Prof. Ahmed Benlaria

Professor of Quantitative Economics

Faculty of Economics, Business and Management, Ahmed Draia University – Adrar, Algeria

He has taught mathematics, statistics and econometrics at the University of Adrar since 2016. His research applies artificial intelligence methods (ANN, ANFIS, LSTM, MLP) to economic and financial forecasting, and covers energy and environmental economics.

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Quantitative economics in research and teaching

Ahmed Benlaria is a Professor of Economics at Ahmed Draia University in Adrar, Algeria, specializing in Quantitative Economics. He earned his Magister's degree in 2016, his PhD in 2021 and his university habilitation in 2022, and was promoted to the rank of Professor in July 2026 by decision of the National University Commission. Since October 2025 he has served as Head of the Department of Finance and Accounting.

His research covers econometrics, forecasting models, banking and financial stability, capital adequacy, energy economics and sustainability, with particular attention to artificial intelligence methods for economic and financial forecasting. He has published in international journals such as *Sustainability* and the *International Journal of Energy Economics and Policy*, presented at international conferences including IEEE co-sponsored events, and serves as a reviewer for several academic journals.

Research areas

AI-based economic and financial forecasting

Comparing artificial neural networks (MLP, LSTM) and the ANFIS neuro-fuzzy system with econometric models to forecast Algerian dinar exchange rates, oil-price and Bitcoin volatility, and electricity demand.

Key works

- **2026** Comparative analysis of multi-layer perceptron architectures for USD/DZD exchange rate forecasting
- **2022** Using artificial neural network models to forecast electricity sales in the province of Adrar (in Arabic)

Energy, environment and sustainable development

Determinants of carbon emissions in Algeria and the role of renewable energy, the oil–environment nexus in rentier economies, and circular-economy practices in small and medium industries.

Key works

- **2026** Examining the determinants of carbon emissions in Algeria
- **2024** Navigating the oil-environment nexus: Saudi Arabia's challenge in sustainable development

Banking and financial stability

Capital adequacy and its effect on the market value and stability of Islamic and conventional banks; financial inclusion and banking performance.

Key works

- **2025** The impact of capital adequacy on bank market value: Evidence from Islamic and conventional banks in Saudi Arabia
- **2025** A scoping review of capital adequacy ratios across different banking systems

Applied econometrics and the economics of education

Econometric models of the labour market and growth in Algeria, and the economic return to higher education, the subject of his Magister thesis and of the book *The Economics of Education*.

Key works

- **2023** Measuring the impact of some economic variables on the unemployment rate in Algeria
- **2016** Estimating the rate of return on university education in Algeria using the Mincerian earnings function (in Arabic)

Academic career

Academic employment

Jul 2026 – present **Full Professor**

Ahmed Draia University – Adrar

Nov 2022 – Jul 2026 **Maître de conférences classe A (Associate Professor)**

Ahmed Draia University – Adrar

Jul 2021 – Nov 2022 **Maître de conférences classe B (Assistant Professor)**

Ahmed Draia University – Adrar

Apr 2019 – Jul 2021 **Maître-assistant classe A**

Research and teaching assistant, Ahmed Draia University – Adrar

Nov 2016 – Apr 2019 **Maître-assistant classe B**

Research and teaching assistant, Ahmed Draia University – Adrar

Sep 2015 – Nov 2016 **Temporary research and teaching assistant**

Ahmed Draia University – Adrar

Education

Nov 2022 **University Habilitation in Economic Sciences**

Ahmed Draia University – Adrar

2016 – 2021 **PhD in Economic Sciences, Quantitative Economics**

Ahmed Draia University – Adrar — “Forecasting the Algerian Dinar Exchange Rates Using the Adaptive Neuro-Fuzzy Inference System (ANFIS)”

2013 – 2016 **Magister in Economic Sciences, Quantitative Economics**

Aboubakr Belkaid University – Tlemcen — “Measuring the Economic Return to Higher Education in Algeria: A Modelling Attempt”

2006 – 2010 **Licence (Bachelor’s) in Commercial and Financial Sciences**

Higher School of Commerce – Algiers

Administrative positions

Head of the Department of Finance and Accounting — Oct 2025 – present

Head of the Unit for Managing Students' Carried-over Modules — Nov 2023 – present

Assistant Head of the Department of Finance and Accounting, post-graduation and research — 2022 – 2025

Head of the Common-Core Unit of the Faculty — 2019 – 2025

Assistant Head of the Department of Economics, post-graduation and research — 2019 – 2022

Scientific bodies and memberships

Member of the Scientific Council of the Faculty — Feb 2026 – present (and 2019 – 2022)

Member of the Scientific Committee, Department of Finance and Accounting — Feb 2026 – present

Member of the doctoral training team in Finance and Accounting — 2024 – present

Research team member, Laboratory of Algerian–African Economic Integration — Nov 2016 – present

Peer review

Reviewer, Journal of Economic Integration — 2022 – present

Reviewer, Al-Haqiqa Journal — 2023 – present

Reviewer, Journal of Economics and Business Administration — 2023 – present

Teaching (2016 – present)

Mathematics I & II · **Statistics II & III** · **Econometrics** · **Financial Econometrics** · **Applied Regression** · **Time Series Analysis** · **Database Analysis I & II** · **SPSS Applications** · **Deep Learning Applications** · **Free Statistical Software** · **Microeconomics**

Teaching interests: data exploration and analysis, mathematical economics, forecasting in economics and finance, business mathematics, business statistics, and applied optimization.

Chair and speaker at orientation seminars for common-core students (2019–2026), and trainer in Master's workshops on questionnaire design, survey methods, quantitative tools and statistical software.

Supervision

Co-supervision of a doctoral thesis in Financial Management (defended 26/11/2025) — 2025

Supervision and examination of Master's dissertations — 2016 – present

Academic tutoring of 43 common-core students and internship follow-up (BNA, BADR, Sonelgaz, CNAS, Air Algérie…) — 2022 – present

Conference committees

Scientific and Organizing Committees — Int. Conference on Innovation, Management, Technology and Entrepreneurship — 2026

Scientific Committee — Int. Conference on Renewable Energies and Sustainable Development — 2024

Scientific Committee — National Conference on Business Organizations and Sustainable Development — 2020

Publications

Journal articles

2026 **Comparative analysis of multi-layer perceptron architectures for USD/DZD exchange rate forecasting**

Benlaria, A. — *Journal of Economics and Business Administration*, 10(1), 1–8.

2026 **A study of circular economy practices in KSA's small and medium industries: Benefits, challenges, and future potential**

Benlaria, H., Almawishir, N. F. S., Misbah, H. M., Helal, T. O. A., Ibrahim, T. K. T., **Benlaria, A.**, Henni, M. D., & Khedr, R. A. E. A. — *Sustainability*, 18(8), 4059.

2026 **Examining the determinants of carbon emissions in Algeria: The role of renewable energy and energy intensity**

Benlaria, A., & Mediani, M. — *Journal of Economic Integration*, 14(1), 406–420.

2025 **The impact of capital adequacy on bank market value: Evidence from Islamic and conventional banks in Saudi Arabia**

Mouna, Y., **Benlaria, A.**, Benzidi, A., Mediani, M., & Bennaceur, M. Y. — *Lex Localis – Journal of Local Self-Government*, 2025(23).

2025 **A scoping review of capital adequacy ratios across different banking systems: Effects on bank market value and stability**

Benlaria, A., & Mouna, Y. — *The International Tax Journal*, 52(5), 1630–1646.

2024 **Navigating the oil-environment nexus: Saudi Arabia's challenge in sustainable development**

Benlaria, A., Sadaoui, N., Almawishir, N. F. S., & Benlaria, H. — *International Journal of Energy Economics and Policy*, 14(5), 292–300.

2023 **Measuring the impact of some economic variables on the unemployment rate in Algeria: An econometric study**

Benlaria, A., & Mediani, M. — *Journal of Economic Integration*, 11(5), 321–338.

2022 **Using artificial neural network models to forecast electricity sales in the province of Adrar**

in Arabic **Benlaria, A.** — *Journal of Economic Integration*, 10(2), 92–108.

2021 **Forecasting exchange rates using artificial neural networks**

Benlaria, A., & Boubekeur, L. — *Al Bashaer Economic Journal*, 7(2), 804–814.

2017 **Public investment programs as a mechanism for economic diversification and increasing economic growth rates in Algeria**

in Arabic Saoudi, A. S., & **Benlaria, A.** — *Journal of Economics and Business Administration*, 1(4), 96–115.

2017 **Optimal capital structure of the firm: Between theory and practice**

in Arabic Benlaria, H., & **Benlaria, A.** — *Journal of Economics and Business Administration*, 1(1), 120–131.

2016 **Estimating the rate of return on university education in Algeria using the Mincerian earnings function**

in Arabic Abderrahmane, A. K., Benlaria, H., & **Benlaria, A.** — *Journal of Economic Integration*, 4(1), 183–217.

Books

2018 **The Economics of Education: The Return and Cost Approach** in Arabic

Benlaria, H., & **Benlaria, A.** — Dar El Kitab El Arabi, Algeria.

International conferences 14

2026 **Volatility forecasting for energy security: ANFIS, LSTM, and MLP on crude-oil realized volatility during market disruptions**

Benlaria, A., & Mediani, M. — Poster, 3rd International Conference on Energy Transition and Security (3ICETS 2026), University of Adrar.

2026 **Volatility forecasting of Bitcoin during structural breaks: A comparison of ANFIS, LSTM, and MLP**

Benlaria, A., Benlaria, A. Y., & Mediani, M. — CyMaEn'26, Tlemcen (IEEE technically co-sponsored).

2026 **Leveraging artificial intelligence for algorithmic trading optimization and financial data security: A global case study**

Benlaria, A. — Int. Multidisciplinary Conference on Innovation, Management, Technology and Entrepreneurship, University of Adrar.

2024 **The economic and environmental impact of CO_2 emissions from fossil fuel consumption in Algeria**

Benlaria, A., & Mediani, M. — Int. Conference on Towards an Economy of the Renewable Energies to Promote Sustainable Development, University of Adrar.

2024 **A comparative study of ANN and ANFIS models in predicting USD to DZD exchange rates**

Benlaria, A., Talhaoui, F. Z., & Mediani, M. — AFROS 2024, Tlemcen (proceedings indexed in IEEE Xplore).

2024 **The impact of financial inclusion on bank performance and bank stability: A panel ARDL analysis**

Talhaoui, F. Z., **Benlaria, A.**, & Mediani, M. — ICEBFCUM 2024, Maghnia.

2024 **Achieving economic development through free trade zones: Opportunities and challenges** in Arabic

Mediani, M., **Benlaria, A.**, & Talhaoui, F. Z. — 1st Int. Conference "Tindouf, Gateway to Africa", Tindouf.

2023 **Opportunities for achieving quality in higher education through distance learning after the COVID-19 pandemic** in Arabic

Benlaria, A. — Int. Conference on Modern Educational Technologies, University of Batna 2.

2022 **Challenges of fair value auditing** in Arabic

Benlaria, M., & **Benlaria, A.** — Int. Conference on Recent Global Accounting Developments, University of Bouira.

2022 **Big data and its applications: The case of Amazon**

Benlaria, A. — Int. Conference on Digital Transactions and Artificial Intelligence Systems, University Center of Illizi.

2021 **Measuring the development and requirements of e-government in Algeria using the UN E-Government Development Index 2010–2020** in Arabic

Khirdja, H., & **Benlaria, A.** — Int. Conference on the Digitization of Public Utility Services, University of M'sila.

2018 **Measuring the economic rate of return on higher education in Algeria** in Arabic

Benlaria, A. — Int. Conference on Intellectual Capital, Faculty of Business, University of Jordan, Istanbul.

2017 **Basic concepts of industrial strategic partnership** in Arabic

Benlaria, A. — Int. Conference on Industrial Partnership Strategy, University of Adrar.

2015 **Repercussions of oil crises on the Algerian economy** in Arabic

Benlaria, A. — Int. Conference on Crisis Management in the Arab World.

National conferences 8

2024 **Optimizing exchange rate forecasts through deep neural network architectures**

Benlaria, A., & Benlaria, H. — National Conference on AI in Finance, ESC Kolea.

2024 **The role of governance in enhancing banking sector performance to achieve financial inclusion in the Maghreb countries** in Arabic

Talhaoui, F. Z., **Benlaria, A.**, & Mediani, M. — University of Adrar.

2023 **Using artificial neural networks to forecast the Algerian dinar exchange rates** in Arabic

Benlaria, A., & Mediani, M. — National Conference on Econometric Modelling, University of Algiers 3.

2022 **The role of ICT in promoting the tourism sector in Algeria: A statistical study, 2000–2020** in Arabic

Belaidi, Z., Saidi, M., & **Benlaria, A.** — Aboubakr Belkaid University, Tlemcen.

2020 **Government environmental control as a basis for establishing sustainable development** in Arabic

Benlaria, A. — University of Adrar.

2018 **Public investment programs as a mechanism for economic diversification and growth in Algeria** in Arabic

Saoudi, A., & **Benlaria, A.** — University of Adrar.

2016 **Using the Box-Jenkins methodology to forecast the US dollar exchange rate against the Algerian dinar** in Arabic

Benlaria, A. — University of Adrar.

2015 **The role of social auditing in hospital governance, with reference to UK hospitals** in Arabic

Benlaria, A. — University of Adrar.