

CURRICULUM VITAE OF PETER LAURENCE

PERSONAL DATA

Born in New York, NY, 27/03/52; Married to Magdalena Mueller-Laurence.

WORK ADDRESS

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EDUCATIONAL BACKGROUND

– *Wharton School of Finance and Commerce* (1969-1971), University of Pennsylvania
(*began* as economics major)

– *University of Pennsylvania* (1972-1973), Bachelor of Science in Mathematics and in
Philosophy.

– *University of Wisconsin*, Madison (1974-1981)

Masters of Science in Mathematics (1977); Ph.D. in Applied Mathematics (1981).

PROFESSIONAL EXPERIENCE

Academic

(chronological)

- 1974-1981, *University of Wisconsin*, Teaching Assistant, 1974-1981.
- 1981-1984, *Courant Institute of Mathematical Sciences*, New York University,
Associate Research Scientist (extended post-doctoral position).
- 1984-85, *Massachusetts Institute of Technology (MIT)* Plasma Physics Lab-
oratory, Visiting Professor and in parallel, Assistant Professor tenure track,
Worcester Polytechnic Institute.
- 1984-1988, *Pennsylvania State University*, University Park, PA, Tenure Track
Assistant Professor.
- 1988-1991, *University of Milano*, Milano, Italy, Associate Professor, .
- January -May 1991, *Institute for Advanced Study*, Princeton, NJ, Visiting Mem-
ber.

- 1991- present, *Università di Roma, “La Sapienza”*, Associate Professor (with tenure).
- 1999-2001, *Courant Institute of Mathematical Sciences, Division of Quantitative Finance*, Visiting Member.
- January-September 2001, *Courant Institute*, Adjunct Associate Professor,
- January-May 2000, *Columbia University*, Statistics Department, Adjunct Professor.
- March-May 2003-2007, *Courant Institute*, Visiting Member (recurrent yearly visiting position).
- April 2008 and November-December 2008, *Courant Institute*, Visiting Scholar .
- November-December 2009, *Courant Institute*, Visiting Scholar.
- November-December 2010, *Courant Institute*, Visiting Academic.

Non academic Professional Experience

1. *Consultant*, Risk Solutions, **Standard and Poor’s**, New York, August, 2001-October 2001.
2. *Director* at Risk Solutions, **Standard and Poor’s**, New York, October 2001 -July 2002. Head of *portfolio credit risk* under group leader (and current global head of research at Standard and Pooors) Craig Friedman’s direction.

Teaching experience

1. As a Teaching Assistant at the University of Wisconsin, Madison, taught problem-solving sections for first and second year Calculus.
2. As a Professor at Worcester Polytechnic Institute (1984-85), taught: (i) course on Fourier Series with applications to ordinary and partial differential equations; (ii) course on numerical analysis; (iii) course on partial differential equations. (All intermediate or advanced undergraduate level).

3. As a Professor at Penn State (1985-87), (1) graduate course on partial differential equations; (2) a special topics graduate course on elliptic partial differential equations; (3) courses on first and second year calculus for engineers.
4. As a Professor at the University of Milano (1988-91), taught first year calculus and finite math course for Biology majors.
5. As a Professor at the University of Rome, "La Sapienza" (1991-93), taught a first year analysis course at the level of Rudin's "Principles of Mathematical Analysis"
6. As a Professor at the University of Rome, Masters/Phd level course on *Arbitrage Pricing Theory*, as part of the doctoral program in the Mathematics Department at "La Sapienza", spring 1997.
7. As an Adjunct Professor at Columbia University, Spring 2000, "Stochastic Methods in Finance," in the Masters in Mathematical Finance Program, Statistics Department, some of the lectures on the web at <http://www.math.nyu.edu/~laurence>.
8. Spring semester 2001, special topics in PDE course "Free boundary problems in finance" for Phd. Students in finance at the Courant Institute. On the web at <http://www.math.nyu.edu/~laurence>.
9. Spring -Summer 2001: Graduate Course on Probability and Stochastic Processes, Courant Institute, New York University, Masters in Math-Finance Program.
10. Arbitrage Pricing Theory, as part of Masters in Scientific Computing, Università di Roma, "La Sapienza", spring 2003
11. Special Topics in Derivative Pricing, as part of Phd program in banking and economics, Università di Roma, "Tor Vergata," spring 2003 and spring 2004.

Supervised Phd theses

- Currently supervising a thesis on asymptotics in option pricing, Dottor. Fabio Fantozzi

Languages

Fluent in English, French (Baccalauréat Français, Lycée Français de New York), German and Italian. Spanish is pretty good and I understand Portuguese.

Scientific Computing

Very good computing skills in **Matlab**. Also good knowledge of Mathematica, fair knowledge of C.

Professional Associations:

- Siam

Organizational Activities

- *Co-organizer* (with Marco Avellaneda) of the *Math-Finance Seminar* at the Courant Institute, academic years 1999-2000 and 2000-2001.
- *Organizer* of Special Year on Mathematical Finance at the University of Vienna, 2008-2009. The special year included several short term visits of Professors Vladimir Matveev (Jena), Tai-Ho Wang (Cuny, NY), Dr. Alberto Elices (Banca Santander, Madrid).

It also included two conferences:

- Conference on "Numerical Methods for american and bermudan options," at the Wolfgang Pauli Institute, University of Vienna, Oct. 17-18, 2008. Conference co-organized by Friedrich Hubalek.
See <http://www.math.nyu.edu/~laurence/vienna-amop1.htm>
- Conference on "Small time asymptotics, perturbation theory and heat kernel methods" at the Wolfgang Pauli Institute, University of Vienna, Feb 10-13, 2009. Conference co-organized with Professor Josef Teichmann.
See <http://www.math.nyu.edu/~laurence/vienna-Sabr-bis.htm>,

- *Main Organizer Special 2 year program on Energy and Commodities*, beginning January, 2010, at WPI, University of Vienna,
<http://www.math.nyu.edu/~laurence/Wpi/vienna-Energy-bis.htm>

For this program, we succeeded in obtaining co-funding the participation of major European Energy Company *Verbund*, through co-organizer Valey Kholodnyi and co-funding from the University of Oslo, through co-organizer Fred Benth. This program will feature two international conferences and, what makes it unique and innovative will be a series of *intensive two day mini-courses*, held by leading academics and practitioners, that will be freely available to registered participants.

- *Scientific Organizing Committee* "Mathematical Finance and Partial Differential Equations 2010, Rutgers University, December 10,2010.

<http://www.finmath.rutgers.edu/mfppde2010/index.php>

Recent Invited Talks

- *Special year on mathematical finance, Newton Institute, Cambridge, UK, April 2005:*
“Distribution free bounds for basket options”
- Colloquium Mathematical finance, *Imperial College, London, March 2005:*
“ Hedging basket options without distributional assumptions”.
- *Global Derivatives, Paris, May 2005*
”Distribution free bounds for basket options”.
- *Petit Déjeuner de la Finance, Maison des Politechniciens, Paris, May, 2005 :*
“Hedging Basket options”.
- Conference: *PDE in finance, Stockholm, August 2005:*
”Multi-Asset Local Variance Contracts”.
- *Madrid Stock exchange, February 2006.*
” Hedging Basket Options”.
- *Bloomberg, New York, organized by Peter Carr, April 2006:*
” Hedging Basket Options.”
- *Risk Quant Congress USA, July 2006. Inaugural Speaker, chair and co-organizer of session on Correlation Trading.*
- *Risk Quant Congress USA, July 2006:*
“ Hedging and valuation of basket options.”
- *Risk Quant Congress Europe, pre-conference seminar on Correlation Trading, London, October 2006.*
Invited Talk on “De Finetti’s correlation paper, hedging and valuation of basket options and comonotonicity gap’.”
- *Summer School on Risk Measurement and control, Rome, organized by Università della Svizzera Italiana and Università di Roma ”Tor Vergata”, June 2006:*
“Distribution free bounds for basket options.”
- *Summer School on Risk Measurement and control, organized by Università della Svizzera Italiana and Università di Roma ”Tor Vergata”, June 2007:*
“SABR Model and beyond”
- *Workshop in Mathematical Finance, Vienna, September 2007:*
“Hedging and Pricing of Generalized Spread Options and the Market Implied Comonotonicity Gap”.

- *Pauli Institute, Vienna*, Symposium on “PDE’s and Mathematical Finance and economy”, organised by Norbert Mauser, November 2007:
“Implied volatility, fundamental solutions, asymptotic analysis and symmetry methods”
- *California Institute of Technology (Caltech)*, April 2008
“Implied Volatility, fundamental solutions, asymptotic analysis and symmetry methods”.
- *Global Derivatives*, Paris, May 2008
invited talk on “The Market Implied Comonotonicity Gap: A new tool for correlation risk management, ” Conference site: <http://www.icbi-uk.com/globalderivatives>.
- *Kick-off Workshop, Special year on mathematical finance, Ricam Linz*, September 2008
“Implied Volatility, Fundamental solutions, asymptotic analysis and symmetry methods”.
- *Essec Business School*, Departmental Colloquium, Finance Department, Paris, January 2009
“Pricing and hedging basket Options and the comonotonicity Gap”
- *Workshop on Spectral and cubature methods in finance and econometrics*, Leicester, England, June 18-20, invited Speaker,
”Asymptotics for local volatility and Sabr Models.”
- *Rutgers conference on mathematical finance*, Plenary Speaker, New Brunswick, Dec-4, 2009
”Asymptotics for local volatility and Sabr Models.”
- *Global Derivatives, ICBI, Derivatives and Risk Management Conference*, Paris, France, 17-21 May, 2010.
- Plenary speaker, *Mathematics and its Applications*, Cagliari, Italy, conference in honour of Sandro Salsa, June 3-5, 2010.
- *Princeton University*, November 23, 2010, ORFE department, ”symptotics in local and stochastic volatility models”
- *Rutgers University*, December 7, 2010, Probability and Mathematical Finance Seminar, ”symptotics in local and stochastic volatility models”
- Invited Speaker: *Global Derivatives, ICBI, Derivatives and Risk Management Conference*, Paris, France, ”Asymptotics for basket options”, April 2011.