

11' Longevity LYON

The eleventh international Longevity Risk
and Capital Markets Solutions Conference

September 7/8/9, 2015
LYON, Cité Internationale - Centre de Congrès
Car park P2



HOST

Institut de Science Financière et d'Assurances - ISFA, University Claude Bernard Lyon 1

CO-HOSTS

Laboratoire de Sciences Actuarielle et Financière - ISFA, University Lyon 1

Laboratoire de Probabilités et Modèles Aléatoires - LPMA, University Paris 7

Pension Institute, Cass Business School, City University London

LoLiA ANR Research Project Team - Longevity with Lifestyle Adjustments

www.cass.city.ac.uk/longevity-11



CONFERENCE AGENDA

Day 1 : Monday, September 7
ACADEMIC DAY

Day 2 : Tuesday, September 8
LONGEVITY 11 CONFERENCE

07:45	Registration
08:30	 Welcome Coffee
09:00	Opening Ceremony Nicole EL KAROUI & Stéphane LOISEL
09:15	Ronald LEE, Berkeley The Lee-Carter Model: an update and some extensions
10:00	 Coffee Break
10:30	Pietro MILLOSOVICH, CASS Business School A comparative study of two-population mortality models for the assessment of basis risk in longevity hedges
11:00	Alexandre BOUMEZOUED, University Paris 6 Population dynamics for longevity risk
11:30	Quentin GUIBERT, SAF Laboratory Non-Parametric Inference of Transition Probabilities Based on Aalen-Johansen Integral Estimators for Acyclic Multi-State Models: Application to LTC Insurance
12:00	 Lunch Break
13:30	Gilles PAGES, University Paris 6 Multilevel methods for nested Monte Carlo simulation
14:15	Academic Day Parallel Session - Mortality Modelling 1 - Longevity Risk Management 1 - Mortality Modelling 2 - Mortality Modelling 3
16:00	 Refreshment Break
16:30	Henning BOHN, UCSB Intergenerational risk sharing and aggregate longevity risks
17:15	Ragnar NORBERG, SAF Laboratory Risk sharing within and across generations
17:45	

07:45	Registration
08:00	 Welcome Coffee
08:30	Opening Ceremony Stéphane LOISEL, David BLAKE & Nicole EL KAROUI
09:15	Denis JACQUAT, Assemblée Nationale Longevity and aging issues in France: a Member of Parliament's perspective
09:35	Jessica MOSHER, OECD Mortality Assumptions and Longevity Risk
10:05	Ronald LEE, Berkeley Widening socioeconomic differences in mortality and the progressivity of public pensions and other programs for the elderly
10:50	 Coffee Break  Sponsored by EY Building a better working world
11:20	Tom KIRKWOOD, Newcastle University Why and how are we living longer ?
12:05	Laurent SCHWARTZ, École Polytechnique Cancer mortality: towards a structural change ?
12:50	 Lunch Break  Sponsored by RGA
	Plenary session sponsored by  SOCIÉTÉ GÉNÉRALE Corporate & Investment Banking
14:20	André DE VRIES, RGA Capital motivated longevity transactions in practice
14:50	Guy COUGHLAN, Universities Superannuation Scheme Longevity – it's academic
15:20	Avery MICHAELSON, Societe Generale Corporate & Investment Banking Indexed vs. Indemnity Longevity Hedges
15:50	 Refreshment Break  Sponsored by SOCIÉTÉ GÉNÉRALE Corporate & Investment Banking
16:20	Parallel Session I - Mortality Modelling 4 - Longevity Risk Management 2 - Longevity Products 1 - Other 1
17:40	



LOCATION

Plenary talks & Round tables : "Grand salon Prestige Gratte-ciel",
Breaks : "Tête d'Or" floor
Parallel sessions:

 Grand salon Prestige Gratte-Ciel
  Salle Gratte-Ciel 1
  Salle Gratte-Ciel 2
  Salle Gratte-Ciel 3



CONFERENCE AGENDA

Day 2 : Tuesday, September 8
GALA

18:45 Cruise and Cocktail on the Rhône to the dinner place at Confluence

Discover the architectural heritage of the city of Lyon from one of its two rivers
Boarding: Quai Charles De Gaulle
Direction: From the convention center, walk between car parks P1 & P2, cross the road and go down on the dock, to the right.



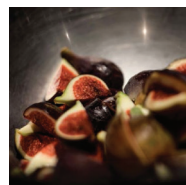
20:30 Gala dinner at Confluence Le Selcius Restaurant

French gastronomy in the new trendy district of Lyon
Welcome speech by Dale HALL, SoA

Gala dinner
sponsored by



**SOCIETY OF
ACTUARIES**



23:00 to 00:00 Several organized trips back to the convention center hotels
Optional stops in Lyon city center

Day 3 : Wednesday, September 9
LONGEVITY 11 CONFERENCE

07:45 Registration

08:00



Welcome Coffee

08:30 Parallel Session II

- Mortality Modelling 5
- Longevity Risk Management 3
- Reverse Mortgages 1
- Annuities 1

09:45



Coffee Break

Sponsored by

SCOR

Plenary session
sponsored by

SCOR

10:15

Jean-Marie ROBINE, INSERM

Update on the adult longevity revolution

10:45

Michel DENUIT, University of Louvain

Finite portfolio approximations

11:15

Round Table « Big Data & Longevity »

Frédéric PLANCHET, SAF Laboratory

Alexander ZHAVORONKOV, Johns Hopkins University

Pierre-Henri TAVOILLOT, Paris Philosophy College

12:15



Lunch Break

Sponsored by

Milliman

13:45

Parallel Session III

- Mortality Modelling 6
- Longevity Risk Management 4
- Pension Buyouts/Annuity Demand 1
- Annuities 2

15:10

Round Table « Longevity and long term care »

Hélène XUAN, Chaire Transition Démographiques

Serge GUERIN, ESG

Jean-Michel RICARD, Siel Bleu

16:00



Refreshment Break

Sponsored by

PFI
Bring Your Challenges

Plenary session
sponsored by

PFI
Bring Your Challenges

16:30

Mark FLINT, SCOR

The impact of recent regulatory change
on the UK individual annuity market

17:00

Philip SIMPSON, Milliman

Recent developments in the UK longevity market

17:30

Amy KESSLER, Prudential Financial

The longevity risk transfer market at \$250 billion -
innovation, globalization and growth

18:00

Closing Ceremony

18:15



CONTENT OF PARALLEL SESSIONS

MONDAY, SEPTEMBER 7 / 14:15 / ACADEMIC DAY PARALLEL SESSION

Mortality Modelling 1

- Yang LU** Large duration asymptotics in bivariate survival models with unobserved heterogeneity
- Ning ZHANG** Analysis on mortality cohort effect of birth year in view of differential geometry and its application
- Frank Van BERKUM** Bayesian portfolio specific mortality

Longevity Risk Management 1

- Xavier MILHAUD** Prediction of lifetimes by tree-based estimators
- Luca REGIS** Basis risk in static versus dynamic longevity risk hedging
- Caroline HILLAIRET** Affine long term yield curves: an application of the Ramsey rule with progressive utility

Mortality Modelling 2

- Héloïse LABIT HARDY** Cause-of-death mortality: A study of a heterogeneous portfolio dynamic
- Séverine ARNOLD** Time-evolution of age-dependant mortality patterns in mathematical model of heterogeneous human population
- Julien TOMAS** A credibility approach of the Makeham mortality law

Mortality Modelling 3

- Edouard DEBONNEUIL** Do actuaries believe in longevity deceleration?
- Guillaume BIESSY** A continuous time semi-markov with 3 states and 4 transition laws to estimate the biometrics laws associated with a long-term care insurance portfolio
- Olivier LOPEZ** Modeling the evolution of the dependence structure between two lifetimes
- Andres VILLEGAS** StMoMo: An R package for stochastic mortality modelling

TUESDAY, SEPTEMBER 8 / 16:20 / PARALLEL SESSION I

Mortality Modelling 4

- Yahia SALHI** A generalized linear mixed modeling approach for two-population mortality modelling
- Martin GENZ** Extension, compression, and beyond - A unique classification system for mortality evolution patterns
- Jack C. YUE** Mortality models and longevity risk for small populations

Longevity Risk Management 2

- Kenneth ZHOU** On discrete-time geek hedging of longevity risk
- Wen-Yen HSU** Multi-Country Mortality Modeling and Hedging Longevity Risk: Time Series vs. Panel Approach
- Richard MACMINN** The choice of trigger in an insurance linked security: The mortality risk case

Longevity Products 1

- Jorge BRAVO** Valuation of longevity linked annuities
- Federica TEPPA** Friends, family and framing: An international comparison of longevity expectations formation
- James RISK** Statistical emulators for pricing and hedging longevity risk products

Other 1

- Pawel ROKITA** Longevity and other types of risk - an integrated approach to measuring risk of household financial plan
- Kevin WANG** Using the Taiwan national health insurance database to design no claim discount in hospitalization
- Farid FLICI** Longevity and life annuities reserving in Algeria: Comparison of some mortality models



CONTENT OF PARALLEL SESSIONS

WEDNESDAY, SEPTEMBER 9 / 08:30 / PARALLEL SESSION II

Mortality Modelling 5

- Andrew CAIRNS Multi-population mortality modelling
- Johannes SCHUPP Modeling trend processes in parametric mortality models
- Yanxin LIU It's all in the Hidden States : A hedging method with an explicit measure of population basis risk

Longevity Risk Management 3

- Sharon S. YANG Analysis of Optimal Hedging Strategies for Dealing Longevity Risk and Catastrophic Mortality Risk
- Jerry HUANG A practical approach of natural hedging for insurance companies
- Cheng WAN Hedging the longevity risk: A study of longevity basis risk in Switzerland

Reverse Mortgages 1

- Adam SHAO Managing retirement risks with reverse mortgage loans and long-term care insurance
- Yung-Tsung LEE Valuation of reverse mortgage portfolio - A dynamic copula approach
- I-Chien LIU Profitability analysis and risk profile for reverse annuity mortgages

Annuities 1

- Sandy BRUSZAS Unisex pricing of german participating life annuities - boon or bane for customer and insurance company ?
- Etienne MARCEAU The impact of longevity on the hedge efficiency of guaranteed lifetime withdrawal benefit (GLWB) products
- David SMITH The effect of longevity drift and investment volatility on income sufficiency in retirement

WEDNESDAY, SEPTEMBER 9 / 13:45 / PARALLEL SESSION III

Mortality Modelling 6

- Steven BAXTER A practical framework for assessing basis risk in index-based longevity hedges
- Anthony MEDFORD Best practice life expectancy: An extreme value approach
- Marius PASCARIU The double-gap life expectancy forecasting model

Longevity Risk Management 4

- Andrew HUNT Pricing longevity-linked options
- Enareta KURTBEGU Replicating inter-generational risk sharing in financial market
- Pierre VALADE Reinsurance, a solution to manage longevity risk

Pension Buyouts/Annuity Demand 1

- Yijia LIN Pension risk management with funding and buyout options
- Patrick BROCKETT Understanding longevity risk annuitization decision-making: An interdisciplinary investigation of financial and nonfinancial triggers of annuity demand
- Ayse ARIK Pricing of pension buy-outs under dependence assumption

Annuities 2

- Jakob KLEIN Managing longevity risk: Tontines vs. annuities
- Jennifer Li-Ling WANG Valuation of variable long-term care annuities with guaranteed lifetime withdrawal benefit: A variance reduction approach
- Min JI Model and parameter uncertainty in pricing deep-deferred annuity



CONFERENCE SPONSORS

PLATINUM SPONSORS



PFI

Bring Your Challenges®

SCOR



SOCIETE GENERALE
Corporate & Investment Banking



**SOCIETY OF
ACTUARIES**

GOLD SPONSORS

RGA®



Milliman



EY

Building a better
working world

SILVER SPONSORS

AON
Empower Results®

Prim'Act



GUY CARPENTER

SINALYS