

Julien Guyon

CURRICULUM VITÆ (June 2023)

Personal information

Born: May 3, 1977 **Citizenship:** France **Marital status:** Married

Currently: Professor at Ecole des Ponts ParisTech (with tenure)

Work: CERMICS, Ecole des Ponts ParisTech; 6-8 avenue Blaise Pascal, Cité Descartes, Champs-sur-Marne, 77455 Marne-la-Vallée Cedex 2, France

Professional experience

Since 2022	Professor of Applied Mathematics at Ecole des Ponts ParisTech (with tenure) and Research Scientist at CERMICS, Paris. BNP Paribas “Futures of Quantitative Finance” chair holder.
2012–2022	Senior Quant in the Quantitative Research Group at Bloomberg L.P., New York.
2015–2022	Adjunct Professor, Courant Institute of Mathematical Sciences, New York University
2015–2022	Adjunct Professor, Department of Mathematics, Columbia University
Since 2021	Associate Editor of Finance & Stochastics
Since 2019	Associate 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.
2006–2009	Quant in the Equity Derivatives Quantitative Research team at Société Générale, Paris.
2001–2002	Crédit Lyonnais (now CACIB), Interest Rates Derivatives Quantitative Research (Paris) and Equity Derivatives Quantitative Research (London). One-year internship.
Fall 2000	National planning agency (DDE 95, Cergy-Pontoise) On temporary assignment to the Sanitation and Networks Agency Head. Corps des ponts internship program.

Awards and distinctions

- **Louis Bachelier Fellow, Institut Louis Bachelier** (since 2021)
- **2nd Prize, research paper competition, MIT Sloan Sports Analytics Conference** (2021)
- **Best PhD Thesis award, Ecole des Ponts ParisTech** (2006)

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, Sorbonne Université.** 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

Ecole des Ponts ParisTech (Paris): Professor

Probability Theory, Teacher, 2022–present. Cycle ingénieur.

Volatility Modeling, Teacher, 2022–present, Mathematics of Finance and Data Master program.

Columbia University, New York: Adjunct Professor, Department of Mathematics

Nonlinear Option Pricing, Teacher, 2015–present, Mathematics of Finance MA program.

New York University: Adjunct Professor, Courant Institute of Mathematical Sciences

Nonlinear Problems in Finance: Models and Computational Methods, Teacher, 2018–present, Mathematics in Finance MSc program.

Computational Methods for Finance, Teacher, 2015–2018, Mathematics in Finance MSc program.

Université Paris-Diderot: Adjunct Professor (Professeur Associé Service Temporaire)

Financial Instruments and Models, Teacher, 2011–2012, Master 2 M2MO (Modélisation aléatoire).

Ecole des Ponts ParisTech (Paris)

Mathematics of Finance, Teacher, 2008–2012.

Probability and Statistics, Teacher, 2004–2006.

Statistics and Data Analysis, Teacher, 2005–2006.

Mathematics of Finance, Teaching assistant (“Chargé de travaux dirigés”), 2004–2006.

Ecole nationale supérieure de techniques avancées (Paris)

Introduction to Probability and Statistics, Teaching assistant (“Chargé de travaux dirigés”), 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] 2014 **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 in quantitative finance.
- [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.

Book chapters

- [2] 2014 **Guyon, J. and Henry-Labordère, P.** *Being particular about calibration*. In Quant of the Year 2000–2014, Risk books, ed. Alexander Lipton.
- [1] 2013 **Guyon, J. and Henry-Labordère, P.** *Being particular about calibration*. In Post-Crisis Quant Finance, Risk books, ed. Mauro Cesa.

Peer-reviewed articles

- [24] 2022 **Guyon, J. and Lekeufack, J.** *Volatility Is (Mostly) Path-Dependent*. To appear in Quantitative Finance.
- [23] 2022 **Guyon, J. and El Amrani, M.** *Does the Term-Structure of Equity At-the-Money Skew Really Follow a Power Law?* To appear in Risk.
- [22] 2021 **Guyon, J.** *Dispersion-Constrained Martingale Schrödinger Problems and the Exact Joint S&P 500/VIX Smile Calibration Puzzle*. To appear in Finance and Stochastics.
- [21] 2022 **Guyon, J.** *The VIX Future in Bergomi Models: Fast Approximation Formulas and Joint Calibration with S&P 500 Skew*. SIAM Journal on Financial Mathematics 13(4):1418–1485.
- [20] 2022 **Guyon, J.** *‘Choose Your Opponent’: A New Knockout Design for Hybrid Tournaments*. Journal of Sports Analytics, 8(1):9–29.
- [19] 2020 **Guyon, J.** *Inversion of Convex Ordering in the VIX Market*. Quantitative Finance 20(10):1597–1623.
- [18] 2020 **Guyon, J.** *The Joint S&P 500/VIX Smile Calibration Puzzle Solved*. Risk Magazine, April.
- [17] 2020 **Guyon, J.** *Risk of Collusion: Will Groups of 3 Ruin the FIFA World Cup?* Journal of Sports Analytics 6(4):259–279.
- [16] 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.
- [15] 2019 **Guyon, J.** *Will groups of 3 ruin the World Cup?* Proceedings of the 2019 MathSport International Conference, Editors: Dimitris Karlis, Ioannis Ntzoufras, Sotiris Drikos, 140–155.
- [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.** *Stochastic volatility's orderly smiles*. 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.

Papers submitted for publication

- [4] 2022 **Guyon, J. and Bourgey, F.** *Fast Exact Joint S&P 500/VIX Smile Calibration in Discrete and Continuous Time*. SSRN. Submitted.
- [3] 2022 **Guyon, J. and Mustapha, S.** *Neural Joint S&P 500/VIX Smile Calibration*. SSRN. Revision submitted.
- [2] 2022 **Guyon, J.** *Dispersion-Constrained Martingale Schrödinger Bridges: Joint Entropic Calibration of Stochastic Volatility Models to S&P 500 and VIX Smiles*. SSRN. Submitted.
- [1] 2021 **Guyon, J.** *The smile of stochastic volatility: Revisiting the Bergomi-Guyon expansion*. SSRN. In revision.

Working papers

- [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

- [5–52] **48 articles** published in the press since 2014 on probability and statistics applied to sports, in particular fairness in sports (tournament design, draws, seeding, rankings): 5 in **The New York Times** (including one co-written with Toni Monkovic), 1 in **The Times**, 23 in **Le Monde**, 6 in **El País**, 5 in **Four Four Two**, and 2 in **So Foot**;
8 interviews on those topics on **France Inter** (scientific program “La Tête au Carré”, audience of 600K+) and in **L’Express**, **Folha de São Paulo**, **Le Temps**, **L’Equipe**, and **Slobodna Dalmacija**.
The full list is available at the end of this document.
- [4] 2019 **Guyon, J.** *New Voting Rules Could Finally Resolve Brexit*. Bloomberg Opinion, November 6, 2019.
- [3] 2019 **Guyon, J.** *Jeu, Hasard, Mérite et Équité*. Archicube, journal of the Ecole normale supérieure (ENS), September 2019.
- [2] 2018 **Guyon, J.** *Pourquoi la Coupe du monde est plus équitable cette année*. The Conversation, June 13, 2018.
- [1] 2011 **Guyon, J.** *Le smile dans les modèles à volatilité stochastique*. Les cahiers de l’Institut Louis Bachelier, no 3, Numéro spécial : mieux comprendre la recherche en finance, July 2011.

Talks in conferences as invited speaker

P denotes a plenary talk

- 2023
- P **Workshop “Stochastics around Finance”** *Kanazawa* (August)
 - **10th International Congress on Industrial and Applied Mathematics (ICIAM 2023)** *Tokyo* (August)
 - P **7th International Conference on Mathematics in Finance** *Kruger National Park, South Africa* (July)
 - **SIAM Conference on Financial Mathematics and Engineering** *Philadelphia* (June)
 - P **Rough volatility workshop 2023** *Isle of Skye* (May)
 - P **Quantitative Finance, conference in honor of Michael Demspster’s 85th birthday** *Cambridge, UK* (April)
- 2022
- **QuantMinds 2022** *Barcelona* (November)
 - **WBS, 17th Quantitative Finance Conference** *Dubrovnik* (October)
 - P **Research In Options 2022 Conference (RIO2022)** *IMPA and Khalifa University* (August)
 - P **The 9th International Colloquium on BSDEs and Mean Field Systems (BSDE2022)** *Annecy* (juin)
- 2021
- **QuantMinds 2021** *Barcelona* (December)
 - P **Research In Options 2021 Conference (RIO2021)** *IMPA and Khalifa University, online* (November)
 - **First Florence-Paris Workshop on Mathematical Finance** *Florence* (October)
 - **2021 SIAM Annual Meeting (AN21)** *Online* (July)
 - P **Risk Global Quant Network 2021** *Online* (July)
 - **SIAM Conference on Financial Mathematics & Engineering** *Online* (June)
- 2020
- P **Research In Options 2020 Conference** *IMPA, Rio de Janeiro (online)* (December)
 - **WBS, 16th Quantitative Finance Conference** *Online* (November)

- **QuantMinds 2020** *Online* (November)
 - **Risk Quant Summit USA 2020** *Online* (July)
 - **9th International Colloquium on Backward Stochastic Differential Equations and Mean Field Systems (BSDE2020)** *Annecy* (June, postponed)
 - **[P] Workshop on Mathematical Finance and Related Issues** *Osaka* (March, canceled)
 - **Advances in Financial Mathematics** *Paris* (January)
- 2019
- **[P] Research In Options 2019 Conference** *IMPA, Rio de Janeiro* (December)
 - **Vienna Congress on Mathematical Finance (VCMF 2019)** *Vienna* (September)
 - **Risk Quant Summit USA 2019** *New York* (July)
 - **[P] 3rd International Conference on Computational Finance** *A Coruña* (July)
 - **Third International Congress on Actuarial Science and Quantitative Finance** *Manizales, Colombia* (June)
 - **9th General AMaMeF conference** *Paris* (June)
 - **[P] Conference honoring Nicole El Karoui's 75th birthday** *Paris* (May)
 - **QuantMinds 2019** *Vienna* (May)
 - **Risk Quant Summit** *London* (March)
- 2018
- **[P] Options: 45 Years after the publication of the Black-Scholes-Merton Model** *The Hebrew University of Jerusalem* (December)
 - **[P] Research In Options 2018 Conference** *IMPA, Rio de Janeiro* (November)
 - **WBS, 14th Quantitative Finance Conference** *Nice* (September)
 - **Risk Quant Summit USA 2018** *New York* (July)
 - **QuantMinds 2018** *Lisbon* (2018)
 - **[P] Conference Football and Data** *École polytechnique, Paris* (April)
 - **[P] Workshop on Fairness in Sports** *Ghent University* (April)
- 2017
- **[P] Research In Options 2017 Conference** *IMPA, Rio de Janeiro* (November)
 - **Global Derivatives USA 2017** *Chicago* (November)
 - **[P] Jim Gatheral's 60th Birthday Conference** *New York* (October)
 - **Global Derivatives 2017** *Barcelona* (May)
 - **[P] Mathematics of Quantitative Finance** *Oberwolfach* (February)
 - **Advances in Financial Mathematics** *Paris* (January)
- 2016
- **[P] Research In Options 2016 Conference** *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)
 - **International Conference on Monte Carlo techniques** *Paris* (July)
 - **[P] Second International Congress on Actuarial Science and Quantitative Finance** *Cartagena, Colombia* (June)
 - **Global Derivatives 2016** *Budapest* (May)
 - **[P] Workshop on Particle Methods for the Management of Risks** *Paris* (April)
- 2015
- **The 11th Interest Rate Conference, WBS** *Paris* (October)
 - **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 • P **Research In Options 2014 Conference** *IMPA, Rio de Janeiro* (December)
- 2014 • P **5th International Conference on Mathematics in Finance** *Kruger National Park, South Africa* (August)
- 2014 • **Global Derivatives Trading and Risk Management 2014** *Amsterdam* (May)
- 2014 • P **New Trends in Computational Finance and Related Topics** *ICMS, Edinburgh* (April)
- 2014 • **Advances in Financial Mathematics** *Paris* (January)
- 2013 • P **Research In Options 2013 Conference** *IMPA, Rio de Janeiro* (December)
- 2013 • **Global Derivatives Trading and Risk Management 2013** *Amsterdam* (April)
- 2012 • P **Research In Options 2012 Conference** *IMPA, Rio de Janeiro* (December)
- 2012 • **Global Derivatives Trading and Risk Management USA 2012** *Chicago* (November)
- 2012 • **Global Derivatives Trading and Risk Management 2012** *Barcelona* (April)
- 2012 • **The Interest Rate Conference, WBS** *London* (March)
- 2011 • P **Research In Options 2011 Conference** *IMPA, Rio de Janeiro* (November)
- 2011 • **Global Derivatives Trading and Risk Management 2011** *Paris* (April)
- 2011 • **Modeling 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 • P **Research In Options 2010 Conference** *IMPA, Rio de Janeiro* (November)
- 2009 • **Research In Options 2009 Conference** *IMPA, Rio de Janeiro* (November)
- 2008 • **"Journées MAS" of the SMAI** *Université de Rennes 1* (August)
- 2006 • **Workshop on Mathematical Finance** *Kyoto University* (August)

Contributed talks in conferences

- 2023 • **MathSport International 2023** *Budapest* (June)
- 2023 • **MathRisk Conference on Numerical Methods in Finance** *Udine, Italy* (June)
- 2023 • **Quantitative Finance Workshop 2023** *Gaeta, Italy* (April)
- 2022 • **11th World Congress of the Bachelier Finance Society** (*online*) (June)
- 2021 • **EURO 2021** *Athens* (July)
- 2021 • **5th Eastern Conference on Football Economics / 7th Western Conference on Football and Finance** *online* (July)
- 2021 • **MathSport International 2021** *Online* (June)
- 2021 • **MIT Sloan Sports Analytics Conference 2021, 2nd Prize of the research paper competition** *Massachusetts Institute of Technology* (April)
- 2020 • **5th International Conference Sport Economics & Sport Management** *Paris* (May)
- 2019 • **MathSport International 2019** *Athens* (July)
- 2019 • **SIAM Conference on Financial Mathematics and Engineering** *Toronto* (June)
- 2018 • **10th World Congress of the Bachelier Finance Society** *Dublin* (July)
- 2017 • **MathSport International 2017** *Università degli studi di Padova* (June)
- 2016 • **9th World Congress of the Bachelier Finance Society** *New York* (July)
- 2015 • **New England Symposium on Statistics in Sports 2015** *Harvard University* (September)
- 2015 • **MathSport International 2015** *Loughborough University* (June)

- 2014 • **8th World Congress of the Bachelier Finance Society** *Brussels* (June)
- 2012 • **Conference on Quantitative and Statistical Finance** *Université Paris Diderot* (March)
- 2006 • **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)
- 2004 • **CEMRACS 2004 Summer School, Mathematics and Applications in Biology and Medicine** *Centre International de Rencontres Mathématiques, Marseille* (July-August)

Invited lectures, short courses, and full-day workshops

- 2022 • **Research In Options 2022 Conference (RIO2022)** *IMPA, Rio de Janeiro* (August)
- 2021 • **Global Quant Network** *Risk.net* (July)
- 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

- 2023 • **Seminar of the BNP Paribas chair “Futures of Quantitative Finance”** *BNP Paribas, Paris* (June)
 - **Invited Seminar** *Bank of America, New York* (April)
 - **Invited Seminar** *Barclays Capital, New York* (April)
 - **Columbia Mathematical Finance Seminar Series** *Columbia University, New York* (March)
 - **Keynote speaker at BBQ (Bloomberg Quant Seminar)** *Bloomberg, New York* (March)
 - **Finance and Stochastics Seminar** *Imperial College London* (March)
 - **EconophysIX chair seminar** *Capital Fund Management* (February)
 - **Invited seminar** *Capital Fund Management* (January)

- 2022
 - **Statistics and Machine Learning in Finance** *University of Oxford* (December)
 - **Talks in Financial and Insurance Mathematics** *ETH Zurich* (October)
 - **Stochastic Methods in Finance Seminar** *Ecole des Ponts ParisTech* (October)
 - **Bachelier Seminar** *Institut Henri Poincaré, Paris* (September)
 - **Columbia Mathematical Finance Seminar Series** *Columbia University, New York* (March)
 - **Financial Mathematics Seminar** *Florida State University* (February)
- 2021
 - **Financial mathematics seminar** *Scuola Normale Superiore di Pisa* (May)
 - **Center for Financial Mathematics and Actuarial Sciences** *University of California, Santa Barbara* (May)
 - **Math finance seminar** *University of California, Los Angeles* (April)
 - **Citi Markets Quantitative Analysis Lecture Series** *Citybank* (April)
 - **Financial Modeling Seminar** *Université Paris 1 Panthéon-Sorbonne* (March)
 - **Credit Suisse Quant Seminar** *Credit Suisse* (March)
 - **Practitioners' Seminar of the Mathematics of Finance MA Program** *Columbia University, New York* (March)
 - **Mathematical Finance & Financial Data Science Seminar** *NYU Courant* (January)
- 2020
 - **Sports Analytics Seminar** *University of Toronto* (December)
 - **BBQ (Bloomberg Quant Seminar)** *Online* (November)
 - **Bachelier Finance Society One World seminar series** *Online* (July)
 - **Keynote speaker at 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** *Fundação 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
 - **Keynote speaker at 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)
 - **Keynote speaker at 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)
 - **Keynote speaker at 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

- **Associate Editor of Finance & Stochastics** (since 2021)
- **Associate 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
- SIAM Journal on Financial Mathematics
- International Journal of Theoretical and Applied Finance
- Quantitative Finance
- Journal of Computational Finance
- Risk Magazine
- Risks
- Journal of Statistical Planning and Inference
- Journal of Optimization Theory and Applications
- Annals of Operations Research
- INFORMS Journal on Computing
- European Journal of Physics
- International Journal of Sports Science and Coaching
- Journal of Sports Analytics
- Canadian Journal of Statistics

PhD thesis examination

- 2023 • **Long Zhao (Columbia University, New York)** *Martingale Schrödinger Bridges and Optimal Semistatic Portfolios*
- 2022 • **William Lefebvre (Université Paris Cité)** *Stochastic control methods applied to portfolio construction, control with delay and PDE solving*
- 2021 • **Shiyi Wang (Monash University, Melbourne)** *Volatility modeling and calibration by optimal transport*

Student and postdoc supervision

- 2023 • **Guido Gazzani** *Postdoc* (1 year).
- **Adriano Todisco** *Internship of Master Mathematics of Finance and Data* (4 months). The quintic Ornstein-Uhlenbeck volatility model that jointly calibrates SPX & VIX smiles.
- 2022 • **MOPSI projects (course MOdéliser Programmeur SIMuler)** *2nd year, Ecole des Ponts ParisTech* (5 mois). Mentoring of 3 groups of students.
- **Jordan Lekeufack Sopze** *Bloomberg Quant Finance PhD Fellowship 2022* (4 months). Volatility is (mostly) path-dependent.
- 2021 • **MOPSI projects (course MOdéliser Programmeur SIMuler)** *2nd year, Ecole des Ponts ParisTech* (5 mois). Mentoring of 5 groups of students.
- **Scander Mustapha** *Internship, 2nd year PhD student, Princeton University* (3 months). Neural SDEs.
- **Andrea Angiuli** *Internship, 5th year PhD student, University of California Santa Barbara* (3 months). Machine Learning techniques for path-dependent models.
- 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, memberships

- **Chair holder, BNP Paribas Chair “Futures of Quantitative Finance”** since 2023 (jointly with H. Pham, Université Paris Cité). We created this partnership between BNP Paribas, Ecole des Ponts ParisTech and Université Paris Cité in March 2023
- **Organizer of the minisymposium “Volatility modeling” during the 2023 ICIAM Conference 2023**
- **Organizer of the minisymposium “Volatility modeling” during the 2023 SIAM Conference on Financial Mathematics & Engineering 2023**
- **Member of the Society for Industrial and Applied Mathematics (SIAM)**
- **Organizer of the minisymposium “Volatility modeling: Joint calibration of S&P 500 and VIX smiles” during the 2021 SIAM Conference on Financial Mathematics & Engineering 2021**
- **Member of the Risk.net Global Quant Network Advisory Board 2021**

- Elected Louis Bachelier Fellow of the Institut Louis Bachelier since 2021
- Member of the selection committee for the 2021 SIAM/Financial Mathematics and Engineering Early Career Prize 2021
- 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)

Consulting

2016–2017 **UEFA’s Competitions Division (Nyon, Switzerland)** Competition formats, ranking, scheduling

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

Press and radio

- [56] 2022 **Guyon, J.** *Ligue des champions : le Bayern Munich, adversaire le plus probable du PSG en huitièmes de finale*, Le Monde, November 7, 2022.
- [55] 2022 **Guyon, J.** *Interview in the French newspaper L'Equipe on the calculation of draw probabilities for the Round of 16 of the Champions League* , November 3, 2022.
- [54] 2022 **Guyon, J.** *Coupe du monde 2022 de football : les règles du tirage au sort et les adversaires probables des Bleus* Le Monde, April 1, 2022.
- [53] 2021 **Guyon, J.** *Ligue des champions : fallait-il annuler complètement le résultat du premier tirage ?* Le Monde, December 14, 2021.
- [52] 2021 **Interview in the French newspaper L'Equipe on the calculation of draw probabilities for the Round of 16 of the Champions League** , December 10, 2021.
- [51] 2021 **Guyon, J.** *Ligue des champions : le Real Madrid et Chelsea, adversaires les plus probables du PSG et de Lille* Le Monde, December 10, 2021.
- [50] 2021 **Guyon, J.** *Football : "La FIFA doit revoir le format de la Coupe du monde 2026"* Le Monde, November 19, 2021.
- [49] 2021 **Interview in the Swiss newspaper Le Temps about about how sports leagues are scheduled, in particular European soccer leagues** , October 23, 2021.
- [48] 2021 **Guyon, J.** *Champions League group stage draw: who are the most likely opponents of Manchester City, Manchester United, Liverpool and Chelsea?* Four Four Two, August 26, 2020.
- [47] 2021 **Interview in the French newspaper L'Equipe about the almost closedness of the UEFA Champions League and its new format for the 2024-27 cycle** , April 26, 2021: <https://www.lequipe.fr/Football/Article/La-ligue-des-champions-un-club-de-plus-en-plus-ferme/1246645>. The article was reproduced in the print version dated April 27 under the title *La coupe aux grandes oeillères*.
- [46] 2021 **Article on me and my work on fairness in sports, in particular soccer tournaments** Slobodna Dalmacija, April 17, 2021: <https://slobodnadalmacija.hr/sport/strani-nogomet/ocekuje-li-nas-kontroverzno-sp-2026-razgovarali-smo-sa-znanstvenikom-koji-je-dokazao-da-novi-format-donosi-opasnost-od-namjestanja-utakmica-1091795>
- [45] 2021 **Guyon, J.** *Réforme de la Ligue des champions : avantages et inconvénients du "championnat incomplet"* Le Monde, February 13, 2021.
- [44] 2020 **Guyon, J.** *Ligue des champions : Borussia M'Gladbach, adversaire le plus probable du PSG en huitième de finale* Le Monde, December 12, 2020.
- [43] 2020 **Guyon, J.** *Champions League knockout draw: What if group winners could choose their opponents?* Four Four Two, December 11, 2020.
- [42] 2020 **Guyon, J.** *Champions League knockout draw: Who are the most likely opponents for Liverpool, Manchester City and Chelsea?* Four Four Two, December 11, 2020.
- [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.
- [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.
- [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.
- [36] 2019 **Guyon, J.** *Ligue des champions : quels sont les adversaires les plus probables pour le PSG et Lyon.* Le Monde, December 15, 2019.
- [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 'a' défier un gros d'Europe dès la phase de poules.* Le Monde, November 20, 2019.
- [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.
- [31] 2019 **Guyon, J.** *Ligue des champions : pourquoi les "TV pairings" ont augmenté la probabilité d'un PSG-Real.* Le Monde, August 30, 2019.
- [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.* Przegląd 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, no3, Numéro spécial : mieux comprendre la recherche en finance, July 2011.