François BENHMAD

Associate Professor
Qualified to supervise research (HDR)

Faculty of economics, Montpellier University
E-mail : francois.benhmad@umontpellier.fr

Research interests:

- Energy econonomics (Energy markets, Regulation, Pricing, Energy transition).
- Finance (Financial markets, Portfolio theory, risk management).
- Time series econometrics (Stationnarity, Cointegration , VAR models, VECM models, Granger causality, ARMA & GARCH models….)

Education

2015 : **Habilitation to supervise research in Energy and finance HDR** (Université de Montpellier).
Thesis: ***Econometrics of Energy and financial markets***
Committee members : Jacques PERCEBOIS, Patrice GEOFFRON(rapporteur), Walter Briec (rapporteur), Michel TERRAZA, Jamel TRABELSI (rapporteur), Françoise SEYTE (rapporteur).

2009 : PhD in Economics (Université de Montpellier).
Thesis: *Wavelet Value at Risk: A time-frequency analysis of CAC40.*
Committee members : Anne PEGUIN-FEISSOLLE (rapporteur), Mohamed BOUTAHAR (rapporteur), Mohamed CHIKHI (examinateur), Michel TERRAZA (directeur).

Research

➢ ***Publications in peer-reviewed journals internationally ranked*** :

- F.Benhmad, I.Khalifeh, C.El Moussawi & A.Tarazi(2025) . «Net stable funding ratio: Implication for Bank stability in Europe», ***Global Finance Journal***, Volume 67, September 2025, 101144.
- F.Benhmad, M.Chikhi (2024). « The Asymmetric Effect of COVID-19 Pandemic on the US Market Risk Premium: Evidence from AEGAS-M Model», November, ***Computational Economics.***
- Benhmad, F. Pokou, F., & Sadefo Kamdem, J.(2024), Hybridization of ARIMA with Learning Models for Forecasting of Stock Market Time Series. ***Computational Economics***, 63, 1349–1399 (2024).
- F.Benhmad, F.Pokou and J.S.Kamdem (2023). « Empirical Performance of an ESG Assets Portfolio from US Market », October, ***Computational Economics***
- F.Benhmad,M.Saqib (2021). « Does ecological footprint matter for the shape of the environmental Kuznets curve? Evidence from European countries », ***Environmental Science and Pollution Research*** 28 (11), 13634-13648

- F.Benhmad,M.Saqib (2021). « Updated meta-analysis of environmental Kuznets curve: Where do we stand?, ***Environmental Impact Assessment Review*** Volume 86, 106503

- François Benhmad, Jacques Percebois (2018), "Photovoltaic and wind power feed-in impact on electricity prices: The case of Germany", ***Energy Policy***, Volume 119, pp 317–326

- François Benhmad, Jacques Percebois (2017), "On the Impact of Wind Feed-in and Interconnections on Electricity Price in Germany", ***Energy studies review***, Volume 23, Numéro1.

- François Benhmad, Jacques Percebois (2016), "Wind power feed-in impact on electricity prices in Germany 2009-2013", ***European Journal of Comparative Economics***, Volume13, Issue 1, pp: 81-96.

- François Benhmad, (2013), "Dynamic cyclical comovements between oil prices and US GDP: A wavelet perspective", ***Energy Policy***,Volume 57, pp 141-151

- François Benhmad, Pauline Feschet, Catherine Macombe,Michel Garrabé, Denis L'oeillet , Adolfo Rolo Suarez (2013), "Social Impact assessment in LCA using Preston pathway", ***International Journal of Life Cycle Assessement***, Volume 18, Issue 2, pp 490-503.

- François Benhmad (2013), "Bull or bear markets: A wavelet dynamic correlation perspective", ***Economic Modelling***, Vol.32, pp 576–591.

- François Benhmad (2012), "Modeling nonlinear Granger causality between the oil price and U.S. dollar: A wavelet based approach", ***Economic modelling***, Vol.29, pp 1505-1514.

- François Benhmad (2011), "A Wavelet Analysis of Oil Price Volatility Dynamics", ***Economics Bulletin***, Vol.31, pp 792-806.

- François Benhmad (2011), "Noise Traders or Fundamentalists: a Wavelet Approach", ***Economics Bulletin***, Vol.31, pp 782-791.

➢ **Publications in French peer-reviewed journals**:

- François Benhmad, Jacques Percebois (2013), "Les distorsions induites par les énergies renouvelables sur le marché spot de l'électricité ", ***Economie et Sociétés***, Série EN, n°12 .
- François Benhmad, Jacques Percebois (2013), "La révolution des gaz de schiste va-t-elle conduire la Russie à adopter une stratégie de prix-limite? " ***Medenergie***, n°44, Mai 2023

➢ **Publication in Press:**

- François Benhmad, Jacques Percebois(2018), "Remplacer l'ARENH par des options négociables? " ***Connaissance des énergies,*** *December 2018.*

➢ **Contributed chapter** :

- François Benhmad, Jacques Percebois (2018), " An econometric analysis of the merit order effect in electricity spot price: the Germany case", **Book chapter** in the ***Springer*** series "Contributions to Statistics", Time series analysis and forecasting.

Contributed talks in international peer-reviewed conferences

- **"Impact of nuclear power generation on electricity spot prices: A French perspective"** , 46th IAEE international Conférence -Paris, June 15-18, 2025

- **"European Carbon Prices: What impact on Electricity Prices in France",** with Lauren Caquant&Sandrine Michel, 45th IAEE International Conference 25-28 June 2024 – Bogaziçi University, Istanbul

- **"Electricity prices dynamics : Nuclear generation versus gas natural gas"**, with Jacques Percebois, 7th AIEE Energy Symposium Current and Future Challenges to Energy Security-Rome (Italie) , (December 2022)
- **" Impact of renewables and nuclear power on electricity prices : the case of France** , with Jacques Percebois, Boris Solier , AIEE2021 (June 2021).
- "**On the impact of wind feed-in and solar power generation on Nuclear electricity production: The case of France**", with Jacques Percebois, 5th AIEE Energy Symposium, Milan, Bocconi University, Italie (Décembre 2020).
- **"On the impact of Shale oil on oil prices and US GDP** (November 2019). Economix Paris
- "**On the impact of Shale oil on oil prices and US GDP**, 4th AIEE Energy Symposium, Milan, Bocconi University, Italie (Décembre 2019)
- "***On the Impact of Shale Oil Revolution in Oil-Dollar Comovement***", with M.Shahbaz & A.K.Tiwari,19th International work-conference on Time Series analysis (ITISE 2018), Granada, Espagne (Septembre 2018), &International Conference on Finance, Montpellier, France (May 2018).
- "***Relationships between Shanghai, Shenzhen and Hong Kong Stock Markets***", with Yang ZHOU et Roman Mestre, 19th International work-conference on Time Series analysis (ITISE) Granada, Espagne (Septembre 2018).
- "***Does a hybrid organisational model allow cooperative banks to better respond to their social mission?***" avec Rym Ayadi et Thuy Seran, BSA Research Symposium on Financial Mutuals, London, UK (Septembre 2018).
- " ***An econometric analysis of the merit order effect in electricity spot price: The Germany Case",*** with Jacques Percebois*,* 17th International work-conference on Time Series analysis (ITISE 2017) , Granada, Espagne (Septembre 2017) & International Conference on Energy, Finance and the Macroeconomy (ICEFM), 2017*,* Montpellier (Novembre 2017).
- "***Photovoltaic and Wind power feed-in impact on electricity spot prices: the case of Germany2017***", with Jacques Percebois, International Symposium on Environment & Energy Finance Issues, Paris, France. (Mai 2017) & Rencontres Scientifiques Universitaires Sherbrooke-Montpellier-Nîmes , Montpellier, France(Juin 2017).
- "***Are Shocks to Energy Consumption Transitory or Permanent? Answer from Old to New Approaches***"*,* avec M.Shahbaz et A.K.Tiwari, International Conference on Energy, Finance and the Macroeconomy (ICEFM), 2017, Montpellier. (Novembre 2017)
- "***Reinvestigating the link between oil price and US dollar: A wavelet perspective***"*,* 16th Journée Développements Récents de l'Econométrie Appliquée à la Finance EconomiX-CNRS, Université Paris Nanterre, Paris. (Novembre 2017)
- "***Wind power feed-in impact on electricity prices in Germany 2009-2013***", 12th international conference on the European energy market, Lisbon, Portugal. (Mai 2015).
- "***Can pricing improve the allocation of Algerian natural gas rents?***", Montpellier Energy conference, Montpellier, France (Novembre 2014).
- "***Modelling the markets coupling impact on integration of European electricity markets***", Montpellier Energy conference, Montpellier, France (Novembre 2014).

- "***Challenges of renewable energy sources to European electricity systems***", Energy Systems Conference, London, Royaume Uni. (Juin 2014).
- "***Dynamic cyclical comovements between oil prices and US GDP: A wavelet perspective***", 31th CIRET Conference, Vienna, Austria. (Septembre 2012).
- "***The Wavelet Value at Risk : A time frequency analysis of CAC 40***", The 16th Annual Workshop on Economic Heterogeneous Interacting Agents, Ancona, Italy. (Juin 2011).
- "***Modeling The nonlinear Granger causality between oil and US dollar***: A wavelet approach", American economic association, 37th Annual Conference, USA, New York. (Février 2011)
- "***The Oil - Dollar Link Revisited: a Wavelet Approach***", 4th International Conference on Computational and Financial Econometrics (CFE'10), London School of Economics, London, UK. (Décembre 2010).
- "***Noise Traders or Fundamentalists: a Wavelet Approach***", International Conference on Applied Business and Economics (ICABE), Coruña, Spain, September 9-11th (Septembre 2010).
- ***"Wavelet Analysis of Value at Risk: CAC 40 Case Study",*** Annual International Symposium of Economic Theory, Policy& Applications, Athen, Greece, July, 26-29th. (Juillet 2010).

Funded Research:

- **2014**. **Conseil Français de l'Energie** (contrat CFE-79).

Title : " **Analyse théorique et modélisation de la formation des prix de l'électricité en France et en Allemagne** ", www.wec-france.org/DocumentsPDF/RECHERCHE/79-rapportfinal.pdf.

- **Call of Project take-off de l'I-SITE MUSE** :

As a head of Master of Finance, I'm member of the teaching team that won the call for projects for a MUSE Trading Room at Faculy Economics in Montpellier. The trading room is a multifunctional tool allowing an innovative approach to teaching financial markets, and risk management.

Teaching activities :

➢ **2012-2025** : **Faculty of Economics, Montpellier University**

- Time Series Econometrics (Master 1)

Stationarity analysis (Unit roots tests), stochastic process, Box-Jenkins Algorithm and ARMA models, (S)ARIMA modèles, GARCH volatility model.

- Market Risk managemet (Master 2)

Options, Futures& Forwards, Swaps

- Porfolio Theory (M2).

Markowitz model, CAPM model, APT model, Fama-French models.

- Trading Algorithms(M2)

MA, MACD, RSI, Stochastique, Bollinger Band

- Financial Econometrics (M2)

- Multivariate models (Cointégration, VAR/ VECM, Granger causality), Financial assets volatility modelling (DCC MGARCH)
- Estimation & Backtesting de la Value at Risk (VaR) et l'Expected Shortfall (ES)

➢ **2012-2025** : **Faculty of Sciences, Montpellier University**

- Transition énergétique, M1 Energie (M1)

- **2012-2025** : **Engineering schools :**

- ***Ecole des Mines de Paris, Mastère OSE***.
  - Econometrics of Energy Markets (6 lectures, 18 hours).
  Modeling of international oil, natural gas, coal, and electricity prices.
  Analysis of cointegration between oil and natural gas prices.
  Econometric analysis of the impact of renewable energies on the spot price of electricity.
  Analysis of the impact of CO_2 quota prices on the electricity mix in Europe.
- ***Ecole d'ingénieurs INSA LYON, Mastère ME4***.
  *- **Energy Economics** (2 lectures, 6 hours).*
  Evolution of the energy mix at the international, European, and French levels.
  Energy transition scenarios in France.
  Energy efficiency.
- ***Institut français du pétrole (IFP-School)***

- Master 2 Économie de l'environnement, de l'énergie et des transports (EEET)(6h)
- Master : Energy Technology Economics and Management- Taught in English (18h)

- **Responsibilities:**

2018-2025: **Head of a Master programme in Finance** : Market risk analysis (Mention MBFA)

Referee:

Economic modelling, Energy economics, Energy policy , Energy studies review, Physica, European journal of operational research, Economics bulletin, International journal of financial studies, International review of economics and finance, European journal of comparative economics, emerging markets finance and trade, journal of economics and international finance, empirical economics, European journal of comparative economics, computational economics.

PhD supervision:

Defended thesis :

- ***« Le financement des entreprises de la zone Euro en période de crise financière»***
  • Doctorant: Moustapha Badran
- ***« Une contribution sur l'allocation de portefeuille et à la prévision des actifs de portefeuilles »***,
  •Doctorant : Fredy POKOU (with Jules Sadefo-Kamdem).
- ***Evaluation économique de la contribution des énergies renouvelables à la lutte contre le changement climatique***,
  •Doctorant : Muhammad SAQIB.
- ***«Analyse de l'impact des prix du pétrole sur la sphère réelle et financière de la Russie»***,
  •Doctorant :Serghei PODORVANIUC.
- ***«Les marchés financiers chinois ont-ils la même dynamique que les marchés américains* et européens? »**
  •Doctorante : Yang ZHOU. (with Benoît Mulkay).

Thesis to be defended in coming months:

- ***« Essays in Green Finance »***
  • Doctorante : Sara Mustafazade
- ***« L'impact de la réglementation de Bâle III sur la liquidité des banques en Europe »***
  • Doctorante : Imtynan khalifeh

Thesis jury :

• «*Une approche holistique des cryptomonnaies : Attractivité, Règlementation et Protection» Presented by* M. Filezac de L'Etang Cyril, December, 16th 2024, under the supervision of Professor Sandrine LARDIC, Université Le Havre Normandie.
• «*Transferts internationaux, stabilité politique et développement économique au Moyen-Orient, en Afrique du Nord et en Afrique sub-saharienne»_Presented by* M. Hadi Salameh, December 17th 2024, under the supervision of Professor Jean MERCIER-YTHIER, Université Paris-Panthéon-Assas
• « *Energy efficiency in the housing sector: Behavior changes and diffusion of energy efficient technologies* » Presented by Mme Massié Camille, December 9th 2022, under the supervision of Fateh Belaïd, Université Catholique de Lille
• « *L'analyse fondamentale et la prévisibilité de rentabilités boursières sur le marché Vietnamien* » , Presented by Manh Ha NGUYEN, June, 5th 2020, under the supervision of Professor Olivier Darné & Thi Hong Hanh Pham, Université de Nantes
• « *Estimation de la volatilité des données financières à haute fréquence : une approche par le modèle Score-GARCH* », Presented by Hisseine Saad Mahamat November,24th 2017 under the supervision of Professor Michel Terraza, Université de Montpellier
• « *Modélisation de la croissance pro-pauvre* », Présentée par Ndéné Ka le 05-12-2016, under the supervision of Professor Stéphane Mussard, Université de Montpellier
•*"Le marché européen de l'électricité: interdépendances entre les prix européens, Impact de l'introduction des dérivés sur la volatilité du marché physique*", Presented par Asmaa BOUTACHALI , December, 5th 2014, under the supervision of Professor Jacques Percebois, Université de Montpellier

Member of a selection committee

- Recruitment of an assistant-Professor MCF N°318, Field : Energy economics, for the benefit of research laboratoty ARTDEV – Faculty of Economics – Montpellier University

ORGANIZATION OF SCIENTIFIC EVENTS

-2014 , Montpellier Energy Conference 2014, Scientific & organizing committee '*Regulation and energy markets : beyond failures* , co-organized by ART-DEV and Montpellier University, November, 20-21th, Montpellier,
-2012-2018, Scientific & organizing committee of Doctoral Meeting of Montpellier In Economics, Management and Finance (D.M.M)
- **2018,** International Conference on Finance, Member of Scientific committee & head of organizing committee, May, 24-25th 2018, Montpellier.
• **2022** : Member of Scientific committee Applied Econometric Workshop 20 May,20th, Montpellier
• **2023** :18th IAEE European Conference, The Global Energy Transition Toward Decarbonization, Milan, July 24-27 2023