



National Bank of Serbia  
**Program for improvement  
of  
actuarial profession  
(2006-2009)**

- invitation for continuous education-



**USAID**  
FROM THE AMERICAN PEOPLE

*BearingPoint*<sup>™</sup>

**2006**  
(Rev. May 2009)

## INTRODUCTION

In order to take the initiative in improvement of actuarial profession and continuous education, and because the NBS insists on the implementation and improvement of the actuarial standards and rules of the profession based on international practice, in line with the Strategic development plan for the period 2006-2009<sup>1</sup>, the NBS in cooperation with USAID and Bearing Point, has prepared “Program for improvement of actuarial profession” as well as - in line with the authority awarded through the Law on Insurance – prepared the manner of licensing of actuaries.

### Intensive Courses:

Intensive courses are at the same time a preparation for taking the exam for licensed actuary in Serbia, but it is intended not only for the potential certified actuaries in Serbia, but also to all those wishing to expand their knowledge in the actuarial field, not limited only to Serbia

From 2006 to 2009, 10 intensive courses have been held at the NBS, divided into 5 levels (please see table for reference), at the highest level, and the lecturers are professors at the reputable international Universities and recognized experts serving in distinguished functions in international actuarial associations.

Level	Topic	Period
Level 1.	Basic application of actuarial mathematics to insurance, pension, and investment	2 x 2006., 2007.
Level 2.	Risk models and property and casualty	2007, 2008
Level 3.	Life and health insurance	2007, 2009
Level 4.	Pension and Modeling	2008, 2009
Level 5.	Investment and financial reporting	2007, 2008

Since 2009, in line with the MOU signed between the NBS, USAID and the faculties, the actuarial courses is continued at the faculties which are signatories of the memorandum.

### Methodology:

The Courses in NBS were very intensive and it lasted for 4 weeks (effectively) from 9:00 till 15:00, and demand full commitment of participants. The Course was consisted of:

- Lectures, with provided PowerPoint presentations and exercises in Excel,
- Exercises with Tutors,
- Two ninety-minutes tests.

Interactive communication with participants and lectures were expected and encouraged. Presentation and exercises were available for the participants in advance, and it was expected that participants would come well prepared on each day. The obligatory literature is available in the National Bank of Serbia, and the list of the literature is in the Appendix no. 2<sup>2</sup>.

<sup>1</sup> [http://www.nbs.yu/serbian/osiguranje/strateski%20plan\\_2006\\_2009.pdf](http://www.nbs.yu/serbian/osiguranje/strateski%20plan_2006_2009.pdf)

<sup>2</sup> for updated information visit: [http://www.nbs.rs/export/internet/latinica/60/60\\_3/aktuari/16032007\\_literatura\\_ispit\\_za\\_aktuare.pdf](http://www.nbs.rs/export/internet/latinica/60/60_3/aktuari/16032007_literatura_ispit_za_aktuare.pdf)

**Target group:**

Actuaries who are employed in the supervision authority or insurance companies, audit companies and others who want to expand their knowledge in actuarial mathematics, risk models, insurance, investments and financial reporting.

Participants should have adequate understanding of English language necessary for comprehending the Course. Also participants should know to use computer (especially Excel).

The Course is particularly helpful as the preparatory course for certified actuary examinations in Serbia.

**Lecturers:**

- Michael Sze PhD, FSA, CFA, leading internationally recognizable actuary, with the wide practical and academic experience, engaged in the development of actuarial profession in several countries (lecturer at Level 1)
- Rob Brown, Professor at University of Waterloo and author of the standard textbook on P&C Insurance (lecturer at Level 2B)
- Harry Panjer, Professor at University of Waterloo, co-author of „Loss Models: From Data to Decision“ (lecturer at Level 2A)
- Dale Yamamoto, Lead Health Insurance consultant at Hewitt Associates and Chairman of US Social Security Technical Panel on Health Insurance, (lecturer at Level 3B)
- Doug Andrews, Professor at University of Waterloo (lecturer at Level 4)
- Morris Chambers, Past President of the International Actuarial Association (IAA), Past President of the Canadian Institute of Actuaries (lecturer at Level 5B)
- S.David Promislow, Professor Emeritus, Dept. of Mathematics & Statistics, York University
- Nataša Todorovic, PhD in Finance, Cass Business School, City University
- Nikola Petrovic, Lecturer in Accounting, University of Bristol

Detailed Curriculum Vitae-s of the Lecturers could be found in the Appendix no 3.

# APPENDICES

- Appendix no. 1: Syllabus of the courses
- Appendix no. 2: The list of literature
- Appendix no. 3: Curriculum vitae-s of the Lecturers

SYLLABUS FOR TAKING THE EXPERT EXAM FOR ACQUIRING THE TITLE OF  
CERTIFIED ACTUARY

*Level 1: Basics of the implementation of actuarial mathematics in the field of insurance, pension plans and investments*

- 1) Interest theory and application, calculation of annuities
- 2) Types of life insurance and basic principles
- 3) Design and marketing of life insurance products and underwriting
- 4) Calculation of premium and provisions of life insurance and minimum capital
- 5) Types of non-life insurance and basic principles
- 6) Calculation of premium and reserves of non-life insurance
- 7) Risk theory and utility theory
- 8) Reinsurance
- 9) Pension funds and types of pension schemes
- 10) Financing and cost of pension schemes
- 11) Basic principles and types of investment
- 12) Optimization of portfolio and risk management
- 13) Regulations and ethics in insurance

*Level 2: Risk management models and non-life insurance*

- a) *Risk management models:*
  - 1) Risk management models
  - 2) Models for the assessment of frequency and level of loss
  - 3) Ruin Theory
  - 4) Survival models and estimation
  - 5) Graduation theory
  - 6) Credibility theory
- b) *Non-life insurance:*
  - 1) Types of non-life insurance and their basic characteristics
  - 2) Defining of tariffs for non-life insurance (property insurance, liability insurance, mandatory insurance)
  - 3) Utility theory
  - 4) Calculation of technical reserves of non-life insurance (methods and assumptions)
  - 5) Technical reserves and solvency margin
  - 6) Financial reporting and international accounting standards
  - 7) Solvency margin in the European Union
- c) *Regulations and ethics in insurance*

*Level 3: Life and health insurance*

a) *Life insurance:*

- 1) Types of life insurance and their basic characteristics
- 2) Design of products, underwriting, marketing and agency compensation
- 3) Life insurance products
- 4) Actuarial methods and assumptions
- 5) Defining of tariffs of life insurance
- 6) Calculation of technical reserve of life insurance
- 7) Gross and net calculations of premium and reserves
- 8) Financial reporting and international accounting standards
- 9) Group life insurance, underwriting and calculation of reserves

b) *Health insurance*

- 1) Types of products of health insurance
- 2) Design of products, underwriting, and marketing of the products
- 3) Types of services in health insurance and the structure of benefit
- 4) Actuarial methods and assumptions
- 5) Defining of tariffs and calculation of technical reserves
- 6) Group and individual health insurance products

c) *Regulations and ethics in insurance*

*Level 4: Pension schemes and modeling*

a) *Pension schemes:*

- 1) Pension schemes with defined reimbursements and payments
- 2) Comparative analysis of PAYGO and full funding model
- 3) Funding methods and actuarial assumptions
- 4) Payment into the pension funds and reimbursements from those funds (funding and expensing)
- 5) Actuarial gains and losses

b) *Modeling:*

- 1) Model structures
- 2) Selection process
- 3) Validation model
- 4) Calibration model
- 5) Scenario setting
- 6) Sensitivity testing
- 7) Limitation

c) *Regulations and ethics in insurance*

*Level 5: Investments and financial reporting*

a) *Investments:*

- 1) Basic principles of investment
- 2) Different asset classes and their characteristics
- 3) Risk management
- 4) Portfolio optimization
- 5) Investment of insurance assets
- 6) Pension fund asset investment
- 7) Regulation and taxation of investments
- 8) Asset/liability matching
- 9) Immunization

b) *Financial reporting:*

- 1) Basic principles of accounting and accounting standards
- 2) Types of legal entities in insurance
- 3) Basic structure of company accounts
- 4) Presentation and limitation of company accounts
- 5) Principles of insurance accounting, financial reports and regulations
- 6) International standards of financial reporting
- 7) International Actuarial Association: standards and practice, guidelines on financial reporting
- 8) Solvency I and Solvency II
- 9) International framework for solvency assessment

c) *Regulations and ethics in insurance*

## Appendix no. 2: The list of literature

<b>Literature</b>	<b>Level</b>
1. John E. Tiller, Denise Fagerberg Tiller, Jr., Life, health & Annuity Reinsurance, 3rd ed., ACTEX Publications, Inc., Winsted, Connecticut, 2005.	1
2. Mark A. Tullis, Philip K. Polkinghorn, Valuation of Life Insurance Liabilities, 3rd ed., ACTEX Publications, Inc., Winsted, Connecticut, 1996.	1
3. Michael M. Parmenter, Theory of Interest and Life Contingencies, with Pension Applications: A Problem-Solving Approach, 3rd ed., ACTEX Publications, Inc., Winsted, Connecticut, 1999.	1
3a. Dick London, Solution Manual for Michael M. Parmenter's Theory of Interest and Life Contingencies, with Pension Applications A Problem-Solving Approach, 3rd ed., ACTEX Publications, Inc., Winsted, Connecticut, 1999.	1
4. Bowers, Gerber, Hickman, Jones, Nesbitt, Actuarial Mathematics, 2nd ed., The Society of Actuaries, Schaumburg, Illinois, 1997.	1, 3
4a. Dr. Michael A. Gauger and Dr. Krzysztof M. Ostaszewski, Solution Manual for Bowers' et al. Actuarial Mathematics, ACTEX Publications, Inc., Winsted, Connecticut, 2005.	1
5. Arthur W. Anderson, Pension Mathematics for Actuaries, 2nd ed., ACTEX Publications, Inc., Winsted, Connecticut, 1992.	1,4
5a. Keith P. Sharp, Pension Mathematics for Actuaries, Commentary and Solutions, ACTEX Publications, Inc., Winsted, Connecticut, 2001.	1,4
6. Robert L. Brown and Leon R, Gottlieb, Introduction to Ratemaking and Loss Reserving for Property and Casualty Insurance, 2nd ed., ACTEX Publications, Inc., Winsted, Connecticut, 2001.	1,2
6a. Robert L. Brown and Leon R, Gottlieb, Solution Manual for Introduction to Ratemaking and Loss Reserving for Property and Casualty Insurance 2nd ed., ACTEX Publications, Inc., Winsted, Connecticut, 2006.	1,2
7. Zvi Bodie, Alex Kane, Alan J. Marcus, Investment, 6th ed., The McGraw-Hill/Irwin, New York, 2005.	1,5
7a. Zvi Bodie, Alex Kane, Alan J. Marcus, Student Solution Manual for use with investments 6th ed., The McGraw-Hill/Irwin, New York, 2005.	1,5
8. Thomas N. Herzog, Introduction to Credibility Theory, 3rd ed., ACTEX Publications, Inc., Winsted, Connecticut, 1999.	1,2
8a. Thomas N. Herzog, Solutions Manual for Introduction to Credibility Theory, 3rd ed., ACTEX Publications, Inc., Winsted, Connecticut, 1999.	1,2
9. Robert W. Batten, Life Contingencies A logical Approach to Actuarial Mathematics, ACTEX Publications, Inc., Winsted, Connecticut, 2005.	1
10. Stuart A. Klugman, Harry H. Panjer, Gordon E. Willmot, Loss Models From Data to Decision, 2nd ed., A John Wiley & Sons, Inc., Publication, 2004.	1,2
10a. Stuart A. Klugman, Harry H. Panjer, Gordon E. Willmot, Solution Manual to Accompany for Loss Models From Data to Decision, 2nd ed., A John Wiley & Sons, Inc., Publication, 2004.	1,2
11. Introduction to Probability Models (eighth edition), 2003, by Ross, S.M.	1,2
12. Models for Quantifying Risk, 2005, by Cunningham, R., Herzog, T. and London,	2

R.L	
12a. Solutions Manual for Models for Quantifying Risk, 2005, Cunningham, Herzog, London	2
13. Foundations of Casualty Actuarial Science (fourth edition), 2001, Casualty Actuarial Society	2
14. Actex Study Manual for the SoA Exam C and CAS Exam 4, Fall 2005 Edition, Broverman	2
15. Group Insurance, (Fourth edition) 2003, by Bluhm, W.F., editor	3
16. Individual Health Insurance, 1988, by O'Grady, F.T., editor	3
17. The Managed Health Care Handbook, (fourth edition), 2001, by Kongstvedt, P.R.	3
18. Actex Study Manual for SoA Course 8M, 2006 Edition, Frank G. Reynolds	3
19. Life Insurance Products and Finance, 2000, by Atkinson, D., and Dallas, J.	3
20. Actex Study Manual for SoA Course 8I, 2006 Edition, Desmarais	3
21. Actex Study Manual for SoA Course 8G, 2006 Edition, Reynolds	3
22. Promislow, David S, Fundamentals of Actuarial Mathematics, John Wiley & Sons, Chichester, England, 2006, sections 2 – 11, 13-15	3
23. Adrews, D, Assessing Alternative Financing Methods for the Canadian Health Care System in View of Population Aging, McMaster University, SEDAP Working Paper No.224, <a href="http://socserv2.mcmaster.ca/~sedap/p/sedap224.pdf">http://socserv2.mcmaster.ca/~sedap/p/sedap224.pdf</a>	3
24. Bolnick, Howard J., Designing A World.-Class Health Care System, North American Journal Volume 7(2), pp 1-23, <a href="http://www.soa.org/library/journals/north-american-actuarial-journal/2003/april/naaj0304_1.pdf">http://www.soa.org/library/journals/north-american-actuarial-journal/2003/april/naaj0304_1.pdf</a>	3
25. Folland, Sherman, Allen C. Goodman and Miron Steno, The Economics of Health and Health Care (any edition is fine) by, Prentice-Hall. Inc., Upper Saddle River, New Jersey.ISBN0-13-227942-8., chapters 1-11,17-22	3
26. Macintyre, Duncan M, Voluntary Health Insurance and Rate Making, Cornell University Press, chapters 2-6,8	3
27. William H. Aitken, Problem Solving Approach to Pension Funding and Valuation, 2 <sup>nd</sup> edition, 1996, ACTEX Publications Inc., Winsted, Connecticut	4
28. Keith P. Sharp, Pension Mathematics for Actuaries, Commentary and Solutions, 2001, ACTEX Publications, Inc., Winsted, Connecticut	4
29. Whitehouse, Edward, New Indicators of 30 OECD Countries' Pension Systems, <i>Journal of Pension Economics and Finance</i> , 2006 Volume 5, Issue 03 November 2006, pp 275 - 298	4
30. Brown, Robert L., Economic Security for an Aging Canadian Population, SOA Monograph M-RS99-2, Society of Actuaries, Schaumburg, Illinois, 1999	4
31. Canadian Institute of Chartered Accountants, Accounting Recommendations, Section 3461, March 2004, pp 1871 – 1920	4
32. Greenan, Jennifer, The Handbook of Canadian Pension and Benefit Plans, 12th Edition, CCH Canadian Limited, Toronto, Ontario, 2002	4
33. Kellison, Stephen G., The Theory of Interest, 2nd Edition, Richard D. Irwin, Inc., 1991	4

34. McGill, Dan M., Kyle N. Brown, John J. Haley and Sylvester J. Schrieber, Fundamentals of Private Pensions, Seventh Edition, University of Pennsylvania Press, Philadelphia, Pennsylvania, 1996	4
35. Waring, Barton M. and Laurence B. Siegel, Don't Kill The Golden Goose! Saving Pension Plans, <i>Financial Analysts Journal</i> , 2007, Volume 63, Number 1, pp 31 – 45	4
36. Winklevoss, Howard E., Pension Mathematics With Numerical Illustrations, Second Edition, University of Pennsylvania Press, Philadelphia, Pennsylvania, 1993	4
37. Zvi Bodie, Alex Kane, Alan J. Marcus, Essentials of Investments, 5 <sup>th</sup> ed., 2003,	5
38. David Alexander and Simon Archer, International Accounting/Financial Reporting Standards Guide, 2006, CCH Group, Chicago	5
39. George E. Rejda, Principles of Risk Management and Insurance, 10 <sup>th</sup> edition (2007), International edition, Pearson Education	5
40. Stephen G. Ryan, Financial Instruments and Institutions: Accounting and Disclosure Rules, 2 <sup>nd</sup> edition, New Jersey: John Wiley & Sons Inc.	5
41. Arne Sandstrom, Solvency: Models, Assessment and Regulation (2006), Boca Raton, FL: Chapman & Hall	5
42. Herve Stolowy and Michel Lebas, Financial Accounting and Reporting: A Global Perspective, 2 <sup>nd</sup> edition (2006), London: Thomson Learning	5
43. 1. Barry J. Epstein and Eva K. Jermakowicz, Interpretation and Application of International Financial Reporting Standards (2007), New Jersey: John Wiley & Sons Inc.	5
44. CEA (2007) <i>Solvency II: Understanding the process</i> , <a href="http://www.cea.assur.org/cea/download/publ/article257.pdf">http://www.cea.assur.org/cea/download/publ/article257.pdf</a>	5
45. CEA (2006) <i>Solvency II: Introductory guide</i> <a href="http://www.abi.org.uk/Display/File/Child/659/CEA_Guide_to_Solvency_II_tillinghast.pdf">http://www.abi.org.uk/Display/File/Child/659/CEA_Guide_to_Solvency_II_tillinghast.pdf</a>	5
46. CFO Forum (2004), <i>Basis For Conclusions – European Embedded Value Principles</i> <a href="http://www.cfoforum.nl/eev.html">http://www.cfoforum.nl/eev.html</a>	5
47. IAA Standards of Practice <a href="http://www.actuaries.org/index.cfm?lang=EN&amp;DSP=STANDARDS&amp;ACT=CURRENT">http://www.actuaries.org/index.cfm?lang=EN&amp;DSP=STANDARDS&amp;ACT=CURRENT</a>	5
48. Zakon o osiguranju ("Službeni glasnik RS", br. 55/2004, 61/2005 и 101/2007)	1,2,3,4,5
49. Odluka o sadržini mišljenja ovlaštenog aktuara ("Službeni glasnik RS", br. 19/2005)	1,2,3,4,5
50. Odluka o bližim kriterijumima i načinu obračunavanja matematičke rezerve i rezerve za učešće u dobiti ("Službeni glasnik RS", br. 19/2005)	1,2,3,4,5
51. Odluka o bližim kriterijumima i načinu obračunavanja prenosnih premija ("Službeni glasnik RS", br. 19/2005)	1,2,3,4,5
52. Odluka o bližim kriterijumima i načinu obračunavanja rezervisanih šteta ("Službeni glasnik RS", br. 86/2007)	1,2,3,4,5
53. Odluka o načinu utvrđivanja visine margine solventnosti ("Službeni glasnik RS", br. 31/2005)	1,2,3,4,5
54. Odluka o ograničenjima pojedinih oblika deponovanja i ulaganja tehničkih rezervi i o najvišim iznosima pojedinih deponovanja i ulaganja garantne rezerve društva za osiguranje ("Službeni glasnik RS", br. 35/2008)	1,2,3,4,5
55. Odluka o načinu utvrđivanja i praćenju likvidnosti društva za osiguranje	1,2,3,4,

("Službeni glasnik RS", br. 3/2005)	5
56. Odluka o bližim kriterijumima i načinu obračunavanja rezervi za izravnanje rizika ("Službeni glasnik RS", br. 13/2005 i 23/2006)	1,2,3,4, 5
57. Zakon o obligacionim odnosima (Sluzbeni list SFRJ, 6p. 29/78, 39/85, 45/89 i 57/89 i Sluzbeni list SRJ, 6p. 31/93),	1,2,3,4, 5
58. Pravilnik o kontnom okviru i sadrzini racuna u kontnom okviru za drustva za osiguranje ( Sluzbeni glasnik RS, br. 15/2007 )	1,2,3,4, 5
59. Pravilnik o sadrzaju i formi obrazaca finansijskih izvestaja drustava za osiguranje (Sluzbeni glasnik RS, br. 15/2007)	1,2,3,4, 5
60. Zakon o dobrovoljnim penzijskim fondovima i penzijskim planovima ("Službeni glasnik RS", br. 85/2005)	4
61. Code of professional conduct (Pravila profesionalnog ponašanja međunarodnog udruženja aktuara), <a href="http://www.soa.org/about/membership/about-code-of-professional-conduct.aspx">http://www.soa.org/about/membership/about-code-of-professional-conduct.aspx</a>	1,2,3,4, 5
62. Code of Professional Conduct for Actuaries in EU Countries (Pravila profesionalnog ponašanja za aktuare u Evropskoj Uniji), <a href="http://www.actuaries.org/INDEX.CFM?DSP=ABOUT&amp;ACT=CODE&amp;LANG=EN">http://www.actuaries.org/INDEX.CFM?DSP=ABOUT&amp;ACT=CODE&amp;LANG=EN</a>	1,2,3,4, 5

**Note: Literature from 28-35 and 59 will apply from the 20.07.2008.**

**For the level 3, health and life insurance part, starting from exam period of July 2009, ending exam period of July 2010. optional will be applied literature from 15 to 21 or 4 and from 22 to 26. From January 2011, health and life insurance part, literature 4 and from 22 to 26 will only be applied.**

## **Appendix no. 3: Curriculum vitae-s of the Lecturers**

### **Dr. MICHAEL SZE**

Dr. Sze is a leading expert on Pension and Social Security modeling and funding. He is a retired partner of Hewitt Associates, where he was an actuarial manager and lead consultant on pension projection. He is currently the President and Owner of Sze Associates, Ltd., a financial and benefits consulting company.

#### **Education and Certification**

**Ohio State University**

Ph.D., Mathematics, 1975

**California State University**

M.S., Mathematics, 1969

**University of Hong Kong,**

B.Sc., Mathematics and Physics, 1964

#### **Employment History**

**Sze Associates Ltd.,**

Toronto, Ontario, Canada, Owner, 1996 - Present

**University of Michigan,**

Ann Arbor, Michigan, USA, Adjunct Professor of Mathematics, 1998 - 1999

**Hewitt Associates LLC,**

25 Shepherd Ave West, Toronto, Ontario, Canada Partner, Pension and Investment Consultant, Projection Specialist, 1975 - 1996

**Ohio State University,**

Columbus, Ohio, USA, Teaching Assistant, 1969 - 1975

**California State University,**

Hayward, California, USA, Teaching Associate, 1968 - 1969

**St. Paul's Secondary School,**

Hong Kong, Teacher, 1964-1968

#### **Professional Experience**

**U.S. Agency for International Development (USAID), Kazakhstan, Pension Reform Project,** Actuarial Expert, 1999-2001. Dr. Sze has served as an actuarial expert and consultant, providing actuarial training to senior executives of pension funds and insurance companies in Kazakhstan. He has developed and is teaching an actuarial science program on insurance and pension in Kazakhstan.

**Asian Development Bank, Bhutan, Pension Reform Program,**

Actuarial Expert, 2000. Dr. Sze served as an actuarial expert for a pension reform program in Bhutan. He advised the government on the design and administration of a new social security system.

**North American Actuarial Journal**, Acting Associate Editor, 1999 - Present.

**Journal of Actuarial Practice**, Associate Editor, 1994 - Present.

**U.S. Agency for International Development (USAID) Bulgaria, Social Security Training Program**, Faculty Member, 1997 and 1999. Dr. Sze taught Bulgarian social security experts on the funding of social security.

**Social Security Administration, U.S.A.**, Member of Technical Panel, 1994-1996, 1999. Dr. Sze served as a member of the Technical Panel on Assumptions and Method of the Advisory Board to the Social Security Administration. The Panel makes recommendations on the actuarial assumptions to be used in the USA.

**Social Security of the NAFTA Countries**, Research Chair, 1997 - 1998. Dr. Sze was the Chair of a research study of the Society of Actuaries on the Impact of Mortality Improvement on Social Security of the NAFTA Countries.

**Pension Benefits Guaranty Corporation, U.S.A.**, Member of the Technical Review Panel, 1996. Dr. Sze was a member of the Technical Review Panel of the Pension Insurance Modeling System of the Pension Benef Guaranty Corporation, U.S.A.

### **Languages Spoken**

English

Chinese (Mandarin, Cantonese, and Shanghai)

### **Selected Publications**

- Co-author of *Carswell's Benefits Guide for Canada*
- Co-author of "Overview of the study: impact of mortality improvement on social security in the NAFTA countries," *North American Actuarial Journal*
- Co-author of "Impact of aging population with declining mortality on social security in the NAFTA Countries" *North American Actuarial Journal*
- "Stochastic simulation of the financial status of the social security trust fund in the next 75 years," *Report of the 1994-1996 Advisory Council on Social Security*
- "The process of pension forecasting," *Journal of Actuarial Practice*

### **Professional Affiliations**

- Fellow of the Society of Actuaries
- Member of Social Security Committee of the Society of Actuaries (Chairman, 1994 - 1996)
- Member of the Board of Governors of the Society of Actuaries, 1994 - 1997
- Fellow of Canadian Institute of Actuaries
- Enrolled Actuary, U.S.A.
- Member of Social Security Committee of the International Actuarial Association
- Member of National Academy of Social Insurance
- Member of New York Academy of Sciences

### **Awards and Honors**

Presidential Appreciation Award, Society of Actuaries, 1998

In Who's Who in America, 2001, and International Who's Who of Entrepreneurs, 2000.

## **ROB BROWN**

Director  
Institute of Insurance and Pension Research  
University of Waterloo

Rob Brown graduated from the University of Waterloo in 1971 with a BMath degree. He added a MA in Gerontology in 1994 (Waterloo) and a PhD (Gerontology) from Simon Fraser University in 1997. Rob is a Fellow of the Canadian Institute of Actuaries, a Fellow of the Society of Actuaries, an Associate of the Casualty Actuarial Society and an Honorary Fellow of the British Institute of Actuaries.

Professor Brown was President of the Canadian Institute of Actuaries in 1990/91, served on the Board of Governors of the Society of Actuaries from 1992 to 2000 and was President of the Society of Actuaries in 2000-2001.

Rob was also a City Councilor in Waterloo from 1988 to 1994.

Rob has authored six books including 'Economic Security for an Aging Canadian.

Population' (1999). In 1994, he won the S.C.O.R. International Papers Competition for his paper: 'Pay-As-You-Go Funding Stability and Intergenerational Equity'. In 1999 he was the Canadian Pension Benefits Institute "National Speaker" speaking in twelve cities from coast to coast. Rob is a member of the National Academy of Social Insurance.

Professor Brown has published forty-five articles in refereed journals. His research focus is the evolution of financial security programs in times of rapidly shifting demographics. More particularly, his main interest is the financing of Social Security and Health Care in an aging population.

Rob Brown is presently Professor of Actuarial Science and Director of the Institute of Insurance and Pension Research at the University of Waterloo.

**Harry H. Panjer**  
PhD, FSA, FCIA, HonFIA, CERA

Dr Panjer has taught actuarial science in universities in the US and Canada for over 30 years. He has published many articles in insurance related scientific publications. His books include *Actuarial Mathematics* (1986), *Insurance Risk Models* (1992), *Loss Models* (1998, 2<sup>nd</sup>ed 2004), *Financial Economics: with Applications in Investments, Insurance and Pensions* (1998) and *Operational Risk: Modeling Analytics* (2006). He holds three degrees in Mathematics, Statistics and Actuarial Science, and is a Fellow of the Society of Actuaries and the Canadian Institute of Actuaries and was named an Honorary Fellow of the Institute of Actuaries in the UK. He is also a Chartered Enterprise Risk Analyst. Dr Panjer has served on many professional committees at the national and international level and as President of two major professional actuarial associations, the Society of Actuaries (US) and the Canadian Institute of Actuaries. He is currently ASTIN Chairman (a section of the International Actuarial Association). Dr Panjer is Chief Editor of the *North American Actuarial Journal* and an Associate Editor of several other insurance related publications.

**Dale H. Yamamoto**  
**FSA, MAAA**

Dale Yamamoto recently retired as a principal with Hewitt Associates in Lincolnshire, IL to start his own consulting firm, Red Quill Consulting. Prior to joining Hewitt in 1991, he had 16 years of professional actuarial experience, emphasizing all phases of actuarial services and employee benefits. Nine of the 16 years were with another major consulting firm where he last served as the national group actuarial resource for the company. Mr. Yamamoto has also held positions as the corporate actuary for a Fortune 50 company and as a group actuary for two major insurance companies. He chaired the 2000 Technical Review Panel appointed by the Medicare Board of Trustees to review the financial methods and assumptions of the Medicare program. He has testified before Congress on the topic of health care and Medicare reform. He has served on the Board of Governors of the Society of Actuaries and the Board of Directors of the Conference of Consulting Actuaries. Mr. Yamamoto is a Fellow of the Society of Actuaries, a Fellow of the Conference of Consulting Actuaries, a Member of the American Academy of Actuaries and a Member of the National Academy of Social Insurance. He holds a B.S. degree in mathematics from the University of Nebraska.

## **Doug W. Andrews**

Doug Andrews is a Lecturer at the University of Waterloo. He is a Fellow of the Canadian Institute of Actuaries, a Fellow of Society of Actuaries and a Chartered Financial Analyst. He holds a Bachelor of Arts and a Master of Business Administration degree from the University of Toronto and a Master of Arts degree from the University of Waterloo. He is a doctoral candidate in actuarial science at the University of Waterloo.

In 2005, he retired as Vice President at Aon Consulting Ins. in Toronto. In that position, he led the investment consulting practice in Ontario. He has over 30 years of relevant experience with consulting firms and insurance companies in the group benefit, retirement and investment areas.

Doug has instructed a number of sessions in the CEBS program. He is a member of the Investment Section Council of the Society of Actuaries and is a member of the National Academy of Social Insurance. He has written a number of articles and made presentations on benefit, retirement, investment and social insurance issues. One of his areas of focus is the cost and design of publicly funded health care and retirement programs.

He is a member of the Canadian Institute of Actuaries' Research Committee. He was the lead researcher on the joint study by the University of Waterloo and the Canadian Institute of Actuaries regarding Canadians financial preparedness for retirement, released in June 2007. He has served as Chair of the Benefit and Pensions Committee of the Board of Trade of Metropolitan Toronto.

## David Promislow

### DEGREES:

May 1960, Bachelor of Commerce (Honours), The University of Manitoba

May 1962, Fellow, Society of Actuaries

May 1970, Ph.D., University of British Columbia

### CURRENT POSITION:

Professor Emeritus, Dept. of Mathematics & Statistics, York University

### PREVIOUS POSITIONS:

July 1992 – July 2004: Full Professor. Dept. of Math. & Stat. York University

July 1977- July 1992: Associate Professor, Dept. of Math. & Stat, York University

July 1970- July 1977: Assistant Professor, Dept. of Math. & Stat, York University

Sept. 1964 May 1970: Part-time Lecturer, Dept. of Mathematics, University Of British Columbia

Columbia

July 1960 August 1964: Actuary, Crown Life Insurance Company, Toronto

### PUBLICATIONS:

#### **Books**

1. Fundamentals of Actuarial Mathematics, Wiley, Chichester 2006

2. A First Course in Functional Analysis. Wiley , Hoboken 2008

The author of more than 30 articles , 20 papers in refereed and non- refereed Conference proceedings and many other publication

### TEACHING EXPERIENCE

#### **Graduate Courses:**

Actuarial Mathematics, Risk Theory, Functional, Analysis, Measure, Theory, General

Topology, Real Analysis. Complex Analysis.

#### **Undergraduate Courses:**

Actuarial Mathematics, Risk Theory, The Theory of Interest, Probability Theory, Statistics, Operations Research, Differential Equations, Graph Theory, Abstract Algebra

Linear Algebra, Real Analysis, Complex Analysis, Calculus, Advanced Calculus.

### SERVICE:

#### **Professional Service**

Papers committee of the Society of Actuaries 1985-89

Tutorial committee of the Canadian Institute of Actuaries 1975-1995

Reviewer for Mathematical Reviews 1980-1990

Research Committee of the Society of Actuaries 1989-1991

Publications Index Committee of the Society of Actuaries 1990-92

Research Papers Committee of the Society of Actuaries 1990-1994  
Member of the Organizing Committee of the Actuarial Faculty Forum 1990  
Chairperson, Canadian Institute of Actuaries Committee on Papers 1992-1996  
Education & Research Section of The Society of Actuaries;  
Elected council member 1994  
Secretary – Treasurer 1995  
Chairperson 1996

CKER Committee of the Society of Actuaries 2003-  
Board Member of the Actuarial Foundation of Canada, 2005-  
Board Member IFID ( Individual Financial and Insurance Decisions ) 2005 –  
Invested Funds Committee of the Canadian Mathematical Society 2007-

**University Service:**

Coordinator of the actuarial program in the mathematics department 1980-2004  
Served on joint committee for early retirement, 1979  
Served on YUFA pension committee, 1981  
Chairman of various departmental committees  
Member of Ontario Graduate Selection Panel, 1992  
Member of FGS Scholarship & Awards Committee, 1993  
Graduate Program Director, Mathematics and Statistics, 1994-1997

## Nataša Todorović

**Education** PhD in Finance, *Cass Business School, City University*, Thesis: Equity Investment Styles, 2002

MSc in Investment Management, *City University*, 1997

BA in Business Studies (Finance), *University of Westminster*, 1994-96, Upper Second Class Degree

BSc in Economics, *University of Belgrade, Serbia*, 1992-94

**Academic Appointments** November 2000 to date, *Cass Business School, City University*  
Senior Lecturer in Investment Management

Subjects taught include Theory of Finance (MSc level), Portfolio Theory (MSc level), Portfolio Management (MSc level), Equity Investment Management (BSc level) and Fixed Income Portfolio Management (BSc level)

Other responsibilities include tutorials, supervision of three PhD students, undergraduate and postgraduate theses.

**Academic Administration** September 2008 to date, *Cass Business School, City University*  
Director of Admissions: MSc Finance, MSc Investment Management, MSc **Appointments** Banking and International Finance and MSc International Accounting and Finance

Duties: Responsible for student admissions on four of the largest and most popular courses at Cass Business School

November 2001 to August 2005, *Cass Business School, City University*

Course Director and Admissions Tutor for MSc Investment Management

Duties: managing the course structure and dealing with academic issues and student admissions related to the course

**Visiting Academic Appointments** January 2005 to date, *University of Belgrade, Serbia*  
Visiting Lecturer in Investments  
January 2002 to May 2004, *New York University (in London), Stern Business School*  
Visiting Lecturer teaching Foundations of Financial Markets

**Professional** September 2005 to date, *Securities and Investment Institute, London*

**Contracts** Chief Examiner for Fund Management Paper

December 2005 to date, *MP Asset Management, Slovenia*  
Member of the Supervisory Board of the fund

September 2004 to date, *Morley Fund Management (Aviva), London*

Structuring and delivering professional training programme

April 2005 to March 2006, *Norwich Union, London*  
Structuring and delivering professional training programme

February 2002, *Bank of China, London*  
Structuring and delivering professional training programme

**Publications** H. Kos and Todorovic, N., 'S&P Global Sector Survivals: Momentum effects in sector indices underlying iShares', *Quarterly Review of Economics and Finance*, Vol. 48, 2008, pp.520-540

A. Georgievska, L.J. Georgievska, A. Stojanovic and Todorovic, N., 'Sovereign rescheduling probabilities in emerging markets: a comparison with credit rating agencies' ratings', *Journal of Applied Statistics*, Vol 35, Issue 9, 2008, pp 1031-105.

## **Nikola Petrović**

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### **Academic Appointments**

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2007 - present - School of Economics, Finance and Management, University of Bristol  
Lecturer in Accounting

### **Other Professional Appointments**

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1999 - 2002 BC EXCEL Representing Arthur Andersen in Yugoslavia, Belgrade, Serbia  
Senior Associate, Audit and Assurance Services

### **Education**

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- Expected PhD (Accounting and Finance), April 2009 Essex Business School  
University of Essex,  
Colchester, United Kingdom
- MSc (Accounting and Finance), 2003 Department of Accounting, Finance and Management  
University of Essex,  
Colchester, United Kingdom
- BSc (Accounting), 1999 School of Economics,  
University of Belgrade, Serbia

### **Research Interests**

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Market-based accounting research, earnings quality, financial statement analysis, insurance accounting

### **Working Papers**

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“Does Volatility Improve UK Earnings Forecasts?” (with S. Manson and J. Coakley), February 2009, submitted

“UK Evidence on Limited Attention and the Accrual Anomaly” (with S. Manson and J. Coakley), March 2008

“Capital Investment Measures, Future Earnings and Future Returns: The UK evidence” (with S. Manson and J. Coakley), February 2009

### **Conference and seminar presentations**

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- British Accounting Association Conference, Blackpool, April 2008
- European Financial Management Association Annual Meeting, Madrid, June 2006

### **Invited Seminar Presentations**

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- University of Bristol, October 2007

### **Teaching Experience**

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School of Economics, Finance and Management, University of Bristol

Financial Statement Analysis and Security Valuation, MSc, lectures and tutorials, 2008 - present  
Financial Reporting, Undergraduate, lectures and tutorials, 2008 - present  
Financial Accounting, Undergraduate, tutorials, 2007 – present  
Accounting Elements A, Undergraduate, tutorials, 2007-2008  
Department of Accounting Finance and Management, University of Essex  
Financial Reporting and Analysis, Graduate Teaching Assistant, Undergraduate, tutorials, 2003-2006  
Management Accounting II, Graduate Teaching Assistant, Undergraduate, tutorials, 2006  
Summer School in Social Science Data Analysis and Collection, University of Essex  
Teaching Assistant, Introductory and Intermediate course in STATA, 2006-2007

### **Professional Activities**

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2008                      Actuarial Trainer in Financial Reporting  
                                 National Bank of Serbia (Serbian central bank), BearingPoint, USAID  
Department of Accounting Finance and Management, University of Essex  
Financial Reporting and Analysis, Graduate Teaching Assistant, Undergraduate, tutorials, 2003-2006  
Management Accounting II, Graduate Teaching Assistant, Undergraduate, tutorials, 2006  
Summer School in Social Science Data Analysis and Collection, University of Essex  
Teaching Assistant, Introductory and Intermediate course in STATA, 2006-2007

### **Professional Activities**

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2008                      Actuarial Trainer in Financial Reporting  
                                 National Bank of Serbia (Serbian central bank), BearingPoint, USAID

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