ARTHUR CHARPENTIER

0003-3654-6286 | freakonometrics | | | detailed cv | blog |

EXPERIENCE

2025-2026 Kyoto University, 京都大学 (Japan), Mathematics Department, Visiting professor
2018-now UQAM, Mathematics Department, Full professor
2017-now Université de Rennes, Faculty of Economics, Full Professor (currently secondment at UQAM)
2014-2017 Université de Rennes, Faculty of Economics, Assistant Professor
2011-2014 UQAM, Mathematics Department, Professor
2010-2011 UdeM, Mathematics Department, Visiting professor
2008-2010 École Polytechnique (France), Lecturer

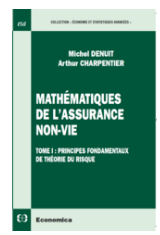
EDUCATION

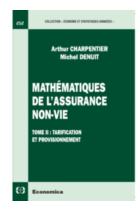
2017 HDR (Habilitation à Diriger des Recherches) Applied Mathematics (Université de Rennes, France)
2006 PhD Applied Mathematics (KU Leuven, Belgique)
1999 Master (MSc) Mathematical Economics (Université Paris Dauphine, France)
1999 Master (MSc) Statistics and Actuarial Science (ENSAE, Paris, France)

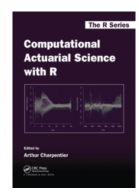
Fellow of the (French) Institut des Actuaires, Member of the International Actuarial Association (IAA)

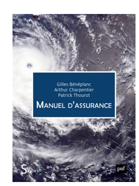
PUBLICATIONS (SELECTION)

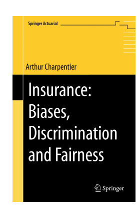
More than 3650 citations, complete list











Books (5)

2024 AC. *Insurance, biases, discrimination and fairness*. Springer Nature.
2022 G. Bénéplanc, AC. & P. Thourot. *Manuel de l'Assurance*. Presses Universitaires de France.
2015 AC. *Computational Actuarial Science with R*. CRC Press.

Articles (50, peer reviewed)

2025 H.Hu, AC, M.Ghossoub & A.Schied (2025). The multi-armed bandit problem under the mean-variance setting. *European Journal of Operational Research*
2025 F. Foutel-Rodier, AC. & H. Guérin. Optimal Vaccination Policy to Prevent Endemicity: a Stochastic Model. *Journal of Mathematical Biology*
2024 O. Côté, M.P. Côté & AC. A Fair price to pay: exploiting directed acyclic graphs for fairness in insurance. *Journal of Risk & Insurance*,
2024 X. Vamparys & AC. Artificial Intelligence and Personalization of Insurance: Failure or Delayed Ignition? *Big Data & Society*
2024 S. Stocksieker, D. Pommeret & AC. Generalized Oversampling for Learning from Imbalanced datasets and Associated Theory: Application in Regression, *Transactions on Machine Learning Research*
2023 L. Barry & AC. Melting Contestation: Insurance Fairness and Machine Learning, *Ethics & Information Technology*,
2022 AC, M. James & H. Ali. Predicting Drought and Subsidence Risks in France. *Natural Hazards & Earth System Sciences*,
2021 AC, L. Barry & M. James. Insurance against Natural Catastrophes: Balancing Actuarial Fairness and Social Solidarity. *Geneva Papers on Risk & Insurance*,
2021 M. Denuit, AC & J. Trufin. Autocalibration and Tweedie-dominance for Insurance Pricing with Machine Learning. *Insurance: Mathematics and Economics*, 101,
2021 AC, R. Élie & C. Remlinger. Reinforcement Learning in Economics and Finance. *Computational Economics*,
2021 AC, S. Mussard & T. Ouraga. Principal Component Analysis: A Generalized Gini Approach. *European Journal of Operational Research*, 294
2021 A. Barry, K. Oualkacha & AC. A new GEE method to account for heteroscedasticity, using asymmetric least-square regressions. *Journal of Applied Statistics*

other publications in *Bernoulli*, *Journal of Public Economics*, *Journal of Public Economics*, *Journal of Multivariate Analysis*, *Journal of Applied Probability*, *Environmetrics*, *Climatic Change*, *Statistics & Computing*, etc.

Conferences (14, peer reviewed)

2025 M. Il-Idrissi, A. Fernandes Machado & AC. (2025). Beyond Shapley Values: Cooperative Games for the Interpretation of Machine Learning Models. *IJCAI Workshop on Explainable Artificial Intelligence* IJCAI'25

2025 A. Fernandes Machado, AC & E. Gallic (2025). Optimal Transport on Categorical Data for Counterfactuals using Compositional Data and Dirichlet Transport. *International Joint Conference on Artificial Intelligence* (IJCAI'25)

2025 A. Fernandes-Machado, AC & E. Gallic Sequential Conditional Transport on Probabilistic Graphs for Interpretable Counterfactual Fairness *Annual AAAI Conference on Artificial Intelligence* (AAAI 2025)

2024 A. Fernandes-Machado, AC., E. Flachaire, E. Gallic & F. Hu. Post-Calibration Techniques: Balancing Calibration and Score Distribution Alignment. *Conference on Neural Information Processing Systems* (NeurIPS 2024)

2024 S. Stocksieker, D.Pommeret & AC. Boarding for ISS: Imbalanced Self-Supervised: Discovery of a Scaled Autoencoder for Mixed Tabular Datasets. *International Joint Conference on Neural Networks* (IJCNN'24)

2024 F. Hu, P. Ratz & AC. A Sequentially Fair Mechanism for Multiple Sensitive Attributes. *38th Annual AAAI Conference on Artificial Intelligence* (AAAI 2024),

2023 F. Hu, P. Ratz & AC. Fairness in Multi-Task Learning via Wasserstein Barycenters. *Machine Learning and Knowledge Discovery in Databases: Research Track* (ECML/PKDD 2023)

2023 S. Stocksieker, AC. & D. Pommeret. Data Augmentation for Imbalanced Regression. *Proceedings of The 26th International Conference on Artificial Intelligence and Statistics* (AISTATS 2023), 7774–7799

Dissemination (53, in French)

2025 AC. & L. Barry. Incendies à Los Angeles : « La situation actuelle menace non seulement le marché... *Le Monde*

2025 AC. Les paradoxes de la segmentation et de la discrimination en assurance. *Risques*, 142.

2024 AC. Diversification des risques extrêmes. *Risques*, 139.

2024 AC. & E. Gallic. Décroissance? Quelle décroissance ? *Risques*, 138.

2024 AC. & L. Barry. Partage des données, à qui profite le crime ? *Risques*, 137.

2023 AC. Personne n'est préparé à l'augmentation exponentielle des pertes liées au risque climatique *Le Monde*

Data & Code

- Insurance Pricing Game (http://pricing-game.com/) with AICrowd
- CASDataset 1.2-0, R package & Equipy, Python package

CONFERENCES AND SEMINARS (RECENT SELECTION)

Organisation

2025 Montréal-Guanajuato Workshop on Probability and Machine Learning (CIMAT); Confidence and Fairness: Scientific Foundations in AI and Risk (Paris)

2024 2nd Workshop of Fairness and Discrimination in Insurance (Laval University); 6th Insurance Data Science conference (Stockholm)

2023 Networks, Games and Risk (UQAM); Modeling of Infectious Diseases Colloquium (CRM-Fields); 5th Insurance Data Science conference (Bayes Business School, London)

2022 CIRM Luminy (Marseille); 4th Insurance Data Science conference (Milano)

Conferences (with presentations)

2025 60th Actuarial Research Conference (Toronto, invited)

2024 Canadian Econometrics Study Group (CESG, Toronto, invited); 27th International Congress on Insurance: Mathematics & Economics (Chicago); Optimization Days (Montréal); Optimal Transport Workshop (IES, Cargèse, invited); European Actuarial Journal EAJ Conference (Lisboa); Insurance Data Science (Stockholm)

2023 Foundations and Applications of Decentralized Risk Sharing (Leuven, invited); 16th Annual Conference of Thailand Econometric Society (Chiang Mai, invited); 6th International Econometric Conference of Vietnam (Thành phố Hồ Chí Minh, invited); SSC Annual Meeting (Ottawa, invited)

2022 Workshop on Impacts of Climate Change (Fields Institute, Toronto, invited); Simulation & IA 2022 (Cargèse Corsica, keynote); Actuarial Sciences and Applications (CIRM, Luminy, France, keynote)

Seminars

2025 University of Toronto, HEC Lausanne & UNIL, CIMAT (Guanajuato, Colloquium)

2024 Københavns Universitet; Sorbonne Université; Sorbonne Center for Artificial Intelligence (SCAI); LPSM Paris

2023 ENS Ker-Lann; UdeM & CIREQ Econometrics Seminar; Bayes Business School; University of Waterloo; Séminaire Bachelier (IHP, Paris); ESSEC (Paris)
2022 University of Illinois; CIMMUL (Laval); Université Paris Nanterre; StatQAM (UQAM)

Practitioners & Students

2025 Milliman R&D, Association des Master en Actuariat, Actuarial Research Conference, ACPR Banque de France
2024 Workshop on Trustworthy AI (HEC Montréal); Actuarial Contact Program (Leuven); SCOR; TD General Insurance; Akur8; Chaire Thelem; Data Talk Generali; Institut des Actuaires
2023 Intact Seminar; TD General Insurance; Data Science Institute; AG2R; AIvidence
2022 Beneva (La Capitale & SSQ Assurance); Optimind Webinar; Cov&Data, Covea (MAAF, MMA & GMF); DataDay MAIF; Casualty Actuarial and Statistical Task Force (CASTF); Groupama; Chaire DIALog; Institut des Actuaires

SUPERVISION (RECENT)

Postdoctoral Fellows

ongoing Arsene-Brice Zotsa Ngoufack (co-supervised H. Guérin); Marouane Il-Idrissi (cs M.P. Côté)
former François Hu (then Milliman Paris R&D); Félix Foutel Rodier (then Oxford - CNRS); Amirouche Benchallal (then Natural Resources Canada); Ewen Gallic (then Aix-Marseille University); Arnaud Goussebaïle (then ETH Zürich)

PhD Student

ongoing Agathe Fernandes Machado (cs Ewen Gallic); Olivier Côté (Laval, cs M.P. Côté); Hongda Hu (Waterloo, cs M. Ghossoub & A. Schied);
former Samuel Stocksieker (Lyon); Philipp Ratz; Enora Belz; Antoine Ly (Paris, cs R. Élie); Amadou Barry

BSc & MSc Students and Interns

2025 Raphaël Dalbarade (ENSAE); Allison Lara Nieva (UNAM); Lucas Offroy (INSA); Iryna Voitsitska (Ukrainian Catholic University); Mahery Andriamadison (Sorbonne Université)
2024 Noé Bosc-Haddad (École Centrale, Paris); Aña María Patrón Piñerez (Universidad de los Andes); Julien Siharath (Université de Rennes); Florent Crouzet (École Polytechnique)
2023 Suzie Grondin (ENSAE); Gaspard Ichas (ENSAI); Nathan Herzhaft (École Polytechnique); Kim Anh Lê (Ludwig Maximilian University of Munich)
2022 Martin de Closets (École Polytechnique); Franklin Feukam Kouhoue (ENSAE); Rawanda Matar (UQAM)

SERVICE AND DUTIES

Committees

2022-2025 NSERC (Natural Sciences and Engineering Research Council of Canada) Maths & Stats 1508 EG (DG)
2022-2025 CANSSI (Canadian Statistical Sciences Institute) Member of the Board of Directors
2019-2023 FRQNT Member of the jury (B1/B2/B3-03E), Master, PhD, Postdocs
2020 HCÉRES (Haut Conseil de l'évaluation de la recherche et de l'enseignement supérieur), committee president

Editorial

ongoing *European Actuarial Journal* (Co-editor); *ASTIN Bulletin: The Journal of the IAA*; *Risk*
Chapman & Hall/CRC Series in Actuarial Science (Series Editor Board)
former *Journal of Risk and Insurance* (Senior Editor)

TEACHING AND TRAINING (RECENT)

- UQAM: ACT6100, INF6100, MAT4681, MAT7381, MAT998P, STT1000, STT3030, STT5100
- ENSAE; Institut Polytechnique (France); Società Italiana di Econometria; Università degli studi dell'Insubria; Universitat de Barcelona
- Bermuda Monetary Authority; Szkoła Nauk Aktuarialnych (Warsaw); Swiss Association of Actuaries (Lausanne); AXA Group (Paris, Singapore), Istanbul); MAIF Insurance

GRANTS AND PROJECT (RECENT)

- SCOR Foundation (2023-2026), newsletters #1, #2, #3, ; AXA Research Fund (2020-2022), ; NSERC (2019-2026) ; Institut Louis Bachelier (2015-2018)