

ARTHUR CHARPENTIER

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Personal

Canadian & French citizen – Bilingual (French-English) – 3 children

Research Interests

Predictive Modeling, Insurance, Mathematical Economics, Networks, Statistics & Econometrics, Machine Learning & Algorithms, Climate & Catastrophe Modeling, Extremes & Dependence, Inequalities, Discrimination & Fairness.

Bio

Experience

Université du Québec à Montréal (UQAM) ▶

Montréal, Canada

Full Professor, Mathematics Department

since 2018

- Member of MSc & PhD Admission Selection Committee
- Former member of BSc Supervising committee (in Actuarial Science)
- Teaching STT1000, STT3030, MAT4681, STT5100, ACT6100 (BSc)
INF7100, MAT7381, STT8330, MAT998P (graduate)
- Quantact Member of the Scientific Committee & Seminar Organisation

Université de Rennes ▶

Rennes, France

Full Professor (Professeur des Universités), Faculty of Economics

since 2017

- Member of CREM (UMR 6211 CNRS)
- Currently secondment (“détachement”) at UQAM

Institut des Actuaire

Paris, France

Director, Data Science for Actuaries Program

2015-2018

(with R.Élie and J.Jakubowicz)

- Continuing education for qualified actuaries on machine learning and data science

Université de Rennes ▶

Rennes, France

Assistant Professor (Maître de Conférences), Faculty of Economics

2014-2017

- Member of the faculty board
- Teaching Statistics, Networks, Mathematical Finance and Portfolio Management

Université du Québec à Montréal ▶

Montréal, Canada

Professor, Mathematics Department

2011-2014

- Member of BSc Supervising committee (in Actuarial Science)
- Member of Recruiting Committees (Statistics and Actuarial Science)
- Teaching ACT2040, ACT2121, ACT6420, MAT7381, MAT8181, MAT8595, MAT8886

Université de Montréal

Montréal, Canada

Visiting Professor, Mathematics Department

2010-2011

- Teaching STT2700, STT6705

École Polytechnique ▶

Palaiseau, France

Professeur Chargé de Cours, Economics Department

2008-2010

- Teaching ECO431, ECO550, ECO556, ECO568

Université de Rennes ▶	Rennes, France
Assistant Professor - Maître de Conférences, Faculty of Economics	2007-2010
<ul style="list-style-type: none"> • Co-director of the Econometrics & Statistics MSc • Teaching Econometrics, Mathematical Statistics, Insurance Modeling 	
École Nationale de la Statistique et d'Analyse de l'Information ▶	Ker Lann, France
ENSAI, Lecturer	2006-2007
<ul style="list-style-type: none"> • Teaching Numerical techniques in finance, copulas and risk measures 	
École Nationale de la Statistique et de l'Administration Économique ▶	Malakoff, France
ENSAE, Lecturer	2002-2006
<ul style="list-style-type: none"> • Teaching Non-life Insurance, Reinsurance and Extreme Value • Institute of Actuaries correspondent, Jury for actuarial thesis 	
French Federation of Insurers ▶	Paris, France
France Assureurs (ex FFA, FFSA), Statistics department	2001-2002
<ul style="list-style-type: none"> • Publications on Cat Bonds and Insurers Solvency 	
AXA General Insurance Hong Kong Limited 安盛保險有限公司 ▶	Hong Kong 香港, China
Pricing and Reserving Actuary	1999-2001
Exane ▶	Paris, France
Fixed Income Research Department	1998-1999

Education

Université de Rennes ▶	Rennes, France
Habilitation à diriger des recherches	2016
<ul style="list-style-type: none"> • Contributions to dependence modeling 	
<i>Reviewers</i> : N. El Karoui, P. Embrechts & M. Hoffmann	
<i>Jury</i> : K. Antonio, D. Florens, J. Garrido, O. L'Haridon & S. Loisel	
Katholieke Universiteit Leuven (KU Leuven) ▶	Leuven, Belgium
Doctor in de Wetenschappen Wiskunde - PhD in Applied Mathematics	2006
<ul style="list-style-type: none"> • Dependence structures and limiting results, with applications in finance and insurance 	
<i>Supervisors</i> : J. Beirlant & M. Denuit	
<i>Jury</i> : J. Dhaene, A.L. Fougères, I. Gijbels, C. Gouriéroux & W. Schoutens	
École Nationale de la Statistique et de l'Administration Économique ▶	Malakoff, France
ENSAE, MSc. in statistics & actuarial science	1999
Université Paris Dauphine ▶	Paris, France
DEA MASE, MSc. in mathematical economics & finance	1999

Affiliations & Fellowships

Current

CRM (Centre de Recherche Mathématiques de Montréal), StatLab, CRI²GS
Réseau de recherche sur le numérique, Réseau de recherche en sécurité routière du Québec
OBVIA (Observatoire international sur les impacts sociétaux de l'IA ▶),

Previous

CREM, GERAD, IRT St Exupéry-MILA, CREST, École Polytechnique, HumanIA

Adjunct Professor (professeur associé)

Université Laval ▶ (Québec, Canada)	since 2022
University of Waterloo ▶ (Ontario, Canada)	since 2020

Louis Bachelier Fellowship

Academic Fellow ▶	Paris, France
	since 2021

Fellow of the (French) Institut des Actuaire

Member of the International Actuarial Association (IAA)

- Member of working groups, anticipate IA impacts, big data, enterprise risk management

Paris, France
since 2003

Grants

Financial Grants

SCOR Foundation ▶ <i>Fairness of predictive models: an application to insurance markets, PI Single (100%)</i> Newsletter #1 (Oct 23-Mar 24) #2 (Apr-Sep 24) #3 (Oct 24-Mar 25)	300,000€ 2023-2026
Chaire Thélem/ILB Data Science and Insurance Fraud Detection <i>co-PI, with Marie-Pier Côté (50%)</i>	10,000€ 2023
Chaire ACTIONS BNP-Cardif, Institut des Actuaire & ILB ▶ <i>Actuaries for Change in Technologies and Insurees Opportunities for Next Steps</i> associated researcher, PI: Yahia Sahli & Denys Pommeret (1%)	1,500,000€ 2024-2029
Chaire PARI ILB-ENSAE-Sciences Po ▶ <i>Programme de recherche sur l'appréhension des risques et des incertitudes</i> associated researcher, PI: Pierre François & Laurence Barry (1%)	1,000,000€ 2024-2029
AXA Research Fund ▶ <i>Joint research initiative, PI Single (100%)</i> http://jridata.github.io/	200,000€ 2020-2022
Natural Sciences and Engineering Research Council of Canada (NSERC) ▶ <i>Emerging Infectious Diseases Modelling Initiative (MfPH), Fields-CRM Group (2%)</i>	\$3,000,000 2020-2022
MITACS (EY) <i>Insurance and fairness</i>	\$30,000 2021-2022
Natural Sciences and Engineering Research Council of Canada (NSERC) ▶ <i>New algorithms and new data for insurance : impact of machine learning techniques...</i> NSERC-CRSNG, Discovery Grant, PI Single (100%)	\$140,000 2019-2025
Agence Nationale pour la Recherche <i>ORDINEQ project Ordinal and Multivariate Inequalities (5%)</i>	525,000€ 2015-2019
Institut Louis Bachelier ▶ <i>ACTINFO Research Chair, co-PI, with Romuald Élie (50%)</i>	558,000€ 2015-2018
PEPS MoMIS, CNRS <i>co-I, with Frédéric Giroire (30%)</i>	15,000€ 2015
Natural Sciences and Engineering Research Council of Canada (NSERC) ▶ <i>Univariate and Multivariate Risk Measures</i> NSERC-CRSNG, Discovery Grant, PI Single (100%)	\$70,000 2012-2015
Institut Louis Bachelier <i>Chaire Groupama-Dauphine, Research Grant (100%)</i>	10,000€ 2010
Agence Nationale pour la Recherche <i>AST&Risk Approches spatio-temporelles pour la modélisation du risque (5%)</i>	500,000€ 2008-2012
Institut Louis Bachelier <i>Chaire AXA-ENSAE(100%)</i>	24,000€ 2010

Duties


Journal, Books & Association Boards

Canadian Statistical Sciences Institute (CANSSI) ▶ <i>Member of the Board of Directors</i>	Canada 2022-2025
Chapman & Hall/CRC Series in Actuarial Science ▶ <i>Series Editor Board</i>	since 2024
Journal of Risk and Insurance ▶ <i>Senior Editor</i>	2022-2025
Risks ▶ <i>Member of the Editorial Board</i>	since 2019
Astin Bulletin Editorial Board ▶ <i>Journal of the International Actuarial Association, member of the Editorial Board</i>	since 2018
Economics Bulletin <i>Member of the Editorial Board</i>	2021-2022
European Actuarial Journal ▶ <i>Associate Editor</i>	2014-2022

Selected recent services

NSERC EG 1508 <i>Member of the Mathematics and Statistics (1508) Evaluation Group</i>	Ottawa, Canada 2022-2025
FRQNT Grants <i>Member of the jury (B1/B2/B3-03E), Master, PhD, Postdocs</i>	Québec, Canada 2019-2023
Faculty of Science, UQAM <i>Member of the Research Committee</i>	Montréal, Canada 2018-2024
MSc Program in Mathematics, UQAM <i>Member of the supervising committee</i>	Montréal, Canada since 2021
Bachelor Program in Actuarial Science, UQAM <i>Member of the supervising committee</i>	Montréal, Canada 2018-2021
Conseil de Faculté, Université de Rennes <i>Member of the faculty board</i>	Rennes, France 2016-2018
France Stratégie - Cabinet du Premier Ministre <i>Membre du groupe de travail sur la mutualisation des risques climatiques</i>	Paris, France 2024
HCÉRES <i>Haut Conseil de l'évaluation de la recherche et de l'enseignement supérieur Evaluation committee president</i>	Paris, France 2020

Data & Code

Insurance Pricing Game http://pricing-game.com/ with A. Farzanehfar & F. Houssiau (Imperial College)	AICrowd 2020-2021
CASDataset 1.2-0 CASDataset R package  doi:10.57745/P0KHAG with C. Dutang (ENSIMAG)	R since 2015

Dissemination

Blue sky account [@freakonometrics.bsky.social](https://freakonometrics.bsky.social)

Scientific dissemination

since 2024

Mastodon account [@freakonometrics@mastodon.social](https://freakonometrics@mastodon.social)

Scientific dissemination, ~ 4,100 followers

since 2022

Twitter account [@freakonometrics](https://twitter.com/freakonometrics)

Scientific dissemination, ~ 28,100 followers

2010-2022

Hypotheses Blog Notebook <https://freakonometrics.hypotheses.org/>













Scientific blogging

since 2008

- *Quinquennat Macron : quelle évolution du droit des assurances?* Dalloz Actualité 2022
- *Rapport Langreny : lutter contre le désengagement des assureurs dans la ...* Dalloz Actualité 2022
- *Arthur Charpentier on Freakonometrics, Machine Learning and Big Data* Economic Rockstar 2018
- *Les Cat Bonds ont de l'avenir* France Culture 2018
- *Coupe du Monde 2018 : des chercheurs de Rennes prévoient la victoire de la France* RTL 2018
- *Peut-on vraiment prévoir la probabilité de gagner une élection présidentielle?* La Tribune 2017
- *Le casino des catastrophes* La Revue Dessinée 2016
- *How social media usage does and does not predict protests* Washington Post, 2015
- *You can vote twice! The many political appeals of proxy votes in France* Washington Post, 2014

see <https://freakonometrics.github.io/dissemination/> for more details

Interviews

- *IA et assurance*  La Lettre de l'Assurance 2024
- *Assurances : des collectivités désemparées face aux effets du dérèglement climatique*  Politis 2024
- *Actuarial ethics and the future of the profession*  The European Actuary 2024
- *L'indispensable e controverso uso dell'intelligenza artificiale*  Da Il Sole 24 Ore, 2024
- *Podcast: IA, biais et éthique en assurance*  Nexialog 2023
- *Quand les assurances n'assurent plus, un autre effet du changement climatique*  RTS (rts.ch) 2023
- *Qu'est-ce que l'assurance? Interview d'un économiste de l'assurance*  Dalloz actualité 2022
- *Algorithmes : garder le contrôle*  L'Actuariel (44) 2022
- *Coronavirus : un pic très net de mortalité en France depuis le 1er mars...*  Le Monde 2020
- *#fakenews : non, l'IA ne peut pas prédire les émeutes*  Sciences & Vie 2019
- *Les données actuarielles des assureurs, un trésor pour la connaissance client?*  Les Echos 2018
- *Les risques en économie : le mécanisme de l'assurance*  It's the Economy, Stupid 2018

Opinion columns

- *Ni les assureurs ni les gouvernements ne sont préparés à l'augmentation exponentielle...* Le Monde 2023

Selected expertise

International Monetary Fund (IMF)

Assessing Central Bank Solvency

Washington DC, US

2021

International Fund for Agricultural Development (IFAD) United Nations

NLP and Topic Modeling

Roma, Italy

2020-2021

HMG Finance

First-In First-Out (FIFO) vs Last-In First-Out (LIFO), perpetual rents

Paris, France

2012





Academic activities

Recent conferences organization

Fairness and Insurance <i>title to be confirmed, with A. Ly (scientific & organization committee)</i>	Paris, France 2025
Workshop on Probability and Machine Learning <i>with H. Guérin, D.M. López, M. Morales, J.C. Pardo, V. Rivero ▶</i>	Guanajuato, Mexico 2025
6th Insurance Data Science conference <i>(scientific committee) ▶</i>	London, UK 2025
2nd Workshop of Fairness and Discrimination in Insurance <i>with M.-P. Côté (scientific & organization committee) ▶</i>	Québec, Canada 2024
5th Insurance Data Science conference <i>(scientific committee) ▶</i>	Stockholm, Sweden 2024
Networks, Games and Risk <i>with M. Ghossoub (scientific & organization committee) ▶</i>	Montréal, Canada 2023
5th Insurance Data Science conference <i>(scientific committee) ▶</i>	London, UK 2023
Modeling of Infectious Diseases Colloquium <i>with B. Nasri & Hélène Guérin (scientific & organization committee) ▶</i>	CRM-Fields, Canada 2023
Association for the Development of Research in Economics and Statistics <i>Annual Doctoral Conference of ADRES (scientific committee)</i>	Paris, France 2022-2023
Workshop of Fairness and Discrimination in Insurance <i>with M.-P. Côté (scientific & organization committee) ▶</i>	Québec, Canada 2022
Emerging Insights in Insurance Statistics ✖ <i>with E. Valdez, J. Cao & H. Jeong (scientific & organization committee) ▶</i>	BIRS, Banff, Canada 2022
MLISTRAL Machine Learning in Insurance, CIRM <i>(scientific committee) ▶</i>	Marseille, France 2022
4th Insurance Data Science conference <i>(scientific committee) ▶</i>	Milano, Italy 2022
Journées de la Statistique <i>SfDS (Société Française de Statistique) Annual Meeting (scientific committee)</i>	Lyon, France 2022
3rd Insurance Data Science conference <i>with M. Gesmann, S. Pesenti & A. Tsanakas (scientific & organization committee) ▶</i>	online 2021
36th Meeting of the Canadian Econometric Study Group <i>Machine Learning Econometrics, at UQAM (scientific committee)</i>	Montréal, Canada 2019
Atlantic Causal Inference Conference <i>University McGill (scientific committee)</i>	Montréal, Canada 2019
2nd Insurance Data Science conference <i>with M. Gesmann & A. Tsanakas (scientific committee) ▶</i>	ETH Zürich, Switzerland 2019
Workshop on data science for actuarial applications <i>ACTINFO Chair, with Chairs at University CB Lyon (ISFA)</i>	Paris, France 2018
Workshop on multivariate inequalities <i>ANR Ordineq, with O. L'Haridon & B. Taroux</i>	Rennes, France 2018
5th R in Insurance conference <i>(scientific committee) ▶</i>	Paris, France 2017

Selected presentations at conferences and workshops

Financial Conduct Authority (FCA) Seminar <i>to be confirmed (invited speaker)</i>	London, UK 2024
Canadian Econometrics Study Group (CESG) <i>Calibration of scoring functions (invited speaker)</i>	Toronto, Canada 2024
Statlab CRM, Université Laval <i>Algorithmic fairness with optimal transport (invited speaker)</i>	Québec, Canada 2024
Mathematical Foundations of AI Workshop <i>Optimal transport and fairness ... (keynote speaker)</i>	Sorbonne Center for AI, Paris, France 2024
Colloque l'assurance face à ses ruptures (CCIC) <i>Certitudes collective et incertitudes individuelles, les données ... (invited speaker)</i>	Cerisy, France 2024
Workshop on decentralized insurance and risk sharing <i>Collaborative insurance, unfairness and discrimination (invited speaker)</i>	Chicago, IL, US 2024
6th edition of the European Actuarial Journal Conference <i>Calibration of insurance models</i>	Lisbon, Portugal 2024
27th International Congress on Insurance: Mathematics & Economics <i>Optimal transport and Wasserstein barycenter for algorithmic fairness</i>	Chicago, IL, US 2024
Optimization Days <i>Market Pricing with Reinforcement Learning</i>	Montréal, Canada 2024
Optimal Transport Workshop <i>Optimal transport for fairness (invited)</i>	Institut d'Etudes Scientifiques (IES), Cargèse, France 2024
Journée d'étude sur le blanchiment et la fraude <i>L'intelligence artificielle comme instrument de lutte contre le blanchiment (invited)</i>	Nîmes, France 2024
6th Insurance Data Science Conference <i>Optimal transport for fairness with multiple sensitive attributes</i>	Stockholm, Sweden 2024
Actuarial Science Workshop, SSC Annual Conference <i>Optimal transport for fairness, in insurance (invited speaker)</i>	Carleton Univ., Ottawa, Canada 2023
Foundations and Applications of Decentralized Risk Sharing <i>Risk sharing on irregular networks (invited speaker)</i>	KU Leuven, Belgium 2023
16th Annual Conference of Thailand Econometric Society <i>Quantifying discrimination and fairness in predictive models (invited speaker)</i>	Chiang Mai, Thailand 2023
6th International Econometric Conference of Vietnam <i>Causal inference with optimal transport (invited speaker)</i>	Thành phố Hồ Chí Minh, Vietnam 2023
Montréal AI Symposium (MAIS2022) <i>Insurance, fairness and discrimination</i>	Montréal, Canada 2022
Workshop on Impacts of Climate Change <i>Catastrophic risks and insurance (invited speaker)</i>	Fields Institute, Toronto, Canada 2022
Deutsche Gesellschaft für Versicherungs- und Finanzmathematik (DGVMF) <i>A fair pricing model via adversarial learning (invited speaker)</i>	Germany 2022
20 ans du Master d'Actuariat <i>Climate risk and insurance fairness (invited speaker)</i>	Universtié Dauphine, Paris 2022
Simulation & IA 2022 <i>Simulations and risk (keynote)</i>	Cargèse, Università di Corsica, France 2022

Actuarial Sciences and Applications <i>Fairness in insurance pricing (keynote)</i>	CIRM, Luminy, France 2022
CMStatistics <i>Modeling Joint Lives within Families (invited speaker)</i>	King's College, London, UK 2021
Emeritaat Jan Beirlant <i>Extended Pareto distribution and applications (invited speaker)</i>	Leuven, Belgium 2021
Justice sociale, l'équité et les discriminations dans les systèmes algorithmiques <i>Assurance et discrimination (invited speaker)</i>	CNRS 2021
IAA (International Actuarial Association) Online Joint Section Colloquium <i>Individual risks and collective decisions (invited speaker)</i>	 2021
Institut Universitaire de France (IUF) Conference <i>Risque de pandémie, pertes d'exploitation et incertitudes</i>	Le Mans, France 2021
5e Conférence annuelle PANORisk <i>Autocalibration and Insurance Pricing (invited speaker)</i>	Le Mans, France 2021
SSC (Statistical Society of Canada) Annual Conference <i>Autocalibration & Premium Calculations (invited session)</i>	Canada 2021
IME (Insurance: Mathematics & Economics) Annual Conference <i>Autocalibration & Premium Calculations  (and panel discussion )</i>	Champaign, Illinois, US 2021
ASTIN Annual Conference <i>Autocalibration & Premium Calculations</i>	Orlando, Florida, US 2021
MODCOV19-CNRS <i>Modèles épidémiologiques pour analyse coût-efficacité sous incertitude (invited speaker)</i>	Paris, France 2020
Machine learning for economists and applied social scientists <i>Machine Learning in Actuarial Science & Insurance (plenary speaker )</i>	Hallifax, Canada 2020
Actuarial and Financial Mathematics Conference <i>Insurance Pricing in Competitive Markets (invited speaker)</i>	Brussels, Belgium 2020
Online International Conference in Actuarial science and finance <i>Modeling Joint Lives within Families</i>	Lyon, France 2020
Risk Analytics Conference <i>Actuarial Pricing and Competition, University of Illinois (keynote speaker)</i>	Chicago, US 2019
UCSB InsurTech Summit <i>Insurance Pricing in Competitive Markets (invited speaker)</i>	Santa Barbara, US 2019
Natural Catastrophe Economics Workshop <i>Assessing Probabilities with Climate Change (invited speaker)</i>	Zürich, Switzerland 2019
XXVIIIth International Biometric Conference <i>Collaborative Genealogical Data in Demography (invited session)</i>	Barcelona, Spain 2018
European R Users Meeting  <i>Collaborative Genealogical Data in Demography (invited speaker)</i>	Budapest, Hungary 2018
Ecole Thématique sur l'Evaluation des Politiques Publiques <i>Evaluation du préjudice corporel en assurance automobile (invited speaker)</i>	Aussois, France 2018
Big data empirics and policy analysis, Bank of England <i>Insurance: Risk Pooling or Price Segmentation (keynote speaker)</i>	London, UK 2017
Artificial Intelligence for fintech and insurtech <i>Insurance Pricing and Competition (invited speaker)</i>	IHP, Paris, France 2017

New challenges in the measurement of economic inequalities	Marseille, France
<i>Extended Pareto Models and Incomes (invited speaker)</i>	2017
Cartostats	Université Paris Diderot, France
<i>La Ville en Économie (invited speaker)</i>	2017
Dependence Modelling with Applications	Athens Αθήνα, Greece
<i>Insurance Pricing and Competition (invited speaker)</i>	2017
Comprendre et Anticiper la Révolution du Numérique en Assurance	Caen, France
<i>Assurance et Responsabilité (invited speaker)</i>	2017
Statistical Learning and Data Science	Erasmus University, Rotterdam, Netherlands
<i>Quantiles and Expectiles (invited speaker)</i>	2017
Sciences XXL	INED, Paris, France
<i>Collaborative Data in Genealogy (invited speaker)</i>	2017
3rd International MACroeconomics workshop (IMAC)	Rennes, France
<i>From Micro to Macro (invited speaker)</i>	2016
Ordinal and Multidimensional Inequalities	Montpellier, France
<i>Pareto Models and Incomes (invited speaker)</i>	2016
Droit des données personnelles	Amiens, France
<i>Assurance & RGPD (règlement général sur la protection des données) (invited speaker)</i>	2016
3rd EAJ Conference (European Actuarial Journal)	Lyon, France
<i>Big Data and Insurance (invited speaker)</i>	2016
International Conference on Applied Business and Economics	Nanterre, France
<i>Natural Catastrophes and Government Intervention</i>	2016
Big Data : la recherche s'expose	Paris, France
<i>Big Data and Insurance (invited speaker)</i>	2016
Centre for Central Banking Studies	Bank of England, London, UK
<i>Big Data and Insurance (keynote speaker)</i>	2016
Asociación Española de Gerencia de Riesgos y Seguros	Barcelona, Spain
<i>Machine Learning and Insurance (keynote speaker)</i>	2016
Big Data & Environment	Buenos Aires, Argentina
<i>Impact of time Granularity on Statistical Modeling (invited speaker)</i>	2015
IA BE Summer School	Louvain, Belgium
<i>Machine Learning and Insurance (keynote speaker)</i>	2015
ACP meeting	Leuven, Belgium
<i>Big and Small Data in Insurance (invited speaker)</i>	2015
Journées de Statistiques	Lille, France
<i>Probit transformation for nonparametric kernel estimation of the copula density</i>	2015
22nd International Forecasting Financial Markets Conference	Rennes, France
<i>Copulas and Finance</i>	2015
Insurance & Finance Colloquium	Le Mans, France
<i>Risk Measures and Pareto Models</i>	2015
R in Insurance Conference	London, UK
<i>Getting into Bayesian Wizardry... with the eyes of a muggle actuary (keynote speaker)</i>	2014
SSC annual conference	Toronto, Canada
<i>Risk Measures and Pareto Models (invited session)</i>	2014

Mathematical Finance Days <i>Risk Measures and Pareto Models</i>	HEC Montréal, Canada 2014
World Social Science Forum (UNESCO) <i>Academic Blogging (invited session)</i>	Montréal, Canada 2013
Mathematical Finance Days <i>Quantiles Estimation from Heavy Tailed Distribution</i>	HEC Montréal, Canada 2013
6th R/Rmetrics Summer School on Computational Finance <i>Actuarial Science with R (invited speaker)</i>	Meielisalp, Switzerland 2012
Journées de la Société Canadienne de Sciences Économiques <i>Modeling dynamic incentives an application to basketball</i>	Mont Tremblant, Canada 2012
Québec-Ontario Workshop on Insurance Mathematics <i>Quantiles Estimation from Heavy Tailed Distribution</i>	Montréal, Canada 2012
Mathematical Finance Days <i>Fast Computations on Binomial Trees</i>	HEC Montréal, Canada 2012
Journées de la Société canadienne de sciences économiques <i>Insurance of Natural Catastrophes When Should Government Intervene?</i>	Sherbrooke, Canada 2011
Changement climatique et gestion des risques <i>Modeling heat-waves: return period for non-stationary extremes</i>	Lyon, France 2011
Journées d'Etudes Statistique <i>Copulas, Insurance and Risk Measures (invited speaker)</i>	Luminy, France 2010
IA-Lyon Summer School <i>Solvency II' newspeak 'one year uncertainty for IBNR' : the bootstrap approach</i>	Lyon, France 2010
Financial Risks International Forum <i>Multiple Risk Measures</i>	Paris, France 2010
Assessment and Mitigation of Emerging Risks <i>Emerging risks: an actuarial perspective</i>	Paris, France 2009
R.I.S.K. Symposium <i>Incertitude des régimes des retraites</i>	Paris, France 2009
Workshop Finance & Insurance <i>Estimation of quantile related risk measures (invited speaker)</i>	Sao Paulo, Brazil 2009
Workshop on Actuarial Science <i>IBNR and quantification of uncertainty</i>	Belo Horizonte, Brazil 2009
7th International Workshop on Rare Event Simulation (RESIM) <i>Optimal Reinsurance with ruin probability target</i>	Rennes, France 2008
Deutsche Mathematiker-Vereinigung, Humboldt-Universität <i>Estimating (properly) copula densities in tails</i>	Berlin, Germany 2007
Conference Insurance Mathematics & Economics <i>Extremes for Archimedean copulas</i>	Leuven, Belgium 2006
Extreme Values, Copulas and Applications Day, UdeM <i>Estimating (properly) copula densities in tails</i>	Montréal, Canada 2005
Conference Insurance Mathematics & Economics <i>Can one model natural hazards independently</i>	Québec, Canada 2005
XXXVIèmes Journées de statistique <i>Distribution limite des structures de dépendance dans des processus de défauts</i>	Montpellier, France 2004



3rd Conference in Actuarial Science & Finance on Samos <i>Extreme and dependence, a copula approach</i>	Samos Σάμος, Greece 2004
Dependence Modelling: Statistical theory and applications <i>Limiting dependence structure for credit defaults</i>	Québec, Canada 2004
Statistical Issues in Actuarial Risk Modelling, Eurandom <i>Dependence in tail distributions</i>	Eindhoven, Netherlands 2003
XXXVIIIèmes Journées de statistique <i>Extremes for Archimedean copulas</i>	Clamart, France 2003
Conference Insurance Mathematics & Economics <i>Tail distribution and dependence measures</i>	Lyon, France 2003



Selected talks at academic seminars

HEC Lausanne & UNIL	Lausanne, Switzerland, 2025
Københavns Universitet	Copenhagen, Denmark, 2024
Séminaire de modélisation financière de Paris, Université Paris Sorbonne	Paris, France, 2024
Groupe de travail ARC (Actuariat et Risques Contemporains), Sorbonne Université	Paris, France, 2024
ENS Ker-Lann 	Rennes, France, 2023
UdeM & CIREQ Econometrics Seminar	Montréal, Canada, 2023
SINCLAIR (Saclay INdustrial Collaborative Laboratory for Artificial Intelligence Research)	Paris, 2023
Bayes Business School, Actuarial Seminar, City, University of London	London, UK, 2023
University of Waterloo, Actuarial and Statistical Seminar	Waterloo, Canada, 2023
Séminaire StatQAM	UQAM, Montréal, Canada, 2023
ASTIN Reading Group 	Online, 2023
Séminaire Bachelier	IHP, Paris, France, 2023
University of Illinois	Urbana-Champaign, IL, US, 2022
Centre interdisciplinaire en modélisation mathématique (CIMMUL)	Laval, Québec, 2022
Laws, Institutions and Economics	Nanterre, Paris, France, 2022
Intel – Institute of Electrical and Electronics Engineers (IEEE)	Bengaluru, India, 2021
Université de Sherbrooke	Sherbrooke, Canada, 2021
Institut Louis Bachelier	Paris, France, 2021
HEC Montréal, IRE - CREE Seminar	Montréal, Canada, 2021
Science Po (TransNum)	Paris, France, 2020
University of Connecticut, Actuarial Seminar	Storrs, CT, US, 2020
University of New South Wales (UNSW)	Sydney, Australia, 2020
Aix-Marseille School of Economics (AMSE)	Marseille, France, 2020
European Network for Business and Industrial Statistics (ENBIS)	Palaiseau, France, 2020
Paris Machine Learning Group	Paris, France, 2020
CMAP, École Polytechnique	Palaiseau, France, 2020
AICS 	Toronto, Canada, 2020
Chaire Pari (Programme sur l'Appréhension des Risques et des Incertitudes)	Paris, France, 2019
ESSEC Risk Seminar	Paris, France, 2019
University of California, Actuarial & Statistical Seminar	Santa Barbara, CA, US, 2019
University of Wisconsin, Risk & Insurance Seminar	Madison, WI, US, 2019
University of Waterloo, Actuarial Seminar	Waterloo, Canada, 2019
UQAM, LATECE, Computer Science Seminar	Montréal, Canada, 2019

<i>Université Laval, Quantact Actuarial Seminar</i>	<i>Québec, Canada, 2019</i>
<i>UQAM, Economics Seminar</i>	<i>Montréal, Canada, 2018</i>
<i>Telecom ParisTech</i>	<i>Paris, France, 2018</i>
<i>Università degli Studi dell'Insubria, Economics Seminar</i>	<i>Varese, Italy, 2018</i>
<i>ESSEC Risk Seminar</i>	<i>Paris, France, 2018</i>
<i>Université Laval, Economics Seminar</i>	<i>Québec, Canada, 2018</i>
<i>University of Michigan, Mathematics Seminar</i>	<i>Ann Arbor, US, 2017</i>
<i>Université de Caen, Economics Seminar</i>	<i>Caen, France, 2017</i>
<i>Université Paris Diderot, Statistics Seminar</i>	<i>Paris, France, 2016</i>
<i>Université Catholique de Louvain</i>	<i>Louvain, Belgium, 2015</i>
<i>GERAD, Université de Montréal</i>	<i>Montréal, Canada, 2014</i>
<i>Université Laval, Computational Science Seminar</i>	<i>Quebec, Canada, 2014</i>
<i>Centro de Investigación en Matemáticas</i>	<i>Guanajuato, Mexico, 2014</i>
<i>Universiteit van Amsterdam</i>	<i>Amsterdam, Netherlands, 2013</i>
<i>HEC Lausanne, Actuarial Seminar</i>	<i>Lausanne, Switzerland, 2013</i>
<i>GeoTop, UQAM</i>	<i>Montréal, Canada, 2012</i>
<i>Université Laval, Statistical Seminar</i>	<i>Québec, Canada, 2011</i>
<i>Université Laval, Business School Seminar</i>	<i>Québec, Canada, 2011</i>
<i>Université Laval, Actuarial Seminar</i>	<i>Québec, Canada, 2011</i>
<i>HEC Montréal</i>	<i>Montréal, Canada, 2010</i>
<i>McGill University, Statistical Seminar</i>	<i>Montréal, Canada, 2010</i>
<i>Université de Rennes, Economics Seminar</i>	<i>Rennes, France, 2010</i>
<i>ESSEC Risk Seminar</i>	<i>Paris, France, 2009</i>
<i>Université de Montpellier</i>	<i>Montpellier, France, 2009</i>
<i>Université de Brest</i>	<i>Brest, France, 2009</i>
<i>Université de Rennes</i>	<i>Rennes, France, 2008</i>
<i>Université de Nantes</i>	<i>Nantes, France, 2008</i>
<i>Université Pierre & Marie Curie</i>	<i>Paris, France, 2008</i>
<i>Universiteit van Amsterdam</i>	<i>Amsterdam, Netherlands, 2008</i>
<i>Université de Toulouse 1</i>	<i>Toulouse, France, 2007</i>
<i>Imperial College</i>	<i>London, UK, 2007</i>
<i>PSE ENS Cachan</i>	<i>Paris, France, 2007</i>
<i>Université de Grenoble</i>	<i>Grenoble France, 2007</i>
<i>Université Paris Nanterre</i>	<i>Nanterre, France, 2007</i>
<i>Université de Compiègne</i>	<i>Compiègne, France, 2007</i>
<i>Hong Kong University 香港大學</i>	<i>Hong Kong 香港, China, 2007</i>
<i>Universidad de Valparaíso</i>	<i>Valparaíso, Chile, 2006</i>
<i>ENSAI</i>	<i>Rennes, France, 2006</i>
<i>PSE Paris Sorbonne</i>	<i>Paris, France, 2006</i>
<i>Katholieke Universiteit Leuven</i>	<i>Leuven, Belgium, 2006</i>
<i>Institut de Mathématiques Appliqués</i>	<i>Angers, France, 2006</i>

Selected talks and presentations at practitioners seminars

Institut Luxembourgeois des Actuaire (ILAC) Annual Meeting <i>to be confirmed (keynote speaker)</i>	Luxembourg 2025
Workshop on Trustworthy AI <i>Insurance, discrimination and fairness</i>	Montréal, Canada 2024
Actuarial Contact Program, ACP – KUL <i>From contemplative to predictive modeling in actuarial science and risk management</i>	Leuven, Belgium 2024
Groupe de Travail ‘Mutualisation des risques’, France Stratégie <i>Member of group, various participations and presentations</i>	Paris, France 2024
SCOR monthly webinar <i>Scope and limits of artificial intelligence</i> 	Paris, France (online) 2024
TD General Insurance Pricing Seminar <i>Fairness and Ethics in Actuarial Pricing</i>	Montréal, Canada 2024
Akur8 Technical Seminar <i>Ethics in Actuarial Pricing, and equity</i>	Paris, France (online) 2024
Chaire Thélem / ILB <i>Fairness and Ethics in Actuarial Pricing</i>	Orléans, France 2024
Data Talk Generali <i>Fairness and Ethics in Actuarial Pricing</i>	Paris, France 2024
Colloque Actuariat Francophone <i>La mutualisation et l’inclusion à l’épreuve de la segmentation (invited speaker)</i> 	Paris, France 2023
TD Insurance Data Analytics Seminar <i>Fairness and Ethics in Actuarial Pricing</i>	Montréal, Canada 2023
Intact Seminar <i>Causal Models for Discrimination in Insurance</i>	Montréal, Canada 2023
Akur8 Pricing Seminar <i>Fairness and Ethics in Actuarial Pricing</i>	Paris, France 2023
Conference Data Science Institute <i>Les enjeux des risques climatiques en assurance de dommages</i>	Montréal, Canada 2023
Table ronde sur la pratique actuarielle, AG2R <i>Perspective de la pratique actuarielle</i>	Paris, France 2023
3e Colloque International de l’Actuariat Francophone <i>La mutualisation et l’inclusion à l’épreuve de la segmentation</i>	Paris, France 2023
Journée d’étude AIvidence <i>Machine Learning with Fairness Constraints</i>	Paris, France 2023
Data Science Webinar, Institut du Risk Management <i>Machine Learning with Fairness Constraints</i> 	Paris, France 2023
Service Juridique France Assureurs <i>Insurance & ‘high-risk’ AI systems - EU AI Act</i>	Paris, France 2023
Comité Corporel de France Assureurs <i>To Sue or not to Sue</i>	Paris, France 2023
Colloque SCOR-Institut des Actuaire <i>Assurance collaborative, théorie des graphes et actuariat</i>	Paris, France 2022

Beneva (La Capitale & SSQ Assurance) <i>Competitions in insurance markets</i>	Québec, Canada 2022
Optimind Webinar <i>La non-discrimination dans l'usage des données et les modèles actuariels</i>	Paris, France 2022
Cov&Data, Covea (MAAF, MMA & GMF) <i>Interpretability of predictive models</i>	Paris, France 2022
100% Data Science, Institut des Actuaire <i>Are you a probability?</i>	Paris, France 2022
DataDay MAIF <i>Data and climate change</i>	Niort, France 2022
Casualty Actuarial and Statistical Task Force (CASTF), NAIC <i>An introduction to Bayesian models</i>	Washington, DC, USA 2022
Journées actuarielles - Actuarial Days - Groupama <i>Flood and subsidence</i>	Paris, France 2022
Chaire DIALog (digital insurance and long term risk) <i>Insurance, fairness and discrimination</i>	Paris, France 2022
Institut des Actuaire & Institut Louis Bachelier <i>Vision bayésienne de l'apprentissage</i> 	Paris, France 2022
ASTIN – International Actuarial Association <i>Insurance: discrimination and fairness</i>	Ottawa, Canada 2022
Journée de l'actuariat IARD (Institut des Actuaire) <i>Machine Learning : de la promesse à la réalité (table ronde)</i>	Paris, France 2022
IVADO (Communauté de pratique) <i>Insurance: biases, discrimination & fairness</i>	Montréal, Canada 2022
COV&Data Conference: IA de confiance <i>Insurance: biases, discrimination & fairness</i>	Paris, France 2022
AXA Actuarial Conference # 62 <i>Catastrophic Climate risks and Insurance</i>	Paris, France 2022
100% Data Science, Institut des Actuaire <i>Modeling subsidence risk in France</i>	Paris, France 2021
Institut Louis Bachelier & Institut des Actuaire <i>Assurance collaborative : Théorie des graphes et Actuariat</i> 	Paris, France 2021
TD Insurance <i>Insurance pricing in competitive markets</i>	Montréal, Canada 2020
Autorité de contrôle prudentiel et de résolution (ACPR) <i>Insurance pricing in competitive markets</i>	Paris, France 2019
SCOR, Rencontres Mutualistes <i>Insurance pricing in competitive markets</i>	Beaune, France 2018
AON Benfield, Journées du marché <i>Insurance and climate</i>	Paris, France 2018
Data science conference, Generali <i>Machine learning in insurance</i>	Paris, France 2016
Institut des Actuaire, Big Data Semimar <i>Machine learning in insurance</i>	Paris, France 2015

Society of Actuaries, Predictive Modeling Seminar*From Generalized Linear Models to Trees*

Chicago, IL, US

2013

Desjardins Reserving Seminar*One-year uncertainty*

Montréal, Canada

2011

Milliman Reserving Seminar*One-year uncertainty*

Paris, France

2010

Reviewer activities**Peer reviewed journals**

Stochastic Environmental Research and Risk Assessment; Theory and Decision; Insurance: Mathematics & Economics; Journal of Banking & Finance; The Canadian Journal of Statistics; Journal of Computational and Graphical Statistics; Journal of Multivariate Analysis; Communications in Statistics: Theory and Methods; Quantitative Finance; Journal of the American Statistical Association; TEST; Asia-Pacific Journal of Financial Studies; Statistics and Decision; Kybernetika; European Journal of Finance; Mathematics and Financial Economics; Statistica Sinica; Extremes; Physics and Chemistry of the Earth; Computational Statistics; Geneva Papers on Risk and Insurance; Bernoulli; Water Resources; Statistics & Probability Letters; Mathematical Finance; Journal of Risk; Journal of Hydrology; Scandinavian Actuarial Journal; Advances in Statistical Analysis; European Actuarial Journal; Metrika; Journal of Statistical Planning and Inference; Annals of Applied Statistics; Constructive Approximation; Econometric Reviews; Annals of Economics and Statistics; Annals of Actuarial Science; Journal of the Royal Statistical Society (JRSS) –Series B; Mathematics of Social Sciences; Economic Theory; ASTIN Bulletin (Journal of the International Actuarial Association); Journal of Statistical Software; Journal of Population Economics; Risks; Journal of Zhejiang University - Science A; Journal of Time Series Analysis; European Journal of Operation Research; Econometrica; Dependence Modeling; Journal of Economic Behavior & Organization; Annals of Actuarial Science; Entropy; Sustainability; Risk Analysis; Journal of Statistical Computation and Simulation, North American Actuarial Journal; Global Food Security; IEEE Transactions on Information Theory; Remote Sensing; Stochastic Processes & Applications, Journal of Mathematical Economics; Journal of Risk and Insurance; PLOS One; Journal of Theoretical Biology; Bulletin de l'Association Mathématique du Québec; International Journal of Mathematics in Operational Research; Artificial Intelligence Review; Journal of Economic Inequality; Patterns; Systems and Control Letters; Annals of Operations Research; Natural Hazards and Earth System Sciences; EGU sphere; Information Sciences; International Journal of Information Management; Data Insight; Big Data & Society; Measurement (Journal of the International Measurement Confederation); ACM Computing Surveys; Finance Research Letters; Neurocomputing; Management Science; Journal of Economic Theory; Philosophy & Public Affairs; Operational Research; Computers in Human Behavior: Artificial Humans; Compte Rendus de l'Académie des Sciences; Journal of the Royal Statistical Society (JRSS) – Series C; Expert Systems With Applications; European Economic Review; Agua y Territorio (Water and Landscape);

Conferences / Program Committee (PC) member / Reviewer

ECML-PKDD; AISTats

Books Project Reviewer

MIT Press, Springer Verlag, CRC Press, SAGE, Economica, Cambridge University Press

Tenure Reviewer

UC Santa Barbara, HEC Lausanne, Heriot-Watt University, University of Madison Wisconsin, University of Toronto

Grants Reviewer

ANR (Agence Nationale pour la Recherche, France), AXA Research Fund, FNR Luxembourg CORE program (Luxembourg), FRQNT (Fonds de Recherche du Québec - Nature & Technologie, Canada), F.R.S.-FNRS (Fonds de la Recherche Scientifique, Belgique), MICTACS (Mathematics of Information Technology and Complex systems, Canada), NSA (National Security Agency - Mathematical Sciences Grant Program - U.S.A.), NSERC (Natural Sciences and Engineering Research Council, Canada), IVADO (Institut de valorisation des données, Canada), ANRT (Agence Nationale Recherche & Technologie, France), Fondation SCOR, ISF (Israel), NWO (Nederlandse organisatie voor wetenschappelijk onderzoek), RGC (Hong Kong Research Grants Council - 研究资助局), OBVIA (Observatoire international sur les impacts sociétaux de l'IA et du numérique).

Member of the jury (B1/B2/B3-03E) 2019-2023

FRQNT (Quebec) Canada

Mathematics and Statistics Evaluation Group (EG 1508) 2022-2025

NSERC (Canada)

Selected research visits and invitations (> 1 week)

University of California

visiting Mike Ludkovski

Santa Barbara, CA, US
2019

Universitat de Barcelona

visiting Montserrat Guillen

Barcelona, Spain
2018

Università degli Studi dell'Insubria

visiting Raffaello Seri

Varese, Italy
2018

Harvard University

visiting Christine Choirat & Pierre Jacob

Cambridge, US
2017

Universitat de Barcelona

visiting Montserrat Guillen

Barcelona, Spain
2016

Centro de Investigación en Matemáticas

visiting Victor Rivero

Guanajuato, Mexico
2014

Universidade Federal de Minas Gerais

visiting Renato Assunção

Belo Horizonte, Brazil
2013

Raphaël Suire

Université de Nantes, France 2024

Fei Huang

UNSW, Sydney, Australia, 2024

Laurence Barry

Chaire PARI, 2024

Stéphane Loisel

CNAM Paris, France, 2024

Mario Ghossoub

Waterloo University, Canada, 2022, 2023

Ewen Gallic

Université Aix-Marseille, France, 2023-2025



















Jean-Michel Loubes

Université Paul Sabatier, Toulouse, France, 2022

















Andreaa Enache (✖ Covid-19)

Stockholm School of Economics, Sweden, 2020-2021

Master students (since 2015)

Noé Bosc-Haddad 	Ecole Centrale, Paris, France, 2024
Aña María Patrón Piñerez 	Universidad de los Andes, Colombia, 2024
Julien Siharath 	Université de Rennes, France, 2024
Cassandra Mussard 	ENSEEIH & INSA Toulouse-ModIA, France, 2024
Florent Crouzet	École Polytechnique, France, 2024
Suzie Grondin 	ENSAE, Paris, France, 2023
Gaspard Ichas	ENSAI, Rennes, France, 2023
Nathan Herzhaft 	École Polytechnique, France, 2023
Kim Anh Lê 	Ludwig Maximilian University of Munich, Germany, 2023
Olivier Côté  	(co-supervision) Université Laval, Québec, Canada, 2023
Martin de Closets 	École Polytechnique, France, 2022
Franklin Feukam Kouhoue  (Prix des Sciences du Risque Optimind)	ENSAE, Paris, France, 2022
Rawanda Matar 	UQAM, Canada, 2021
Menna Hassan 	(co-supervision) American University, Cairo, Egypt, 2021
Thomas Carpentier 	Université de Lyon, France, 2021
Lariosse Kouakou 	Université de Brest, France, 2020
Elie Odin	ENS (École Normale Supérieure) Ker Lann, France, 2020
Apollinaire Barme 	ENSAE, Paris, France, 2019
Molly James 	Université de Brest, France, 2019
Enora Belz 	Université de Rennes, France, 2017
Clothilde Davesne 	ENSAE, Paris, France, 2015
Julie Viard 	Université de Rennes, France, 2015

PhD Students supervision (3 ongoing, 5 completed)

► Agathe Fernandes Machado  	
Fairness and causal models, co-supervised with E. Gallic (Aix-Marseille University)	2023-today
► Olivier Côté  	
Predictive Models, Interpretability and Explainability, co-supervised with M.P. Côté (Laval)	2023-today
► Hongda Hu  	
Bandits and risks, co-supervised with M. Ghossoub & A. Schied (Waterloo)	2020-today
Samuel Stocksieker  	
Unbalanced Data, co-supervised with D. Pommeret (Université de Lyon)	2020-2024
Philipp Ratz	then FEDRO research fellow   
Constraints in Fair Estimation and Games	2021-2024
Enora Belz	then Excelcio 
Etude de données agrégées et mesures d'inégalités	2016-2021
Antoine Ly	then CDSO at SCOR  
Algorithmes de machine learning en assurance, co-supervised with R. Élie	2015-2019
Amadou Barry	then McGill  
Régression expectile pour données longitudinales, co-supervised with K. Oualkacha	2013-2019

PhD Students invitations

Charles Condevaux (Université de Nîmes, France) Gilles Hacheme (✕ AMSE, France) Loann Desboulets (✕ AMSE, France) Bertille Picard (AMSE, France), Samira Ait Mekideche (University of Béjaïa, Algeria), Fallou Niakh (ENSAE-Polytechnique, France)

Post-doctoral supervision (2 ongoing, 5 completed)

► Arsene-Brice Zotsa Ngoufack

Generative models, co-supervised with H. Guérin (UQAM)

(exp) 2024-2025

► Marouane Il-Idrissi

Interpretability and fairness, co-supervised with M.P. Côté (Laval University)

  
2024-2026

François Hu

Fairness, co-supervised with M. Moralès (UdeM)

then Milliman R&D,   
2022-2024


Félix Foutel Rodier

Mathematical models for pandemics, co-supervised with H. Guérin

then Oxford University 
2021-2022

Amirouche Benchallal

Extracting information from satellite pictures, with Y. Bouroubi

then Natural Resources Canada 
2021-2022



Ewen Gallic

Extracting information from collaborative genealogical data

then Aix-Marseille Univ. (AMSE)  
2017-2018

Arnaud Goussebaïle

Insurance and prevention of natural catastrophes

then ETH Zürich  
2016-2017

Jury (Habilitation à Diriger des Recherches, PhD, MSc)

HDR (rapporteur, 3): Emilie Devijver (CNRS & Université de Grenoble), Christophe Dutang (Université Paris Dauphine); Nabil Kazi-Tani (Université de Lyon)

PhD (34): Marc Yeterian (Université Paris Dauphine-PSL); Wistan Marchadour (Université de Brest); Marouane Il-Idrissi (Université de Toulouse); Francis Duval (UQAM, Montréal); Eric Vansteenbergh (Paris School of Economics); Dafnis Krasniqi (Université Paris-Sorbonne); Bertille Picard (Université d'Aix-Marseille); Lucas de Lara (Université de Toulouse); Mohamed Ouhourane (UQAM, Montréal); Pierre Chatelain (Université de Lyon); Antoine Heranval (Sorbonne Université); Geoffrey Ecoto (Sorbonne Université); Guillaume Boglioni Beaulieu (UNSW, Sydney); Mohamed Ouhourane (UQAM, Montréal); François Hu (Institut Polytechnique, Paris); Sander Devriendt (KU Leuven); Meryem Yankol Schalck (Université Paris Nanterre); Debora Zaparova (Université de Strasbourg); Loann Desboulets (Aix-Marseille School of Economics); Lenin Arango Castillo (Queen's University); Pierrick Piette (Université de Lyon 1); Oscar Alberto Quijano Xacur (Concordia University, Montréal); Yang Jiao (Telecom SudParis); Edouard Debonneuil (Université de Lyon 1); Alexandre Godzinski (EHESS, PSE, Paris); Fattouma Souissi (Université de Montpellier); Arnaud Goussebaïle (École Polytechnique); Leo Guelman (Universitat de Barcelona); Przemyslaw Sloma (Université Paris VI); Mathieu Pigeon (UC Louvain); Julien Tomas (Uv Amsterdam); Aymric Kamega (Université Lyon I); Tarek Zari (Université Paris VI); Meriem Maatig (Université Paris II Assas); Nouredine Ben Lagha (Université Paris II Assas)

MSc: Mélanie Raymond, Jordi Rolls Teikeu Jatsa, Francis Duval, Roxane Turcotte, Olivier Binette, Julie Bélanger, Alexandre Roy-Gaumont (UQAM), Paul Mathivon (Polytechnique)

Jury (Prices)

Journal of Risk and Insurance

Jury for Robert I. Mehr Award

2023

Annals of Economics and Statistics

Jury for the best young researcher paper

2021,2022

Scor Actuarial Price

Jury for MSc and PhD Best Thesis Prices

since 2023

Recruiting committees (external member)

CNRS IA-SHS chaire professeur junior, CPJ

2022

Aix-Marseille School of Economics, PR

2022


Aix-Marseille School of Economics, MCF

2018

Université Lyon 1-ISFA, MCF

2016










Publications

over 3250 citations (, December 2024), 50 published papers in peer reviewed journals, 9 published papers in peer reviewed international conferences, 7 books, 51 papers in French (including dissemination papers), 17 chapters in textbooks, 2 practitioners' report and 21 working papers.

Published papers in peer reviewed journals (50)

1. F.Foutel-Rodier⁺, A.Charpentier & H.Guérin (2024). Optimal Vaccination Policy to Prevent Endemicity: a Stochastic Model. *Journal of Mathematical Biology*, to appear, [ArXiv:2306.13633](https://arxiv.org/abs/2306.13633)
2. X.Vamparys* & A.Charpentier (2024). Artificial Intelligence and Personalization of Insurance: Failure or Delayed Ignition? *Big Data & Society*, to appear
3. O.Côté*, M.P.Côté & A.Charpentier (2024). A Fair price to pay: exploiting directed acyclic graphs for fairness in insurance. *Journal of Risk & Insurance*, to appear [doi:10.2139/ssrn.4709243](https://doi.org/10.2139/ssrn.4709243)
4. K.Aas, A.Charpentier, F.Huang & R.Richman (2024). Insurance analytics: prediction, explainability and fairness. *Annals of Actuarial Science*, [10.1017/S1748499524000289](https://doi.org/10.1017/S1748499524000289).
5. A.Charpentier (2024). The Role of Government vs. Private Sector Provision of Insurance. *Journal of Risk & Insurance*. [doi:10.1111/jori.12497](https://doi.org/10.1111/jori.12497)
6. S.Stocksieker*, D.Pommeret & A.Charpentier (2024). Generalized Oversampling for Learning from Imbalanced datasets and Associated Theory: Application in Regression. *Transactions on Machine Learning Research*, [issn:2835-8856](https://arxiv.org/abs/2305.08856)
7. M.Moriah*, F.Vermet & A.Charpentier (2024). Measuring and Mitigating Biases in Motor Insurance Pricing. *European Actuarial Journal*, [10.1007/s13385-024-00390-8](https://doi.org/10.1007/s13385-024-00390-8)
8. L.Barry & A.Charpentier (2023). Melting Contestation: Insurance Fairness and Machine Learning, *Ethics and Information Technology* [10.1007/s10676-023-09720-y](https://doi.org/10.1007/s10676-023-09720-y)










*: graduate student; ⁺: post doc fellow


9. A.Barry^{*}, K.Oualkacha & A.Charpentier (2023). Alternative fixed-effects panel model using weighted asymmetric least squares regression, *Statistical Methods & Applications* [10.1007/s10260-023-00692-3](https://doi.org/10.1007/s10260-023-00692-3)
10. L.Barry & A.Charpentier (2022) L'équité de l'apprentissage machine en assurance. *Statistiques & Société*, 
11. A.Charpentier & E.Flachaire (2022). Oaxaca-Blinder decomposition of changes in means and inequality: A simultaneous approach, *Economics Bulletin*, 
12. R.Bigot, A.Cayol & A.Charpentier (2022) Risque de pandémie, pertes d'exploitation et incertitudes des garanties assurantielles. *Revue Responsabilité civile et Assurances* 
13. A.Charpentier & E.Flachaire (2022). Pareto Models for Top Incomes and Wealth. *Journal of Economic Inequality*, **20** [doi:10.1007/s10888-021-09514-6](https://doi.org/10.1007/s10888-021-09514-6) 
14. A.Charpentier, M. James^{*} & H. Ali (2021). Predicting Drought and Subsidence Risks in France, *Natural Hazards and Earth System Sciences*, **22**, 2401–2418, [doi:10.5194/nhess-2021-214](https://doi.org/10.5194/nhess-2021-214)
15. A.Charpentier, M.Denuit & J.Trufin (2021). Autocalibration and Tweedie-dominance for Insurance Pricing with Machine Learning. *Insurance: Mathematics and Economics*, **101**, 485–497, [10.1016/j.insmatheco.2021.09.001](https://doi.org/10.1016/j.insmatheco.2021.09.001) 
16. A.Barry^{*}, A.Charpentier & K. Oualkacha (2022) A new GEE method to account for heteroscedasticity, using asymmetric least-square regressions. *Journal of Applied Statistics*, **49**, 3564–3590, [doi:10.1080/02664763.2021.1957789](https://doi.org/10.1080/02664763.2021.1957789)
17. A.Charpentier, R.Élie & C.Remlinger^{*} (2021) Reinforcement Learning in Economics and Finance. *Computational Economics*, [doi:10.1007/s10614-021-10119-4](https://doi.org/10.1007/s10614-021-10119-4)
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152. E.Belz* & A.Charpentier (2019) Données Agrégées et Variables Compositionnelles : Note Méthodologique. [hal:2097031](#) , poster 
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154. A.Charpentier (2018) An introduction to multivariate and dynamic risk measures. [hal:01831481](#) ,
155. M.Boudreault & A.Charpentier (2011) Multivariate integer-valued autoregressive models applied to earthquake counts. [arXiv:1112.0929](#)
156. A.Charpentier (2010) Reinsurance, ruin and solvency issues: some pitfalls. [hal:00463381](#) ,
157. A.Charpentier & D.Causeur (2010) Large-scale significance testing of the full Moon effect on deliveries [hal:00482743](#) ,

Teaching


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Selected courses

Statistical learning 	STT3030
<i>Université du Québec à Montréal, Canada</i>	2024
Fairness and discrimination in predictive modeling 	MAT998P
<i>Université du Québec à Montréal, Canada</i>	2024
Insurance, biases, discrimination and fairness  	
<i>ENSAE-Institut Polytechnique, Saclay, France</i>	2024
Introduction to data science and artificial intelligence  	INF7100
<i>Université du Québec à Montréal, Canada</i>	2020,2024
Data Science for Actuaries  	ACT6100
<i>Université du Québec à Montréal, Canada</i>	2020
Applied Linear Models  	STT5100
<i>Université du Québec à Montréal, Canada</i>	2018,2019,2020,2021,2022,2023,2025
Statistics  	STT1000 & MAT4681
<i>Université du Québec à Montréal, Canada</i>	2022
Regression	MAT7381
<i>Université du Québec à Montréal, Canada</i>	2020
Non-life insurance mathematics	
<i>ENSAE, Paris, France</i>	2015, 2016, 2017
Networks and flows	
<i>Université de Rennes 1, France</i>	2017
Welfare and inequalities	
<i>Université de Rennes 1, France</i>	2016,2017, 2018

Time Series	MAT8181
<i>Université du Québec à Montréal, Canada</i>	2014
Copulas and Extreme Values	MAT8595
<i>Université du Québec à Montréal, Canada</i>	2014
 YouTube channel	
<i>Courses ~ 66,000 views</i>	since 2020

Summer schools

Insurance, biases, discrimination and fairness	
<i>Szkoła Nauk Aktuarialnych, Warsaw, Poland</i>	2024
Econometrics and Machine Learning	
<i>Società Italiana di Econometria (SIdE), Italy</i>	2019
Insurance Data Science: Use and Value of Unusual Data	
<i>Summer School of the Swiss Association of Actuaries, Lausanne, Switzerland</i> 	2019
Econometrics and Machine Learning	
<i>Università degli studi dell'Insubria, Varese, Italy</i>	2018
Econometrics and Machine Learning	
<i>Universitat de Barcelona, Spain</i>	2018

Other Institutions

<i>École Polytechnique</i>	France, 2008-2010
<i>Đại học Kinh tế Thành phố, Hồ Chí Minh</i>	Vietnam, 2008
<i>Institut de Statistique de l'Université de Paris (ISUP)</i>	France, 2008
<i>Institut de Mathématiques Appliqués, Angers</i>	France, 2007
<i>INSEA, Rabbat</i>	Marocco, 2006
<i>Université Saint-Joseph, Beyrut</i>	Lebanon, 2006
<i>ENSEA, Abidjan</i>	Ivory Coast, 2003

Professional training

Machine Learning for Actuaries	Bermuda
<i>Bermuda Monetary Authority</i>	2025
Data Science for Actuaries	Paris, France
<i>Institut des Actuaïres</i>	2015-2018
Data Science & Machine Learning for Actuaries	Istanbul, Singapore & Paris
<i>AXA Group</i>	2015
Machine Learning for Insurance	Niort, France
<i>MAIF Insurance</i>	2014
Natural Catastrophes & Cat Bonds	Paris, France
<i>AXA Group</i>	2007
R for Actuarial Science	Paris, France
<i>AXA & Caritat (professional training)</i>	2006-2007