Pierre Étoré

Last updated : 21 avril 2026

off. 142,
LJK - Bâtiment IMAG,
700 avenue Centrale,
38401 St Martin d'Hères
France

Born the 26.01.1977 at Montpellier. French.
☎ +33 (0)4 57 42 17 35
✉ pierre.etore@univ-grenoble-alpes.fr
w http ://www-ljk.imag.fr/membres/Pierre.Etore/

Current position : Hors classe assistant professor at Grenoble INP. Holder of a HDR (Habilitation à Diriger des Recherche - Higher Degree of Research). CNU member. Holder of the RIPEC.

Research areas : **Diffusions with irregular coefficients** • **Mathematical Finance** • **Monte Carlo methods** • **Statistics of stochastic processes** • **Uncertainty quantification**

Language proficiency : **French** (native speaker), **English** (fluent), **German** (intermediate)

Programming language proficiency : **MatLab**, **C/C++**, **R** (teaching and regular usage)

Qualified PRU from 2017 to 2020 : with the number of qualification 17126181923 (after that automatically qualified as any titularized assistant professor).

Hors classe since september 2023.
CNU member since octobre 2023 and holder of the RIPEC since octobre 2024.

1 Academic Curriculum in short

december 2016 Habilitation à Diriger des Recherches (University of Grenoble, France). Defended the 2nd of december 2016.
Title : *Quelques contributions à l'étude et à la simulation des diffusions asymétriques.*
Jury : Tony Lelièvre, Arturo Kohatsu-Higa, Youssef Ouknine (referees), Denis Talay (president), Antoine Lejay, Emmanuel Maître, Clémentine Prieur (examiners).

Since 2008 Assistant professor at Grenoble-INP (teaching at ENSIMAG and UGA, research at LJK).

2008 Post-doc at CMAP (École Polytechnique, Palaiseau, France) in the team of probability and mathematical finance.

2007 Post-doc at CERMICS (École Nationale des Ponts et Chaussées, France), work on variance reduction methods by adaptive stratification in the team of Probability and Finance.

2003-2006 PhD in Applied Mathematics at IECN (University of Nancy, France). Defended the 12th of december 2006.
Advisors : Bernard Roynette, Antoine Lejay.
Title : *Approximation de processus de diffusion à coefficients discontinus en dimension. un et applications à la simulation.*
Jury : Thomas G. Kurtz, Dominique Lépingle (referees), Bernard Lapeyre (president), Antoine Lejay, Bernard Roynette (advisors).

2002-2003 Master 2 in Applied Mathematics at University Paul Sabatier Toulouse III, France. Probability track. Internship at IECN, advised by Antoine Lejay.

2 Responsibilities

2.1 Teaching responsibilities

2019-2021 Co-head of M2 MSIAM (international master program of industrial and applied mathematics, joint between UGA and Grenoble INP ; courses are taught in English). I was responsible for the Data Science track.

2.2 Editorial responsibilities

2021-2024 Associate editor for Computational and Applied Mathematics (COAM), Springer.

Since 2008 Regular reviewer for EJP, Bernoulli, SPA, Methodology and Computing in Applied Probability, Journal of Computational and Applied Mathematics, ESAIM P&S, etc...

2.3 Administrative and collective responsibilities

Since 2023	Nominated member of the CNU	
2013–2017	Co-responsible for the weekly seminar "Probability and Statistics"	LJK
2011–2020	Elected member of the Lab Council	LJK
2009–2010	Organizer of the working group "Financial Mathematics"	LJK
2008	Co-organizer of the working group "Financial Mathematics"	CMAP

2.4 PhD Committees

2018- Member (with Mireille Bossy, DR INRIA) of the PhD committee of Arthur Macherey (University of Nantes and University of Grenoble). The PhD is advised by Clémentine Prieur (UGA) and Anthony Nouy and Marie Billaud-Friess (Ecole Centrale de Nantes).

2.5 PhD jurys

June 2021 Member (examinator) of the PhD jury of Arthur Macherey, with Clémentine Prieur, Anthony Nouy and Marie Billaud-Friess as advisors, Tony Lelièvre as president, and Benjamin Jourdain and Mireille Bossy as referees.

2.6 Supervisions

Postdoc supervision

2022-2024 Postdoc of **Alexis Anagnostakis** (co-supervision with **Clémentine Prieur**). Topic : "Sensitivity Analysis for Hypoelliptic Systems".

PhD supervision

2012-2015 PhD of **Ester Mariucci** (co-supervision with **Sana Louhichi**). The defense of her thesis "Quelques résultats d'équivalence asymptotique pour des expériences statistiques dans un cadre non paramétrique" has taken place the 16th of september 2015, in front of the jury : Valentine Genon-Catalot (Pr. émérite Paris 5), Marc Hoffman (Pr. Univ. Paris-Dauphine), Ion Grama (Pr. Univ. Vannes), Anatoli Iouditski (Pr. Univ. Grenoble), Sana Louhichi, Pierre Etoré.

During this PhD thesis Ester Mariucci has produced 5 articles and one preprint.

After a post-doc period in Germany (Humboldt University in Berlin, Potsdam, ...) E. Mariucci is currently full professor at the university Versailles Saint-Quentin (France, hired in september 2020).

Master 2 internships supervisions

2023 M2R internship of **Gianluca Cappellari**, "Machine learning methods for the hedging problem in finance" (50% with **Sergio Bezerra**).

2021 M2R internship of **Joel andrepont**, "Uncertainty quantification in Stochastic Differential Equations and applications to Neurosciences " (50% with **Clémentine Prieur**).

2017 M2R internship of **Long Li**, "Uncertainty Quantification in Stochastic Differential Equations" (sequel of the preceding one) (50% with **Clémentine Prieur**).

2016 M2R internship of **Dang Khoi Pham**, "Uncertainty Quantification in Stochastic Differential Equations" (at 50% with **Clémentine Prieur**).

2012 M2R internship of **Ester Mariucci** "Regression non-paramétrique et bruit blanc" (50% with **Sana Louhichi**).

2010 M2R internship of **Ali Suleiman** (ENSIMAG) : "Nouvelles méthodes de développement asymptotique pour les modèles à volatilité locale" (20 % with **Emmanuel Gobet**).

Master 1 internships supervisions

2026 M1 internship of **Aymen El Hanafi** and **Ilyass Regragui** "Combining Feynman-Kac formulae and neural networks for solving PDEs in finance".

Master 1 project supervisions (non comprehensive list)

2025 Graduate project of M1 MSIAM of **Shubba Sanket Samantaray**, "Combining Feynman-Kac formulae and neural networks for solving PDEs".

2018 Projet de spécialité 2A ENSIMAG of **Omar Alami Ouali**, **Clémence Gardelle**, **Thomas Le Letty**, **Alexandre Mazars** and **Michel Pol**, "Couverture en Gamma-neutre".

2016 Projet de spécialité 2A ENSIMAG of **Karim Bargaoui**, **Iliasse Bourchid** and **Youssef Haddane**, "Aspects numériques de la couverture de produits dérivés".

2013 Projet de spécialité 2A ENSIMAG of **Yacov Hamou** and **Rufy Norsa**, "Méthodes de simulation exactes en finance".

2012 Projet de spécialité 2A ENSIMAG of **Fatma Khalili** and **Adam Moustaide**, "Réduction de variance par échantillonnage stratifié pour les méthodes de Monte-Carlo et applications à la finance".

2009 2nd year internship of **Lionel Tengou** (Ecole Polytechnique) : "Méthodes de développement asymptotique pour les options payant des dividendes discrets" (at 50%).

3 Teaching

3.1 At ENSIMAG and UGA (Grenoble)

In Grenoble I have taught at ENSIMAG (Eng. School in App. Math. and Comp. Science) in 1st, 2nd and 3rd year - this corresponds to L3, M1 and M2 levels, and will be referred to as 1A, 2A, 3A. The first year is a "tronc commun" (common introductory track) where students receive general background in applied mathematics and computer science.
The students choose a specialization in 2nd year. I have mostly taught in the Financial engineering track (IF).
From 2015 to 2021 I have been also teaching in the M2R MSIAM program (international master).
Since 2nd semester 2023-2024 I have been giving TDs (work in small classes) at L2 level at DSDA at Valence (Département de Sciences Drôme Ardeche ; this depends from UGA).

At M2 level

2015-2017 and 2018-2021 *Stochastic Calculus and Applications to Finance* (created by P. Etoré, taught in English) , M2 Research MSIAM 18h/year
This condensed MsC course aims at presenting Brownian motion, stochastic calculus and their applications to finance. No previous knowledge of Brownian motion is required ; the content is : Brownian motion • Itô integral and formula • Theorems of Lévy and Girsanov • Link SDE/PDE • Black-Scholes model

Textbook of the course (2019, in English) :
https ://www-ljk.imag.fr/membres/Pierre.Etore/fichiers/poly_SCAF.pdf

2019-2021 *Data Challenge* and *Data Science Seminars* (taught in English) , M2 R MSIAM students projects
Coordination of these projects for the MSIAM students (teams are constituted with students from other masters)

2008-2013, 2017- *Fondements Mathématiques du Calcul Stochastique*, 3A IF (created by P. Etoré, Financial engineering track, 3rd year) Ensimag 18h/year
This MsC course presents the "true" stochastic calculus, as it is generally taught in M2R. Students attending this course have some previous knowledge of Brownian motion, acquired in 2A IF ; the content is : Construction of Brownian motion • Wiener space • Continuous time martingales • Finite variation processes • Quadratic variation of processes • Itô formula • Theorems of Lévy and Girsanov • Local time • Tanaka formulas • SDE • Feller tests for non explosion • link between SDE and PDE

2010-2017 *Gestion dynamique des risques financiers I (GDRF1)*, created by P. Etoré, 3A IF Ensimag 18h/year
This aim of this MsC course was to present the use of stochastic calculus for financial models with multiple risky assets ; the content was : Multidimensional Black-Scholes model • Hedging and pricing • Complete and viable markets • Link with the risk-neutral probability measure • Black-Scholes PDE • Dupire model • Change of numéraire • Pricing of exotic options

At M1 level

2010-2011, 2014- *Processus Aléatoires et Applications Financières*, 2A IF Ensimag created by P. Etoré, 18h course + 18h in TD (2 groups)
This course introduces the notion of stochastic process and its application to financial models, in discrete time ; the content is : Integration and probability • Conditional expectation • Markov processes and Markov chains • Invariant measures and Markov chains • Discrete time martingales • Discrete time financial models (CRR) • Pricing and hedging in these models

Textbook of the course (2019, in French) :
https ://www-ljk.imag.fr/membres/Pierre.Etore/fichiers/poly_PSAF.pdf

2018-2021 *Probabilités pour l'informatique*, 2A Ensimag Alternants (Apprenticeship) created by P. Etoré, 18h/year
This course is designed for apprentice students needing some probabilistic concepts for computer science use ; the content is : Simulation of random variables • basics of classification theory and machine learning • Markov chains and their simulation, invariant measures • Markov jump processes and queueing theory

slides of the course (2020, in French) :
https ://www-ljk.imag.fr/membres/Pierre.Etore/fichiers/Slides_PI_intro_chap1.pdf ; https ://www-ljk.imag.fr/membres/Pierre.Etore/fichiers/Slides_PI_chap2.pdf ; https ://www-ljk.imag.fr/membres/Pierre.Etore/fichiers/Slides_PI_chap3.pdf

2008-2012 *Processus Aléatoires*, 2A MMIS Ensimag (created by H. Guiol, scientific calculus track) 18h course + 18h in TD
Markov processes and Markov chains • Invariant measures and Markov chains, ergodic theorem • Poisson process • Markov jump processes • Queueing theory • Martingales

2009, 2011 *Introduction au calcul stochastique et applications financières*, Created by E. Gobet, 2A IF Ensimag 18h crse + 18h in TD
Brownian motion • Itô formula for a function of time and Brownian motion • Cameron-Martin theorem • Black-Scholes model • Hedging and pricing • Introduction to jump models (Merton)

At L3 level

2026- *Probabilités et Statistiques 2*, 1A Ensimag (created O. Gaudoin and P. Etoré) 24h magistral course + 24h in TD
Probability spaces • Random variables • Random vectors, Gaussian vectors • Convergence of random variables • Statistical inference • Optimal estimation • Statistical tests

Textbook of the course (2026, in French) :
https ://www-ljk.imag.fr/membres/Pierre.Etore/fichiers/poly_PS2.pdf

2025- *Probabilités et Statistiques 1*, 1A Ensimag (created by O. François and C. Dutang) 48h of "Cours/TD/TP"
Random variables • Monte Carlo method • Statistical tests • Linear regression

2016-2022 *Probabilités Appliquées*, 1A Ensimag (created by O. François) 18h magistral course + 18h in TD
Random variables • Cumulative distribution function • Conditional expectation • Monte Carlo method

2016-2021 *Principes et Méthodes Statistiques (PMS)*, 1A Ensimag (created by O. Gaudoin) 18h magistral course + 18h in TD/TP
This course introduces the concepts and methods of statistics, with a lot of practice in R ; the content is : Descriptive statistics • Estimation, maximum likelihood estimators • Confidence intervals • Statistical tests • Linear regression

2018-2019 *Introduction à la Science des Données*, 1A Ensimag (course given by O. François) 18h in TD/TP
Basics of machine learning • Bayes rules • Classification problems • Neural networks • R programming

At L2 level

since 2024 *Probabilités*, L2 Sciences at DSDA (course created by Marie-Cécile Darracq) 18h in TD
Probabilities (countable universe case) • Random variables

since 2024 *Suites et séries de fonctions*, L2 Sciences at DSDA (course created by Guillaume Idelon-Roton) 18h in TD
Sequences of functions • Series of functions • Fourier series • Power series • Parameter dependent integrals

At L1 level

since 2024 *Découverte des Mathématiques Appliquées*, L1 Sciences at DSDA (course created by Guillaume Idelon-Roton) 15h in TD, 15h in TP
64 bits representation of numbers • interpolation • numerical integration • schemes for ordinary differential equations • some optimization techniques

3.2 At M2R ISFA (Lyon)

During 5 years I have given the following course at ISFA in Lyon. In exchange A. Cousin from ISFA has given a risk measure course at ENSIMAG.

2010-2014 *Méthodes numériques avancées*, M2R Finance ISFA, created by P. Etoré, 18h/year
Euler scheme • Variance reduction methods • Computing sensitivities • Dynamic hedging • Exotic options • Programming in SciLab

3.3 At ESSTIN and ENSEM (at Nancy, during my PhD)

2004-2006 *Analyse/Algèbre* at ESSTIN, L2 level TD, 64h/year
2003-2004 *Probabilités* at ENSEM, L3 level TD, 24h/year

3.4 Doctoral school courses :

2018 *Stochastic Calculus and Applications to Finance*, École doctorale MSTII Grenoble 18h course

4 Research activities

4.1 Publications in peer-reviewed journals (all available on HAL) :

1. *The fundamental solution of a 1D evolution equation with a sign changing diffusion coefficient* (2025), with Éric Bonnetier and Miguel Martinez, Journal of Statistical Physics, Vol. 192.
2. *A probabilistic point of view for the Kolmogorov hypoelliptic equations* (2023), with José R. Leon and Clémentine Prieur, ESAIM P&S, Vol. 27, pp 668-693.
3. *Stochastic processes associated to multidimensional parabolic transmission problems in divergence form* (2023), with Miguel Martinez, ALEA, Vol. 20, pp 291-311.
4. *A transformed stochastic Euler scheme for multidimensional transmission PDE* (2021), with Miguel Martinez, Journal of Computational and Applied Mathematics, Vol. 394 (october 2021).
5. *Global sensitivity analysis for models described by stochastic differential equations*, with Clementine Prieur, Dang Khoi Pham and Long Li, Methodology and Computing in Applied Probability, Vol. 22, pp 803-831 (june 2020).
6. *Time inhomogeneous Stochastic Differential Equations involving the local time of the unknown process, and associated parabolic operators*, with Miguel Martinez, SPA, Vol. 128 (8), pp 2642-2687 (2018).
7. *L_1-distance for additive processes with time-homogeneous Lévy measures*, with Ester Mariucci, ECP Vol. 19, art. 57 (2014).
8. *Long time behaviour of a stochastic nano particle*, with Stéphane Labbé and Jérôme Lelong, Journal of Differential Equations, Vol. 257(6), pp 2115-2135 (2014).
9. *Exact simulation for solutions of one-dimensional Stochastic Differential Equations with discontinuous drift*, with Miguel Martinez, ESAIM P&S, Vol. 18, pp 686-702 (2014).
10. *Exact simulation of one-dimensional stochastic differential equations involving the local time at zero of the unknown process*, with Miguel Martinez, Monte Carlo Methods and Applications, Vol. 19(1), pp 41-71 (2013).
11. *On the existence of a time inhomogeneous skew Brownian motion and some related laws*, with Miguel Martinez, EJP Mars 2012, Vol. 17, art. 19.
12. *Stochastic expansion for the pricing of call options with discrete dividends*, with Emmanuel Gobet, Applied Mathematical Finance, Vol. 19(3), pp 233-264 (2012).
13. *On adaptive stratification*, with Gersende Fort, Benjamin Jourdain and Éric Moulines, Annals of Operations Research, Vol. 189, pp 127-154 (2011).
14. *Adaptive optimal allocation in stratified sampling methods*, with Benjamin Jourdain, Methodology and Computing in Applied Probability, Vol. 12(3), pp 335-360 (2010).
15. *A Donsker theorem for one-dimensional processes with measurable coefficients*, with Antoine Lejay, ESAIM P&S 11, pp 301-326 (2007).
16. *On random walk simulation of one-dimensional diffusion processes with discontinuous coefficients*, EJP, Vol. 11 (2006).

4.2 Preprints (all available on HAL, except number 1. which is too recent) :

1. *Well-posedness and exponential ergodicity of the Langevin process in a bounded domain with specular reflection* (march 2026), with with José R. Leon and Clémentine Prieur.
2. *Splitting methods for stochastic Hodgkin-Huxley type systems and a localized fundamental mean-square convergence theorem* (february 2026), with with Anna Melnykova and Irene Tubikanec.

3. *Asymptotic equivalence of time continuous additive processes and their discrete counterpart* (2013), with Sana Louhichi and Ester Mariucci.

4.3 Contributed talks on conferences :

2023 *Global Sensitivity Analysis of Models Described by Hypoelliptic Systems of Stochastic Differential Equations*, Uncertainties 2023, Fortaleza, Brazil.

2022 *The fundamental solution of a 1D evolution equation with a sign changing diffusion coefficient*, Workshop "Diffusions singulières", Nancy, France.

2022 *Global Sensitivity Analysis of Models Described by Hypoelliptic Systems of Stochastic Differential Equations*, SIAM UQ 2022, Atlanta, USA.

2019 *Méthodes de projection de Galerkin pour l'analyse de sensibilité des équations différentielles stochastiques*, SMAI, Biennale 2019, Guidel, France.

2018 *A transformed stochastic Euler scheme for multidimensional transmission PDE*, International conference dedicated to the 100th anniversary of I.I. Gikhman, Kiev, Ukraine.

2018 *Time inhomogeneous Stochastic Differential Equations involving the local time of the unknown process, and associated parabolic operators*, at SPA conference, Gothenburg, Sweden.

2016 *Time inhomogeneous Stochastic Differential Equations involving the local time of the unknown process and associated parabolic operators*, Workshop, "Numerical schemesfor SDEs and SPDEs", Lille.

2014 *Exact simulation for one-dimensional Stochastic Differential Equations with discontinuous drift,* MCQMC2014 at Leuven, Belgium.

2013 *Existence d'un Skew brownien inhomogène,* at Journées de Probabilités 2013 in Orléans.

2010 *Stochastic expansion for the pricing of call options with discrete dividends* at SPA at Osaka, Japan.

2009 *On adaptive Stratification* (poster) à la conférence SPA à Berlin, Germany.

2008 *Adaptive methods in stratified sampling and applications to option pricing,* at MC-QMC, Montreal, Canada.

2006 *Simulation par marches aléatoires de processus de diffusion à coefficients irréguliers,* at congrès "Jeunes probabilistes et statisticiens" à Aussois.

2005 *Stochastic methods for simulating fluid mechanics in irregular media*, at conference "SIAM Geosciences 2005" in Avignon.

2004 *Méthodes stochastiques II*, at workshop "Milieux fracturés", Porquerolles island.

2004 *Simulation par marches aléatoires pour opérateurs sous forme divergence*, at journées MAS 2004 in Nancy.

2004 *Simulation par marches aléatoires pour opérateurs sous forme divergence*, at journées ENS XIV in Évry.

4.4 Seminars :

2026 *Splitting methods for stochastic Hodgkin-Huxley type systems and a localized fundamental mean-square convergence theorem*, Seminar in Toulouse.

2026 *Splitting methods for stochastic Hodgkin-Huxley type systems and a localized fundamental mean-square convergence theorem*, Seminar in Lille.

2026 *Splitting methods for stochastic Hodgkin-Huxley type systems and a localized fundamental mean-square convergence theorem*, Seminar in Lyon.

2025 *Global sensitivity analysis for models described by stochastic differential equations*, Seminar in Saint-Étienne.

2022 *Global sensitivity analysis for models described by stochastic differential equations*, Seminar at the University of Paraïba, Brazil.

2022 *Méthodes de projection de Galerkin pour l'analyse de sensibilité des équations différentielles stochastiques*, Seminar in Paris Panthéon-Sorbonne.

2021 *Méthodes de projection de Galerkin pour l'analyse de sensibilité des équations différentielles stochastiques*, Seminar in Lille.

2021 *Méthodes de projection de Galerkin pour l'analyse de sensibilité des équations différentielles stochastiques*, Seminar in Nancy.

2020 *Méthodes de projection de Galerkin pour l'analyse de sensibilité des équations différentielles stochastiques*, Seminar in Mulhlouse.

2020 *Méthodes de projection de Galerkin pour l'analyse de sensibilité des équations différentielles stochastiques*, St-Étienne, séminaire de l'Institut Henri Fayol.

2019 *A transformed stochastic Euler scheme for multidimensional transmission PDE*, Seminar at LJK in Grenoble.

2018 *Equations différentielles stochastiques unidimensionnelles inhomogènes en temps faisant intervenir le temps local du processus inconnu*, Seminar in Marseille.

2017 *Equations différentielles stochastiques unidimensionnelles inhomogènes en temps faisant intervenir le temps local du processus inconnu*, Seminar in Rouen.

2017 *Equations différentielles stochastiques unidimensionnelles inhomogènes en temps faisant intervenir le temps local du processus inconnu*, Seminar in Besancon.

2017 *Equations différentielles stochastiques unidimensionnelles inhomogènes en temps faisant intervenir le temps local du processus inconnu*, Seminar in Nancy.

2015 *Equations différentielles stochastiques unidimensionnelles inhomogènes en temps faisant intervenir le temps local du processus inconnu*, Seminar at LJK, Grenoble.

2015 *Simulation exacte d'EDS unidimensionnelles perturbées en zéro*, Seminar in Lille.

2015 *Simulation exacte d'EDS unidimensionnelles perturbées en zéro*, Seminar in Marrakech (Morocco).

2013 *Simulation exacte d'EDS unidimensionnelles perturbées en zéro*, Seminar in Nancy.

2013 *Simulation exacte d'EDS unidimensionnelles perturbées en zéro*, at the probability seminar at Évry.

2012 *Simulation exacte d'EDS faisant intervenir le temps local en zéro du processus inconnu*, Seminar at LJK, Grenoble.

2012 *Simulation exacte d'EDS faisant intervenir le temps local en zéro du processus inconnu* at GdT finances et probabilités of UMLVPE/ENPC.

2010 *Stochastic expansion for the pricing of call options with discrete dividends*, Seminar at LJK, Grenoble.

2008 *Approximation de processus de diffusion à coefficients discontinus en dimension un et applications à la simulation*, Seminar at LJK, Grenoble.

2008 *Méthodes adaptives pour la stratification* at GdT finances et probabilités, CMAP.

2008 *Méthodes adaptives pour la stratification* at "seminaire en probabilités de l'Université Paris XIII".

2007 *Méthodes adaptives pour la stratification* at ADAP'MC Seminar (Paris).

2007 *Méthodes adaptives pour la stratification* at GdT finances et probabilités of UMLV/ENPC.

2007 *Approximation de processus de diffusion à coefficients discontinus en dimension un et applications à la simulation* at GdT finances et probabilités of UMLV/ENPC (Paris).

2007 *Approximation de processus de diffusion à coefficients discontinus en dimension un et applications à la simulation* at ADAP'MC Seminar(Paris).

2006 *Approximation de processus de diffusion à coefficients discontinus en dimension un et applications à la simulation*, at "GdT hebdomadaire de l'équipe de probabilités de l'IECN" (Nancy).

2006 *Méthodes de simulation par marches aléatoires de processus à coefficients discontinus dans le cas unidimensionnel*, at Seminar "Probabilités numériques" at Sophia-Antipolis.

2005 *Méthodes numériques probabilistes pour opérateurs sous forme divergence avec coeffi- cients discontinus*, at "GdT hebdomadaire de l'équipe de probabilités de l'IECN" (Nancy).

2004 *Construction de processus de diffusion generalisés d'après N.I. Portenko*, at "GdT hebdomadaire de l'équipe de probabilités de l'IECN" (Nancy).

4.5 Research stays

Jan. 2025 Research stay at Linz University, Austria. Work with Anna Melnykova and Irene Tubikanec on splitting schemes for Hodgkin-Huxley model.

Feb.-July 2023 CNRS delegation at LJK.

August 2022 Three week stay at the University of Paraïba, Brazil. Work with Sergio Bezerra on the use of neural networks for the hedging problem in Finance.

Feb.-July 2022 INRIA delegation in the PASTA team (Nancy) : work on pseudo singular diffusions and the use Neural Networks for computing solutions of PDEs.

Since 2008 Regular visits to UMLV to work with Miguel Martinez

Feb.-Aug. 2015 CNRS delegation at LJK (project : « Méthodes probabilistes pour la résolution numérique de problèmes d'équations aux dérivées partielles avec condition de transmission»).

Feb. 2015 Stay at University Cadi Ayyad (Marrakech, Maroc). Invitation from Professor Youssef Ouknine.

June 2005 Stay at KTH, at Stockholm, Sweden, with Antoine Lejay. We were invited by Professor Vladimir Cvetkovitch.

5 Grants

2024- Member of the grant MATH-AmSud SMILE (Statistical Modeling, nonparametric Inference and modeL sElection for complex data) International project between Latin american countries and France.
Members : Clémentine Prieur (LJK, France), J.R. Leon R. (Universidad de la Republica, Uruguay), Anna Melnykova (Univ. Avignon), etc...

2022-2024 Head of the IRGA project SAHS *"Sensitivity Analysis for Hypoelliptic Systems"* (members : P.E. and Clémentine Prieur) 75k Euro for 18 months of postdoc.

2022 Fundings from the GDRI RFBM (France-Brazil) for my visit at the University of Paraïba (cf the "Research stay" rubrique).

2020-2021 Member of the grant IRS *"Spectral properties of graphs with negative index materials"*, sequel of the preceeding IRS grant FKSC (members : P.E., Eric Bonnetier (head), Alessandro Duca, Institut Fourier, Grenoble) 10k Euro

2019-2023 Member of the grant MATH-AmSud FANTASTIC (Statistical inFerence and sensitivity ANalysis for models described by sTochASTIC differential equations) International project between Latin american countries and France.
Coordinators : Clémentine Prieur (LJK, France), J.R. Leon R. (Universidad de la Republica, Uruguay), K. Bertin (Universidad de Valparaiso, Chili).
Some other members : Adeline Leclercq-Samson (LJK Grenoble), Patrick Cattiaux (Uni. Toulouse), Mireille Bossy (INRIA Sophia-Antipolis))

2018-2019 Head of the grant IRS *"Feynman-Kac representations for the solutions to PDEs in divergence form with Sign Changing coefficients"* (FKSC) (members : P.E. and Eric Bonnetier, Institut Fourier, Grenoble) 10k Euro

2017- Part of NEUROCOG (Brain Institute in Grenoble), via ma research team IPS (other member of the team : Frédérique Leblanc)

2008-2010 Member of MSTIC project about "Monte Carlo methods in Finance" (head : E. Gobet, LJK, Grenoble)

6 Rédaction de documents pédagogiques

Notons que pour l'année 2019-2020 j'ai rédigé deux polycopiés de cours : un en français pour "Processus Stochastiques et Applications Financières" (2A IF ENSIMAG), et un en anglais pour "Stochastic Calculus and Applications to Finance" (M2R MSIAM).
En 2026 j'ai rédigé la partie probabilités du polycopié "Probabilités et Statistiques 2" en première année d'ENSIMAG.
Tous ces polys sont référencés dans la partie "Teaching" du CV.