kiev*, (4):9–16, 2000.

KRVAVYCH, YURIY AND MISHURA, YULIYA. Some maximal inequalities for moments of Wiener integrals with respect to fractional Brownian motion. *Theory Probab. Math. Statist.*, (61):75–86, 2000.

COMPUTER SKILLS

Operating systems	MS Windows/UNIX.
Programming languages	Working knowledge of FORTRAN, PASCAL, VBA, C(C++), MATHEMATICA, R, SAS.
Applications	MS OFFICE, MAPLE, MATHEMATICA, MATLAB, SAS, STATISTICA, @RISK.
DFA platforms	Working knowledge of MOSES PCFM and IGLOO.
Typography/multimedia	Programming skills in TEX/LATEXenvironment: PStricks, pdfLATEX.

ADDITIONAL INFORMATION

Bio	Born 22nd of November 1973 in Western Ukraine, married to *Olya Kravchuk*, have three year old son *Adrian*.
Nationality	Ukrainian Citizenship, Australian Citizenship.
Languages	Ukrainian, Polish and Russian (native tongue), English.
Hobbies	I like classical music (I play violin), history and political science, sports (love to play tennis, volleyball and soccer), fishing, hiking.

REFERENCES

Available upon request.