<u>Curriculum Vitae</u> November 2012

Manfred Gilli

Born December 9th 1942, Meran (Italy)
Italian citizen
married (two children)

Academic career

since 2008	Professor honoraire, University of Geneva.
1993-08	Professor at the Department of Econometrics, University of Geneva and Swiss Finance Institute.
2002	Visiting professor at the School of Finance and Economics, University of Technology, Sydney.
1985	Invited professor at the Department of Management Science of Hiroshima Shudo University, Japan.
1982-92	Maître d'enseignement et de recherche at the Department of Econometrics, University of Geneva.
1982	Invited researcher at the Corporate Economics Department of IBM at Armonk, New York.
1981	Invited researcher at the Center for Computational Research in Economics and Management Science at the Massachusetts Institute of Technology.
1979-82	Maître-assistant at the Department of Econometrics, University of Geneva.
1978	Doctorat ès sciences économiques et sociales, mention économétrie et statistique, Geneva.
1974	Diplôme en économétrie, University of Geneva.
1970	Licence ès sciences économiques et commerciales, HEC, University of Lausanne.

Research activities

Computational methods in economics and finance (implementation and empirical validation), Heuristic optimization, Model selection, Parallel computing.

Scientific committees

since 1994	Member of the editorial board of *Computational Economics*
since 1994	Member of the editorial boards of the Springer book series on *Advances in Computational Economics* and *Advances in Computational Management Science*.
since 2005	Member of the advisory board of *Computational Statistics & Data Analysis*
since 2012	Vice-Chair of the Technical Committee TC 9.1 Economic, Business, and Financial Systems of IFAC (`ifac-control.org`)
2006–07	President of the *Society for Computational Economics*. (`comp-econ.org`)
2007–10	Team leader of Marie-Curie Research- and Training Network 'Computational Optimization Methods in Statistics, Econometrics and Finance´ (`comisef.eu`)

Articles (since 1990)

- 'Heuristic Optimisation in Financial Modelling', *Annals of Operations Research* **193**(1), 129–158, 2012, (with E. Schumann).
- 'Constructing 130/30-Portfolios with the Omega Ratio', *Journal of Asset Management*, **12**(2), 94–108, 2011, (with E. Schumann, G. di Tollo, G. Cabej).
- 'Optimal Enough?', *Journal of Heuristics*, **17**(4), 373–387, 2011, (with E. Schumann).
- 'Risk–Reward Optimisation for Long-Run Investors: an Empirical Analysis', *European Actuarial Journal*, **1**(1) (Suppl 2), 303–327, 2011, (with E. Schumann).
- 'Distributed Optimisation of a Portfolio's Omega', *Parallel Computing*, **36**(7), pp. 381–389, 2010, (with E. Schumann).
- 'Optimisation in Financial Engineering', *Journal of Financial Transformation*, **28**, 117–122, 2010, (with E. Schumann).
- Using economic and financial information for stock selection. *Computational Management Science*, 5, 317–335, 2008, (with I. Roko).
- An Objective Function for Simulation Based Inference on Exchange Rate Data. *Journal of Economic Interaction and Coordination* **2**(2), 125–145, 2007, (with P. Winker and V. Jeleskovic).
- An efficient branch-and-bound strategy for subset Vector Autoregressive model selection. *Journal of Economic Dynamics and Control*, 32(6), 1949–1963, 2007, (with C. Gatu, E. Kontoghiorghes and P. Winker).
- A Data-Driven Optimization Heuristic for Downside Risk Minimization. *The Journal of Risk*, 8(3), 2006, 1–18, (with E. Këllezi and H. Hysi).

- An Application of Extreme Value Theory for Measuring Financial Risk. *Computational Economics*, 27(2-3), 2006, 207–228, (with E. Këllezi).
- Applications of optimization heuristics to estimation and modelling problems. *Computational Statistics and Data Analysis*, 47, 2004, 211–223, (with P. Winker).
- A Global Optimization Heuristic for Estimating Agent Based Models. *Computational Statistics and Data Analysis*, 42, 2003, 299–312, (with P. Winker).
- Solving finite difference schemes arising in trivariate option pricing. *Journal of Economic Dynamics and Control* 26, 2002, 1499–1515, (with E. Këllezi and G. Pauletto)
- Indirect Estimation of the Parameters of Agent Based Models of Financial Markets. FAME Research Paper 35, 2001, (with P. Winker).
- Parallel Krylov Methods for Econometric Model Simulation. *Computational Economics* 16, 2000, 173–186, (with G. Pauletto).
- Using Catastrophe-Linked Securities to Diversify Insurance Risk: A Financial Analysis of Cat-Bonds. *The Journal of Insurance Issues* 2, 1999, 125–146, Donald Hardegree Memorial Outstanding Paper Award, (with H. Loubergé and E. Këllezi).
- Modelling and forecasting the social contributions to the Swiss Old Age and Survivor Insurance Scheme. *Swiss Journal of Economics and Statistics* 3, 1999, 349–368, (with G. Aeschimann, G. Antille, F. Carlevaro, J.-P. Chaze, G. Ferro-Luzzi, Y. Flückiger).
- Krylov Methods for Solving Models with Forward-Looking Variables. *Journal of Economic Dynamics and Control* 22, 1998, 1275–1289, (with G. Pauletto).
- Sparse Direct Methods for Model Simulation. *Journal of Economic Dynamics and Control* 21, 1997, 1093–1111, (with G. Pauletto).
- Matchings, Covers, and Jacobian Matrices. *Journal of Economic Dynamics and Control* 20, 1996, 1541–1556, (with M. Garbely).
- Econometric Model Simulation on Parallel Computers. *Internat. J. Supercomput. Appl.* 7, 1993, 254–264, (with G. Pauletto).
- Causal Ordering and Beyond. *International Economic Review* 33, 1992, 957–972.
- Equation Orderings for Iterative Processes – A Comment. *Computer Science in Economics and Management* 2, 1992, 147–153, (with M. Garbely and G. Pauletto).
- Qualitative Decomposition of the Eigenvalue Problem in a Dynamic System. *Journal of Economic Dynamics and Control* 15, 1991, 539–548, (with M. Garbely).
- Qualitative Solvability in Economic Models. *Computer Science in Economics and Management* 4, 1991, 285–301, (with P. Fontaine and M. Garbely).
- A Comment: On the Number of Nonzero Eigenvalues of a Dynamic Linear Econometric Model. *Empirical Economics* 15, 1990, 99–104, (with M.Garbely).
- How to Strip a Model to its Essential Elements. *Computer Science in Economics and Management* 3, 1990, 199–214, (with G. Gallo).

Unpublished papers (since 2000)

- 'Better Portfolios with Options', Working Paper Series, `http://ssrn.com/abstract=2171774`, (with G. Cabej and E. Schumann).
- 'FX Trading: an Empirical Study', Working Paper Series, `http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1885044`, (with E. Schumann, G. Cabej and J. Lula).
- 'Calibrating the Nelson-Siegel-Svensson Model', Working Paper Series, `http://ssrn.com/abstract=1676747`, (with S. Grosse and E. Schumann).
- 'A Note on "Good Starting Values" in Numerical Optimisation', Working Paper Series, `http://ssrn.com/abstract=1620083`, (with E. Schumann).
- 'Replicating Hedge Fund Indices with Optimization Heuristics', Swiss Finance Institute Research Paper No. 10–22, `http://ssrn.com/abstract=1601708`, (with E. Schumann, G. Cabej and J. Lula).
- 'Heuristic Optimisation in Financial Modelling', COMISEF Working Paper Series No. 007, `http://comisef.eu/files/wps007.pdf`, (with E. Schumann)
- 'Implementing Binomial Trees', COMISEF Working Paper Series No. 006, `http://comisef.eu/files/wps006.pdf`, (with E. Schumann)

Chapters in edited Volumes (since 1990)

- 'Large-Scale Portfolio Optimisation with Heuristics', in: Di Ciaccio, A.; Coli, M. & Angulo Ibañez, J.M. (eds) 'Large-Scale Portfolio Optimisation with Heuristics Advanced Statistical Methods for the Analysis of Large Data-Sets', Springer, 2011, (with E. Schumann).
- 'Calibrating Option Pricing Models with Heuristics', in: A. Brabazon, M. O'Neill and D. Maringer (eds)., *Natural Computing in Computational Finance*, Volume 4, Springer, 2011, (with E. Schumann).
- Robust Regression with Optimisation Heuristics, (forthcoming in: A. Brabazon; M. O'Neill; D. Maringer (eds). *Natural Computing in Computational Finance*, Volume 3, Springer, 2010, (with E. Schumann)
- 'Portfolio Optimization with "Threshold Accepting": a Practical Guide', in: S. Satchell (ed). 'Optimizing Optimization: The Next Generation of Optimization Applications and Theory', Elsevier, 2009, (with E. Schumann)
- 'Heuristic Optimization Methods in Econometrics´, in: D.A. Belsley and E. Kontoghiorghes (eds). *Handbook of Computational Econometrics*, Wiley, 2009. (with P. Winker).
- 'Predicting Risk in a Multiple Stimulus-Reward Environment´, in: J.-C. Dreher, L. Tremblay (eds). *Handbook of Reward and Decision Making*, Elsevier, 2009. (with M. d'Acremont and P. Boessaert).
- 'Applications of Heuristics in Finance´, in: D. Seese, C. Weinhardt and F. Schlottmann (eds). *Handbook of Information Technology in Finance*, Springer, 2008, 635-653, (with D. Maringer and P. Winker).
- The Threshold Accepting Heuristic for Index Tracking. In *Financial Engineering, E-Commerce and Supply Chain*, (Eds. P. Pardalos and V.K. Tsitsiringos), 1–18, 2002, Kluwer Applied Optimization Series, (with E. Këllezi).
- Portfolio Optimization with VaR and Expected Shortfall. In *Computational Methods in Decision-making, Economics and Finance*, (Eds. E.J. Kontoghiorghes, B. Rustem and S. Siokos), 167–183, 2002, Kluwer Applied Optimization Series, (with E. Këllezi).
- Graph theory-based tools in the practice of macroeconometric modelling. In *Methods and Applications of Economic Dynamics*, (Eds. L. Schoonbeek, E. Sterken and S.K. Kuipers), Series: Contributions to Economic Analysis, North Holland, 1995, 89–114.

Books and special issues

- Numerical Methods and Optimization in Finance, Elsevier, 584 pages, 2011, (with D. Maringer and E. Schumann)
- Editorial – 2nd special issue on applications of optimization heuristics to estimation and modelling problems. *Computational Statistics and Data Analysis* 52(1), 2–3, 2007, (with P. Winker).
- Guest editor for the special issue on *Applications of optimization heuristics to estimation and modelling problems* in *Computational Statistics and Data Analysis*, 47(2), 211–400, 2004, (with P. Winker).
- *Computational Economic Systems. Models, Methods and Econometrics*, Series: Advances in Computational Economics, Kluwer Academic Publishers, 1995, 287 pages, (editor).
- Guest editor for the special issue on *Computational Finance* in the journal *Computational Economics* 9, 1996, (with A. Nagurney).

Conferences organized and planned

- 21th International Conference on Computational Statistics (COMPSTAT 2014) 19–22 August 2014, Geneva. (`www.compstat2014.org`)
- 6th International Conference on Computational Management Science, 1–3 May 2009. (`www.cms2009.unige.ch`)
- 4th International Conference on Computational Management Science, 20–22 April 2007. (`www.cms2007.unige.ch`)
- 2nd International Conference on Computing in Economics and Finance, 26–28 June 1996. (`www.unige.ch/ce/ce96`)