CURRICULUM VITÆ (November 2020)
Julien Guyon

Personal information

Born: May 3, 1977
Citizenship: France
Currently: Quant at Bloomberg L.P. (New York); Adjunct Professor at Columbia University and New York University

Work: Bloomberg L.P., Quantitative Research; 731 Lexington Avenue, New York, NY 10022, USA

Professional experience

Since 2012	**Senior Quant in the Quantitative Research Group at Bloomberg LP, New York.** Joint calibration of SPX and VIX options; Inversion of convex ordering in the VIX market; Local volatility (LV) does not maximize the price of VIX futures; The VIX future in Bergomi models; Model-free bounds for VIX futures given S&P 500 smiles; Cross-dependent volatility models: dynamics, smile calibration; Path-dependent volatility models: dynamics, smile calibration; Stochastic local volatility (SLV) models: impact of spot-vol correlation; Local correlation models: affine transform method; Analysis of historical spot-vol dynamics; LV + stochastic rates: Malliavin disintegration by parts; CVA: nested Monte Carlo (MC), marked branching diffusions
Since 2015	**Adjunct Professor, Courant Institute of Mathematical Sciences, New York University**
Since 2015	**Adjunct Professor, Department of Mathematics, Columbia University**
Since 2019	**Managing Editor of Quantitative Finance**
Since 2017	**Associate Editor of SIAM Journal on Financial Mathematics and of Journal of Dynamics and Games**
2011–2012	**Adjunct Professor at Université Paris-Diderot**
2009–2012	**Quant in the Global Markets Quantitative Research team at Société Générale, Paris.** Devised the Particle Method: calibration to market smiles via MC; Stochastic volatility (SV) models: derivation of the "Bergomi-Guyon" smile expansion; New extrapolation of the smile of interest rate swaptions; New global parameterization of the FX smiles; Daily update of the long term (illiquid) FX smile; Pricing cross FX options with uncertain correlation; From spot volatilities to implied volatilities.
2006–2009	**Quant in the Equity Derivatives Quantitative Research team at Société Générale, Paris.** New MC methods for pricing in the Uncertain Volatility Model; New pricing model of reinsurance deals (GMxB, variable annuities); Time extrapolations for numerical schemes for SDEs (Richardson-Romberg); MC pricing of American and chooser options: lower and upper bounds
2001–2002	**Crédit Lyonnais (now CACIB), Interest Rates Derivatives Quantitative Research (Paris) and Equity Derivatives Quantitative Research (London).** One-year internship on SV models.
Fall 2000	**National planning agency (DDE 95, Cergy-Pontoise)** On temporary assignment to the Sanitation and Networks Agency Head. Corps des ponts internship program.

Education

2003–2006	• **PhD in Probability Theory and Statistics at Ecole des ponts ParisTech, Paris** Supervisor: Jean-François Delmas. Received with highest honors (mention très honorable avec félicitations du jury). Published by LAP Lambert Academic Publishing (ISBN: 9783838314464, 172 pages). **Awarded Best 2006 PhD Thesis of Ecole des ponts ParisTech**. *« Probabilistic Modeling in Finance and Biology. Limit Theorems and Applications »*

EXAMINING COMMITTEE:

Jean-François Delmas	PhD advisor	(Ecole des ponts ParisTech)
Nicole El Karoui	President	(Ecole polytechnique)
Bernard Lapeyre	Examiner	(Ecole des ponts ParisTech)
Sylvie Méléard	Referee	(Université de Nanterre – Paris X)
Philip Protter	Referee	(Cornell University)
Bernard Prum	Examiner	(Université d'Evry)

2002–2003	• **Master of Probability Theory, Université Paris VI.** With highest honors.
2000–2003	• **Ecole des ponts ParisTech (Paris).** Corps des ponts et chaussées. [Applied mathematics, Computer science, Mechanics]
Spring 2000	• **Ecole normale supérieure (Paris), Department of Computer Science.** Research project on probabilities applied to the calculus of internet outputs.
1997–2000	• **Ecole polytechnique (Paris).** [Mathematics, Physics, Economics]

Teaching

New York University: Adjunct Professor, Courant Institute of Mathematical Sciences
Nonlinear Problems in Finance: Models and Computational Methods, Professor, 2018–present, Mathematics in Finance MSc program.
Computational Methods for Finance, Professor, 2015–2018, Mathematics in Finance MSc program.

Columbia University, New York: Adjunct Professor, Department of Mathematics
Nonlinear Option Pricing, Professor, 2015–present, Mathematics of Finance MA program.

Université Paris-Diderot: Adjunct Professor (Professeur Associé Service Temporaire)
Financial Instruments and Models, Professor, 2011–2012, Master 2 M2MO (Modélisation aléatoire).

Ecole des ponts ParisTech (Paris)
Mathematics of Finance, Professor, 2008–2012.
Probability and Statistics, Professor, 2004–2006.
Statistics and Data Analysis, Professor, 2005–2006.
Mathematics of Finance, Assistant Professor, 2004–2006.

Ecole nationale supérieure de techniques avancées (Paris)
Introduction to Probability and Statistics, Assistant Professor, 2003–2006.

Lycées Louis-Le-Grand and Henri IV (Paris)
Mathematics, Examiner in mathematics in the "Classes Préparatoires aux Grandes Ecoles", 1998–2004.

Books

[3] 2013	**Guyon, J. and Henry-Labordère, P.** *Nonlinear Option Pricing.* Chapman & Hall/CRC Financial Mathematics Series (ISBN 9781466570337, 445 pages). First monograph on numerical methods for solving high-dimensional nonlinear problems arising in option pricing.
[2] 2009	**Guyon, J.** *Probabilistic modeling in Finance and Biology. Limit Theorems and Applications.* LAP Lambert Academic Publishing, 2009 (ISBN: 9783838314464, 172 pages). PhD dissertation.
[1] 1998	**Guyon J.** *Les clés du problème.* Ellipses, Paris, 1998 (ISBN: 2-7298-6836-4, 218 pages). Mathematics book for the "classes préparatoires" students preparing the Grandes Ecoles entrance exams.

Peer-reviewed articles

[18] 2020 **Guyon, J.** *Inversion of Convex Ordering in the VIX Market.* Quantitative Finance 20(10):1597–1623.

[17] 2020 **Guyon, J.** *The Joint S&P 500/VIX Smile Calibration Puzzle Solved.* Risk Magazine, April.

[16] 2018 **Guyon, J.** *Risk of Collusion: Will Groups of 3 Ruin the FIFA World Cup?* To appear in Journal of Sports Analytics.

[15] 2020 **Acciaio, B. and Guyon, J.** *Inversion of Convex Ordering: Local Volatility Does Not Maximize the Price of VIX Futures.* SIAM Journal on Financial Mathematics 11(1):1–13.

[14] 2018 **Guyon, J.** *What a fairer 24 team UEFA Euro could look like.* Journal of Sports Analytics 4:297–317.

[13] 2017 **Guyon, J., Menegaux, R. and Nutz, M.** *Bounds for VIX Futures given S&P 500 Smiles.* Finance and Stochastics **21**(3):593–630.

[12] 2016 **Guyon, J.** *Calibration of local correlation models to basket smiles.* Journal of Computational Finance **21**(1):1–51.

[11] 2016 **Guyon, J.** *Cross-dependent volatility.* Risk Magazine, April.

[10] 2015 **Guyon, J.** *Rethinking the FIFA World Cup final draw.* Journal of Quantitative Analysis of Sports 11(3):169–182.

[9] 2014 **Guyon, J.** *Path-dependent volatility.* Risk Magazine, October.

[8] 2014 **Guyon, J.** *Local correlation families.* Risk Magazine, February.

[7] 2012 **Bergomi, L. and Guyon, J.** *The smile in stochastic volatility models.* Risk Magazine, May.

[6] 2012 **Guyon, J. and Henry-Labordère, P.** *Being particular about calibration.* Risk Magazine, January.

[5] 2011 **Guyon, J. and Henry-Labordère, P.** *From spot volatilities to implied volatilities.* Risk Magazine, June.

[4] 2011 **Guyon, J. and Henry-Labordère, P.** *Uncertain volatility model: a Monte-Carlo approach.* Journal of Computational Finance 14(3).

[3] 2007 **Guyon, J.** *Limit theorems for bifurcating Markov chains. Application to the detection of cellular aging.* Annals of Applied Probability 24(5,6):1538–1569.

[2] 2006 **Guyon, J.** *Euler scheme and tempered distributions.* Stochastic Processes and their Applications 13(6):877–904.

[1] 2005 **Guyon, J., Bize, A., Paul, G., Stewart, E., Delmas, J.-F. and Taddéi F.** *Statistical Study of Cellular Aging.* ESAIM Proceedings, CEMRACS 2004 - Math. and appl. to Biology and Medicine 55:100–114.

Working papers

[3] 2020 **Guyon, J.** *The VIX Future in Bergomi Models: Analytic Expansions and Joint Calibration with S&P 500 Skew.* SSRN. Submitted.

[2] 2020 **Guyon, J.** *'Choose Your Opponent': A New Knockout Design for Hybrid Tournaments.* Submitted.

[1] 2019 **Guyon, J.** *'Choose Your Opponent': A New Knockout Format for Sports Tournaments. Application to the Round of 16 of the UEFA Champions League and to Maximizing the Number of Home Games During the UEFA Euro 2020.* SSRN.

Lecture notes chapters

[1] 2003 **Guyon, J.** *Wrote the chapter on "Stochastic Volatility" for the lecture notes "Stochastic Models in Finance" by Nicole El Karoui.* Master of Probability and Finance, Université Paris VI.
Available online at `http://www.cmap.polytechnique.fr/~elkaroui/masterfin034.pdf`.

Press and radio

[41] 2020 **Guyon, J.** *Champions League group stage draw: Who are the most likely opponents for Liverpool, Manchester City, Manchester United and Chelsea?* Four Four Two, October 1, 2020.

[40] 2020 **Guyon, J.** *Ligue des champions : Barcelone et Atlético, adversaires les plus probables pour le PSG.* Le Monde, October 1, 2020 (in French).

[39] 2020 **Guyon, J.** *The model to determine Premier League standings.* The Times, March 18, 2020.

[38] 2020 **Guyon, J.** *Football : comment décider du classement final de la Ligue 1 si elle devait s'arrêter ici ?* Le Monde, March 16, 2020 (in French).

[37] 2019 **Guyon, J.** *Ligue des champions : et si les vainqueurs de groupe choisissaient leur adversaire pour les huitièmes de finale ?* Le Monde, December 17, 2019 (in French).

[36] 2019 **Guyon, J.** *Ligue des champions : quels sont les adversaires les plus probables pour le PSG et Lyon.* Le Monde, December 15, 2019 (in French).

[35] 2019 **Guyon, J.** *Champions League last-16 draw probabilities: Why Chelsea are more likely to get Barcelona – and what fates await Liverpool, Man City and Tottenham.* Four Four Two, December 12, 2019.

[34] 2019 **Guyon, J.** *Euro 2020 : les Bleus condamnés à défier un gros d'Europe dès la phase de poules.* Le Monde, November 20, 2019 (in French).

[33] 2019 **Guyon, J.** *New Voting Rules Could Finally Resolve Brexit.* Bloomberg Opinion, November 6, 2019.

[32] 2019 **Guyon, J.** *Jeu, Hasard, Mérite et Équité.* Archicube (journal of the Ecole Normale Supérieure), September 2019 (in French).

[31] 2019 **Guyon, J.** *Ligue des champions : pourquoi les "TV pairings" ont augmenté la probabilité d'un PSG-Real.* Le Monde, August 30, 2019 (in French).

[30] 2018 **Guyon, J.** *Ligue des champions : Atlético Madrid ? Dortmund ? Qui seront les adversaires du PSG et de Lyon en 8e de finale ?* Le Monde, December 13, 2018.

[29] 2018 **Guyon, J. and Monkovic, T.** *FIFA, We Fixed Your World Cup Collusion Problem for You.* The New York Times, June 26, 2018.

[28] 2016 **Guyon, J.** *Pourquoi la Coupe du monde est plus équitable cette année.* The Conversation, June 13, 2018.

[27] 2018 **Guyon, J.** *Why Groups of 3 Will Ruin the World Cup (So Enjoy This One).* The New York Times, June 11, 2018.

[26] 2018 **Guyon, J.** *Mondial 2026 : pourquoi les groupes de trois risquent de fausser la Coupe du monde.* Le Monde, June 12, 2018.

[25] 2017 **Guyon, J.** *Barcelona x Chelsea é o confronto com mais chances de acontecer na Champions; veja outras probabilidades.* El País Brasil, December 11, 2017.

[24] 2017 **Guyon, J.** *Ligue des champions : pourquoi le PSG a presque une chance sur trois de rencontrer Chelsea.* Le Monde, December 10, 2017.

[23] 2017 **Guyon, J.** *Por qué el Barcelona tiene un 41,3% de probabilidades de emparejarse con el Chelsea en octavos.* El País, December 7, 2017.

[22] 2017 **Guyon, J.** *Tirage au sort de la Coupe du monde : comment ça marche et quelles probabilités pour la France.* Le Monde, November 30, 2017.

[21] 2017 **Guyon, J.** *Por qué España tiene el doble de probabilidades de estar con Argentina o Brasil en el grupo del Mundial.* El País, November 30, 2017.

[20] 2017 **Guyon, J.** *Losowanie nie do końca losowe. Analityk policzył, na kogo trafi Polska.* Przeglad Sportowy, December 1, 2017.

[19] 2017 **Guyon, J.** *Sorteio da Copa: as chances de o Brasil pegar Espanha ou Inglaterra na fase de grupos.* El País Brasil, December 1, 2017.

[18] 2017 **Guyon, J.** *Critério geográfico da Fifa produz distorções nos grupos, diz matemático.* Interview in Folha de São Paulo, November 30, 2017.

[17] 2017 **Guyon, J.** *Coupe du monde 2018 : la France miraculeusement tête de série... malgré la FFF.* Le Monde, October 11, 2017.

[16] 2016 **Guyon, J.** *Football : les avantages d'une Coupe du monde à 42 équipes.* Le Monde, November 16, 2016.

[15] 2016 **Guyon, J.** *Euro 2016 : un autre tableau final est possible.* Le Monde, June 24, 2016.

[14] 2016 **Guyon, J.** *Euro 2016 : ce que les probabilités révèlent du prochain adversaire des Bleus (et l'inéquité du système).* Le Monde, June 20, 2016.

[13] 2015 **Guyon, J.** *Euro 2016 : comment le tableau final favorise la France.* Le Monde, December 12, 2015.

[12] 2015 **Guyon, J.** *Pourquoi la France va dégringoler au classement FIFA.* So Foot, June 23, 2015.

[11] 2015 **Guyon, J.** *Champions League: How to Solve the Seeding Problem.* The New York Times, January 21, 2015.

[10] 2015 **Guyon, J.** *Ligue des champions : comment améliorer le tirage au sort.* Le Monde, February 24, 2015.

[9] 2015 **Guyon, J.** *Cómo resolver el problema de los cabezas de serie.* El País, February 25, 2015.

[8] 2014 **Guyon, J.** *The World Cup Draw Is Unfair. Here's a Better Way.* The New York Times, June 4, 2014.

[7] 2014 **Guyon, J.** *La FIFA doit aussi revoir le tirage au sort de sa Coupe du monde.* Le Monde, June 4, 2014.

[6] 2014 **Guyon, J.** *Repenser le tirage au sort de la Coupe du monde.* So Foot, June 4, 2014.

[5] 2014 **Guyon, J.** *A Better Way to Rank Soccer Teams in a Fairer World Cup.* The New York Times, June 13, 2014.

[4] 2014 **Guyon, J.** *El sistema del sorteo de grupos del Mundial es injusto. Cambiémoslo.* El País, June 16, 2014.

[3] 2014 **France Inter** Interview in the program La Tête Au Carré, May 30, 2014: `franceinter.fr/emission-la-tete-au-carre-debat-autour-de-lactualite-scientifique-48`.

[2] 2014 **Interview in the French weekly L'Express**, June 3, 2014: `http://www.lexpress.fr/actualite/sport/football/coupe-du-monde-le-tirage-au-sort-est-injuste_1548147.html`.

[1] 2011 **Guyon, J.** *Le smile dans les modèles à volatilité stochastique.* Les cahiers de l'Institut Louis Bachelier, n°3, Numéro spécial : mieux comprendre la recherche en finance, July 2011.

Talks in conferences, congresses, and workshops

2020

- **Research In Options 2020 Conference (RIO2020)** *IMPA, Rio de Janeiro (online)* (December)
- **WBS, 16th Quantitative Finance Conference** *Online* (September)
- **QuantMinds 2020** *Online* (May)
- **Risk Quant Summit USA 2020** *Online* (July)
- **7th International Conference on Mathematics in Finance** *Kruger National Park, South Africa* (July, postponed)
- **9th International Colloquium on Backward Stochastic Differential Equations and Mean Field Systems (BSDE2020)** *Annecy* (June, postponed)
- **Workshop on Mathematical Finance and Related Issues** *Osaka* (March, canceled)
- **Advances in Financial Mathematics** *Paris* (January)

2019

- **Research In Options 2019 Conference (RIO2019)** *IMPA, Rio de Janeiro* (December)
- **Vienna Congress on Mathematical Finance (VCMF 2019)** *Vienna* (September)
- **Risk Quant Summit USA 2019** *New York* (July)
- **3rd International Conference on Computational Finance** *A Coruña* (July)
- **MathSport International 2019** *Athens* (July)
- **Third International Congress on Actuarial Science and Quantitative Finance** *Manizales, Colombia* (June)
- **9th General AMaMeF conference** *Paris* (June)

- **SIAM Conference on Financial Mathematics and Engineering** *Toronto* (June)
- **Conference honoring Nicole El Karoui's 75th birthday** *Paris* (May)
- **QuantMinds 2019** *Vienna* (May)
- **Risk Quant Summit** *London* (March)

2018
- **Options: 45 Years after the publication of the Black-Scholes-Merton Model** *The Hebrew University of Jerusalem* (December)
- **Research In Options 2018 Conference (RIO2018)** *IMPA, Rio de Janeiro* (November)
- **WBS, 14th Quantitative Finance Conference** *Nice* (September)
- **10th World Congress of the Bachelier Finance Society** *Dublin* (July)
- **Risk Quant Summit USA 2018** *New York* (July)
- **QuantMinds 2018** *Lisbon* (2018)
- **Conference Football and Data** *École polytechnique, Paris* (April)
- **Workshop on Fairness in Sports** *Ghent University* (April)

2017
- **Research In Options 2017 Conference (RIO2017)** *IMPA, Rio de Janeiro* (November)
- **Global Derivatives USA 2017** *Chicago* (November)
- **Jim Gatheral's 60th Birthday Conference** *New York* (October)
- **MathSport International 2017** *Università degli Studi di Padova* (June)
- **Global Derivatives 2017** *Barcelona* (May)
- **Mathematics of Quantitative Finance** *Oberwolfach* (February)
- **Advances in Financial Mathematics** *Paris* (January)

2016
- **Research In Options 2016 Conference (RIO2016)** *IMPA, Rio de Janeiro* (November)
- **SIAM Conference on Financial Mathematics and Engineering** *Austin* (November)
- **12th International Conference on Monte Carlo and quasi-Monte Carlo methods in Scientific Computing** *Stanford University* (August)
- **9th World Congress of the Bachelier Finance Society** *New York* (July)
- **International Conference on Monte Carlo techniques** *Paris* (July)
- **Second International Congress on Actuarial Science and Quantitative Finance** *Cartagena, Colombia* (June)
- **Global Derivatives 2016** *Budapest* (May)
- **Workshop on Particle Methods for the Management of Risks** *Paris* (April)

2015
- **The 11th Interest Rate Conference, WBS** *Paris* (October)
- **New England Symposium on Statistics in Sports 2015** *Harvard University* (September)
- **MathSport International 2015** *Loughborough University* (June)
- **Fifth International IMS-FIPS Workshop** *Rutgers University* (June)
- **Global Derivatives Trading and Risk Management 2015** *Amsterdam* (May)
- **The 2nd Interest Rate Conference USA, WBS** *New York* (May)

2014
- **Research In Options 2014 Conference (RIO2014)** *IMPA, Rio de Janeiro* (December)
- **5th International Conference on Mathematics in Finance** *Kruger National Park, South Africa* (August)
- **8th World Congress of the Bachelier Finance Society** *Brussels* (June)
- **Global Derivatives Trading and Risk Management 2014** *Amsterdam* (May)
- **New Trends in Computational Finance and Related Topics** *ICMS, Edinburgh* (April)
- **Advances in Financial Mathematics** *Paris* (January)

2013
- **Research In Options 2013 Conference (RIO2013)** *IMPA, Rio de Janeiro* (December)
- **Global Derivatives Trading and Risk Management 2013** *Amsterdam* (April)

2012
- **Research In Options 2012 Conference (RIO2012)** *IMPA, Rio de Janeiro* (December)
- **Global Derivatives Trading and Risk Management USA 2012** *Chicago* (November)

	• **Global Derivatives Trading and Risk Management 2012** *Barcelona* (April)
	• **The Interest Rate Conference, WBS** *London* (March)
	• **Conference on Quantitative and Statistical Finance** *Université Paris VII* (March)
2011	• **Research In Options 2011 Conference (RIO2011)** *IMPA, Rio de Janeiro* (November)
	• **Global Derivatives Trading and Risk Management 2011** *Paris* (April)
	• **Modelling and Managing Financial Risks** *International conference organized in Paris in the framework of the chair "Financial Risks" (Ecole polytechnique - Ecole des ponts - Société Générale) of the Risk Foundation* (January)
2010	• **Research In Options 2010 Conference (RIO2010)** *IMPA, Rio de Janeiro* (November)
2009	• **Research In Options 2009 Conference (RIO2009)** *IMPA, Rio de Janeiro* (November)
2008	• **"Journées MAS" of the SMAI** *Université de Rennes 1* (August)
2006	• **Workshop on Mathematical Finance** *Kyoto University* (August)
	• **31st Conference on Stochastic Processes and their Applications (SPA2006)** *Université Paris V* (July)
	• **Journées de Statistique** *EDF, Paris* (May)
	• **Amamef International Conference on Numerical Methods in Finance** *INRIA Rocquencourt* (February)
	• **VIIth Workshop on Quantitative Finance** *Università degli Studi, Perugia* (January)
2005	• **Quantitative Methods in Finance Conference (QMF2005)** *University of Technology, Sydney* (December)
	• **Journées de probabilités** *Institut Elie Cartan, Nancy* (September)

Invited lectures, short courses, and full-day workshops

2019	• **Vienna Congress on Mathematical Finance (VCMF 2019)** *Vienna* (September)
	• **Third International Congress on Actuarial Science and Quantitative Finance** *Manizales, Colombia* (June)
	• **QuantMinds 2019** *Vienna* (May)
	• **TU Berlin** *Berlin* (May)
2018	• **QuantMinds 2018** *Lisbon* (May)
2017	• **Research In Options 2017 Conference (RIO2017)** *IMPA, Rio de Janeiro* (November)
	• **Global Derivatives 2017** *Barcelona* (May)
2016	• **Center for Financial Mathematics and Actuarial Sciences** *University of California, Santa Barbara* (October)
	• **Global Derivatives 2016** *Budapest* (May)
2015	• **Global Derivatives 2015** *Amsterdam* (May)
2014	• **Global Derivatives 2014** *Amsterdam* (May)
2009	• **Research In Options 2009 Conference (RIO2009)** *IMPA, Rio de Janeiro* (November)

Talks in seminars

2020	• **BBQ (Bloomberg Quant Seminar)** *Online* (February)
	• **Bachelier Finance Society One World seminar series** *Online* (July)
	• **Mathematical Finance & Financial Data Science Seminar** *NYU Courant* (April)
	• **BBQ (Bloomberg Quant Seminar)** *Bloomberg headquarters, New York* (February)

2019
- **Workshop on Data Science, Mathematical Modelling and Quantitative Finance** *Universidade Federal Fluminense, Rio de Janeiro* (November)
- **BBQ (Bloomberg Quant Seminar)** *Bloomberg headquarters, New York* (November)
- **Practitioners' Seminar of the Mathematics of Finance MA Program** *Columbia University, New York* (April)
- **BBQ (Bloomberg Quant Seminar)** *Bloomberg headquarters, New York* (January)

2018
- **Seminar of the Applied Mathematics Department** *Funda cão Getúlio Vargas, Rio de Janeiro* (November)
- **Financial Engineering Practitioners Seminar** *Columbia University, New York* (September)
- **Capital Fund Management** *Paris* (May)
- **Bachelier Seminar** *Institut Henri Poincaré, Paris* (May)
- **Financial Math Seminar** *Johns Hopkins University, Baltimore* (April)
- **Finance and Stochastics Seminar** *Imperial College London* (March)

2017
- **Mathematical and Computational Finance Seminar** *Oxford University* (October)
- **Financial Engineering Workshop** *Cass Business School, London* (October)
- **Financial Mathematics Seminar** *Princeton University* (September)
- **Columbia Mathematical Finance Seminar** *Columbia University, New York* (March)
- **Practitioners' Seminar of the Mathematics of Finance MA Program** *Columbia University, New York* (January)

2016
- **Center for Financial Mathematics and Actuarial Sciences** *University of California, Santa Barbara* (October)
- **NYU Tandon School of Engineering, Finance and Risk Engineering Seminar series** *New York* (September)
- **Practitioners' Seminar of the Mathematics of Finance MA Program** *Columbia University, New York* (January)

2015
- **BBQ (Bloomberg Quant Seminar)** *Bloomberg headquarters, New York* (June)
- **Mathematical Finance Seminar** *Columbia University, New York* (March)
- **Practitioners' Seminar of the Mathematics of Finance MA Program** *Columbia University, New York* (February)

2014
- **Seminar of the Electrical Engineering Department** *PUC, Rio de Janeiro* (December)
- **BBQ (Bloomberg Quant Seminar)** *Bloomberg headquarters, New York* (September)

2013
- **Seminar of the Electrical Engineering Department** *PUC, Rio de Janeiro* (December)
- **Electronic Trading Group Seminar** *KCG (Knight Capital–Getco), Jersey City* (November)
- **Mathematical Finance and Probability Seminar** *Rutgers University* (October)
- **IAFE-Thalesians Seminar** *New York University* (September)
- **Global modeler's meeting** *Morgan Stanley headquarters, New York* (July)
- **BBQ (Bloomberg Quant Seminar)** *Bloomberg headquarters, New York* (June)
- **Quantitative Finance Seminar** *The Fields Institute for Research in Mathematical Sciences, Toronto* (February)

2012
- **Mathematics of Finance Seminar** *Université de Marne-la-Vallée* (May)

2011
- **"Mathematical Finance, Numerical Probability and Statistics of processes" Seminar** *Université Paris VII* (October)
- **Mathematics of Finance Seminar** *Université de Marne-la-Vallée* (May)

2010
- **Mathematics of Finance Seminar** *Université de Marne-la-Vallée* (January)

2009	• **MASEF Seminar** *Université Paris-Dauphine* (November)
	• **Seminar of the chair "Financial Risks" (Ecole polytechnique - Ecole des ponts - Société Générale) of the Risk Foundation** *Palais Brogniart, Paris* (September)
	• **Seminar on Complex Systems** *Ecole des ponts ParisTech, Paris* (September)
2008	• **Seminar of Stochastic Calculus and Finance** *Ecole polytechnique, Paris* (April)
2005	• **HSBC Capital Markets Research** *Paris* (November)
	• **Seminar of Probability Theory, Statistics and Biology** *Université Paris V* (October)
	• **OMEGA Seminar** *INRIA Sophia-Antipolis* (September)
	• **Bachelier Seminar, June 2005.** *Institut Henri Poincaré* (June)
	• **Seminar of Numerical Probability, Statistics of processes and Finance** *Université Paris VI* (April)
	• **Mathematics of Finance Seminar** *Université de Marne-la-Vallée* (February)
2002	• **Mathematics of Finance Seminar** *INRIA Rocquencourt* (November)

Editorial responsibilities

- **Managing Editor of Quantitative Finance** (since 2019)
- **Associate Editor of Journal of Dynamics and Games** (since 2017)
- **Associate Editor of SIAM Journal on Financial Mathematics** (since 2017)

Book review

- *Stochastic Volatility Modeling*, Lorenzo Bergomi (Chapman & Hall, 2016) for Quantitative Finance.

Refereeing

- Mathematical Finance
- Journal of Statistical Planning and Inference
- Journal of Computational Finance
- Risk Magazine
- SIAM Journal on Financial Mathematics
- International Journal of Theoretical and Applied Finance
- European Journal of Physics
- Journal of Optimization Theory and Applications
- Annals of Operations Research
- International Journal of Sports Science and Coaching
- Quantitative Finance
- Journal of Sports Analytics
- INFORMS Journal on Computing
- International Journal of Sports Science & Coaching

Student supervision

2020	• **Adam Halmi** *Internship, Ecole polytechnique* (4 months). Machine Learning for solving nonlinear PDEs. **Won the 2020 Best Research Internship Award from Ecole polytechnique**
	• **Jordan Lekeufack Sopze** *Internship, Ecole polytechnique* (4 months). Learning VIX from SPX path, and joint calibration of path-dependent volatility models.
	• **Guixin Liu** *Voluntary summer project, M.A. Mathematics of Finance, Columbia University, Department of Mathematics* (2 months). Particle methods.

2019
- **Scander Mustapha** *Internship, Ecole polytechnique* (4 months). Joint calibration of SLV models to S&P 500 and VIX options via stochastic control of McKean SDEs.
- **Karl Dessenne, Mehdi El Emrani** *Project, M.Sc. Mathematics in Finance, NYU Courant* (4 months). Hermite models.
- **Tianhao Lu, Yiwei Shi, Geng Yan** *Project, M.Sc. Mathematics in Finance, NYU Courant* (4 months). Machine Learning for the pricing and hedging of derivatives.

2018
- **Pierre Cornilleau** *Internship, Master 2 Probabilités et Finance, Sorbonne Université-Ecole polytechnique* (6 months). Stochastic volatility models.
- **Laury Zhou** *Internship, M.Sc. Financial Engineering, Columbia University* (4 months). The VIX future in Bergomi models.
- **Louis Guigo** *Internship, NYU Courant Math Finance* (4 months). Joint calibration of SV models to S&P 500 and VIX options.
- **Michael Ang, Louis Guigo** *Project, M.Sc. Mathematics in Finance, NYU Courant* . Looking for a continuous model to jointly calibrate S&P 500 and VIX options.

2017
- **Maxime Cauchois** *Internship, Master 2 Probabilités et Finance, Sorbonne Université-Ecole polytechnique* (4 months). Path-dependent volatility models. Bounds for VIX derivatives. **Won the 2017 Best Internship Award from the "Chaire Risques Financiers"** (Ecole polytechnique-Ecole des ponts ParisTech-Sorbonne Université-Société générale)

2016
- **Antoine Michon** *Internship, Ecole polytechnique* (4 months). Study of a simple path-dependent volatility models. Calibration of pure path-dependent volatility models to market smiles.
- **Vathana Leang** *Internship, Master MAFN, Columbia University* (10 months). Hedging in path-dependent volatility models.

2015
- **Mohamed Ndaoud** *Internship, Ecole polytechnique* (4 months). Cross-dependent volatility.
- **Romain Menegaux** *Internship, Ecole polytechnique* (4 months). Random forests in path-dependent volatility models.
- **Jianbo Sun, Jiawei Sun** *Project, M.Sc. Mathematics in Finance, NYU Courant* (2 months). Machine learning of path-dependent volatility.

2014
- **Romain Menegaux** *Project, M.Sc. Financial Engineering, Columbia University* (2 months). Comparison of numerical schemes for SDEs.
- **Omar El Euch** *Internship, Ecole polytechnique* (5 months). Local correlation models.
- **Stéphane Shao** *Internship, Ecole Centrale Paris* (4 months). Backtracking algorithm. Multidimensional local volatility.
- **Aditi Dandapani** *PhD, Columbia University* (4 months). Multidimensional local volatility.

Scientific responsibilities, representation

- **Member of the scientific committee of the International Congress on Actuarial Science and Quantitative Finance** since 2017
- **Organizer of the invited session "Recent advances in volatility modeling and option pricing" during the Second International Congress on Actuarial Science and Quantitative Finance** 2016
- **Member of the scientific committee of the thematic cycle "Monte Carlo techniques", Laboratoire d'excellence Louis Bachelier, Paris** (2015–2016)
- **Organizer of the invited session "Volatility in Quantitative Investment and Risk Management" during the Fifth Institute for Mathematical Statistics – Finance, Probability, and Statistics Workshop (IMS-FIPS 2015)** Rutgers University (2015)

- **Member of the chair “Financial Risks” (Ecole polytechnique - Ecole des ponts - Société Générale) of the Risk Foundation** (2006-2012)
- **Member of the local organization committee of the conference “Modelling and managing financial risks”** (Paris, January 2011)
- **Organizer of the “Mathematics of Finance” Seminar** Ecole des ponts ParisTech-INRIA-Université de Marne-la-Vallée (2005-2006)
- **Ecole des ponts ParisTech student representative on the Teaching and Research Council** (2001)
- **Ecole polytechnique student representative in the Mathematics Department** (1999)

Other experiences

Summer 1999	**Humanitarian project (Bolivia)** Creation of a potable water system in a quechua community in the Altiplano.
1997–1998	**French national military service. Lieutenant.** Civil service in a technical and professional highschool in the suburbs of Strasbourg. Supervision and remedial courses to disadvantaged children.

Languages

French mother tongue, **English** fluent, **Spanish** fluent, **Italian** and **Portuguese** notions.

Computer skills

Operating systems: Unix, Windows, Mac

Programming: Python, C, C++, VBA, Matlab, Scilab

Hobbies

Football (soccer), running, hiking, traveling, photography, DJing, yoga