

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

Work Experience

Kyoto University 京都大学 ▶	Kyoto 京都, Japan 日本
Visiting Professor, Mathematics Department	2025-2026
• Invited at Research Institute for Mathematical Sciences (数理解析研究所)	
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, MAT998P (graduate)	
Teaching duty : 4 courses per year (156 hours)	
• Quantact ▶ Member of the Scientific Committee & Seminar Organization	
Université de Rennes ▶	Rennes, France
Full Professor (Professeur des Universités), Faculty of Economics	since 2017
• Member of CREM ▶ (UMR 6211 CNRS)	
Teaching duty : 192 hours per year	
• Currently secondment (“détachement”) at UQAM	
Institut des Actuaires	Paris, France
Director, Data Science for Actuaries Program (with R.Élie and J.Jakubowicz)	2015-2018
• 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 duty : 192 hours per year	
• 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 Teaching duty : 4 courses per year (156 hours)	

Université de Montréal	Montréal, Canada
<i>Visiting Professor, Mathematics Department</i>	<i>2010-2011</i>
• <i>Teaching STT2700, STT6705</i>	
École Polytechnique ▶	Palaiseau, France
<i>Professeur Chargé de Cours, Economics Department</i>	<i>2008-2010</i>
• <i>Teaching ECO431, ECO550, ECO556, ECO568</i>	
Université de Rennes ▶	Rennes, France
<i>Assistant Professor - Maître de Conférences, Faculty of Economics</i>	<i>2007-2010</i>
• <i>Co-director of the Econometrics & Statistics MSc</i>	
<i>Teaching duty : 192 hours per year</i>	
• <i>Teaching Econometrics, Mathematical Statistics, Insurance Modeling</i>	
École Nationale de la Statistique et d'Analyse de l'Information ▶	Ker Lann, France
<i>ENSAI, Lecturer</i>	<i>2006-2007</i>
• <i>Teaching Numerical techniques in finance, copulas and risk measures</i>	
École Nationale de la Statistique et de l'Administration Économique ▶	Malakoff, France
<i>ENSAE, Lecturer</i>	<i>2002-2006</i>
• <i>Teaching Non-life Insurance, Reinsurance and Extreme Value</i>	
• <i>Institute of Actuaries correspondent, Jury for actuarial thesis</i>	
French Federation of Insurers ▶	Paris, France
<i>France Assureurs (ex FFA, FFSA), Statistics department</i>	<i>2001-2002</i>
• <i>Publications on Cat Bonds and Insurers Solvency</i>	
AXA General Insurance Hong Kong Limited 安盛保險有限公司 ▶	Hong Kong 香港, 中国
<i>Pricing and Reserving Actuary</i>	<i>1999-2001</i>
Exane ▶	Paris, France
<i>Fixed Income Research Department</i>	<i>1998-1999</i>

Education

Université de Rennes ▶	Rennes, France
<i>Habilitation à diriger des recherches</i>	<i>2016</i>
• <i>Contributions to dependence modeling</i>	
<i>Reviewers : N. El Karoui, P. Embrechts & M. Hoffmann</i>	
<i>Jury : K. Antonio, D. Florens, J. Garrido, O. L'Haridon & S. Loisel</i>	
Katholieke Universiteit Leuven (KU Leuven) ▶	Leuven, Belgium
<i>Doctor in de Wetenschappen Wiskunde - PhD in Applied Mathematics</i>	<i>2006</i>
• <i>Dependence structures and limiting results, with applications in finance and insurance</i>	
<i>Supervisors : J. Beirlant & M. Denuit</i>	
<i>Jury : J. Dhaene, A.L. Fougères, I. Gijbels, C. Gouriéroux & W. Schoutens</i>	
École Nationale de la Statistique et de l'Administration Économique ▶	Malakoff, France
<i>ENSAE, MSc. in statistics & actuarial science</i>	<i>1999</i>
Université Paris Dauphine ▶	Paris, France
<i>DEA MASE, MSc. in mathematical economics & finance</i>	<i>1999</i>

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 sociaux de l'IA ▶),*

Previous

CREM, GERAD, IRT St Exupery-MILA, CREST, École Polytechnique, HumanIA, Quantact

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

(French) Institut des Actuaires Fellowship

Member of the International Actuarial Association (IAA)

Paris, France

since 2003

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

Grants

Financial Grants

SCOR Foundation ▶	300,000€
<i>Fairness of predictive models: an application to insurance markets, PI Single (100%)</i>	2023-2026
<i>Newsletter #1 (Oct 23-Mar 24) #2 (Apr-Sep 24) #3 (Oct 24-Mar 25) #4 (Apr-Sep 25)</i>	
Chaire Thélem/ILB Data Science and Insurance Fraud Detection	10,000€
<i>co-PI, with Marie-Pier Côté (50%)</i>	2023
Chaire ACTIONS BNP-Cardif, Institut des Actuaires & ILB ▶	1,500,000€
<i>Actuaries for Change in Technologies and Insurees Opportunities for Next Steps associated researcher, PI: Yahia Sahli & Denys Pommeret (1%)</i>	2024-2029
Chaire PARI ILB-ENSAE-Sciences Po ▶	1,000,000€
<i>Programme de recherche sur l'appréhension des risques et des incertitudes associated researcher, PI: Pierre François & Laurence Barry (1%)</i>	2024-2029
AXA Research Fund ▶	200,000€
<i>Joint research initiative, PI Single (100%) http://jridata.github.io/</i>	2020-2022
Natural Sciences and Engineering Research Council of Canada (NSERC) ▶	\$3,000,000
<i>Emerging Infectious Diseases Modelling Initiative (MfPH), Fields-CRM Group (2%)</i>	2020-2022
MITACS (EY)	\$30,000
<i>Insurance and fairness</i>	2021-2022
Natural Sciences and Engineering Research Council of Canada (NSERC) ▶	\$140,000
<i>New algorithms and new data for insurance : impact of machine learning techniques... NSERC-CRSNG, Discovery Grant, PI Single (100%)</i>	2019-2025
Agence Nationale pour la Recherche	525,000€
<i>ORDINEQ project Ordinal and Multivariate Inequalities (5%)</i>	2015-2019
Institut Louis Bachelier ▶	558,000€
<i>ACTINFO Research Chair, co-PI, with Romuald Élie (50%)</i>	2015-2018
PEPS MoMIS, CNRS	15,000€
<i>co-I, with Frédéric Giroire (30%)</i>	2015
Natural Sciences and Engineering Research Council of Canada (NSERC) ▶	\$70,000
<i>Univariate and Multivariate Risk Measures NSERC-CRSNG, Discovery Grant, PI Single (100%)</i>	2012-2015
Institut Louis Bachelier	10,000€
<i>Chaire Groupama-Dauphine, Research Grant (100%)</i>	2010

Agence Nationale pour la Recherche	500,000€
<i>AST&Risk Approches spatio-temporelles pour la modélisation du risque (5%)</i>	2008-2012
Institut Louis Bachelier	24,000€
<i>Chaire AXA-ENSAE(100%)</i>	2010

Duties

Journal, Books & Association Boards

Canadian Statistical Sciences Institute (CANSSI) ▶	Canada
<i>Member of the Board of Directors</i>	2022-2025
Chapman & Hall/CRC Series in Actuarial Science ▶	
<i>Series Editor Board</i>	since 2024
European Actuarial Journal ▶	
<i>Co-Editor</i>	since 2025
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

Faculty of Science, UQAM	Montréal, Canada
<i>Member of the Research Committee</i>	2018-2024
MSc & PhD Program in Mathematics, UQAM	Montréal, Canada
<i>Member of the supervising committee</i>	2021-2025
Bachelor Program in Actuarial Science, UQAM	Montréal, Canada
<i>Member of the supervising committee</i>	2018-2021
Conseil de Faculté, Université de Rennes	Rennes, France
<i>Member of the faculty board</i>	2016-2018

Selected evaluation committees

NSERC-CRSNG - Discovery Horizons (DH)	Ottawa, Canada
<i>Program Fit Advisor (PFA)</i>	2026-2029
NSERC-CRSNG - Discovery Grants (DG)	Ottawa, Canada
<i>Member of the Mathematics and Statistics - Evaluation Group (EG) 1508</i>	2022-2025
FRQNT (Québec Research Fund) Grants	Québec, Canada
<i>Member of the jury (B1/B2/B3-03E), Master, PhD, Postdocs</i>	2019-2023
HCÉRES	Paris, France
<i>Haut Conseil de l'évaluation de la recherche et de l'enseignement supérieur</i>	
<i>Evaluation committee president</i>	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 Scientific dissemination	since 2024
Ⓜ️ Mastodon account @freakonometrics@mastodon.social Scientific dissemination, ~ 6,700 followers	since 2022
🐦 Twitter account @freakonometrics Scientific dissemination, ~ 28,100 followers	2010-2022
Ѻ Hypotheses Blog Notebook https://freakonometrics.hypotheses.org/ Scientific blogging	since 2008
• Quinquennat Macron : quelle évolution du droit des assurances?  Dalloz Actualité 2022	Dalloz Actualité 2022
• Rapport Langreney : lutter contre le désengagement des assureurs dans la ...  Dalloz Actualité 2022	Dalloz Actualité 2022
• Arthur Charpentier on Freakonometrics, Machine Learning and Big Data  Economic Rockstar 2018	Economic Rockstar 2018
• Les Cat Bonds ont de l'avenir  France Culture 2018	France Culture 2018
• Coupe du Monde 2018 : des chercheurs de Rennes prévoient la victoire de la France  RTL 2018	RTL 2018
• Peut-on vraiment prévoir la probabilité de gagner une élection présidentielle?  La Tribune 2017	La Tribune 2017
• Le casino des catastrophes  La Revue Dessinée 2016	La Revue Dessinée 2016
• How social media usage does and does not predict protests  Washington Post, 2015	Washington Post, 2015
• You can vote twice! The many political appeals of proxy votes in France  Washington Post, 2014	Washington Post, 2014
see https://freakonometrics.github.io/dissemination/ for more details	

Interviews

• Insuring an uninsurable world - the pricing actuary's Mission Impossible?  Insurance ERM 2025	Insurance ERM 2025
• Modelling: At a Crossroads 	The Actuary 2025
• 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'indispensabile 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

- « Les événements climatiques extrêmes ne sont plus des risques marginaux...  Le Monde 2025
- À la fin, qui prendra en charge le coût des assurances ?  The Conversation | Fr 2025
- Des primes d'assurance personnalisées moins cher grâce à l'IA ?  The Conversation | Ca 2025
- Incendies à Los Angeles : « La situation actuelle menace non seulement le mar...  Le Monde 2025
- Moral maze: Ethics and discrimination in machine learning  The Actuary 2025
- Ni les assureurs ni les gouvernements ne sont préparés à l'augmentation expon...  Le Monde 2023

Selected expertise

France Stratégie - Cabinet du Premier Ministre Membre du groupe de travail sur la mutualisation des risques climatiques	Paris, France 2024-2025
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, Italia 2020-2021
HMG Finance First-In First-Out (FIFO) vs Last-In First-Out (LIFO), perpetual rents	Paris, France 2012

Scientific Advisor

NeuroDrive, Kraken Behavioural kraken.fr , Paris, France	since 2025
Insightbounds, insightbounds.com , Lloyd's Lab, London, U.K.	since 2025
Actuariat durable et IA, Chaire ILB, institutlouisbachelier.org Paris	since 2025
Paris Agreement Research Commons, parc-research.org , Paris, France	since 2025
Nexialog, nexialog.com , Paris, France	since 2023
AIvidence, ai-vidence.com , Playground Paris-Saclay, France	since 2023

Academic activities

Recent conferences organization

Mathematical Advances on Emerging Risks with D. Hernández, D. Possamai, A. Réveillac, J. Ricalde Guerrero, T. Peyrat, C. Hillairet, ▶ (scientific & organization committee)	Merida, Mexico 2026
Workshop on Sensitivity Analysis and Interpretable Machine Learning Montréal, Canada with N. Bousquet, M.P. Côté, F. Gamboa, M. Il Idrissi, B. Iooss, Y. Pequignot, ▶ (scientific & organization committee)	2026
Confidence and Fairness: Scientific Foundations in AI and Risk with A. Ly (scientific & organization committee) ▶	Paris, France 2025
Workshop on Probability and Machine Learning with H. Guérin, D.M. López, M. Morales, J.C. Pardo, V. Rivero ▶	Guanajuato, Mexico 2025
6th Insurance Data Science conference (scientific committee) ▶	Hannover, Germany 2025
2nd Workshop of Fairness and Discrimination in Insurance with M.-P. Coté (scientific & organization committee) ▶	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 & H. Guérin (scientific & organization committee)</i>	CRM-Fields, Canada
	2023
Association for the Development of Research in Economics and Statistics Annual Doctoral Conference of ADRES (scientific committee)	Paris, France
	2022-2023
Workshop of Fairness and Discrimination in Insurance <i>with M.-P. Coté (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 (scientific committee)	Marseille, France
	2022
4th Insurance Data Science conference <i>(scientific committee)</i>	Milano, Italia
	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 Machine Learning Econometrics, at UQAM (scientific committee)	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

Selected presentations at conferences and workshops

10th Annual Global Congress of Knowledge Economy (GCKE) Disentangling Illegitimate and Indirect Discriminations (invited speaker)	Osaka 大阪市, Japan
	2025
60th Actuarial Research Conference Balance and calibration (invited speaker)	York, Canada
	2025
Chaire ACTIONS Spectrum of Fair Premiums (keynote speaker)	Paris, France
	2025
Journée d'Économétrie Appliquée Calibration of Probabilistic Scores (invited speaker)	Montpellier, France
	2025
ACPR/Banque de France - Télécom Paris Fairness in Insurance (invited speaker)	Paris, France
	2025
Canadian Econometrics Study Group (CESG) Calibration of scoring functions (invited speaker)	Toronto, Canada
	2024
Statlab CRM, Université Laval Algorithmic fairness with optimal transport (invited speaker)	Québec, Canada
	2024

Mathematical Foundations of AI Workshop	Sorbonne Center for AI, Paris, France
<i>Optimal transport and algorithmic fairness (keynote speaker)</i>	2024
Colloque l'assurance face à ses ruptures (CCIC)	Cerisy, France
<i>Certitudes collective et incertitudes individuelles, les données ... (invited speaker)</i>	2024
Workshop on decentralized insurance and risk sharing	Chicago, IL, US
<i>Collaborative insurance, unfairness and discrimination (invited speaker)</i>	2024
6th edition of the European Actuarial Journal Conference	Lisbon, Portugal
<i>Calibration of insurance models</i>	2024
27th International Congress on Insurance: Mathematics & Economics	Chicago, IL, US
<i>Optimal transport and Wasserstein barycenter for algorithmic fairness</i>	2024
Optimization Days	Montréal, Canada
<i>Market Pricing with Reinforcement Learning</i>	2024
Optimal Transport Workshop	Institut d'Etudes Scientifiques (IES), Cargèse, France
<i>Optimal transport for fairness (invited)</i>	2024
Journée d'étude sur le blanchiment et la fraude	Nîmes, France
<i>L'intelligence artificielle comme instrument de lutte contre le blanchiment (invited)</i>	2024
6th Insurance Data Science Conference	Stockholm, Sweden
<i>Optimal transport for fairness with multiple sensitive attributes</i>	2024
Actuarial Science Workshop, SSC Annual Conference	Carleton Univ., Ottawa, Canada
<i>Optimal transport for fairness, in insurance (invited speaker)</i>	2023
Foundations and Applications of Decentralized Risk Sharing	KU Leuven, Belgium
<i>Risk sharing on irregular networks (invited speaker)</i>	2023
16th Annual Conference of Thailand Econometric Society	Chiang Mai چیانگ مای, Thailand
<i>Quantifying discrimination and fairness... (invited speaker)</i>	2023
6th International Econometric Conference of Vietnam	Thành phố Hồ Chí Minh, Vietnam
<i>Causal inference with optimal transport (invited speaker)</i>	2023
Workshop on Impacts of Climate Change	Fields Institute, Toronto, Canada
<i>Catastrophic risks and insurance (invited speaker)</i>	2022
Deutsche Gesellschaft für Versicherungs- und Finanzmathematik (DGVMF)	Deutschland
<i>A fair pricing model via adversarial learning (invited speaker)</i>	2022
20 ans du Master d'Actuariat	Université Dauphine, Paris
<i>Climate risk and insurance fairness (invited speaker)</i>	2022
Simulation & IA 2022	Cargèse, Universita di Corsica, France
<i>Simulations and risk (keynote)</i>	2022
Actuarial Sciences and Applications	CIRM, Luminy, France
<i>Fairness in insurance pricing (keynote)</i>	2022
CMStatistics	King's College, London, UK
<i>Modeling Joint Lives within Families (invited speaker)</i>	2021
Emeritaat Jan Beirlant	Leuven, Belgium
<i>Extended Pareto distribution and applications (invited speaker)</i>	2021
Justice sociale, l'équité et les discriminations dans les systèmes algorithmiques	CNRS
<i>Assurance et discrimination (invited speaker)</i>	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	Le Mans, France
<i>Risque de pandémie, pertes d'exploitation et incertitudes (invited speaker)</i>	2021
5e Conférence annuelle PANORisk	Le Mans, France
<i>Autocalibration and Insurance Pricing (invited speaker)</i>	2021
SSC (Statistical Society of Canada) Annual Conference	Canada
<i>Autocalibration & Premium Calculations (invited session)</i>	2021
IME (Insurance: Mathematics & Economics) Annual Conference	Champaign, Illinois, US
<i>Autocalibration & Premium Calculations (and panel discussion </i>	2021
ASTIN Annual Conference	Orlando, Florida, US
<i>Autocalibration & Premium Calculations</i>	2021
MODCOV19-CNRS	Paris, France
<i>Modèles épidémiologiques pour analyse coût-efficacité sous incertitude (invited speaker)</i>	2020
Machine learning for economists and applied social scientists	Hallifax, Canada
<i>Machine Learning in Actuarial Science & Insurance (plenary speaker </i>	2020
Actuarial and Financial Mathematics Conference	Brussels, Belgium
<i>Insurance Pricing in Competitive Markets (invited speaker)</i>	2020
Online International Conference in Actuarial science and finance	Lyon, France
<i>Modeling Joint Lives within Families</i>	2020
Risk Analytics Conference	Chicago, US
<i>Actuarial Pricing and Competition, University of Illinois (keynote speaker)</i>	2019
UCSB InsurTech Summit	Santa Barbara, US
<i>Insurance Pricing in Competitive Markets (invited speaker)</i>	2019
Natural Catastrophe Economics Workshop	Zürich, Switzerland
<i>Assessing Probabilities with Climate Change (invited speaker)</i>	2019
XXVIIIth International Biometric Conference	Barcelona, España
<i>Collaborative Genealogical Data in Demography (invited session)</i>	2018
European R Users Meeting 	Budapest, Hungary
<i>Collaborative Genealogical Data in Demography (invited speaker)</i>	2018
Ecole Thématique sur l'Evaluation des Politiques Publiques	Aussois, France
<i>Evaluation du préjudice corporel en assurance automobile (invited speaker)</i>	2018
Big data empirics and policy analysis, Bank of England	London, UK
<i>Insurance: Risk Pooling or Price Segmentation (keynote speaker)</i>	2017
Artificial Intelligence for fintech and insurtech	IHP, Paris, France
<i>Insurance Pricing and Competition (invited speaker)</i>	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, Nederland
<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 Gouvernement 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, España
<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	HEC Montréal, Canada
<i>Risk Measures and Pareto Models</i>	2014
World Social Science Forum (UNESCO)	Montréal, Canada
<i>Academic Blogging (invited session)</i>	2013
Mathematical Finance Days	HEC Montréal, Canada
<i>Quantiles Estimation from Heavy Tailed Distribution</i>	2013
6th R/Rmetrics Summer School on Computational Finance	Meielisalp, Switzerland
<i>Actuarial Science with R (invited speaker)</i>	2012
Journées de la Société Canadienne de Sciences Économiques	Mont Tremblant, Canada
<i>Modeling dynamic incentives an application to basketball</i>	2012

Québec-Ontario Workshop on Insurance Mathematics	Montréal, Canada
<i>Quantiles Estimation from Heavy Tailed Distribution</i>	2012
Mathematical Finance Days	HEC Montréal, Canada
<i>Fast Computations on Binomial Trees</i>	2012
Journées de la Société canadienne de sciences économiques	Sherbrooke, Canada
<i>Insurance of Natural Catastrophes When Should Government Intervene?</i>	2011
Changement climatique et gestion des risques	Lyon, France
<i>Modeling heat-waves: return period for non-stationary extremes</i>	2011
Journées d'Etudes Statistique	Luminy, France
<i>Copulas, Insurance and Risk Measures (invited speaker)</i>	2010
IA-Lyon Summer School	Lyon, France
<i>Solvency II' newspeak 'one year uncertainty for IBNR' : the bootstrap approach</i>	2010
Financial Risks International Forum	Paris, France
<i>Multiple Risk Measures</i>	2010
Assessment and Mitigation of Emerging Risks	Paris, France
<i>Emerging risks: an actuarial perspective</i>	2009
R.I.S.K. Symposium	Paris, France
<i>Incertitude des régimes des retraites</i>	2009
Workshop Finance & Insurance	Sao Paulo, Brasil
<i>Estimation of quantile related risk measures (invited speaker)</i>	2009
Workshop on Actuarial Science	Belo Horizonte, Brasil
<i>IBNR and quantification of uncertainty</i>	2009
7th International Workshop on Rare Event Simulation (RESIM)	Rennes, France
<i>Optimal Reinsurance with ruin probability target</i>	2008
Deutsche Mathematiker-Vereinigung, Humboldt-Universität	Berlin, Deutschland
<i>Estimating (properly) copula densities in tails</i>	2007
Conference Insurance Mathematics & Economics	Leuven, Belgium
<i>Extremes for Archimedean copulas</i>	2006
Extreme Values, Copulas and Applications Day, UdeM	Montréal, Canada
<i>Estimating (properly) copula densities in tails</i>	2005
Conference Insurance Mathematics & Economics	Québec, Canada
<i>Can one model natural hazards independently</i>	2005
XXXVIèmes Journées de statistique	Montpellier, France
<i>Distribution limite des structures de dépendance dans des processus de défauts</i>	2004
3rd Conference in Actuarial Sci- ence & Finance on Samos	Samos Σάμος, Greece
<i>Extreme and dependence, a copula approach</i>	2004
Dependence Modelling: Statistical theory and applications	Québec, Canada
<i>Limiting dependence structure for credit defaults</i>	2004
Statistical Issues in Actuarial Risk Modelling, Eurandom	Eindhoven, Nederland
<i>Dependence in tail distributions</i>	2003
XXXVIIIèmes Journées de statistique	Clamart, France
<i>Extremes for Archimedean copulas</i>	2003
Conference Insurance Mathematics & Economics	Lyon, France
<i>Tail distribution and dependence measures</i>	2003

Selected talks at academic seminars

<i>ESSEC Working Group on Risk</i>	Singapore, 2026
<i>ESSEC Asia-Pacific Faculty Seminar</i>	Singapore, 2026
<i>Tsinghua University, 清华大学</i>	<i>Haidian, Beijing 海淀区, China 中华人民共和国, 2026</i>
<i>Séminaire Chaire PARI</i>	Paris, 2025
<i>University of Tokyo, 東京大学</i>	<i>Bunkyo, Tokyo 文京区, Japan 日本, 2025</i>
<i>University of Toronto</i>	Toronto, Canada, 2025
<i>CIMAT Colloquium</i>	Guanajuato, Mexico, 2025
<i>HEC Lausanne & UNIL</i>	Lausanne, Switzerland, 2025
<i>Københavns Universitet</i>	Københavns, Denmark, 2024
<i>Séminaire de modélisation financière de Paris, Université Paris Sorbonne</i>	Paris, France, 2024
<i>Groupe de travail ARC (Actuariat et Risques Contemporains), Sorbonne Université</i>	Paris, France, 2024
<i>ENS Ker-Lann</i> 	Rennes, France, 2023
<i>UdeM & CIREQ Econometrics Seminar</i>	Montréal, Canada, 2023
<i>SINCLAIR (Saclay INdustrial Collaborative Laboratory for Artificial Intelligence Research)</i>	Paris, 2023
<i>Bayes Business School, Actuarial Seminar, City, University of London</i>	London, UK, 2023
<i>University of Waterloo, Actuarial and Statistical Seminar</i>	Waterloo, Canada, 2023
<i>Séminaire StatQAM</i>	UQAM, Montréal, Canada, 2023
<i>ASTIN Reading Group</i> 	Online, 2023
<i>Séminaire Bachelier</i>	IHP, Paris, France, 2023
<i>University of Illinois</i>	Urbana-Champaign, IL, US, 2022
<i>Centre interdisciplinaire en modélisation mathématique (CIMMUL)</i>	Laval, Québec, 2022
<i>Laws, Institutions and Economics</i>	Nanterre, Paris, France, 2022
<i>Intel – Institute of Electrical and Electronics Engineers (IEEE)</i>	Bengaluru ಬೆಂಗಳೂರು, India, 2021
<i>Université de Sherbrooke</i>	Sherbrooke, Canada, 2021
<i>Institut Louis Bachelier</i>	Paris, France, 2021
<i>HEC Montréal, IRE - CREE Seminar</i>	Montréal, Canada, 2021
<i>Science Po (TransNum)</i>	Paris, France, 2020
<i>University of Connecticut, Actuarial Seminar</i>	Storrs, CT, US, 2020
<i>University of New South Wales (UNSW)</i>	Sydney, Australia, 2020
<i>Aix-Marseille School of Economics (AMSE)</i>	Marseille, France, 2020
<i>European Network for Business and Industrial Statistics (ENBIS)</i>	Palaiseau, France, 2020
<i>Paris Machine Learning Group</i>	Paris, France, 2020
<i>CMAP, École Polytechnique</i>	Palaiseau, France, 2020
<i>AICS</i> 	Toronto, Canada, 2020
<i>Chaire Pari (Programme sur l'Appréhension des Risques et des Incertitudes)</i>	Paris, France, 2019
<i>ESSEC Working Group on Risk</i>	Paris, France, 2019
<i>University of California, Actuarial & Statistical Seminar</i>	Santa Barbara, CA, US, 2019
<i>University of Wisconsin, Risk & Insurance Seminar</i>	Madison, WI, US, 2019
<i>University of Waterloo, Actuarial Seminar</i>	Waterloo, Canada, 2019
<i>UQAM, LATECE, Computer Science Seminar</i>	Montréal, Canada, 2019
<i>Université Laval, Quantact Actuarial Seminar</i>	Québec, Canada, 2019
<i>UQAM, Economics Seminar</i>	Montréal, Canada, 2018
<i>Telecom ParisTech</i>	Paris, France, 2018
<i>Università degli Studi dell'Insubria, Economics Seminar</i>	Varese, Italia, 2018

<i>ESSEC Working Group on Risk</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, Nederland, 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, Nederland, 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 中国, 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 & student seminars

AXA Direct Assurance Meetings	Paris, France
<i>Lorenz curves and calibration (keynote speaker)</i>	2025
AXA Pricing Family Meetings	Paris, France
<i>Discrimination and fairness in ratemaking (keynote speaker)</i>	2025
SCOR monthly webinar	Paris, France (online)
<i>Econometrics or Machine Learning</i>  (keynote speaker)	2025
Institut des Actuaires Annual Meeting	Paris, France
<i>Causal modeling for actuaries</i>	2025
R&D Workshop, SCR (Société Centrale de Réassurance)	Morocco, المغرب
<i>Fairness and Insurance (keynote speaker)</i>	2025
Association des Masters d'Actuariat	France
<i>AI, biases and fairness, in insurance and actuarial science (keynote speaker)</i> 	2025
Institut des Actuaires	Paris, France (online)
<i>Fairness and discrimination</i>  (keynote)	2025
Institut Luxembourgeois des Actuaires (ILAC) Annual Meeting	Luxembourg
<i>Discrimination, fairness and interpretability (keynote speaker)</i>	2025
Milliman R&D Seminar	France
<i>A Spectrum of Fair Premiums, an Introduction (keynote)</i>	2025
Financial Conduct Authority (FCA)	London, UK
<i>Demystify fairness and discrimination in insurance, and avoid some pitfalls (keynote)</i>	2024
Workshop on Trustworthy AI	Montréal, Canada
<i>Insurance, discrimination and fairness</i>	2024
Institut des Actuaires Annual Meeting	Paris, France
<i>Heat waves and subsidence</i>	2024
Actuarial Contact Program, ACP – KUL	Leuven, Belgium
<i>From contemplative to predictive modeling in actuarial science and risk management</i>	2024
Groupe de Travail 'Mutualisation des risques', France Stratégie	Paris, France
<i>Member of group, various participations and presentations</i>	2024
SCOR monthly webinar	Paris, France (online)
<i>Scope and limits of artificial intelligence</i> 	2024
TD General Insurance Pricing Seminar	Montréal, Canada
<i>Fairness and Ethics in Actuarial Pricing</i>	2024
Akur8 Technical Seminar	Paris, France (online)
<i>Ethics in Actuarial Pricing, and equipy</i>	2024
Chaire Thélem / ILB	Orléans, France
<i>Fairness and Ethics in Actuarial Pricing</i>	2024
Data Talk Generali	Paris, France
<i>Fairness and Ethics in Actuarial Pricing</i>	2024
Colloque Actuarial Francophone	Paris, France
<i>La mutualisation et l'inclusion à l'épreuve de la segmentation (invited speaker)</i> 	2023
TD Insurance Data Analytics Seminar	Montréal, Canada
<i>Fairness and Ethics in Actuarial Pricing</i>	2023

Intact Seminar	Montréal, Canada
<i>Causal Models for Discrimination in Insurance</i>	2023
Akur8 Pricing Seminar	Paris, France
<i>Fairness and Ethics in Actuarial Pricing</i>	2023
Conference Data Science Institute	Montréal, Canada
<i>Les enjeux des risques climatiques en assurance de dommages</i>	2023
Table ronde sur la pratique actuarielle, AG2R	Paris, France
<i>Perspective de la pratique actuarielle</i>	2023
3e Colloque International de l'Actuariat Francophone	Paris, France
<i>La mutualisation et l'inclusion à l'épreuve de la segmentation</i>	2023
Journée d'étude Alvidence	Paris, France
<i>Machine Learning with Fairness Constraints</i>	2023
Data Science Webinar, Institut du Risk Management	Paris, France
<i>Machine Learning with Fairness Constraints</i> 	2023
Service Juridique France Assureurs	Paris, France
<i>Insurance & 'high-risk' AI systems - EU AI Act</i>	2023
Comité Corporel de France Assureurs	Paris, France
<i>To Sue or not to Sue</i>	2023
Colloque SCOR-Institut des Actuaires	Paris, France
<i>Assurance collaborative, théorie des graphes et actuariat</i>	2022
Beneva (La Capitale & SSQ Assurance)	Québec, Canada
<i>Competitions in insurance markets</i>	2022
Optimind Webinar	Paris, France
<i>La non-discrimination dans l'usage des données et les modèles actuariels</i>	2022
Cov&Data, Covea (MAAF, MMA & GMF)	Paris, France
<i>Interpretability of predictive models</i>	2022
100% Data Science, Institut des Actuaires Annual Meeting	Paris, France
<i>Are you a probability?</i>	2022
DataDay MAIF	Niort, France
<i>Data and climate change</i>	2022
Casualty Actuarial and Statistical Task Force (CASTF), NAIC	Washington, DC, USA
<i>An introduction to Bayesian models</i>	2022
Journées actuarielles - Actuarial Days - Groupama	Paris, France
<i>Flood and subsidence</i>	2022
Chaire DIALog (digital insurance and long term risk)	Paris, France
<i>Insurance, fairness and discrimination</i>	2022
Institut des Actuaires & Institut Louis Bachelier	Paris, France
<i>Vision bayésienne de l'apprentissage</i> 	2022
ASTIN – International Actuarial Association	Ottawa, Canada
<i>Insurance: discrimination and fairness</i>	2022
Journée de l'actuariat IARD (Institut des Actuaires)	Paris, France
<i>Machine Learning : de la promesse à la réalité (table ronde)</i>	2022
IVADO (Communauté de pratique)	Montréal, Canada
<i>Insurance: biases, discrimination & fairness</i>	2022

COV&Data Conference: IA de confiance	Paris, France
<i>Insurance: biases, discrimination & fairness</i>	2022
AXA Actuarial Conference # 62	Paris, France
<i>Catastrophic Climate risks and Insurance</i>	2022
100% Data Science, Institut des Actuaires Annual Meeting	Paris, France
<i>Modeling subsidence risk in France</i>	2021
Institut Louis Bachelier & Institut des Actuaires	Paris, France
<i>Assurance collaborative : Théorie des graphes et Actuariat</i> 	2021
TD Insurance	Montréal, Canada
<i>Insurance pricing in competitive markets</i>	2020
Autorité de contrôle prudentiel et de résolution (ACPR)	Paris, France
<i>Insurance pricing in competitive markets</i>	2019
SCOR, Rencontres Mutualistes	Beaune, France
<i>Insurance pricing in competitive markets</i>	2018
AON Benfield, Journées du marché	Paris, France
<i>Insurance and climate</i>	2018
Data science conference, Generali	Paris, France
<i>Machine learning in insurance</i>	2016
Institut des Actuaires, Big Data Seminar	Paris, France
<i>Machine learning in insurance</i>	2015
Society of Actuaries, Predictive Modeling Seminar	Chicago, IL, US
<i>From Generalized Linear Models to Trees</i>	2013
Desjardins Reserving Seminar	Montréal, Canada
<i>One-year uncertainty</i>	2011
Milliman Reserving Seminar	Paris, France
<i>One-year uncertainty</i>	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; Risk and Decision Analysis ; 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; EGUsphere; 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; Transactions in Machine Learning Resarch (TMLR); ; Journal of the Royal Statistical Society (RSS) – Series C; Expert Systems With Applications; European Economic Review; Agua y Territorio (Water and Landscape); Research in Transportation Economics; Artificial Intelligence in Medicine; Digital Society; Technology in Society; Risk and Decision Analysis; Sustainable Development; Review of Income and Wealth; Journal of Machine Learning Resarch (JMLR); Artificial Intelligence In Medicine;

Conferences / Program Committee (PC) member / Reviewer

ECML'24, '25; AIStats'24; IJCNN'25; ICML'25; NeurIPS'25; AAAI'26; ICLR'26

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, Simon Fraser University

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), ESF (European Science Foundation), 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 - הקרן הלאומית למדע (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

FQRNT (Quebec) Canada

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

NSERC (Canada)

Selected research visits and invitations (> 1 week)

ESSEC Singapore
visiting Pierre Alquier

Singapore
2026

Tsinghua University , 清华大学 visiting Runhuan Feng 冯润桓	Haidian, Beijing 海淀区, China 中华人民共和国 2026
ENSAE Institut Polytechnique visiting Caroline Hillairet	Saclay, France 2024
University of California visiting Mike Ludkovski	Santa Barbara, CA, US 2019
Universitat de Barcelona visiting Montserrat Guillen	Barcelona, España 2018
Università degli Studi dell'Insubria visiting Raffaello Seri	Varese, Italia 2018
Harvard University visiting Christine Choirat & Pierre Jacob	Cambridge, US 2017
Universitat de Barcelona visiting Montserrat Guillen	Barcelona, España 2016
Centro de Investigación en Matemáticas visiting Victor Rivero	Guanajuato, Mexico 2014
Universidade Federal de Minas Gerais visiting Renato Assunção	Belo Horizonte, Brasil 2013
<i>Julien Trufin</i>	<i>Université Libre de Bruxelles, Belgique</i> 2024, 2025
<i>Raphaël Suire</i>	<i>Université de Nantes, France</i> 2024
<i>Fei Huang</i>	<i>UNSW, Sydney, Australia</i> , 2024
<i>Laurence Barry</i>	<i>Chaire PARI, France</i> , 2024
<i>Stéphane Loisel</i>	<i>CNAM Paris, France</i> , 2024
<i>Mario Ghossoub</i>	<i>Waterloo University, Canada</i> , 2022, 2023
<i>Ewen Gallic</i>	<i>Université Aix-Marseille, France</i> , 2023-2025
<i>Jean-Michel Loubes</i>	<i>Université Paul Sabatier, Toulouse, France</i> , 2022
<i>Andreea Enache</i> (✉ Covid-19)	<i>Stockholm School of Economics, Sweden</i> , 2020-2021

Bachelor (BSc) students (since 2025)

<i>Allison Lara Nieva</i> in	<i>Universidad Nacional Autónoma de México</i> , 2025
<i>Iryna Voitsitska, Ірина Войціцька</i> in	<i>Український Католицький Університет, Ukraine Україна</i> , 2025
<i>Mahery Andriamadison</i> in	<i>Sorbonne Université, Paris, France</i> , 2025

Master (MSc) students (since 2020)

<i>Lucas Offroy</i> in	<i>INSA Rennes & Université de Brest, France</i> , 2025
<i>Raphaël Dalbarade</i> in	<i>ENSAE Paris, France</i> , 2025
<i>Noé Bosc-Haddad</i> in	<i>Ecole Centrale, Paris, France</i> , 2024
<i>Aña María Patrón Piñerez</i> in	<i>Universidad de los Andes, Colombia</i> , 2024
<i>Julien Siharath</i> in	<i>Université de Rennes, France</i> , 2024
<i>Cassandra Mussard</i> in	<i>ENSEEIHT & INSA Toulouse-ModIA, France</i> , 2024
<i>Florent Crouzet</i>	<i>École Polytechnique, France</i> , 2024
<i>Suzie Grondin</i> in	<i>ENSAE, Paris, France</i> , 2023
<i>Gaspard Ichas</i>	<i>ENSAI, Rennes, France</i> , 2023
<i>Nathan Herzhaft</i> in	<i>École Polytechnique, France</i> , 2023

<i>Kim Anh Lê</i>	in	<i>Ludwig-Maximilians-Universität München, Deutschland, 2023</i>
<i>Olivier Côté</i>	in chat	<i>(co-supervision) Université Laval, Québec, Canada, 2023</i>
<i>Martin de Closets</i>	in	<i>École Polytechnique, France, 2022</i>
<i>Franklin Feukam Kouhoue</i>	in (<i>Prix des Sciences du Risque Optimind</i>)	<i>ENSAE, Paris, France, 2022</i>
<i>Rawanda Matar</i>	in	<i>UQAM, Canada, 2021</i>
<i>Menna Hassan</i>	in	<i>الجامعة الأمريكية بالقاهرة, Cairo, Egypt, 2021</i>
<i>Lariosse Kouakou</i>	in	<i>Université de Brest, France, 2020</i>
<i>Elie Odin</i>		<i>ENS (École Normale Supérieure) Ker Lann, France, 2020</i>

PhD Students supervision (3 ongoing, 5 completed)

► Agathe Fernandes Machado	id in	
<i>Fairness and causal models, co-supervised with E. Gallic (Aix-Marseille University)</i>		<i>2023-today</i>
* OBVIA PhD Grant		
► Olivier Côté	id in	
<i>Predictive Models, Interpretability and Explainability, co-supervised with M.P. Côté (Laval)</i>		<i>2023-today</i>
* NSERC PhD Grant, Hickman Scholars Fellowship		
► Hongda Hu	id in	
<i>Bandits and risks, co-supervised with M. Ghossoub & A. Schied (Waterloo)</i>		<i>2020-today</i>
Samuel Stocksieber		then Aix-Marseille University id in
<i>Unbalanced Data, co-supervised with D. Pommeret</i>		<i>2020-2024</i>
* Best actuarial thesis (SCOR Prize 2025)		
Philipp Ratz		then FEDRO research fellow id in chat
<i>Constraints in Fair Estimation and Games</i>		<i>2021-2024</i>
Enora Belz		then Excelcio in
<i>Etude de données agrégées et mesures d'inégalités</i>		<i>2016-2021</i>
Antoine Ly		then CDSO at SCOR id in
<i>Algorithmes de machine learning en assurance, co-supervised with R. Élie</i>		<i>2015-2019</i>
Amadou Barry		then McGill id in
<i>Régression expectile pour données longitudinales, co-supervised with K. Ouakacha</i>		<i>2013-2019</i>

PhD Students invitations

Kathleen Miao (University of Toronto) 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	id in	
<i>Generative models with diffusion, co-supervised with H. Guérin (UQAM)</i>		<i>2024-2025</i>
► Marouane Il-Idrissi	id in chat	
<i>Interpretability and fairness, co-supervised with M.P. Côté (Laval University)</i>		<i>2024-2026</i>
* CANSSI Distinguished Postdoctoral Fellowship		
François Hu		then Milliman R&D, id in chat
<i>Fairness, co-supervised with M. Morales (UdeM)</i>		<i>2022-2024</i>

Félix Foutel Rodier	then Oxford University	 
<i>Mathematical models for pandemics, co-supervised with H. Guérin</i>	2021-2022	
Amirouche Benchallal	then Natural Resources Canada	 
<i>Extracting information from satellite pictures, with Y. Bouroubi</i>	2021-2022	
Ewen Gallic	then Aix-Marseille Univ. (AMSE)	 
<i>Extracting information from collaborative genealogical data</i>	2017-2018	
Arnaud Goussebaïle	then ETH Zürich	 
<i>Insurance and prevention of natural catastrophes</i>	2016-2017	

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

HDR (rapporteur, 6): Myriam Tami (Université Paris-Saclay); Vincent Brault (Université de Grenoble); Pierre Théron (Université de Lyon); Emilie Devijver (CNRS & Université de Grenoble); Christophe Dutang (Université Paris Dauphine); Nabil Kazi-Tani (Université de Lyon)

PhD (38): Gayane Taturyan (Université de Toulouse); Audrey Poinsot (INRIA & Université Paris Saclay); Marc Yeterian (Université Paris Dauphine-PSL); Wistan Marchadour (Université de Brest); Marouane Il-Idrissi (Université de Toulouse); Francis Duval (UQAM, Montréal); Eric Vansteenberghe (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); Noureddine Ben Lagha (Université Paris II Assas)

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

Jury (Prices)

Journal of Risk and Insurance	2023
<i>Jury for Robert I. Mehr Award</i>	
Annals of Economics and Statistics	2021,2022
<i>Jury for the best young researcher paper</i>	
Scor Actuarial Price	since 2023
<i>Jury for MSc and PhD Best Thesis Prices</i>	

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 3980 citations (8, November 2025), 50 published papers in peer reviewed journals, 17 published papers in peer reviewed international conferences, 7 books, 56 papers in French (including dissemination papers), 20 chapters in textbooks, 3 practitioners' report and 28 working papers (most available on ArXiv).

Published papers in peer reviewed journals (50)

1. H.Hu*, A.Charpentier, M.Ghossoub & A.Schied (2025). The multi-armed bandit problem under the mean-variance setting. *European Journal of Operational Research*, [doi:10.1016/j.ejor.2025.03.011](https://doi.org/10.1016/j.ejor.2025.03.011)
2. F.Foutel-Rodier⁺, A.Charpentier & H.Guérin (2025). Optimal Vaccination Policy to Prevent Endemicity: a Stochastic Model. *Journal of Mathematical Biology*, [doi:10.1007/s00285-024-02171-z](https://doi.org/10.1007/s00285-024-02171-z)
3. X.Vamparys*& A.Charpentier (2024). Artificial Intelligence and Personalization of Insurance: Failure or Delayed Ignition? *Big Data & Society*, [doi:10.1177/20539517241291817](https://doi.org/10.1177/20539517241291817)
4. O.Côté*, M.P.Côté & A.Charpentier (2024). A fair price to pay: Exploiting causal graphs for fairness in insurance. *Journal of Risk & Insurance*, [doi:10.1111/jori.12503](https://doi.org/10.1111/jori.12503)
5. K.Aas, A.Charpentier, F.Huang & R.Richman (2024). Insurance analytics: prediction, explainability and fairness. *Annals of Actuarial Science*, [doi:10.1017/S1748499524000289](https://doi.org/10.1017/S1748499524000289).
6. 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)
7. 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://doi.org/10.48550/arXiv.2835-8856)
8. M.Moriah*, F.Vermet & A.Charpentier (2024). Measuring and Mitigating Biases in Motor Insurance Pricing. *European Actuarial Journal*, [doi:10.1007/s13385-024-00390-8](https://doi.org/10.1007/s13385-024-00390-8)
9. L.Barry & A.Charpentier (2023). Melting Contestation: Insurance Fairness and Machine Learning, *Ethics and Information Technology* [doi:10.1007/s10676-023-09720-y](https://doi.org/10.1007/s10676-023-09720-y)
10. A.Barry*, K.Oualkacha & A.Charpentier (2023). Alternative fixed-effects panel model using weighted asymmetric least squares regression, *Statistical Methods & Applications* [doi:10.1007/s10260-023-00692-3](https://doi.org/10.1007/s10260-023-00692-3)
11. L.Barry & A.Charpentier (2022) L'équité de l'apprentissage machine en assurance. *Statistiques & Société*, [DOI](https://doi.org/10.48550/arXiv.2209.05121)

*: graduate student; +: postdoctoral fellow

12. A.Charpentier & E.Flachaire (2022). Oaxaca-Blinder decomposition of changes in means and inequality: A simultaneous approach, *Economics Bulletin*, 
13. R.Bigot, A.Cayol & A.Charpentier (2022) Risque de pandémie, pertes d'exploitation et incertitudes des garanties assurantielles. *Revue Responsabilité civile et Assurances* 
14. 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) 
15. 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)
16. A.Charpentier, M.Denuit & J.Trufin (2021). Autocalibration and Tweedie-dominance for Insurance Pricing with Machine Learning. *Insurance: Mathematics and Economics*, **101**, 485–497, [doi:10.1016/j.insmatheco.2021.09.001](https://doi.org/10.1016/j.insmatheco.2021.09.001) 
17. 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)
18. 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)
19. A.Charpentier, L.Barry & M.James*(2022) Insurance against Natural Catastrophes: Balancing Actuarial Fairness and Social Solidarity. *Geneva Papers on Risk & Insurance*, **47**, 50–78, [doi:10.1057/s41288-021-00233-7](https://doi.org/10.1057/s41288-021-00233-7) 
20. A.Charpentier, S.Mussard & T.Ouraga*(2021) Principal Component Analysis: A Generalized Gini Approach. *European Journal of Operational Research*, **294** [doi:10.1016/j.ejor.2021.02.010](https://doi.org/10.1016/j.ejor.2021.02.010) 
21. A.Charpentier, R.Élie, M.Laurière⁺ & V.C.Tran (2020) COVID-19 pandemic control: balancing detection policy and lockdown intervention under ICU sustainability. *Mathematical Modelling of Natural Phenomena* [doi:10.1051/mmnp/2020045](https://doi.org/10.1051/mmnp/2020045)
22. L.Barry & A.Charpentier (2020) Personalization as a Promise: Can Big Data Change the Practice of Insurance?. *Big Data & Society*. [doi:10.1177/2053951720935143](https://doi.org/10.1177/2053951720935143)
23. A.Charpentier & E.Gallic⁺ (2020) Can historical demography benefit from the collaborative data of genealogy websites?. *Population*, [doi:10.3917/popu.2002.0391](https://doi.org/10.3917/popu.2002.0391) 
24. A.Charpentier & E.Gallic⁺ (2019) Using collaborative genealogy data to study migration: a research note. *The History of the Family*, [doi:10.1080/1081602X.2019.1641130](https://doi.org/10.1080/1081602X.2019.1641130),  
25. A.Charpentier, N.Ka*, S.Mussard & O.H.Ndiaye (2019) Gini Regressions and Heteroskedasticity. *Econometrics*, **7**, [doi:10.3390/econometrics7010004](https://doi.org/10.3390/econometrics7010004)
26. A.Charpentier, E.Flachaire & A.Ly*(2018) Econometrics and Machine Learning. *Economics & Statistics*, [doi:10.24187/ecostat.2018.505d.1970](https://doi.org/10.24187/ecostat.2018.505d.1970)
27. A.Charpentier & B.Coulmont (2018) We are not alone ! (at least, most of us aren't) *Significance*, [doi:10.1111/j.1740-9713.2018.01108.x](https://doi.org/10.1111/j.1740-9713.2018.01108.x) 
28. A.Charpentier, A.David* & R.Élie (2017) Optimal Claiming Strategies in Bonus Malus Systems and Implied Markov Chains. *Risks*, [doi:10.3390/risks5040058](https://doi.org/10.3390/risks5040058)

29. G.Geenens, A.Charpentier & D.Paindaveine (2017) Probit transformation for nonparametric kernel estimation of the copula density. *Bernoulli* [doi:10.3150/15-BEJ798](https://doi.org/10.3150/15-BEJ798)
30. A.Charpentier, A.Galichon & M.Henry (2016) Local Utility and Multivariate Risk Aversion. *Mathematics of Operations Research*, 41: 466-476 [doi:10.1287/moor.2015.0736](https://doi.org/10.1287/moor.2015.0736)
31. A.Charpentier & E.Gallic*(2016) Kernel density estimation based on Ripley's correction. *Geoinformatica*, 20: 95-116, 2016 [doi:10.1007/s10707-015-0232-z](https://doi.org/10.1007/s10707-015-0232-z) 
32. A.Charpentier & E.Flachaire (2015) Log-transform kernel density estimation of income distribution. *L'Actualité Economique*, 91 :141-149, [doi:10.7202/1036917ar](https://doi.org/10.7202/1036917ar)
33. C.Tavéra, J.-C.Poutineau, J.-S.Pentecôte, I. Cadoret-David, A.Charpentier, C.Guéguen, M.Huchet-Bourdon, J.Licheron*& G.L'Oeillet*(2015) The "Mother of All Puzzles" at thirty: a meta-analysis. *International Economics*, 141 :80-96, [doi:10.1016/j.inteco.2015.01.001](https://doi.org/10.1016/j.inteco.2015.01.001)
34. M.T.Bastos, D.Mercea & A.Charpentier (2015) Tents, Tweets, and Events: The Interplay Between Ongoing Protests and Social Media. *Journal of Communication*, 65: 320–350, [doi:10.1111/jcom.12145](https://doi.org/10.1111/jcom.12145)
35. A.Charpentier & B.Le Maux (2014) Natural catastrophe insurance: How should the government intervene?. *Journal of Public Economics*, 115: 1-17, [doi:10.1016/j.jpubeco.2014.03.004](https://doi.org/10.1016/j.jpubeco.2014.03.004)
36. A.Charpentier & M.Durand*(2015) Modeling earthquake dynamics. *Journal of Seismology*, 19: 721-739, [doi:10.1007/s10950-015-9489-9](https://doi.org/10.1007/s10950-015-9489-9)
37. A.Charpentier, A.-L.Fougères, C.Genest & J.G.Nešlehová (2014) Multivariate Archimax copula. *Journal of Multivariate Analysis*, [doi:10.1016/j.jmva.2013.12.013](https://doi.org/10.1016/j.jmva.2013.12.013)
38. A.Charpentier & S.Mussard (2011) Income Inequality Games. *Journal of Economic Inequality*, 9: 529–554, 20 [doi:10.1007/s10888-011-9184-1](https://doi.org/10.1007/s10888-011-9184-1)
39. A.Charpentier (2011) On the return period of the 2003 heat wave. *Climatic Change*, 109: 245–260, [doi:10.1007/s10584-010-9944-0](https://doi.org/10.1007/s10584-010-9944-0)
40. A.Charpentier & A.Oulidi⁺(2010) Beta kernel quantile estimators of heavy-tailed loss distributions. *Statistics and Computing*, 20: 35–55, [doi:10.1007/s11222-009-9114-2](https://doi.org/10.1007/s11222-009-9114-2)
41. A.Charpentier & A.Oulidi⁺(2009) Estimating allocations for value-at-risk portfolio optimization. *Mathematical Methods of Operations Research*, 69: 395, [doi:10.1007/s00186-008-0244-7](https://doi.org/10.1007/s00186-008-0244-7)
42. A.Charpentier & J.Segers (2009) Tails of multivariate Archimedean copulas. *Journal of Multivariate Analysis*, 100: 1521–1537, 2009 [doi:10.1016/j.jmva.2008.12.015](https://doi.org/10.1016/j.jmva.2008.12.015)
43. A.Charpentier & D. Sibaï*(2009) Dynamic flood modeling: combining Hurst and Gumbel's approach. *Environmetrics*, 20: 32–52, [doi:10.1002/env.909](https://doi.org/10.1002/env.909)
44. A.Charpentier (2008) Insurability of climate risks. *The Geneva Papers on Risk and Insurance*, 33: 91–109, [doi:10.1057/palgrave.gpp.2510155](https://doi.org/10.1057/palgrave.gpp.2510155)
45. A.Charpentier (2008) Dynamic dependence ordering for Archimedean copulas and distorted copulas. *Kybernetika*, [doi:10338.dmlcz/135890](https://doi.org/10338.dmlcz/135890)
46. A.Charpentier & J.Segers (2008) Convergence of Archimedean copulas. *Statistics and Probability Letters*, [doi:10.1016/j.spl.2007.07.014](https://doi.org/10.1016/j.spl.2007.07.014)

47. A.Charpentier & J.Segers (2007) Lower tail dependence for Archimedean copulas: Characterizations and pitfalls. *Insurance: Mathematics and Economics*, [doi:10.1016/j.insmatheco.2006.08.004](https://doi.org/10.1016/j.insmatheco.2006.08.004)
48. A.Charpentier & A.Juri (2006) Limiting dependence structures for tail events, with applications to credit derivatives. *Journal of Applied Probability*, [doi:10.1239/jap/1152413742](https://doi.org/10.1239/jap/1152413742)
49. J.-C.Boüette*, J.-F.Chassagneux*, D.Sibaï*, R.Terron*& A.Charpentier (2006) Wind in Ireland: long memory or seasonal effect?. *Stochastic Environmental Research and Risk Assessment*, [doi:10.1007/s00477-005-0029-y](https://doi.org/10.1007/s00477-005-0029-y)
50. A.Charpentier (2006) Actuariat et data mining: prise en compte des dépendances. *Revue des Nouvelles Technologies de l'Information*, [isbn:978-2-85428-794-3](https://isbn.org/978-2-85428-794-3)

Published papers in peer reviewed conferences (17)

51. B.Tierny*, A.Charpentier & F.Hu (2025). Decomposing Direct and Indirect Biases in Linear Models under Demographic Parity Constraint. *40th Annual AAAI Conference on Artificial Intelligence* [doi:10.48550/arXiv.2511.11294](https://doi.org/10.48550/arXiv.2511.11294) (+ student presentation)
52. C.Mussard*, A.Charpentier & S.Mussard (2025). KNN and K-means in Gini Prametric Spaces. *28th European Conference on Artificial Intelligence* (ECAI 2025) [doi:10.48550/arXiv.2501.18028](https://doi.org/10.48550/arXiv.2501.18028)
53. M.Il-Idrissi+, A.Fernandes-Machado*& A.Charpentier (2025). Beyond Shapley Values: Cooperative Games for the Interpretation of Machine Learning Models. *IJCAI Workshop on Explainable Artificial Intelligence* [doi:10.48550/arXiv.2506.13900](https://doi.org/10.48550/arXiv.2506.13900)
54. A.Fernandes-Machado*, A.Charpentier & E.Gallic (2025). Optimal Transport on Categorical Data for Counterfactuals using Compositional Data and Dirichlet Transport. *34th International Joint Conference on Artificial Intelligence* (IJCAI'25) [doi:10.24963/ijcai.2025/572](https://doi.org/10.24963/ijcai.2025/572) 
55. S.Stocksieker, D.Pommeret & A.Charpentier (2025). Disentangled Deep Smoothed Bootstrap for Fair Imbalanced Regression. *29th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems* (KES'25) [doi:10.1016/j.procs.2025.09.519](https://doi.org/10.1016/j.procs.2025.09.519)
56. S.Stocksieker, D.Pommeret & A.Charpentier (2025). KurtHGR: A Neural Maximal Correlation for Tabular Datasets. *29th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems* (KES'25) [doi:10.1016/j.procs.2025.09.338](https://doi.org/10.1016/j.procs.2025.09.338)
57. S.Stocksieker, D.Pommeret & A.Charpentier (2025). Delving into Deep Smoothed Bootstrap: Application in Imbalanced Regression. *12th IEEE International Conference on Data Science and Advanced Analytics* (DSAA 2025)
58. A.Fernandes-Machado*, A.Charpentier & E.Gallic (2025). Sequential Conditional Transport on Probabilistic Graphs for Interpretable Counterfactual Fairness. *39th Annual AAAI Conference on Artificial Intelligence* (AAAI 2025) [doi:10.1609/aaai.v39i18.34131%20](https://doi.org/10.1609/aaai.v39i18.34131%20) 
59. S.Stocksieker*, D.Pommeret & A.Charpentier (2024). Data Augmentation with Variational Autoencoder for Imbalanced Dataset. *31st International Conference on Neural Information Processing* (ICONIP 2024) [doi:10.48550/arXiv.2412.07039](https://doi.org/10.48550/arXiv.2412.07039)

60. A.Fernandes-Machado*, A.Charpentier, E.Flachaire, E.Gallic & F.Hu (2024). Post-Calibration Techniques: Balancing Calibration and Score Distribution Alignment. *Thirty-Eighth Annual Conference on Neural Information Processing Systems* (NeurIPS 2024) *BDU Workshop*, [openreview:Tly0QuWPuE](#),  and 
61. S.Stocksieker*, D.Pommeret & A.Charpentier (2024). Boarding for ISS: Imbalanced Self-Supervised: Discovery of a Scaled Autoencoder for Mixed Tabular Datasets. *International Joint Conference on Neural Networks* (IJCNN 2024) - *IEEE World Congress on Computational Intelligence* (IEEE WCCI 2024) [doi:10.1109/IJCNN60899.2024.10650790](#)
62. F.Hu⁺, P.Ratz* & A.Charpentier (2024). A Sequentially Fair Mechanism for Multiple Sensitive Attributes. *38th Annual AAAI Conference on Artificial Intelligence* (AAAI 2024), [doi:10.1609/aaai.v38i11.29143](#) equipy package ,  and 
63. A.Charpentier, F.Hu⁺, & P.Ratz* (2023) Mitigating Discrimination in Insurance with Wasserstein Barycenters. *3rd Workshop on Bias and Fairness in AI* (BIAS 2023), [10.1007/978-3-031-74630-7_11](#), 
64. F.Hu⁺, P.Ratz* & A.Charpentier (2023). Fairness in Multi-Task Learning via Wasserstein Barycenters. *Machine Learning and Knowledge Discovery in Databases: Research Track* (ECML/PKDD 2023) [10.1007/978-3-031-43415-0_18](#), 
65. S.Stocksieker*, A.Charpentier & D.Pommeret (2023). Data Augmentation for Imbalanced Regression. *Proceedings of The 26th International Conference on Artificial Intelligence and Statistics* (AISTATS 2023), 7774–7799, [PMLR 206:7774-7799](#), , , 
66. A.Charpentier & L.Barry (2022). The fairness of machine learning in insurance. *Montréal AI Symposium* (MAIS 2022), [arXiv:2205.08112](#), 
67. A.Charpentier (2008). Pricing catastrophe options in incomplete markets. *Actuarial and Financial Mathematics Conference*, Gand, Belgium, 19–31

Books (7)



68. A.Charpentier (2024). Insurance, biases, discrimination and fairness. Springer Nature . ISBN [9783031497827](#) , InsurFair package 
69. G. Bénéplanc, A.Charpentier & P. Thourot (2022). Manuel de l'Assurance. Presses Universitaires de France. ISBN [9782130832935](#) 
70. A.Charpentier (2015). Computational Actuarial Science with R. CRC Press. ISBN [9781138033788](#), R Casdataset package 
71. A.Charpentier & C. Dutang (2013). Actuariat avec R. CRAN. 

72. M.Denuit & A.Charpentier (2005) Mathématiques de l'assurance non-vie - Tarification et provisionnement (Tome 2). Economica (ESA). [ISBN 9782717848601](#) 
73. M.Denuit & A.Charpentier (2004) Mathématiques de l'assurance non-vie - Principes fondamentaux de théorie du risque (Tome 1). Economica (ESA). [ISBN 9782717848540](#) 
74. Collective Actuarial Community Loss Data Analytics. An open text authored by the Actuarial Community. 2019. 

Published papers in French & Dissemination papers (56)

75. A.Charpentier (2025). Et si on misait enfin sur la prévention ? *Risques*.
76. A.Charpentier (2025). L'impossible droit à l'erreur, l'impossible droit à l'oubli ? *Risques*.
77. L.Barry & A.Charpentier (2025). Repenser collectivement les catastrophes. *Risques*.
78. A.Charpentier (2025). Les paradoxes de la segmentation et de la discrimination en assurance. *Risques*.
79. A.Charpentier & B.Cherrier (2025). Comment escompter le futur ? *Risques*
80. A.Charpentier & E.Flachaire (2025). Machine Learning et Économie. *Revue d'Économie Politique*, [10.3917/redp.346.0801](#)
81. A.Charpentier & N.Marescaux (2024). Comment dépasser la froideur des chiffres, et agir? *Risques*, 
82. A.Charpentier (2024). Diversification des risques extrêmes. *Risques* 
83. A.Charpentier & E.Gallic (2024). Croissance, décroissance, de quoi parle-t-on? *Risques* 
84. A.Charpentier & L.Barry (2024). Partage des données, à qui profite le crime? *Risques* 
85. A.Charpentier (2023). Est-il nécessaire (et utile) d'être en guerre contre tout? *Risques* 
86. A.Charpentier & N.Marescaux (2023). L'incertitude empêche-t-elle de prendre des décisions? *Risques* 
87. A.Charpentier (2023). La société du "bullshit", *Risques* 
88. A.Charpentier & L.Barry (2023). Y-a-t-il une discrimination contre les pauvres? *Risques* 
89. A.Charpentier (2022). Assurance: discrimination, biais et équité. *Institut Louis Bachelier Working Papers*, Opinions & Débats, 25 
90. A.Charpentier (2022). Le risque climatique, une tendance lente de long terme? *Risques* 
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92. A.Charpentier (2022). Modéliser la contagion. *Risques* 
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95. A.Charpentier & E.Gallic (2021). Intelligence collective et données. *Risques* 
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133. A.Charpentier (2025) Certitudes collectives et incertitudes individuelles, les données massives changent-elles la donne ? *in Actes du Colloque de Cerisy, L'assurance face à ses ruptures* [hal-05250596](#)
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155. A.Charpentier & P.Ratz (2025). Linear Risk Sharing on Networks. [doi:10.48550/arXiv.2509.21411](#)
156. A.Charpentier, O.Côté* & M.P.Côté (2025). Un cadre de gouvernance à trois piliers pour une tarification équitable de l'assurance *Chaire PARI WP #37* 
157. A.Charpentier (2025). Perceived Fairness in Networks. [doi:10.48550/arXiv.2510.12028](#)
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167. F.Hu⁺, P.Ratz^{*} & A.Charpentier (2023). Fairness Explainability using Optimal Transport with Applications in Image Classification [arXiv:2308.11090](#)
168. X.Vamparys^{*}& A.Charpentier (2023). Intelligence artificielle et individualisation des garanties en assurance: échec ou retard à l'allumage? *Chaire PARI WP #32*
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Teaching

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Selected courses

Five Lectures on Fairness and Discrimination in Insurance	Graduate Lecture VI
<i>Kyoto University 京都大学, Japan 日本</i>	2025
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		
<i>Université du Québec à Montréal, Canada</i>		2014
Copulas and Extreme Values		
<i>Université du Québec à Montréal, Canada</i>		MAT8595
 YouTube channel		2014
<i>Courses ~ 75,000 views</i>		2020-2021

Summer schools

Insurance, biases, discrimination and fairness		
<i>Szkoła Nauk Aktuarialnych, Warsaw, Polska</i>		2024
Econometrics and Machine Learning		
<i>Società Italiana di Econometria (SIdE), Italia</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, Italia</i>		2018
Econometrics and Machine Learning		
<i>Universitat de Barcelona, España</i>		2018

Other Institutions

<i>Kyoto University 京都大学</i>	<i>Japan 日本, 2025-2026</i>
<i>École Polytechnique</i>	<i>France, 2008-2010</i>
<i>Đại học Kinh tế Thành phố Hồ Chí Minh</i>	<i>Việt Nam, 2008</i>
<i>Institut de Statistique de l'Université de Paris (ISUP)</i>	<i>France, 2008</i>
<i>Institut de Mathématiques Appliquées, Angers</i>	<i>France, 2007</i>
<i>INSEA, المعهد الوطني للإحصاء والاقتصاد التطبيقي</i>	<i>Morocco المَغْرِب, 2006</i>
<i>Université Saint-Joseph, Beyrut</i>	<i>Lebanon لبنان, 2006</i>
<i>ENSEA, Abidjan</i>	<i>Ivory Coast, 2003</i>

Professional training

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

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