



**SCIENTIFIC AND PROFESSIONAL
CURRICULUM**

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References

- Michael A.H. Dempster, Emeritus Professor of mathematical finance, University of Cambridge (UK), mahd2@cam.ac.uk
- William T. Ziemba, Emeritus Professor of finance, University of British Columbia (CA), wztimi@mac.com or William.ziemba@gmail.com
- Rita Laura D'Ecclesia, Professor of applied mathematics, University of Rome La Sapienza (IT), rita.decclesia@uniroma1.it

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A. SCIENTIFIC COMMUNITIES, MEMBERSHIP AND GOVERNANCE

- Bachelier Finance Society (BFS) <https://www.bachelierfinance.org/>, membership
- Euro Working Group for Commodities and Financial Modelling (EWGCFM), management board and membership, <https://www.euro-online.org/web/ewg/8/ewg-cfm-euro-working-group-on-commodities-and-financial-modelling>
- Euro Working Group on Stochastic Optimization (EWGSO), membership, previously in the Management Board until 2018, <https://www.euro-online.org/web/ewg/35/euro-working-group-on-stochastic-optimization>
- Fellow of the Institute of Mathematics and its Applications (FIMA, UK)
- Italian Association of Applied Mathematics to Economic and Social Sciences (AMASES, IT), membership www.amases.org
- Italian Association of Operations Research (AIRO, IT), membership and founder of the Stochastic Programming technical section <http://www.airo.org/index.php/it/attivita/sezioni-tematiche/programmazione-stocastica>
- Associate of the Research Center Ezio Tarantelli for Interuniversity Studies (CIRET)
- Stochastic Programming Society (SPS, Technical session of the Mathematical Optimization Society), membership <https://stoprog.org/>

B. ACADEMIC AND PROFESSIONAL CV AND STUDIES

B1. Grades and academic appointments

15.2.2016 Elective member of the EWG on Stochastic Programming -- Management Board and Treasurer (2nd mandate, until December 2018)

Giorgio Consigli born in Rome on June 28, 1959 and living in Via Raffaello Sanzio 26, 20149 Milan (IT)
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- 5.2.2014 Habilitation to full professorship in the area of Applied Mathematics for Economics, Actuarial and Financial sciences. National competition 2012 cohort. SECS/S06 Italian academic scientific code, 13-D4 scientific area
- 1.11.2013 Appointed by the Rector to the (7-members) Executive Board of the University of Bergamo PhD school (until March 2016)
- 05.09.2012 Founder and elective Coordinator of the Italian Operations Research Stochastic Programming section <http://www.airo.org/sezioni-tematiche/20-sezione-airo-healthcare/168-prog-stocastica.html> (in charge until September 2018)
- 27.11.2011 Research Fellow of the Institute of Mathematics and its Applications (FIMA, UK)
- 27.8.2007 Elective Member of the International Committee on stochastic programming (COSP), www.stoprog.org (then re-elected in 2010 for a second mandate until 2013).
- 23.3.2004 Associate Professor in Mathematical methods in Economics, Actuarial and Financial Sciences -- SECS/S06 Italian academic scientific code
- 16.3.2001 Senior Research Associate of the Judge Institute of Management Studies, University of Cambridge (U.K.)
- 1.1.1996 Post-Doctoral Research Fellow at the Centre for Financial Research University of Cambridge (U.K.)
- 26.3.1998 Doctor of Philosophy in Mathematics -- University of Essex (U.K.)
- 2.10.1990 Diploma in Banking and Finance – University La Sapienza of Rome
- 30.1.1984 Honors degree in Economics – University La Sapienza of Rome

B2: Academic and professional carrier

- Oct.2005—current* **University of Bergamo**
Full time Associate Professor, Department of Management, Economics and Quantitative methods, scientific sector SECS/S06, Comp Sec 13-D4
- June 2016-May2018* **Scientific Advisor of Allianz Investment Management (GER)** on strategic planning and internal models for institutional and individual asset-liability management and risk capital allocation. Compatible with full time academic position at UniBG.
- Mar.2006—June.2010* **FinMonitor, Research Centre on Merger and Acquisitions in the financial sector** of the University of Bergamo, Director
- Jan.2002-Sept.2005* **Consultant for quantitative developments in the finance sector**
See below section K and subjects therein, on my professional consulting activity during this period.
- Mar.2000-Dec.2001* **UniCredit Banca Mobiliare**
Investment Bank of UniCredito Italiano, Vice President
- Jan.1998-Feb.2000* **UniCredito Italiano**
Staff of the CFO, Vice Director in the Finance dept.
- Jan.1995-Dec.1997* **University of Cambridge – Cambridge (U.K.)**
Judge Institute of Management Studies, Centre for Financial Research -- Post-Doctoral Research Fellow
- Feb.1986/Apr.1992* **Societa' Immobiliare e Finanziaria p.a. – SIFA, IRI Group.**
Rome. Finance Directorate, Officer since 1990. Previously in the trading floor.
- Jan.1984/Jul.1984* **European Community – DGVII – Brussels.**
Scholarship with the Division on control and intervention policies in the Energy market
- From October 1984 to January 1986, military service as Lieutenant in the Army of Carabinieri

B3: Studies

- a.y. 1993-4/1996-7* **University of Essex (U.K.), PhD in Mathematics**
Supervisor: Professor M.A.H. Dempster
Dissertation: *Dynamic Stochastic Programming for Asset and Liability Management.*
- Jan.1990-Jun.1990* **University of Rome La Sapienza, Diploma:** Postgraduate program in Banking, Director Prof. Mure', Faculty of Economics
- a.y.1978-9/1982-3* **University of Rome La Sapienza – Faculty of Economics**

C. INSTITUTIONAL POSITIONS AND GOVERNANCE AT UNIBG – SUPERVISION OF ADVANCED TRAINING GRANTS AND TEACHING

From 1/11/2013 until 31/3/2016 member of the Executive Board of the UniBG PhD School for advanced training and doctoral studies.

Since 2013/2014 Member of the PhD program on Analytics for Economics and Business (AEB). Joint with the University of Brescia. Prof. Adriana Gnudi is the PhD program Director. I have been cooperating and coordinator of the sub area of Computational methods for economics and finance until the end of 2016. The last cycle of this PhD program started in October 2016 and the program will thus expire and be closed in 2019. Prior to this position I was member of the PhD program in Economics, Applied Mathematics and Operations Research (EAMOR).

COORDINATION OF ADVANCED TRAINING GRANTS

- **Training and Research Excellence Initiative Cooperation UniBG-GeorgiaTech on Computational Management and Applications: COMPAPP (2015-2017)**. Proponent and Coordinator.

Bilateral cooperation funded by the University of Bergamo as part of its excellence and advanced training and research policy to strengthen the cooperation with top foreign academic institutions. The program included two 4-weeks Summer schools on Computational Management at Master level to be held at UniBG, two 1-week Workshops on Applied Optimisation to Finance, Energy, Supply Chain Management, Logistics, Health care at Georgia Tech. Plus a Conference at UniBG and joint research with two Special issues on related topics. Coordinator of the program which involves two UniBG Departments and the Dept of Industrial Engineering ISyE at GTech and the Scheller Business school. Total budget committed: 90.000 Euros.

- **SP4DSS** Cariplo Foundation **2007-2009** project on advanced training in "**Stochastic optimization techniques for decision support systems**". Proponent and Coordinator. Competitive Grant issued by the Cariplo Foundation for research centers and departments located in Lombardia.

Network of 5 European university departments: DMSIA of the University of Bergamo (coordinator), School of Mathematics University of Edinburgh (UK), Department of Mathematics and Carisma Center Brunel University of West London (UK), Department of Statistics and Decisions University of Vienna, Department of Engineering Norwegian University of Technology NTNU (NO). The program included three dedicated schools in 2007, 2008 and 2009 and an extended exchange of students and teaching positions across the five universities relying on 78.000 Euros granted by the Cariplo Foundation and 72.000 Euros by private entities and the involved universities.

Institutional teaching activity at the University of Bergamo

My academic background is well framed within the community of applied mathematics to economics and finance, with relevant connections to operations research and statistics. At postgraduate and advanced master level my teaching experience includes *Derivatives and financial engineering*, *Risk management*, *Portfolio theory*, *Computational finance* and *Probability and Statistics for finance*. Reference textbooks on these subjects are John Hull's *Options, Futures and Other Derivatives* (Pearson, Prentice Hall Pbl), recently at its 9th edition; Paolo Brandimarte's *Handbook in Monte Carlo Simulation: Applications in Financial Engineering, Risk Management and Economics*, Wiley Pbl 2014; Giorgio Szego Ed, *Risk measures for the 21st century*, Wiley 2004; M.Crouhy, D.Galai and R.Mark, *Risk Management*, McGraw Hill 2001; R.L. McDonald, *Derivatives Markets*, Pearson Pbl, 2nd ed. 2006; R. Rebonato *Volatility and Correlation*, Wiley & Sons 2004, 2nded.

Additional articles and selected authored papers are typically included as references for the students in doctoral courses.

Growing over the last few years and until a.y. 2017-2018 my teaching commitment to master-level and PhD courses specifically in *Applied stochastic programming in finance* and *Asset-liability management* for individuals or financial institutions and the underlying theory of *Dynamic stochastic programming* (doctoral level). From 2014 to 2017 upon my proposal and under my responsibility a PhD course on *Long-term*

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finance was introduced in cooperation with Dr Francesco Sandrini of Pioneer Investments, now Amundi, and Dr Massimo di Tria at the time at Allianz Investment Management, and now CIO at Cattolica Assicurazioni. Reference textbooks are represented by the *Handbooks on Asset and Liability Management* – Vol A and B, W.T.Ziemba and S.A.Zenios Eds, North-Holland Finance Handbook Series, the volume *Stochastic optimization methods in finance and energy*, Bertocchi, Consigli and Dempster Eds, Springer (US), 2011 and the 2nd edition of *Introduction to stochastic programming* by J.Birge and F.Louveaux, Springer (2011). The Springer volume on *Financial optimization under uncertainty* edited by myself, Paolo Brandimarte and Daniel Kuhn provided since 2016 an important additional resource for PhD students attending the courses on *Stochastic Programming* and *Long-term finance*.

At the undergraduate level my teaching experience is primarily related to financial and insurance mathematics, mathematics and computer science.

During the a.y. 2015/2016 my teaching activity has been suspended due to a sabbatical year.

- *PhD level* – PhD in Analytics for Economics and Business:
Long-term Finance: a.y. 2013/2014, 2014/2015, 2016/2017, 2017/2018
Stochastic optimization: a.y. 2013/2014, 2014/2015, 2016/2017, 2017/2018
Introduction to stochastic programming: a.y. 2010/2011, 2011/2012, 2012/2013
- *Postgraduate* – Master in Management, Finance and International Business:
Derivatives and risk management a.y. 2013/2014, 2014/2015
Options theory and structured products: a.y. 2007/2008, 2008/2009, 2009/2010, 2010/2011, 2011/2012.
Advanced probability theory and statistics for finance: a.y. 2010/2011, 2011/2012, 2013/2014, 2014/2015, 2016/2017
Portfolio theory: a.y. 2005/2006, 2006/2007, 2007/2008, 2008/2009
Financial Engineering: a.y. 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2009/2010
- *Undergraduate courses*:
Financial mathematics (48 hours): a.y. 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2010/2011, 2011/2012, 2012/2013, 2013/2014, 2014/2015, 2016/2017, 2017/2018, 2018/2019, 2019/2020
Computer science (48 hours): a.y. 2016/2017, 2017/2018, 2018/2019, 2019/2020
Mathematics and Linear Algebra (24 hours): a.y. 2016/2017, 2017/2018, 2018/2019, 2019/2020
Statistics for financial markets (24 hours): a.y. 2013/2014

D. VISITING POSITIONS AT ITALIAN UNIVERSITIES

a.y. 2017-2018

University of Turin, *Collegio Carlo Alberto* (Turin, IT): Long-term finance, *Master in Insurance, Finance and Risk Management*, (6 hours)

a.y. 2011-2012

University of Bologna (Bologna, IT): Stochastic optimization methods in finance, *Crash course* in the program for Advanced Education, Faculty of mathematics (6 hours)

a.y. 2007-2008

University of Calabria (Rende, IT): Numerical methods in finance, NEC Master program, faculty of Engineering, (20 hours)

a.y. 2004-2005

University of Bergamo: Advanced financial mathematics, undergraduate degree, Faculty of Economics, (48 hours)

a.y. 2002-2003

University of Rome La Sapienza (Rome, IT): *Financial Innovation* Master in Economics and financial markets, Interdepartmental Center on Financial Markets Economics, (6 hours)

University of Catania (IT): *Financial Risk Management* as part of the postgraduate course on Decisions theory, Faculty of Economics (20 hours)

a.y. 2001-2002

University of Catania (IT): *Portfolio theory*, Faculty of Economics, undergraduate program in Economics (20 hours)

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University of Milan Bicocca (IT): *Credit Risk Analysis* Master in Finance and Risk Management – FINARM
– Faculty of Economics (8 hours)

a.y. 1998-1999

University of Milan Bicocca: *Pricing and portfolio risk management* postgraduate program in Statistical methods, Faculty of Informatics and computer science (12 hours)

a.y.1997/1998

University of Milan Bicocca: *Derivative markets and portfolio selection*, Master program in Computer based statistics Department of Computer Sciences, Faculty of Informatics and computer science (12 hours)

a.y. 1991/1992

University of Rome La Sapienza: *Emerging countries debt and secondary market*, postgraduate program, Department of Quantitative methods in the Faculty of Political sciences (20 hours)

a.a. 1990/1991

University of Rome La Sapienza: *Emerging countries debt and secondary market*, postgraduate program in "International finance" directed by Professor G.Puoti, Department of Quantitative methods in the Faculty of Political sciences (20 hours)

E. VISITING TEACHING POSITIONS IN FOREIGN ACADEMIC INSTITUTIONS

a.y. 2013/2014

Jiaotong University (Xi'an Shaanxi, China). Graduate course: Modern optimization techniques for financial management (20 hours)

a.y. 2012/2013

Cass Business School (London, UK) Master of Science in Mathematical trading and finance. Course: Derivatives I (30 hours)

a.y. 2005/2006–2011/2012.

University of Svizzera Italiana (Lugano, CH), Master in Finance, faculty of Economics, (56 hours): Numerical methods in finance since 2009/2010. Advanced Financial Modeling from 2005/2006 to 2008/2009

a.y. 2011-2012

University Rey Juan Carlos of Madrid

Master program in Operations Research, Faculty of Engineering (5 hours)

a.y. 2005/6-2008/9

University of Svizzera Italiana (Lugano, CH): Master in Finance, Faculty of Economics, (56 hours): Financial Intermediation

a.y. 2002-2003

Erasmus University (Rotterdam, NL): *Derivatives and Risk management: Models, Tools & Software II* -- Master in Financial Management of the Rotterdam School of Management (18 hours)

a.y. 1996/1997

University of West London Brunel (UK): *Financial Engineering* Master of Science in Finance, London (32 hours)

F. RECENT (2017-2019) RESEARCH PROJECTS AND SCIENTIFIC NETWORK

The following are recent and ongoing research projects that help characterizing my most relevant present interests:

- a) QUANTITATIVE ASSET-LIABILITY MANAGEMENT (ALM) for Institutional investors and for Policy makers, specifically in the areas of optimal management of occupational pension funds by corporate sponsors and of insurance portfolios, as well as on optimal pension systems funding policy by a policy maker. This area of research integrates optimal strategic asset allocation and optimal liability management problems under uncertainty over an extended set of financial and economic factors. I have five articles in progress in this area: one in cooperation with Anton Kleywegt from GeorgiaTech and a colleague from University of Milan Bicocca, a second and a third one with colleagues from UniBG on pension funds and optimal policy selection for a P&C portfolio manager. The fourth article is in cooperation with my colleague from Jiaotong university in Xi'an

and postdocs in that university on optimal pension fund management and pension system sustainability by the Chinese government. Finally the fifth article, in cooperation with a Postdoc currently working at TexasTech in the US, on pricing of longevity derivatives based on stochastic optimization techniques. In these works we adopt optimization techniques from distributionally robust optimization, stochastic programming with recourse and stochastic control. This is a relevant research stream of my activity, dating back to my PhD studies.

Keywords: financial optimization, distributional uncertainty, model risk, ambiguity, dynamic models, strategic asset-liability management, long-term planning, pillar 1 pension system, occupational pension funds, liability pricing, longevity derivatives, solvency regulations, defined benefit pensions, multicriteria decision making, economic and financial factors' statistical modeling.

- b) INDIVIDUAL ALM, WEALTH MANAGEMENT, GOAL-BASED INVESTING, ROBO-ADVISORY, FINANCIAL ENGINEERING FOR INDIVIDUALS: this area of interest is developing as the previous thanks to scientific contributions and the involvement of industry colleagues. I had in 2018 one article published on dynamic goal-based investing for the retail business on IJFERM (see below section H) with Massimo di Tria – Chief Investment Officer of Cattolica Assicurazioni in Italy -- and one article with UniBG colleagues, published on *Annals of Operations Research*, where we implement a methodology based on second order stochastic dominance with an extensive computational study. This is also the domain in which, mostly due to an aggressive market policy by software companies and data providers, the area of Fintech is penetrating fast: within my advisory commitments for Allianz in 2017 a thorough analysis of this market segment was developed benefiting ongoing internal individual ALM developments.

Keywords: long-term household planning, life cycle theory, stochastic dominance, goal-based investing, optimal investment-retirement strategies, robo-advisory, risk-attitude.

- c) DYNAMIC PORTFOLIO MANAGEMENT, VOLATILITY TRADING, RISK CONTROL, STOCHASTIC DOMINANCE: this is mostly a research stream that I carry on with academic colleagues based on my interest on dynamic investment theory in a discrete setting and optimal risk control based on market signals and derivative contracts. I currently have two research articles in progress in cooperation with a colleague from Univ. Ca' Foscari of Venice and with the colleagues from Jiaotong university. In the first article we extend a canonical multistage dynamic model to include complex derivatives portfolios and strategies with an underlying return model based on stochastic correlations. In the other article, following up from a recently submitted article proposing a new decision paradigm based on a family of partial stochastic dominance criteria, we are deriving a consistent new portfolio selection approach. Finally with the same colleagues from Jiaotong university we have recently published a paper on dynamic risk control under stochastic volatility and a mixture of copula functions aimed at improving tail control in periods of financial instability.

Keywords: learning enabled optimization, derivatives-based dynamic portfolios, equity options, derivatives pricing, incomplete markets, partial stochastic dominance, financial contagion, mixed copula functions, mean-absolute-deviation, conditional Value-at-Risk, VIX index, early warning signals, tail risk control, stochastic correlation and DCC models.

Taking my whole academic experience into account, the following can be considered as relevant research domains:

- (i) The adoption of stochastic optimisation techniques in the formulation and solution of complex decision problems under uncertainty,
- (ii) The development of asset-liability-management models and associated decision tools,
- (iii) The integration of statistical learning approaches in financial optimization and more generally the study of the implications of data analysis on statistical decision theory,
- (iv) The study of financial market dynamics and the economics of financial intermediation,
- (v) The implementation of advanced statistical methods for financial risk assessment and control,
- (vi) The study of equity and fixed income markets during periods of financial instability.

I have established over time a long-term cooperation with the Centre for Financial Research of the University of Cambridge (U.K., Prof. Michael Dempster), with the school of Mathematics and Statistics of Jiaotong University (China, Prof. Zhiping Chen), the OR and stochastic programming group at Georgia Tech (U.S., Prof. A. Kleywegt), the Polytechnique of Lausanne (CH, Prof. Daniel Kuhn), the Charles

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University of Prague (CZR, Prof. Milos Kopa), the Norwegian University of Technology (Prof. Asgeir Tomasgard) and with Dr. Massimo di Tria currently Chief Investment Officer at Cattolica Assicurazioni and previously Deputy Head of ALM of Allianz Investment Management and with Dr. Mario Skoric currently Global head of ALM at Allianz HQ in Munich.

Strong cooperation links in Italy with the Department of Mathematics at Politecnico of Turin (Prof. Paolo Brandimarte), the Department of Economics at University Ca' Foscari in Venice (Prof. Elio Canestrelli and prof. Diana Barro), the Department of Quantitative methods and Statistics at University La Sapienza of Rome (Prof. Rita D'Ecclesia), the Department of Quantitative methods in economics at University of Milan Bicocca (Prof. S. Stefani), the Departments of Applied mathematics of the University of Bergamo (Italy, current employer), the Faculty of Information Sciences at the University of Milan Bicocca (Prof. Enza Messina) and the Faculty of Engineering at the University of Calabria (Prof. Patrizia Beraldi).

G. EDITORIAL BOARDS

Associate Editor of:

- *IMA Journal of Management Mathematics* (Oxford University Press, since 2009)
- *International Journal of Financial Engineering and Risk Management* (Inderscience, since 2011)

Guest Editor of *Quantitative Finance*, *OR Spectrum*, *Computational Management Science*, *Annals of Operations Research*.

H. Publications

In recent years, my scientific production and commitments developed having in mind a relatively stable balance between Editorial projects, leading to volumes and special issues of Journals, and Journal articles and Chapters. Journal articles include innovative results from a methodological viewpoint and are mostly related to new application domains in finance, with relevant computational aspects and novel stochastic modelling approaches. Chapters production spans a similar range of interests, are all refereed and typically, but not always, they include more extended contributions, which, unlike Journal articles, are also meant to attract readers from the industry.

Over the years my research activity and publications led me to consolidate the collaboration as referee with several Journals and publishers for monographs mainly in finance. The journals, by relevance of the collaboration degree, are: *IMA Journal of Management Mathematics*, *Computational Management Science*, *Annals of Operations Research*, *European Journal of Operational Research*, *Quantitative Finance*, *Optimization Letters*, *Journal of Banking and Finance*, *OR Spectrum* in particular. While long-term collaboration for textbooks and chapters with Springer, Taylor and Francis, Elsevier Science -- North-Holland. I am a Springer author in constant cooperation with the Publisher (prof. Camille Price and dr. Matthew Amboy).

- EDITORIAL WORK

E1. G. Consigli, D. Dentcheva e F. Maggioni Eds (in progress): *Stochastic Optimization: theory and applications*, Special Issue *Annals of Operations Research*, Springer (US).

E2. G. Consigli and A. Kleywegt Eds (2019): *Data-driven optimization in management*, Featured Cluster of *Computational Management Science Journal*, Springer (EU)

E3. G. Consigli, S. Stefani and G. Zambruno Eds (2017): *Recent Advances in commodity and financial modelling*, Sub-title: Quantitative methods in Banking, Finance, Insurance, Energy and Commodity markets, International Series in Operations Research and Management Science (Springer).

E4. G. Consigli, D. Kuhn and P. Brandimarte Eds (2016): *Optimal Financial Decision Making under Uncertainty*, International Series in Operations Research and Management Science (Springer, US).

E5. G. Consigli and Y. Smeers Eds (2016): Special Issue on Stochastic Optimization Approaches to Energy and Financial Markets, *Quantitative Finance* 16 (2), Taylor and Francis (UK)

E6. G. Consigli, P. Brandimarte and D. Kuhn Eds (July 2015): *Financial Optimization. Sub-title: optimization paradigms and financial planning under uncertainty*, *OR SPECTRUM*, 37 (3), Springer

- E7. G.Consigli, V.Moriggia and G.Ch Pflug Eds (2012): Applied Stochastic Optimization, *IMA Journal of Management Mathematics* (O.U.P.)
E8. M.Bertocchi, G.Consigli and M.A.H.Dempster Eds (2011): Handbook on Stochastic Optimization Methods in Finance and Energy. New financial products and energy market strategies. *Fred Hillier International Series in Operations Research and Management Science*, Springer (U.S.)
E9. G.Consigli, V.Moriggia and G.Ch Pflug Eds (2010): Applied Optimization techniques for Industry, *IMA Journal of Management Mathematics* 21 (O.U.P.)

- **JOURNAL ARTICLES -- PUBLISHED AND FORTHCOMING:**

- J1. G.Consigli, V. Moriggia and S.Vitali (2019): Long-term individual financial planning under stochastic dominance constraints. *Annals of Operations Research* (Springer) S.I. on Stochastic Optimization: Theory and Applications. Online First May 2019, 1—31
J2. Z.Yan, Z.Chen, G.Consigli, J.Liu, M.Jin (2019): A copula-based scenario tree generation algorithm for multiperiod portfolio selection problems. *Annals of Operations Research* (Springer) S.I. on Stochastic Optimization: Theory and Applications. Online First January 2019, 1—33
J3. G.Consigli, A.Hitaj and E.Mastrogiacomo (2019): Portfolio choice under cumulative prospect theory: sensitivity analysis and an empirical study. *Journal of Computational Management Science* 16(1) (Springer), 129—154
J4. G.Consigli, V. Moriggia, L.Mercuri and S.Vitali (2018): Optimal insurance portfolios risk-adjusted performance through dynamic stochastic programming. S.I. in honor of Maarten van der Vlerk, *Journal of Computational Management Science* 15(3), (Springer), 599—632
J5. D.Barro, E.Canestrelli and G.Consigli (2018): Volatility versus downside risk: performance protection in dynamic portfolio strategies. To appear in the S.I. on Data driven Optimization in Management Science, Consigli and Kleywegt Eds., *Journal of Computational Management Science* (Springer). Online First May 2018, 1—47
J6. G.Consigli and M. di Tria (2018): Asset-liability management and goal-based investing for Retail business. S.I. on Application of Optimization in Finance, Ho Lee and Kim Eds., *International Journal on Financial Engineering and Risk Management* 2(4) Inderscience, 308—334
J7. Ntamjokouen A, S. Haberman and G. Consigli, (2017): Projecting the long-run relationship of multi-population life expectancy by race. *Journal of Statistical and Econometric Methods* 6(2) Sciencepress Ltd, 43—68
J8. G.Consigli, P.Brandimarte and D.Kuhn (2015): Optimization paradigms and financial planning under uncertainty, *OR SPECTRUM*, 37 (3), Springer, 2-11
J9. Ntamjokouen A, S. Haberman and G. Consigli, (2014): Modeling multi-population life expectancy: A cointegration approach', Vol 2- *Insurance Markets and Companies: Analyses and Actuarial Computations*, Business Perspectives Pbl (UKR), 12-23
J10. G.Consigli and V.Moriggia (2014): Applying stochastic programming to insurance portfolios stress-testing. *Quantitative Finance Letters* 2:1, 7—13
J11. G.Consigli, M.di Tria, G.Iaquinta, D.Musitelli and V.Moriggia (2012): Retirement planning in individual asset-liability management. *IMA Journal of Management Mathematics* (OUP, UK), doi 10.093, dps019, 365—396
J12. P.Beraldi, G.Consigli, F.De Simone, G.Iaquinta and A.Violi (2012): Scenario-based dynamic corporate bond portfolio management. *IMA Journal of Management Mathematics* (OUP, UK), doi:1093, dps017, 1--24
J13. G.Consigli, G.Iaquinta and V.Moriggia (2012): Path-dependent scenario trees for multistage stochastic programs in finance. *Quantitative Finance* 12(8), 1265-1281
J14. G.Consigli, M. di Tria, G.Iaquinta and V.Moriggia (2011): Optimal management of life insurance household portfolios in the long run. *Pacific Journal of Optimization*, Special Issue on Applications in stochastic programming, Z.Chen Ed. vol.7.2.2011, 197—219
J15. L.M.MacLean, G.Consigli, Y. Zhao and W.T.Ziemba (2010): Risk Indicators in Equity markets. *Mathematical Methods in Economics and Finance*, 2008. 3 (2), 101—118
J16. G.Consigli, L.M.MacLean, Y. Zhao and W.T.Ziemba (2009): The Bond-Stock Yield Differential as a Risk Indicator in Financial markets. *The Journal of Risk* 11(3), 1—22
J17. K.Berge, G.Consigli and W.T.Ziemba (2008): The Predictive Ability of the bond-stock earnings yield differential in relation to the Equity risk premium, *The Journal of Portfolio Management* 34.3, 63—80

- J18. J.Abaffy, M.Bertocchi, J.Dupacova, V.Moriggia and G.Consigli (2007): Pricing non diversifiable credit risk in the corporate Eurobond market. *Journal of Banking and Finance* 31, 2233—226
- J19. R.Giacometti, S.Rachev, A.Chernobai, M.Bertocchi, and G.Consigli (2007): Heavy-tailed distributional model for operational losses. *The Journal of Operational Risk* 2.1, 55—90
- J20. G.Consigli (2002): Tail estimation and mean-VaR portfolio selection in markets subject to financial instability. *Journal of Banking and Finance* 26:7, 1355—1382
- J21. J.Dupacova, G.Consigli and S.W.Wallace (2001): Scenarios for multistage stochastic programmes. *Annals of Operations Research* 100, 25—53
- J22. G.Consigli and A.Di Cesare (2001): A simulation environment for discontinuous portfolio value processes. *Applied Stochastic Models in Business and Industry*, Vol. 17 Issue 1, Wiley Pbl, 41—55
- J23. G.Consigli and M.A.H.Dempster (1998): Dynamic stochastic programming for asset-liability management. *Annals of Operations Research* 81, 131—161
- J24. G.Consigli and M.A.H.Dempster (1996): Solving Dynamic Portfolio problems using Stochastic Programming. Special Issue of *Zeitschrift für Angewandte Mathematik und Mechanik*

- **BOOKS AND BOOK CHAPTERS**

- B1. G. Consigli, V. Moriggia, E. Benincasa, G. Landoni, F. Petronio, S. Vitali, M.di Tria, M. Skoric and A. Uristani (2017): Optimal multistage defined-benefit pension fund management in *Recent Advances in commodity and financial modelling*, Consigli, Stefani e Zambruno Eds (Springer, U.S.), 267—296
- B2. Consigli G., D.Kuhn and P.Brandimarte (2016): Optimal Financial Decision Making in Finance. In *Optimal Financial Decision Making under Uncertainty*, G.Consigli, D.Kuhn and P.Brandimarte Eds (Springer U.S.), 255-289
- B3. Chen Z., G.Consigli, J.Liu, G. Li, T. Fu and Q. Hu (2016): Multiperiod Risk Measures and Dynamic Risk Control. In *Optimal Financial Decision Making under Uncertainty*, G.Consigli, D.Kuhn and P.Brandimarte Eds (Springer U.S.), 1--34
- B4. Ntamjokouen A, Haberman and G Consigli (2014): A multivariate approach to project the long run relationship between mortality indices for Canadian provinces in C Perna and M Sibillo Eds, *Mathematical and Statistical Methods for Actuarial Sciences and Finance*, Springer, 153--163
- B5. M.Bertocchi, G.Consigli, R.D'Ecclesia, R.Giacometti, V.Moriggia and S.Ortobelli (2013): Eurobonds: markets, infrastructure and trends. *World Scientific Series in Finance*, vol 7. Author of Chapter 3: Government Bond Markets, Chapter 4: Corporate Bonds and Chapter 7 section 1: the Covered Bond Market.
- B6. V.Moriggia, G.Consigli, and G.Iaquinta (2013): Optimal Stochastic Programming-based Personal Financial Planning with Intermediate and Long-term Goals. *Stochastic Programming: Applications in Finance, Energy, Planning and Logistics*. Gassmann H, Wallace S and Ziemba W.T. Eds. *World Scientific Series in Finance*, 43—68
- B7. G.Consigli and M. di Tria (2012): Optimal long-term Property and Casualty ALM with risk capital control, *Asset-Liability Management for Financial Institutions*, Swarup B. Ed., QFinance Series Bloomsbury Pbl (London), 121—149.
- B8. P.Beraldi, G.Consigli, F.De Simone, G.Iaquinta and A.Violi (2011): Hedging market and credit risk in corporate bond portfolios. *Handbook on Stochastic Optimization Methods in Finance and Energy*. New financial products and energy market strategies, Bertocchi, Consigli and Dempster Eds. *Fred Hillier International Series in Operations Research and Management Science*, Springer, 73—98
- B9. G.Consigli, M. di Tria, M.Gaffo, G.Iaquinta, V.Moriggia and A.Uristani (2011): Dynamic portfolio management for property and casualty insurance. *Handbook on Stochastic Optimization Methods in Finance and Energy*. New financial products and energy market strategies, Bertocchi, Consigli and Dempster Eds. *Fred Hillier International Series in Operations Research and Management Science*, Springer, 99—124
- B10. G.Consigli, G.Iaquinta and V.Moriggia (2008): Scenario generation for credit risk management. In *Bank Capital in risk management and investment strategies*, Moriggia and Torricelli Eds, Esculapio pbl, 57—80
- B11. L.M.MacLean, Y.Zhao, G.Consigli, W.T.Ziemba (2008): Estimating parameters in a pricing model with state dependent shocks. *Handbook of Financial Engineering*, P.M. Pardalos, M.Doumpos and C. Zopounidis (Eds), Springer-Verlag, 231-244

- B12. G.Consigli (2007): Asset-Liability management for Individual Investors. In North-Holland *Handbook on Asset and Liability Management* – Vol B, Eds W.T.Ziemba and S.A.Zenios, North-Holland Finance Handbook Series, 751–826
- B13. G.Consigli (2004): Estimation of Tail risk and portfolio optimisation with respect to extreme measures. In *Risk Measures for the 21st Century*, G.Szego Ed. John Wiley and Sons Pbl, 365–401
- B14. G.Consigli and L.Stanca (1999): Rischio di credito sovrano ed analisi del default risk: Discussione ed aspetti metodologici. Ne *Il Rischio Creditizio: Misura e controllo*, Proff.G.Szego e F.Varetto Eds., UTET Libreria Pbl, 379–406
- B15. G.Consigli and MAH Dempster (1998): The CALM stochastic programming model for dynamic asset-liability management. In *World Wide Asset and Liability modelling*. J.M.Mulvey and W.T.Ziemba Eds. Cambridge University Press, 464–500
- B16. Z.Chen, G.Consigli, M.A.H.Dempster and N.Hicks-Pedron (1997): Towards sequential sampling algorithms for dynamic portfolio management. in *New Operational Tools for the Management of Financial Risk*. K.Zopounidis Ed., Kluwer Academic Publisher, 197–211

- **PROFESSIONAL JOURNALS AND SPECIALISED MAGAZINES**

- P1. G.Consigli, M.di Tria, M.Gaffo, S.Boffelli, G.Iaquinta and V.Moriggia (2011): Personal AIM: un'applicazione di ottimizzazione stocastica alla pianificazione finanziaria individuale, *Matematica e Impresa*, Academic-Industry success histories, Sept 2011
- P2. G.Consigli (2008): Instabilità e concorrenza. AZIENDA BANCA, Dossier Banche estere, articolo invitato, Numero (1). Jan-Feb.2008, 40–42
- P3. G.Consigli, E.Benincasa ed E.Bosco (2007): Concentrazione e concorrenza nel sistema bancario italiano: 1995-2005. FinMonitor Research series, www.finmonitor.it, Mar.2006, 1–52
- P4. G.Consigli (2005): Corporate analysis and risk premiums. UniCredit Banca Mobiliare Credit Research Series, Special issue n. 9, giorgio.consigli@unibg.it, 1–19
- P5. G.Consigli (2005): Default premiums and credit risk. UniCredit Banca Mobiliare Credit Research Series, Special issue n. 8, giorgio.consigli@unibg.it, 1–23
- P6. G.Consigli (2005): Leverage, Credit Default Swaps and equity yields: a statistical analysis. UniCredit Banca Mobiliare Credit Research Series, Special issue n. 7, giorgio.consigli@unibg.it, 1–24
- P7. G.Consigli (2004): 5Y Credit Default Swaps and theoretical spread dynamics: from pricing to relative value analysis. UniCredit Banca Mobiliare Credit Research Series, Special issue n. 6, giorgio.consigli@unibg.it, 1–35 (RM)
- P8. G.Consigli, G.Frascella and G.Sartorelli (2001): Understanding financial markets with extreme value theory: from Value at Risk to Crises correlation analysis. *UniCredit Banca Mobiliare Research Series*, 1–27
- P9. G Consigli (1992): La riforma dei sistemi creditizi nei paesi dell' Europa Centro-Orientale. *Dirigenza Bancaria* 28, 9-16
- P10. G.Consigli (1992): Options e futures: la loro recente evoluzione. *Rivista dei Sistemi Finanziari* 4.1, 32–38
- P11. G.Consigli (1991): La crisi del debito e le sue conseguenze sull'evoluzione dei mercati finanziari internazionali e sulle strategie degli Istituti di Credito all'inizio degli anni '90. *Bollettino Associazioni Nazionale Banche Popolari* 11/12, 1–67

I. DIRECTION OF RESEARCH CENTERS AND RELATED EDITORIAL SERIES

FinMonitor, Research Centre on Merger and Acquisitions in the financial industry

University of Bergamo, Director

Director from March 2006 until October 2010. Research and publication activity focusing on M&A strategies by financial and insurance intermediaries within 5 EU countries plus Switzerland. Monthly analyses and Semiannual reports and case studies. Fully funded by banks and associates.

- **FinMonitor Research Series (in Italian)**

As FinMonitor Director, the following research studies and case studies have been published and distributed only among funding associates. The studies are in Italian and can be made available upon request:

Authors: G.Consigli, E.Benincasa ed E.Bosco

- F1. Rapporto FinMonitor n.6 (July 2006): L'impatto delle fusioni ed aggregazioni bancarie sulla concorrenza nel settore bancario italiano:
analisi della concentrazione
- F2. Rapporto FinMonitor n.7 (December 2006): L'impatto delle fusioni ed aggregazioni bancarie sulla concorrenza nel settore bancario italiano:
analisi della relazione tra concentrazione e concorrenza
- F3. Rapporto FinMonitor n.8 (July 2007): Processi di M&A e scenari economici e finanziari: specificità ed analisi comparative nell'UE5 – I Parte
- F4. Rapporto FinMonitor n.9 (December 2007): Processi di M&A e scenari economici e finanziari:
specificità ed analisi comparative nell'UE5 – II Parte
- F5. Rapporto FinMonitor n.10 (July 2008): Presenza bancaria estera in Italia
Case-studies:
- CS1. Rapporto FinMonitor n.6 (July 2006): La fusione Chase Manhattan-JP Morgan
- CS2. Rapporto FinMonitor n.7 (December 2006): La fusione Deutsche bank-Bankers Trust
- CS3. Rapporto FinMonitor n.8 (July 2007): La fusione Credit Agricole-Credit Lyonnais
- CS4. Rapporto FinMonitor n.9 (December 2007): L'operazione Royal Bank of Scotland-Churchill Insurance
- CS5. Rapporto FinMonitor n.10 (July 2008): L'anno *terribilis* di ABN Amro

J. RESEARCH GRANTS

Research Grants funded by National Research Council and International bodies

- 1 ALIAS project 2011-2014: "High Education and Internationalization in the Ageing Society"**. Project coordinated by the University of Milan Bicocca (prof.Stefania Bandini), partner universities: University of Brescia, University of Tokyo, Tohoku University, University of Umm Al-Qura (Saudi Arabia), International University of Japan. I was affiliated to the Bicocca University, member of the Educational Committee of the project and PhD supervisor, reference for economic and financial research related to ageing. Main research topics: Active ageing, Ageing health care implications and planning, Transportation and Logistics in aged societies, financial and economics in aged societies, smart cities, innovation and infrastructural support to aged societies.
- 2 PRIN2007 NRC grant 2008-2009: "Stochastic dynamical systems optimization with applications to finance"**. National coordinator and responsible of the University of Bergamo research unit (RU) in cooperation with the RU's at the University of Calabria (Prof.ssa Patrizia Beraldi) and University of Milano Bicocca (Prof.ssa Enza Messina). Research topics: dynamic optimization techniques and statistical methods for individual asset-liability management and credit risk management for corporate bond portfolios. Development of a simulation and optimization environment based on Matlab and GAMS plus VBA for linear and nonlinear large-scale optimization on realistic industry-based case studies. **[Annex 9]**
- 3 PRIN2005 NRC grant 2006-2007: "Credit risk measurement and control for portfolios exposed to default risk"** coordinated at national level by Professor Costanza Torricelli of the University of Modena. Coordinator of the UniBG R.U. Research topics: market and credit risk reduced form correlated model. Development and implementation within a credit risk management dynamic model.
- 4 PRIN 2002 NRC grant 2002-2004: "Methods and techniques for portfolio optimization and the valuation of financial instruments"** coordinated at national level by Prof.ssa M. Bertocchi, University of Bergamo, member of the research unit coordinated by Prof.ssa Bertocchi.
- 5 High Performance Computing for Financial Planning** under Uncertainty. INCO '95 PROJECT 951139. **1995-1998**. Funded by the European Community – D.G. III (Industry). Cambridge research team directed by Professor Michael A.H. Dempster. Project title: Integrated Asset-Liability Management Using Dynamic Stochastic Programming: Expected Value of Perfect Information (EVPI) Sampling. PostDoc of the R.U..
- 6 UK EPSRC 1996 Grant, CFR Dynamic Portfolio Management** Project, **1996-1997**, funded by the British Research Council – UK EPSRC – and FECIT, Fujitsu Lab in the UK. Sponsors: UK EPSRC and Fujitsu Lab. Location: Cambridge (UK), Duration: 24 months. Team: Financial Research center of the University of Cambridge directed by Michael Dempster. Focus: development of optimization algorithms and sampling methods for large-scale financial management problems.

An extended set of research projects has been funded by the University of Bergamo annually since 2006, until 2012 on a flat basis, associated with the academic position and then since 2013 increasingly relying on research and scientific results thus promoting research and publication efforts. I am not listing those projects which have been regularly following the research topics described above and whose budget varies from 1.500 until 3.000 euros per year roughly.

K. R&D PROJECTS FOR PRIVATE SECTORS AND TECHNOLOGY TRANSFER

My research activity developed over the years in strict connection with the financial industry and my effort has been constantly directed to stimulate rigorous research from practical issues and transfer advanced and state-of-the-art results into the financial practice. I believe that this should be considered as a characterizing feature of my general attitude towards financial mathematics and its applications.

The resulting research and developments commitments have been continuous and this is the focus of this section, whose content is very much towards the definition of a university spin-off. The primary relationship in this context has been with Allianz Investment Management and specifically its Asset-Liability Management division.

1 DAPO for P&C ALM v 1.0, v 2.0, v 3.0 and v.4.0 (2010-2019) R&D project funded by Allianz Investment Management (AIM) Italy and Munich (HDQ) Allianz Group, on Property and Casualty Asset-Liability Management. Coordinator and Project leader of the UniBG team including Prof. V.Moriggia, and for v. 1, 2 and 3: dr. G.Iaquinta, dr. A.Uristani, dr. Lorenzo Mercuri, Mrs.Elena Benincasa and Mr Vivek Varun. (phase 1: October 2010-September 2011; phase 2: October 2011-March 2012; phase 3: July 2012-December 2012) and for 4.0 (July 2018-January 2019) Dr Sebastiano Vitali and Dr Vivek Varun . Key project features: pilot system for long term (10 years) P&C ALM based on stochastic programming techniques, core and alternative investments. Multi-criteria objective function with functional and regulatory constraints, global problem. Software environment: Matlab with Excel I/O and GAMS model generator and solution methods. The current project aims at introducing together with the optimization tool a full fledged Simulation tool for policy simulation and sensitivity analysis.

2 Dynamic Allianz Portfolio Optimiser (DAPO) for Pension Fund Management project (2014-2016) funded by Allianz Investment Management (AIM) Italy and Munich (HDQ) Allianz Group, on internal Pension Fund Asset-Liability Management. Coordinator and Project leader of the UniBG team including Prof. V.Moriggia, dr. F.Petronio, Mrs.Elena Benincasa, Mr. Giacomo Landoni, Mr. Sebastiano Vitali. Phase 1: October 2014-March 2015; phase 2: November 2015-October 2016. Project features: pilot system for long term (20 years) Pension Fund ALM based on stochastic programming techniques. Multi-criteria objective function with functional and regulatory constraints, global problem. Software environment: Matlab with Excel I/O and GAMS model generator and solution methods.

3 UniCredit Pension Fund ALM system (2013-2015): project funded by the Pension Fund of the UniCredit Financial Conglomerate. It is a mixed – defined benefit and defined contribution – occupational Pension Fund with over 30.000 active and passive members. It is three-sided project with the PF as coordinator and final user interested to build a proprietary ALM system, the National Research Council (NRC) as software developer and University of Bergamo with myself as project coordinator for all the modeling and mathematical tasks.

4 EFM4Cast project sponsored by Unione Banche Italiane (UBI): May-Dec 2009 with the title Financial and economic scenarios across the economic and credit crisis and 2009-2012 forecast. Coordinator, project team: prof.G.Urga, dr.G.Iaquinta, dr.E.Benincasa, Mr. R.Pianeti, Mr. M.Angonese. Project features: Integrated economic and capital market model plus banking model for the Italian banking sector. Stochastic volatility and covariance model for the financial markets. Dedicated Systemic risk model. Environment: Matlab, Excel I/O and PCGive econometric tool. Output: economic and financial forecaster for the Euro area and Italy, Italian banking system aggregates forecaster. Quarterly data over 3 year forecast horizon.

5 Personal AIM v 1.0 R&D project funded by Allianz Investment Management (AIM) Italy, Allianz Group, on Individual Asset-Liability Management (May-November 2009). Coordinator of the FinMonitor-UniBG project team including Prof. V.Moriggia, dr. G.Iaquinta and Mrs Simona Boffelli. Key project features: pilot system for long term (10 years) individual planning based on stochastic programming techniques, fixed income and equity financial risk factors, individual risk preference with aims. Software environment: Matlab with Excel I/O and GAMS model generator and solution methods.

6 Operational risk assessment tool 2006: 12 months development for UBI bank in Bergamo. Team: two bank analysts, three researchers from DMSIA of University of BG, two researchers from Univ of California. Dr. Consigli has supported in the definition of the implemented models and the production of the research documentation. Project coordinators: prof Bertocchi (UniBG) and prof Z Rachev (Univ of California (US) and Karlsruhe (Ger)

7 Strategic Asset Allocation Project, 1995-1996, funded by the Frank Russell Company (US) for the development of a portfolio allocation tool employing the Brennan-Schwartz-Lagnado version of the lifetime stochastic control system of Merton. Team director: Professor Michael Dempster. Sponsor: Frank Russell Company. Location: Cambridge, Duration: 15 months. PostDoc of the R.U.

Main (individual or in cooperation as scientific responsible) projects during the **2002-2005** period:

Insurance pricing tool for SACE SpA, state controlled foreign trade insurance company in Italy. Individual project SACE SpA, *Società per l'assicurazione del Commercio estero*, Rome, Via Pola 5. Location: Roma, **2005**.

Credit Risk Management system for SACE SpA 2003-2005 in cooperation with Operational Research Systems (ORS). SACE SpA, *Società per l'assicurazione del Commercio estero*, sede Roma, Via Pola 5. Location: Roma ed Alba (ORS), Duration: 2003 e 2004-2005. Scientific responsible and project coordinator. Comprehensive risk management tool with economic, political and sovereign risk pricing and mapping techniques

Corporate risk monitor developed for UniCredit Banca Mobiliare, UniCredito Italiano **2003-2004**. UniCredit Banca Mobiliare (UBM), Milan Location: Milan, sede UBM, Duration: 24 months. Team: individual development in cooperation with the credit analysts of the bank. Development of an innovative statistical tool to assess and rate market corporate debt.

Personal Financial Planning system 2002-2003 developed for Merrill Lynch Italy in cooperation with Operational Research Systems (ORS). Sponsored by Merrill Lynch Italia, Milan Location: Milan and Alba (ORS), duration: 12 months. Scientific responsible Giorgio Consigli, project coordinator Pierluigi Riva, chairman of ORS.

Emerging market real time benchmark development. UniCredit Banca Mobiliare, UniCredito Italiano **2002**. Sponsored by UniCredit Banca Mobiliare (UBM) Milan. Location: Milan, Duration: 12 months. Individual development in cooperation with the software house FMR (Vigevano)

L. Conferences

In this section a list of attended conferences and conferences and events organized directly by me. In alphabetical order by scientific group and within each group in chronological order.

L.1 Organization and Scientific chairs

8-9.2.2018: **UniBG-GeorgiaTech 3rd workshop on Stochastic Optimization and Data Analytics** for Computational Management www.unibg.it/SODACM2018 at the University of Bergamo, scientific coordinator.

30.5-1.6.2017: **CMS2017 GeorgiaTech-UniBG-CMS J 2017** International conference on Risk, Pricing and Optimization in Management Science www.unibg.it/cms2017 at the University of Bergamo, scientific chair and member of the Organizing committee.

6-13.7.2013: Bergamo **XIII International Conference on Stochastic Programming** www.unibg.it/ICSP2013, Organizing committee and scientific chair.

29.8.2011: Bergamo **Prin 2009-2010 Workshop Agents' Behaviour in face of Decisions and Models Complexity**, in honour of Marida Bertocchi 60th anniversary. Main organiser.

7.9.2009: Siena (IT) **Pre-AIRO Workshop Beyond the financial crisis** organized in cooperation with Prof. Bemporad from the University of Siena.

23—28.11.2009: Bergamo **Stochastic programming school 2009**, University of Bergamo www.unibg.it/sps2009/. Main Organiser and scientific coordinator. CARIPO Advanced training program. Opening lecture on: Introduction to stochastic programming: theory and methods.

10—20.4.2007: Spring School on Stochastic Programming: Theory and Applications SPS2007. Main Organiser and scientific coordinator www.unibg.it/sps2007/.

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APMOD2012, Paderborn, Germany; Lecture: *Property and casualty asset-liability management.*
APMOD2008, Bratislava, Slovakia; Lecture: *Scenario generation for financial planning problems*
APMOD2002, Varenna, Italy; Lecture: *Scenario generation for long-term pfp problems formulated as dynamic stochastic programs.*

APMOD2000, London (UK); Lecture: *Extreme scenario generation for stochastic programming problems.*

CMS – Computational Management Science

CMS2018 Trondheim (NO): organized by Norwegian University of Science and Technology
<https://www.ntnu.edu/cms2018/> member of the scientific committee, section on Financial optimisation

CMS2017 conference Bergamo (IT): organized by University of Bergamo www.unibg.it/cms2017
member of the organising committee and scientific chair

CMS2016 Salamanca (SP): organized by the univ. Rey Juan Carlos di Madrid <http://www.cms2016.com>,
member of the scientific committee, stream Financial Decision Making

CMS2015 Praga (CZR): organized by the Charles University of Prague <http://cms2015.cuni.cz/> section
of Stochastic optimization in finance

CMS2014 Lisbona (PT): organized by University of Lisbona <http://cms2014.fc.ul.pt/>

EURO INFORMS – Euro Conference on Operations Research

EURO2015 conference Glasgow (UK) Strathclyde University, Stream organiser Stochastic Programming
and speaker

EURO2013 conference Rome (IT) University of Rome La Sapienza, Stream organiser Stochastic
Programming and speaker

EURO2012 conference Vilnius (LT) organised by the University of Lithuania. Stream organiser
Stochastic Programming and speaker

EURO2010 conference Lisbon (POR) organised by the University of Lisbon. Stream organiser SP
applications in finance and speaker

EURO2009 conference Bonn (GER) organised by the University of Bonn. Stream organizer on Financial
Instability and speaker

EURO2007 conference Prague (CZR), Charles University of Prague. Faculty of Economics and speaker

EURO2006 Reykjavic (ISL) University of Rekjavic and speaker

EWGFM – Euro Working Group on Commodity and Financial Modelling

LV Euro WG 2014 organized by University of Milan Bicocca. Lecture: *Applying stochastic programming
to insurance portfolios stress-testing*

L Euro WG 2012 organized by the University of Rome. Lecture: *A systemic risk indicator and monetary
policy*

XLVI Euro WG 2010 organized by the University of Istanbul (TR). Lectures: *Simultaneous market and
credit risk control on a generic bond portfolio during the credit crisis* and *Endogenous equity risk*

XLV Euro WG 2009 organized by the Politecnic of Crete (GR). Lecture: *Endogenous risk factors in
International equity markets*

XL Euro WG 2007 University Erasmus of Rotterdam. Lecture: *Spread puzzle and risk premiums:
theoretical implications and market evidence in the Corporate CDS market*

XXXVI Euro WG 2005 Dept of Economics, University of Brescia. Lecture: *A corporate model of default
risk premium, implied volatility and leverage: theory and market evidence*

XXXIV Euro WG 2004 University ESCP-EAP in Paris. Lecture: *Corporate spread dynamics and equity
volatility*

XXXII Euro WG 2003 Dept of Economics University of Sheffield and Imperial College. Lecture: *Risk
measurement and control beyond mean-variance: a new approach*

XXX Euro WG 2002 Organized by Department of Quantitative Methods of the Faculty of Political
Sciences of the University of Rome La Sapienza (IT). Vice chairman of the Organizing Committee.
Lecture: *Mean-VaR portfolio selection in unstable markets.*

XXIX Euro WG 2001 Department of Finance of the Erasmus University (Rotterdam). Lecture: *Financial
Modelling based on Extreme Value Analysis.*

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XXV Euro WG 1999 organised by the Institute fur Finanzierung und Finanzmarkte University of Vienna.
Lecture: *Intensity-based default risk estimation and characterisation of high-risky portfolio value processes. The ShockGen system.*

ISMP – International Symposium on Mathematical Programming

ISMP2012 Berlin (GE) 21st ISMP, Humboldt University. Lecture: *Institutional ALM for a large P/C Insurance Company*

ISMP2011 Charlotte (US) 20th ISMP, University of North Carolina. Lecture: *P&C portfolio optimization*

ISMP2000 Atlanta (US) 17th ISMP, Georgia Institute of Technology. Lecture: *A stochastic programming model for an A/L management problem with extreme scenarios.*

ISMP1997 Lausanne (CH) 16th ISMP, Polithetnic of Lausanne. Lecture: *EVPI sampling for dynamic stochastic programmes.*

RMRC – Risk Measurement and Risk Control. Main organiser Prof.ssa R.L.D’Ecclesia Univ. La Sapienza of Rome.

ISS2012. International summer school, University of Rome La Sapienza and University of Lugano.
Invited lecture: *Retirement planning in individual ALM.*

ISS2010. International summer school, jointly organized by La Sapienza and University of Lugano.
Invited lecture: *Optimal strategies for retirement planning*

RMRC2007. Università degli Studi di Roma La Sapienza. Invited lecture: *A Cox model for equity returns.*

RMRC2004. Università degli Studi La Sapienza. Lecture: *An integrated approach to VaR optimal convex approximation*

RMRC2003. Università degli Studi di Roma La Sapienza. *Invited lecture: Risk measurement and control under Poisson-Gaussian assumptions*

SPX-ICSP – International Conference on Stochastic Programming

SPXV 2019: Member of the Scientific Committee and invited semiplenary speaker in the MS on *New frontiers on financial decision making under uncertainty*, <https://www.ntnu.edu/web/icsp/minisymposia>

SPXIV 2016: Invited member of the scientific committee Buzios, Brasil:

<http://icsp2016.sciencesconf.org/>. Organiser of two thematic sessions. Lecture on: *Optimal pension fund liability replication with dynamic stochastic programming*

SPXIII 2013 University of Bergamo. Scientific chair, lecture: *Optimal capital allocation and strategic portfolio selection for a large P/C insurer*

SPXII 2010 School of Management of Dalhousie University. Lecture: *Asset-liability-management for a P&C insurance company*

SPXI 2007 University of Vienna. Lecture: *Scenario generation for corporate portfolios.*

SPX 2004 University of Arizona in Tucson. Lecture: *The CMZ model for speculative markets*

SPIX 2001 Humboldt University of Berlin. Lecture: *Large scale optimisation for enterprise wide risk management*

SPVIII 1998 Vancouver (CA), University of British Columbia. Lecture: *Sequential importance sampling for dynamic stochastic programming*

SPVII 1995 Naharyia (ISR), University of Haifa, Israel. Lecture: *A stochastic programming formulation of ALM problems*

& & &

All the content of this scientific and professional curriculum is truthful and it respects articles 46 and 47 of the D.P.R. 445/2000.

In faith
August 30, 2019

Giorgio Consigli