Sullivan Hué (02/06/1994)

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Research interests:
1st area: Financial econometrics,
Financial risk management, Financial regulation
2nd area: Big data, Machine learning,
Interpretable Machine Learning
3rd area: Sustainable finance

Employment

2022 - **Assistant professor**, Aix-Marseille School of Economics (AMSE)

2021 - 2022 **Post-Doctoral Fellow**, Aix-Marseille School of Economics (AMSE)

2020 - 2021 **Post-Doctoral Fellow**, Laboratoire d'Economie d'Orléans (LEO), ANR CaLiBank

Education

2017 -2020 **Ph.D. in Econometrics and Finance**
Laboratoire d'Economie d'Orléans
Title: "Four Essays on Financial Risk Measurement"
Supervisors: Sessi Tokpavi (LEO), Elena Dumitrescu (EconomiX)
Committee: Bertrand Candelon (Université catholique de Louvain), Olivier Darne (LEMNA), Sébastien Laurent (AMSE), Grégory Levieuge (Banque de France), Valérie Mignon (EconomiX), Jean-Paul Renne (HEC Lausanne)
Defense: December 11, 2020

2015 -2017 **Master in Econometrics and Applied Statistics**
University of Orléans

2012 - 2015 **Bachelor in Economic and Management**
University of Orléans

Grants

2021 **Monetary, Financial and Banking Thesis Prize**
Fondation Banque de France

2017 - 2020 **Ph.D. Scholarship**
French Ministry of Education and Scientific Research

Research Work

Publications

Measuring Network Systemic Risk Contributions: A Leave-one-out Approach,
Journal of Economic Dynamics and Control, Volume 100, March 2019, Pages 86–114 (Rank 1 CNRS, Rank A HCERES),
joint with Yannick Lucotte (LEO) and Sessi Tokpavi (LEO)

Machine Learning for Credit Scoring: Improving Logistic Regression with Non-Linear, Decision-Tree Effects,
European Journal of Operational Research, Volume 297, Issue 3, 16 March 2022, Pages 1178-1192 (Rank 1 CNRS, Rank A HCERES),
joint with Elena Dumitrescu (CRED), Christophe Hurlin (LEO) and Sessi Tokpavi (LEO)

Interpretable Machine Learning Using Partial Linear Models,
Oxford Bulletin of Economics and Statistics, Volume 86, Issue 3, June 2024, Pages 519-590 (Rank 2 CNRS, Rank A HCERES)
joint with Emmanuel Flachaire (AMSE), Gilles Hacheme (AMSE) and Sébastien Laurent (AMSE),

Measuring the Driving Forces of Predictive Performance: Application to Credit Scoring
joint with Christophe Hurlin (LEO), Christophe Pérignon (HEC) and Sébastien Saurin (HEC)
forthcoming in *Management Science* (Rank 1eg CNRS, Rank A HCERES)
Package in Python - Towards Data Science blog

Working Papers

Backtesting Expected Shortfall: Accounting for both duration and severity with bivariate orthogonal polynomials
joint with Christophe Hurlin (LEO) and Yang Lu (Concordia University, Canada)

Estimation in high-dimensional linear regression: Post-Double-Autometrics as an alternative to Post-Double-Lasso
joint with Ulrich Aiounou (AMSE), Emmanuel Flachaire (AMSE) and Sébastien Laurent (AMSE)

Granger-Causality in Quantiles and Financial Interconnectedness,
joint with Jérémy Leymarie (Clermont School of Business),

Latent Factor Model for Default Tail Risk: an Integrated Approach to Systemic Risk Evaluation

Participation in Funded Research Projects

ANR MultiRisk 2017-2020
(ANR-16-CE26-0015-01)

Project: Econometric Methods for the Modelling of Multiple Risks
Coordinators: Christophe Hurlin (LEO),
Gaëlle LeFol (University Paris Dauphine),
Jean-Michel Zakoian (CREST)

ANR CaLiBank 2020-2023
(ANR-19-CE26-0002-02)

Project: The Post-Crisis Banking Industry: How will banks respond to tighter regulatory constraints ?
Coordinator: Amine Tarazi (LAPE)

APR-IA RedFlag 2020-2022
(Convention: 2019-00134941)

Project: Fraud detection and anti-money laundering
Coordinators: Denisa Banulescu-Radu (LEO),
Sandie Lacroix-De Sousa (CRJP)

ANR MLEforRisk 2021-2024
(ANR-21-CE26-0007)

Project: Machine Learning and Econometrics for Risk Measurement in Finance
Coordinators: Christophe Hurlin (LEO),
Sébastien Laurent (AMSE),
Gaëlle LeFol (University Paris Dauphine),
Jean-Michel Zakoian (CREST)

Ph.D. Supervision

Léo Loubradou:
(started in 12/2024)

ESG criteria and greenwashing risk: Identification, impact, and screening strategies
Co-supervised with Christelle Lecourt

Seminars and Conferences

Workshop on Autometrics
AMSE, July 2024

Quantitative Finance and Financial Econometrics 2024
AMSE, June 2024

STATA Conference
AMSE, Mai 2024

Workshop ANR MLEforRisk
University of Orléans, Mai 2024

Alternative technics in housing and construction during the Covid crisis
Institut Louis Bachelier (online), November 2022

Séminaire interne
AMSE, November 2022

STATA Conference
AMSE, June 2022

Quantitative Finance and Financial Econometrics 2022
AMSE, June 2022

Finance Seminar
CREST, June 2022

Séminaire interne
Online, June 2021

69th Annual Meeting of the French Economic Association (AFSE)
Online, June 2021

37th Annual Conference of the French Finance Association (AFFI)
Online, May 2021

2021 AAP/ANR CaLiBank Workshop
Online, May 2021

Workshop ANR MultiRisk 2019
Villa Finaly, Florence, Italy, April 2019

XXVII Rome International Conference on Money, Banking and Finance
LUISS University, Rome, Italy, December 2018

3rd Panorisk Conference: Risk, Markets, and the Real Economy
Audencia Business School, Nantes, November 2018

17ème Journée d'Econométrie : Développements récents de l'économétrie appliquée à la finance
University Paris Ouest - Nanterre La Défense, November 2018

12th International Workshop of Methods in International Finance Network (MIFN)
University of Louvain-la-Neuve, Belgium, November 2018

6th Applied Macroeconometric Workshop
MSH Paris Nord, October 2018

Financial Econometrics Conference: Market Microstructure, Limit Order Books and Derivative Markets
Lancaster University Management School, UK, September 2018

International Association for Applied Econometrics (IAAE)
UQAM, Canada, June 2018

35th Annual Conference of the French Finance Association (AFFI)
ESCP Europe, Paris, May 2018

7th PhD Student Conference in International Macroeconomics and Financial Econometrics
University Paris Ouest - Nanterre La Défense, March 2018

Séminaire interne
University of Orléans, February 2018

16ème Journée d'Econométrie : Développements récents de l'économétrie appliquée à la finance
University Paris Ouest - Nanterre La Défense, November 2017

Teaching

Aix-Marseille University

Econometrics of Banking and Finance (in english)
Master in Economics - Quantitative Finance and Insurance, second year
AMSE, Aix-Marseille University
Lecture of 12H, 2021-2024

Time Series (in english)
Master in Economics, first year
AMSE, Aix-Marseille University
Lecture of 24H, 2021-2024

Automatic model selection methods (in english)
Master in Econometrics and Statistics, second year
AMSE, Aix-Marseille University
Lecture of 24H, since 2022

Machine learning and statistical learning (in english)
Master in Economics - Econometrics, Big Data and Statistics (EBDS), second year
AMSE, Aix-Marseille University
Lecture of 24H, 2022

Causality and Interpretability in Machine Learning (in english)
Master in Econometrics and Statistics, second year
AMSE, Aix-Marseille University
Lecture of 12H, since 2024

Financial Econometrics (in english)
Master in Finance, second year
AMSE, Aix-Marseille University
Lecture of 24H, since 2022

Introduction to Econometrics
Master in Finance, first year
FEG, Aix-Marseille University
Tutorial of 12H (×2), 2021-2022

Big Data 1: Introduction (in english)
DESU Magistère Economics, Data Science and Finance, first year
AMSE, Aix-Marseille University
Lecture of 24H, 2022 - 2024

Introduction to data science (in english)
DESU Economics, Data Science and Finance, first year
AMSE, Aix-Marseille University
Lecture of 20H, since 2024

Introduction to Econometrics
Undergraduate (MIASHS), third year
FEG, Aix-Marseille University
Lecture of 20H and tutorial of 15h (×2), 2024-2025

Teaching

Introduction to programming for data analysis

Master in Finance, first year
AMSE, Aix-Marseille University
Tutorial of 12H, since 2025

University of Orléans

Big Data with SAS

Graduate School of Orléans Numérique (GSON), first and second years
The GSON is a university degree proposed to students of different masters from the University of Orléans
Lecture of 16H, from 2017 to 2020

Mathematical Statistics

Master Econometrics and Applied Statistics, first year
DEG, University of Orléans
Tutorial of 15H ($\times 2$), from 2017 to 2020

Advanced Linear Econometrics

Undergraduate (Economic and Management), third year
DEG, University of Orléans
Tutorial of 15H, from 2017 to 2020

Personal and Professional Project

Undergraduate (Economic and Management), second year
DEG, University of Orléans
Tutorial of 8H, 2017

Refereeing activities

Referee for the reviews: (Publons profile) Journal of Economic Dynamics and Control, Journal of Banking and Finance, Journal of Financial Stability, Finance Research Letter, Economics Bulletin, Computational Economics, International Economics, Revue Économique, International Journal of Forecasting

Organization of conferences

Member of the local organisation committee of the AFSE, University of Orléans, June 2019

Member of the scientific committee of the QFFE, AMSE, 2022-2025

Co-organizer of the 5th Annual Workshop of the Association for Research in Applied Econometrics (ARAE) (theme: Econometrics for Sustainable Finance), AMSE, 2025

Responsabilities

DESU Magistère Economics, Data Science and Finance, head of the first year (Aix-en-Provence), since 2022

DESU Magistère Economics, Data Science and Finance, head of the third year, since 2024

Co-organizer of the AMSE Big Data & Econometrics seminar, since 2024

Other

Member of the evaluation jury of the course of "Interpretability and Algorithmic fairness" (MSc Data Science for Business - HEC Paris, 2021-2022).

Econometric Game contest, Online, 8-9 April, 2021. Captain of University of Orléans' team.

Publication of a note for the AFSE blog (03/2023).

Languages and Computer Skills

Languages: French (native), English

Computer: Matlab, R, Stata, SAS, Python, OxMetrics