Guillaume Weisang

Contact Information

Carlson Hall 333
Graduate School of Management
Clark University
950, Main Street, Worcester, MA 01610 USA

Phone : +1 (508) 421-3852
Email : gweisang<at>clarku.edu
www.guillaume-weisang.com

Education

PhD (Business Analytics) — *August 2006 – May 2011*
McCallum Graduate School of Business, Bentley University — Waltham, MA
PhD dissertation
"Essays on Hedge Fund Replication : Methodological Assessment and Development of the Factor Approach, Model Selection, Non Linear Modeling and Policy Perspectives," *(defended on March 29, 2011)*

MS (Financial Engineering and Modeling) — *2004 – 2005*
Toulouse Business School (ESCT), the National Engineering School in Aeronautic (Supareo) and the National Institute in Advanced Sciences of Toulouse (INSA) — Toulouse, France

MS (Computer Science and Applied Mathematics) — *2002 – 2005*
National Polytechnic Institute of Engineering in Electro-technology, Electronics, Computer Science, Hydraulics and Telecommunications (ENSEEIHT) — Toulouse, France

Employment

Consultant — *Summer 2015*
Cargometrics — Boston, MA

Assistant Professor of Finance — *September 2011 – Present*
Graduate School of Management, Clark University — Worcester, MA

Instructor — *January 2011 – May 2011*
Dept. of Finance, Bentley University — Waltham, MA

Instructor — *January 2009 – May 2011*
Dept. of Mathematical Sciences, Bentley University — Waltham, MA

Quantitative Strategist Intern — *January 2006 - June 2006*
Société Générale Asset Management Alternative Investment — Paris, La Défense
Modeling of Quantitative strategies for the Structured Products, Strategies and Investment Products department

Quantitative Strategist Intern — *May 2005 - November 2005*
Société Générale Asset Management Alternative Investment — Paris, La Défense
Econometric modeling in the Structured Products, Research Department

Research Assistant — *January 2005 – May 2005*
Research Laboratory in Finance, Toulouse Business School — Toulouse, France
Numerical computations of default probabilities in Gabillon's model on corporate debt.

Software Development Intern — *June 2004 – September 2004*
AIG, Claims Department — Paris, La Défense
Development Architect and Implementation Engineer of a VBA and SQL software application for work flow management

Research

— Refereed Articles

- ◇ "Risk Parity Portfolios with Risk Factors," T. Roncalli, G. Weisang [*],
  Quantitative Finance, Volume 16, Issue 3, pp.377–88, 2016.

- ◇ "Tracking Problems, Hedge Fund Replication and Alternative Beta," T. Roncalli, G. Weisang [†],
  Journal of Financial Transformation, Volume 31, pp.19–29, 2011.

- ◇ "Vagaries of the Euro : An Introduction to ARIMA Modeling," G. Weisang [‡], Y. Awazu
  Case Studies in Business, Industry and Government Statistics, Volume 2, Issue 1, pp.45–55, 2008.

— Refereed Chapters

- ◇ "Factor Selection In Dynamic Hedge Fund Replication Models : A Bayesian Approach," G. Weisang,
  Advances in Econometrics, Volume 34, special issue on Bayesian Model Comparison, 2014.

- ◇ "Risk Management Lessons from Madoff fraud," P. Clauss. T. Roncalli, G. Weisang [§]
  International Finance Review, Volume 10, Chapter 17, Eds. J. J. Choi and M. Papaioannou, pp.505–543, 2009.

— Working Papers

- ◇ "An Examination of Determinants of Expatriate Career Intentions " A. Joardar, G. Weisang, February 2016.
  Submitted to *The International Journal of Human Resource Management*.

- ◇ "Asset Management and Systemic Risk" T. Roncalli, G. Weisang, May 2015. Available on ssrn.com.

- ◇ "Exploring non linearities in Hedge Funds : An application of Particle Filters to Hedge Fund Replication," T. Roncalli, G. Weisang, September 2009.

- ◇ "A GAUSS Library for particle filters," T. Roncalli, G. Weisang, January 2009. *Procedures Library for utilization of particle filters for the GAUSS language.* Available at www.guillaume-weisang.com.

- ◇ "ACD models : Models for data irregularly spaced in time. A Gentle Introduction," G. Weisang, April 2008. Available at www.guillaume-weisang.com.

- ◇ "acd" and "aacd", **R** libraries for the estimation and simulation of (Augmented) Autoregressive Conditional Regression models.

— Research in Progress

- ◇ "Stock Returns, Volatility Spillover and Network Effects".
  — Paper on directional volatility spillover in the equity markets and information networks.
  — This is joint Work with S. Tadesse.
  — Still in the exploratory phase.
- ◇ "Risk Measurement and Management for Hedge Funds".

[*] *Authors listed alphabetically*
[†] *Authors listed alphabetically*
[‡] *Lead investigator*
[§] *Authors listed alphabetically*

- Invited chapter for book provisionally titled “Hedge Funds : Structure, Strategies, and Performance”, edited by H. Kent Baker, University Professor of Finance at the American University and Greg Filbeck, Samuel P. Black Professor of Finance and Risk Management, Penn State Erie, the Behrend College.
- Working on Applications section and discussion questions.

◇ “Factor Selection 1.1 : An application of Hamiltonian Monte Carlo to dynamic linear models.”
- Improvement on earlier algorithm published in *Advances in Econometrics*.
- Use of Hamiltonian Monte Carlo and incorporating some improvement to a more flexible model.

◇ “Dynamic Portfolio Replication and Risk Change-Point Detection.”
- Major revision of previous work on applications of H_∞ filtering to dynamic replication of portfolios previously titled “A Robust Approach to Misspecifications and Non Linearities for Dynamic Portfolio Replication,” June 2012.
- The angle favored here is detection of change in risk structure of portfolio. Potential contribution to risk management literature and time series change-point literature.
- Working on theoretical section, extending the justification of the ζ statistic with work on its frequency domain interpretation.

◇ “Bayesian Model Selection for Hedge Fund Replication Dynamic Models”
- Follow-up paper to my paper titled “Factor Selection in Dynamic Hedge Fund Replication Models : A Bayesian Approach,” published in Advances in Econometrics.
- Working on improving the previous algorithm based on ideas listed in the research future section of the original paper and incorporating ideas from reviewers including : Hamiltonian Monte Carlo approach and a more flexible modeling.

◇ “Bayesian Liquidity Beta in US Stocks” with S. Feng.
- Database of time-varying Betas for major U.S. equities (about 900) with respect to 5 major risk factors over last 10 years has been calculated. Still need to clean-up and check integrity.
- Extending computer code to other form of linear market models.

◇ “Revisiting Risk-Shifting by Mutual Funds : Calendar Effects and Competition” with S. Parida.
- Working on Methodology Section.

◇ “Investigating Factor Selection for Hedge Fund Replication : LASSO Kalman Smoother and the Posterior Cramer-Rao Bound.”
- Literature review on Bayesian Lasso completed. Working on link between Lasso Kalman Smoother, Posterior Cramer-Rao Bound and Bayesian Lasso approach.

◇ “Corporate Environmental and Social Governance and Financial Performance : A Bayesian exploratory analysis” with Z. Wang.
- Data set downloaded and updated. Working on a Time-varying Fixed Effect Model and a Hierarchical Markov Model for the effect of Corporate Environmental and Social Governance on Financial Performance.

Conference Presentations / Lectures

— Invited Talks

◇ “Factor selection in hedge fund replication dynamic models : a Bayesian approach,” *Invited Talk, Conference on Bayesian Model Comparison, February 21-22, 2014, UC Irvine, Irvine, CA.*

◇ “A Survey of Filtering Techniques Applied to Hedge Fund Replication,” *Invited Talk, Computational and Financial Econometrics 2012, December 1-3, 2012, Oviedo, Spain.*

◇ “Hedge Fund Replication and Tracking Problems : a “new” approach to Alternative Beta” *Fidelity Investment Strategic Research Group, May 20, 2010, Boston, MA.*

◇ “Risk Management Lessons from Madoff Fraud,” *Invited Talk, Battles Lecture, May 29, 2009, NES/MAA meetings at Fairfield University, Fairfield, CT.*

— **Presentations at Conferences**

◇ "Asset Management, Asset Managers and Systemic Risk", Paris December 2015 Finance Meeting EUROFIDAI - AFFI, December 17, 2015.

◇ "An Examination of Determinants of Expatriate Career Intentions," presented by A. Joardar, *AIB 2015 Bengaluru Conference, June* $27-30$*, 2015, Indian Institute of Management, Bangalore (IIMB), India.*

◇ "Risk Parity Portfolios with Risk Factors," *AFFI 2013, May* $29-31$*, 2013, EM Lyon, Lyon, France.*

◇ "Factor selection in hedge fund replication dynamic models : an application of forward filtering-backward sampling algorithm and reversible-jump MCMC," *Invited talk, ICSA Applied Statistical Symposium, June 24, 2012, Boston, MA.*

◇ "Hedge Fund Replication Using H_∞ Filters : Report on a work in Progress" *New England Statistics Symposium, April 17, 2010, Harvard University, Cambrige, MA.*

◇ "Exploring non linearities in Hedge Funds : An Application of Particle Filters to Hedge Fund Replication," *Poster, January 28-29, 2010,* 2^{nd} *Annual Conference on Hedge Funds, Paris, France.*

◇ "Tracking Problems, Hedge Fund Replication and Alternative Beta," *Contributed Paper, August 1-6, 2009, Joint Statistical Meetings, Washington D.C.*

◇ "Risk Management Lessons from Madoff Fraud," *Contributed Paper, April 25, 2009, New England Statistics Symposium, University of Connecticut, Storrs, CT.*

◇ "An Open Source Library for the Estimation and Evaluation of ACD Models," *Contributed Paper, August 3-7, 2008, Joint Statistical Meetings, Denver, CO.*

◇ "ACD models : Models for data irregularly spaced in time." *Contributed Paper, April 19, 2008, New England Statistics Symposium, Suffolk University, Boston, MA.*

— Other Presentations

◇ "Robust Filtering, Portfolio Replication and Leverage Effect," *GSOM Research Seminar, February 18, 2015, Clark University, Worcester, MA.*

◇ "Factor Selection in Dynamic Hedge Fund Replication Models : A Bayesian Approach," *WPI Statistics Seminar, September 29, 2014, Worcester Polytechnic Institute, Worcester, MA.*

◇ "Beyond Risk Parity : Using Non-Gaussian Risk Measures and Risk Factors," *Boston QWAFAFEW Discussion, January 15, 2013, Boston, MA.*

◇ "Tracking Problems, Hedge Fund Replication and Alternative Beta," *February 12, 2009, Mathematical Sciences Department Seminar, Bentley University, Waltham, MA.*

◇ "Hedge Fund Replication and Alternative Beta : a review and a tentative new framework." *November 18, 2008, Finance Department Brown Bag Seminar, IE Business School, Madrid, Spain.*

Computer Libraries

Gauss language

♦ "PF", a Gauss library written with T. Roncalli for particle filters (Generic Particle Filter ; Regularized Particle Filter ; Sampling Importance Resampling ; Sampling Importance Sampling ; Particle smoother)

R language

♦ "acd" and "aacd", R libraries for the estimation and simulation of (Augmented) Autoregressive Conditional Regression models *(work-in-progress)*.

Python language

♦ "pyMinimax", a Python library for H_∞ filters *(work-in-progress)*.

Teaching

❑ Graduate Courses

♦ Clark University
Financial Econometrics (FIN 5309)
Computational Finance (FIN 5216)
Financial Indexing (FIN 5312)

❑ Undergraduate Courses

♦ Bentley University, Waltham MA
Financial Markets and Investments (FI 320)
Business Statistics (GB 210)
Applied Business Statistics (ST 242)

Service

— Clark University

Research Committee, GSOM, Clark University — *2013–Present*
On Sabbatical leave Jan. 2015–Dec. 2015
GSOM Research Seminars, GSOM, Clark University — *2013–Present*
Co-chair, On Sabbatical leave Jan. 2015–Dec. 2015
Finance Tenure-Track Search Committee, GSOM, Clark University — *2013–2014*
Diversity Advocate
Faculty Compensation Committee, Clark University — *2012–2013*
MSF PRC/Finance Faculty Committee, GSOM, Clark University — *2011–Present*
On Sabbatical leave Jan. 2015–Dec. 2015

— Professional Service

Thesis/Dissertation Committees

Univ. of Stellenbosch, Dept. of Math. Sciences — December 2014
External examiner, MSc Thesis in Mathematics by Lesiba C. Galane,
"The Risk Parity Approach to Asset Allocation."

Manuscript Reviewer

Case Studies in Business, Industry and Government Statistics — *2008–Present*
Journal of Strategic Information Systems — *2010–Present*
Intl. Journal of Statistics and Management Systems — *November 2012–Present*
Optimization and Engineering — *June 2013–Present*
Journal of Alternative Investments — *August 2013–Present*
47^{th} Hawaii International Conference on System Sciences — *August 2013*

— **Editorial Services**

Editorial Assistant *2007–2011*

Case Studies in Business, Industry and Government Statistics

— **Professional Associations Memberships**

— American Finance Association (AFA),
— Financial Management Association (FMA),
— American Statistical Association (ASA),
— Institute of Mathematical Statistics (IMS),
— International Society of Bayesian Analysis (ISBA),

Grants & Proposals

Grant Proposal *November 2014*

ETF Research Academy in collaboration with Pr. Shu Feng, GSOM, Clark University, MA.
Access to proprietary European ETF Data.

Grant Proposal *March 2012*

IdR QuantValley/FdR "Quantitative Management Initiative" in collaboration with Pr. Sitikantha Parida, GSOM, Clark University, MA.
Amount requested : 9100 €

Honors & Awards

Bentley University Ph.D. Scholarship *August 2006 – August 2011*
ASA Honorable Mention *August 2010*
Joint Statistical Meetings, Vancouver, BC
Visiting PhD student *August 2008 – December 2008*
IE Business School, Madrid, Spain
Best PhD student in Business Award *2007 – 2008*
Bentley University, Waltham, MA

Language Skills

French	Native Speaker
English	Fluent
German	High School level
Spanish	Elementary level

Computer Skills

Operating Systems	UNIX, Linux, Mac OS X, Windows *98/2000/XP/Vista/7)*
Software	Microsoft Office, LaTeX, Eclipse, Git
Programming	Gauss, **R**, MatLab, Python, C/C++, Java, UML, FORTRAN, SQL, VB, VBA