**Kouadio <u>Stéphane</u> N'Dri**

## CONTACT INFO

**Office Contact Info**
Department of Economics
Université de Montreal
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Montreal, QC, Canada

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**Citizenship:** COTE D'IVOIRE
**Language:** French (Native), English (Fluent)

## Université de Montréal Placement Officer

Nicolas A. Klein
E-mail: nicolas.klein@umontreal.ca
Phone: +1 514 343 7908

## DOCTORAL STUDY

Université de Montréal (UdeM)
Ph.D. in Economics, Expected completion May 2022
Dissertation: "Three Essays on Asset Pricing and Climate Finance"

## REFERENCES

René Garcia (chair),
Department of Economics,
Université de Montréal,
rene.garcia@umontreal.ca
3150 Jean Brillant Street
Montréal, Canada
+1 514 343 6556

Vasia Panousi (co-chair),
Department of Economics,
Université de Montréal,
vasia.panousi@umontreal.ca
3150 Jean Brillant Street
Montréal, Canada
+1 514 343 6556

Caio Almeida,
Bendheim Center for Finance,
Princeton University,
calmeida@princeton.edu
Julis Romo Rabinowitz Building,
Room 306B,
New Jersey, USA

## PRIOR EDUCATION

| | |
|---|---|
| M. Sc. In Statistics and Applied Economics, National School of Statistics and Applied Economics (ENSEA), Cote d'Ivoire | 2013-2016 |
| Preparatory classes in Mathematics and Physics, Polytechnic Institute (INPHB), Cote d'Ivoire | 2011-2013 |

## RESEARCH FIELD

**Primary field**: Climate Finance, Asset Pricing, Machine Learning.
**Secondary field:** Financial Econometrics, Risk management.

**WORKING PAPERS**

1. Long-run Carbon Consumption Risks and Asset Prices (Job Market Paper)
2. Nonlinear Asset Pricing, with René Garcia and Caio Almeida
3. Anomaly Returns Predictability using Deep Learning Asset Pricing
4. Determinants of Banks Profitability: Empirical Evidence from Ghana's Commercial Banking Industry, with Abdul-Hamid, submitted

**WORK IN PROGRESS**

1. Climate Change and Research Inequality, joint with Firmin Ayivodji
2. Insurance Asset Pricing Model
3. Hedging Physical and Transition Climate Change Risks

**ACADEMIC AND PROFESSIONAL EXPERIENCES**

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|---|---|
| Consultant at the World Bank, Poverty and Equity Global Practice | 2021-present |
| Member of Laboratory for Macroeconomic Policy (UdeM) | 2018-present |
| Financial risk management, DAXIAL, Cote d'Ivoire | 2015-2016 |

**TEACHING EXPERIENCES**

**Lecturer**

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|---|---|
| Principles of Economics (Bachelor) | 2019 |
| Quantitative methods for economists 2 (Bachelor) | 2020 |

**Teaching Assistant**

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|---|---|
| Advanced Topics in Macro-Finance (Master) | 2020 |
| Advanced Topics in Money Banking and Financial Market (Master) | 2020-21 |
| Quantitative methods for economists 1&2 (Bachelor) | 2019 |
| Principles of Economics (Bachelor) | 2018 |
| Macroeconomics (Master) | 2018 |
| Econometrics (Master) | 2018 |

**FELLOWSHIPS AND AWARDS**

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|---|---|
| Ph.D. Fellowship of excellence, Université de Montreal | 2016-2019 |
| Bernard Landry Fellowship of excellence, Université de Montreal | 2018-2019 |
| Scholarship of excellence for M. Sc., Government of Cote d'Ivoire | 2013-2016 |
| Scholarship of excellence for future Engineer, Government of Cote d'Ivoire | 2011-2013 |

**CONFERENCE AND SEMINAR PRESENTATIONS**

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|---|---|
| Africa Meeting of the Econometric Society (AFES). | 2021 |
| Conference on Fintech, Business Ecosystem and Economic Development organized by RIFED Global. | |
| 7th Canadian PhD and Early Career Workshop in Environmental and Resource Economics. | |
| CIREQ Interdisciplinary PhD Student Symposium on Climate Change (IPhDSSC). | |
| State University of New York, Plattsburgh. | 2020 |

**PROGRAMMING SKILLS AND CERTIFICATION**
Matlab, R, Python, Stata, Latex, MS Project
Certification in Programming and Financial Policies, IMF, Online course

**SUMMARY OF SOME PAPERS**

**Long-run Carbon Consumption Risks and Asset Prices (Job Market Paper).**
This paper analyzes how carbon risk affect the stochastic discount factor (SDF). We found that the SDF is affected by both the green and carbon shocks of the consumption. Moreover, as opposed to the usual long-run risk model, where researchers extract the long- run state variables using econometric methodology such as autoregressive moving average model, this paper uses the carbon consumption growth and its variance as such long-run state variables and find similar and more concluding results. Furthermore, this paper proposes a solution to the critic of the canonical long-run risks model by showing that carbon consumption does have both long-run risks in mean and in volatility as opposed to goods and services consumption. We find the carbon consumption growth persistence to be consistently significant. This means one should encourage households to consume green which is equivalent in terms of the policy to encourage firms to produce green.

**Nonlinear Asset Pricing with René Garcia and Caio Almeida.**
This paper shows how truly independent nonlinear factors improve the stochastic discount factor estimation. We use the Fama-French 25 ME/BM-sorted portfolios and fifty anomaly portfolios adding interaction terms built using individual stock characteristics. Then, we estimate the SDF using raw characteristic return, linear principal component, and nonlinear principal component. We found that the SDF estimated using nonlinear factors outperform the one using linear factors or raw characteristic returns in term of out-of-sample R-squared performance. The nonlinearity introduced through the nonlinear principal component performs very well with respect to the nonlinearity introduced through interaction.

**Anomalies Return Predictability using Deep Learning Asset Pricing.**
This paper studies anomaly return predictability across deciles using a set of 50 anomaly variables built using individual stock characteristics. I then construct deciles and study their predictability using their own past information, macroeconomic variables, and limit-to-arbitrage variables. I found that some anomalies are persistent and that there are some predictors which help forecasting the decile portfolio returns. Decile's predictability is not uniform across anomaly variables and predictors. Namely, all deciles are not uniformly predictable but extreme deciles seem to be more often predictable. Stock variance, dividend yield and dividend price ratio are strong predictors for decile portfolio returns. Most importantly, hedge portfolios are often predictable by TED spread and Amihud illiquidity measure, which indicate that trading frictions may explain the persistence of these portfolio returns. Furthermore, I use the rich set of 500 anomaly portfolios to predict returns based on Deep learning techniques.