Daniel Felix Ahelegbey (PhD)

University of Essex, SMSAS, Wivenhoe Park, Colchester, CO4 3SQ, United Kingdom
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Personal Information

Academic Appointments

- **Lecturer**, University of Essex, UK [Mathematics, Statistics and Actuarial Science], 2023 – Present
- **Senior Research Fellow**, BAUM Tenpers Institute, Virginia, USA, 2021 – Present
- **Assistant Professor**, University of Pavia, Italy [Economics and Management], 2019 – 2023
- **Adjunct Professor**, African School of Economics, Benin , 2018 – Present
- **Visiting Assistant Professor**, University of Pavia, Italy [Economics and Management], 2016 – 2017
- **Postdoctoral Fellow**, Boston University, USA [Mathematics and Statistics], 2015 – 2017
- **Research Fellow**, University of Venice, Italy [Economics], 2014–2015
- **Teaching Assistant**, University of Ghana, Legon, Ghana [Mathematics], 2007–2009

Academic Qualifications

- **Ph.D. in Economics and Doctor Europaeus**, 2015
  University of Venice | University of Padova | University of Verona, Italy
- **MSc in Quantitative Economics (Joint European Master's Degree)**, 2011
  University Ca' Foscari of Venice, Italy | University of Paris 1 Pantheon-Sorbonne, France
- **BA in Economics and Mathematics**, 2007
  University of Ghana, Legon, Ghana

Visiting Scholar

- **PhD**, Vrije Universiteit Amsterdam, The Netherlands, 2014
- **PhD**, University of Pavia, Italy, 2013
- **PhD**, Scuola Normale Superiore di Pisa, Italy, 2013
- **Master**, Universitat Autònoma de Barcelona, Spain, 2010

Certification

- Italian National Scientific Qualification (**Associate Professor, Statistics and Econometrics**), 2021

Research Interests

- Bayesian Econometrics | Financial Econometrics | Financial Networks | Applied Statistics
- Systemic Risk Analysis | Network Econometrics | Credit Risk Analysis | Climate Finance

Journal Publications

1. **Ahelegbey DF**, Inference of Impulse Responses Via Bayesian Graphical Structural VAR Models, (2025), *Econometrics*, 1(1) (forthcoming)
2. Mojtahedi F, **Ahelegbey DF**, Martina M, (2024), Modeling Interdependence Between Climate, Financial Markets and Commodities, *Heliyon*, 10 (17), e36316
3. **Ahelegbey DF**, Casarin R, Fianu ES, Grossi L, (2024), Structural Changes in Contagion Channels: The Impact of COVID-19 on the Italian Electricity Market, *Annals of Operations Research*, 1–26
4. **Ahelegbey DF**, Billio M, Casarin R, (2024), Modeling Turning Points in the Global Equity Market, *Econometrics and Statistics*, 30 (C), 60–75
5. **Ahelegbey DF**, Celani A, Cerchiello, P, (2024), Measuring the Impact of the EU Health Emergency Response Authority on the Economic Sectors and Public Sentiment, *Socio-Economic Planning Sciences*, 92, p.101842.
6. Abdelsalam O, **Ahelegbey DF**, Essanaani Y, (2024), The Nexus of Conventional, Religious and Ethical Indices During Crisis, *Journal of International Financial Markets, Institutions and Money*, 95, 102027
7. **Ahelegbey DF**, Giudici P, (2024), Multidimensional Inequality Metrics for Sustainable Business Development, *Mathematics*, 12(22), 3633
8. Mahdavi P, Ehsani MA, **Ahelegbey DF**, Mohammadpour M. (2024), Measuring Causal Effect with ARDL-BART: A Macroeconomic Application, *Applied Mathematics*, 15 (4), 292–312
9. **Ahelegbey DF**, Giudici P, (2023), Credit Scoring for Peer-to-Peer Lending, *Risks*, 11 (7), 123
10. **Ahelegbey DF**, Giudici P, Pediroda V, (2023), A Network Based Fintech Inclusion Platform, *Socio-Economic Planning Sciences*, 87, 101555.
11. Fianu ES, **Ahelegbey DF**, Grossi L, (2022), Modeling Risk Contagion in the Italian Zonal Electricity Market, *European Journal of Operational Research*, 298 (2), 656–679
12. Agosto A, **Ahelegbey DF**, (2022), Default Count-based Network Models for Credit Contagion, *Journal of the Operational Research Society*, 73 (1), 139–152
13. **Ahelegbey DF**, Giudici P, (2022), NetVIX - A Network Volatility Index of Financial Markets, *Physica A: Statistical Mechanics and Applications*, 594, 127017
14. **Ahelegbey DF**, Cerchiello P, Scaramozzino R, (2022), Network Based Evidence of the Financial Impact of Covid-19 Pandemic, *International Review of Financial Analysis*, 81, 102101
15. **Ahelegbey DF**, Giudici P, Mojtahedi F, (2022), Crypto Asset Portfolio Selection, *FinTech*, 1 (1), 63–71.
16. **Ahelegbey DF**, (2022), Statistical Modelling of Downside Risk Spillovers, *FinTech*, 1 (2), 125–134
17. Fianu, ES, **Ahelegbey DF**, Grossi L, (2021), Risk Management via Contemporaneous and Temporal Dependence structures with Applications, *MethodsX*, 8, 101578
18. **Ahelegbey DF**, Giudici P, Hashem SQ, (2021), Network VAR Models to Measure Financial Contagion, *North American Journal of Economics and Finance*, 55, 101318.
19. **Ahelegbey DF**, Giudici P, Mojtahedi F, (2021), Tail Risk Measurement In Crypto-Asset Markets, *International Review of Financial Analysis*, 73, 101604
20. Agosto A, **Ahelegbey DF**, Giudici P, (2020), Tree Networks to Assess Financial Contagion, *Economic Modelling*, 85: 349–366
21. **Ahelegbey DF**, (2020), A Statistical Measure of Global Equity Market Risk, *Applied Mathematics*, 11 (11), 1053–1060
22. **Ahelegbey DF**, Giudici P, (2020), NetVIX: Come Misurare la Turbolenza dei Mercati Finanziari, *Statistica e Societa*.
23. Mojtahedi F, Mojaverian MS, **Ahelegbey DF**, Giudici P, (2020), Tail Risk Transmission: A Study of Iran Food Industry, *Risks*, 8(3):78
24. **Ahelegbey DF**, Giudici P, Hadji-Misheva B, (2019), Factorial Network Models To Improve P2P Credit Risk Management, *Frontiers in Artificial Intelligence*, 2 (8)
25. **Ahelegbey DF**, Giudici P, Hadji-Misheva B, (2019), Latent Factor Models for Credit Scoring in P2P Systems, *Physica A: Statistical Mechanics and Applications*, 522:112–121
26. Teye AL, **Ahelegbey DF**, (2017), Detecting Spatial and Temporal House Price Diffusion in the Netherlands: A Bayesian Network Approach, *Regional Science & Urban Economics*, 65, 56–64

27. **Ahelegbey DF**, Billio M, Casarin R, (2016), Bayesian Graphical Models for Structural Vector Autoregressive Processes, *Journal of Applied Econometrics*, 31 (2), 357–386
28. **Ahelegbey DF**, (2016), The Econometrics of Bayesian Graphical Models: A Review with Financial Application, *Journal of Network Theory in Finance*, 2 (2), 1–33
29. **Ahelegbey DF**, Billio M, Casarin R, (2016), Sparse Graphical Vector Auto Regression: A Bayesian Approach, *Annals of Economics and Statistics*, 123/124, 333–361
30. **Ahelegbey DF**, Giudici P, (2014), Bayesian Selection of Systemic Risk Networks, *Advances in Econometrics: Bayesian Model Comparison*, 34, 117–153.

Book Chapters & Proceedings

1. Teye AL, **Ahelegbey DF**, (2017), *Spatial and Temporal House Price Diffusion in the Netherlands: A Bayesian Network Approach*, In 24th Annual European Real Estate Society (ERES) Conference
2. **Ahelegbey DF**, Billio M, Casarin R, (2016), *Sparse Bayesian Graphical VAR for Risk Analysis*, In JSM Proceedings, Statistical Computing Section. Alexandria VA: American Statistical Association
3. **Ahelegbey DF**, Billio M, Casarin R, (2015), *Sparse BGVAR models for Systemic Risk Analysis*, Statistics and Demography: The Legacy of Corrado Gini (ISBN 9788867874521)

Working Papers

1. Fianu ES, Danso A, **Ahelegbey DF**, Boateng A, *Insights into Environmental, Social & Governance (ESG) Contributions to Extreme Downside Risk Measurement Scenarios in Insurance Market in (Non)-Volatile Periods*.
2. Essanaani Y, Abdelsalam O, **Ahelegbey DF**, Taamouti A, The Impact of the COVID-19 Pandemic on Sustainable European Companies: A Network Approach
3. **Ahelegbey DF**, Ibhagui OW, Interconnected Deviations from Covered Interest Parity
4. **Ahelegbey DF**, Carvalho L, Kolaczyk ED, A Bayesian Covariance Graph and Latent Position Model for Multivariate Financial Time Series
5. Mahdavi P, Ehsani MA, **Ahelegbey DF**, *A Comparison of Dynamic Causal Inference Methods*

Unpublished Works

1. **Ahelegbey DF**, Giudici P, (2020), Market risk, Connectedness and Turbulence: A Comparison of 21st Century Financial Crises, *Università di Pavia, Department of Economics and Management*.
2. **Ahelegbey DF**, (2015), Bayesian Graphical Models With Economic and Financial Applications, *PhD Thesis, University of Venice*.
3. **Ahelegbey DF**, Giudici P, (2014), Hierarchical Graphical Models with Application to Systemic Risk, *University CaFoscari of Venice, Dept. of Economics Research Paper Series*, (63), 1.

Research Grants & Funding

- European Union Co-Financed Project, PON Research and Innovation 2014-2020 — 2022 – 2024
- Horizon 2020 PERISCOPE (Pan-European Responses to the ImpactS of Covid-19) — 2020 – 2023
- European Union's Fin-Tech Horizon 2020 Project — 2019 – 2020
- Center for Strategic Engagement (GLOBEC), Pavia-Boston Exchange Grant — 2016, 2017
- Research Collaboration Support, US Air Force Office for Scientific Research (AFOSR) — 2015 – 2017
- European Union Grant for SYstemic Risk TOmography (SYRTO) Project Grant — 2014 – 2015
- Italian Ministry of Education, University and Research PRIN Grant, MISURA — 2014 – 2015
- Ph.D. Scholarship, University Cá Foscari of Venice — 2011 – 2014
- European Union Erasmus Mundus Scholarship — 2009 – 2011
- Brilliant Students Fund, University of Ghana, Legon, Ghana — 2006 – 2007
- Ghana Government Scholarship (For Senior Secondary School) — 2000 – 2002

Teaching Experience

- University of Essex, UK
  - Mathematics of Portfolios (MA311) | 2024/25
  - Programming and Text Analytics with R (MA331) | 2023/24 – Present
  - Network Analysis (MA214) | 2023/24 – Present
- BAUM Tenpers Institute, USA
  - Introduction to Data Science (with R) | 2024
  - Statistical Inference (with R) | 2024
  - Applied Probability (with R) | 2024
  - Time Series Econometrics (with R) | 2023 – Present
  - Intermediate Econometrics (with R) | 2023
- University of Pavia, Italy
  - Statistical Seminar Cycle (with R) | 2022/23
  - Quantitative Finance I (with Matlab and R) | 2019/20 – 2021/22
  - Applied Finance (with Matlab and R) | 2019/20 – 2021/22
  - Decisions and Choices (with Matlab) | 2019/20
  - Decisions for Finance (with Matlab) | 2019/20
  - Networks and Systemic Risk (with Matlab and R) | 2016/17 – 2017/18
- African School of Economics, Benin
  - Quantitative Finance I (with R) | 2020/21 – 2023/24
  - Finance Theory I | 2018/19
  - Financial Networks-Systemic Risk (with R) | 2018/19
  - Mathematical Statistics (with R) | 2018/19
  - Time Series Analysis (with R) | 2018/19
- Boston University, USA
  - Applied Mathematics for Social and Management Sciences (MA120) | 2016
- University of Ghana, Legon, Ghana
  - Algebra & Trigonometry (MA121) | 2009/10
  - Algebra & Geometry (MA126) | 2008/09
  - Calculus I (MA122) | 2007/08 – 2008/09
  - Calculus II (MA223) | 2008/09
  - General Mathematics (FASC101) | 2007/08 – 2009/10

Professional Membership

- The Econometric Society | Financial Management Association | American Economic Association
- American Statistical Association | Italian Econometrics Association
- The Society of Financial Econometrics | The Society of Bayesian Artificial Intelligence

Editorial & Reviewing Activities

- Statistics (Associate Editor) | Applied Stochastic Models in Business & Industry
- Empirical Economics | North American Journal of Economics & Finance
- Journal of Financial Stability | Journal of Business & Economic Statistics
- The Econometrics Journal | South African Journal of Economics

Supervision & Mentorship

A. Capstone Project Supervision

- Aditya N. Joshi, University of Essex, UK *2024-25*
- Antip Makarenko, University of Essex, UK *2024-25*
- Rianna Trim La-Force, University of Essex, UK *2024-25*

B. PhD Supervision

- Kago Ronald Thipe (Supervisor) - University of Essex, UK *2025–*
- Costanza Bosone (External Referee) - Scuola Universitaria Superiore Pavia, Italy *2024*
- Alessandro Celani (External Referee) - Marche Polytechnic University, Ancona, Italy *2023*
- Pegah Mahdavi (External Advisor) - University of Mazandaran, Iran *2022*
- Fatemeh Mojtahedi (Advisor) - Sari Agricultural Sciences & Natural Resources University, Iran *2020*
- Paolo Pagnottoni (External Referee) - University of Pavia, Italy *2019*
- Gloria Polinesi (External Referee) - Marche Polytechnic University, Ancona, Italy *2019*

C. Master Supervision

- Abubakar, Ahmed Oladipo (Supervisor) - University of Essex, UK *2023-24*
- Aftab, Sakina (Supervisor) - University of Essex, UK *2023-24*
- Aher, Abhishek Uttamrao (Supervisor) - University of Essex, UK *2023-24*
- Jadhav, Rohan (Supervisor) - University of Essex, UK *2023-24*
- Olawale Peter Awopetu (Supervisor) - University of Essex, UK *2023-24*
- Louis Christian Brichaux Cahueque (Supervisor) - University of Essex, UK *2023-24*
- Arlene Harris-Faulkner (Supervisor) - University of Essex, UK *2023-24*
- Rohan Prasad (Supervisor) - University of Essex, UK *2023-24*
- Harish Ravi (Supervisor) - University of Essex, UK *2023-24*
- Ashik Senthilkumar (Supervisor) - University of Essex, UK *2023-24*
- Dileep Anumala (Supervisor) - University of Essex, UK *2023-24*
- Abin Augustine (Supervisor) - University of Essex, UK *2023-24*
- Kehinde Oluwatoba Babatunde (Supervisor) - University of Essex, UK *2023-24*
- Kanwar Bhaskar Anthal (Supervisor) - University of Essex, UK *2023-24*
- Ritu Arya (Supervisor) - University of Essex, UK *2023-24*
- Onyinyechi Felicia Ayogu (Supervisor) - University of Essex, UK *2023-24*
- Francesco Bertarello (External Advisor) - University of Pavia, Italy *2022-23*
- Francesca Lionetti (External Advisor) - University of Pavia, Italy *2022-23*
- Federico Giomo (External Advisor) - University of Pavia, Italy *2021-22*
- Chiara Zoller (External Advisor) - University of Pavia, Italy *2021-22*
- Juste Lokossou (Supervisor) - African School of Economics, Benin *2019-20*
- Lucien Comlan Hountongbe (Supervisor) - African School of Economics, Benin *2019-20*
- Jean-Rene Kenmegne Tchuente (Supervisor) - African School of Economics, Benin *2019-20*
- Estelle Domkam Kamhoua (Supervisor) - African School of Economics, Benin *2019-20*
- Olawoumi Alexis Atchade (Supervisor) - African School of Economics, Benin *2019-20*
- Patel Gbedjemaiho (Supervisor) - African School of Economics, Benin *2019-20*
- Eunice Dossou (Supervisor) - African School of Economics, Benin *2019-20*
- Luca Scanzi (External Advisor) - University of Pavia, Italy *2019-20*
- Philipp Kirchdorfer (External Advisor) - University of Pavia, Italy *2019-20*
- Nicolas Matias Contreras (External Advisor) - University of Pavia, Italy *2019-20*
- Laura Podratz (External Advisor) - University of Pavia, Italy *2019-20*

Conferences & Invited Talks

A. International Conferences

(Plenary and Invited Talks)

1. Africa Meeting of the Econometric Society (AfES 2024), Abidjan, Côte d'Ivoire – June 5-8, 2024
2. Statistics and Data Science Conference, Pavia, Italy – Apr 27-28, 2023
3. Italian Statistical Society (SIS) Covid-19 Thematic Day, Satellite SIS Event – June 18, 2021
4. 12th World Congress of the Econometric Society (ESWC 2020), Milan, Italy – Aug 16-21, 2020
5. Africa Meeting of the Econometric Society (AfES 2018), Cotonou, Benin – Jul 12-14, 2018
6. Allied Social Science Association (ASSA 2017) Meeting, Chicago, USA – Jan 6-8, 2017
7. Joint Statistical Meeting (JSM 2016), Chicago, USA – Jul 30 - Aug 4, 2016
8. 6th Italian Congress of Econometrics and Empirical Economics, Salerno, Italy – Jan 21-23, 2015
9. 1st European Winter Meetings of the Econometric Society, Madrid, Spain – Dec 15-16, 2014
10. 8th Intl. Conference on Computational and Financial Econometrics, Pisa, Italy – Dec 6-8, 2014
11. 29th Annual Congress of the European Economic Association, Toulouse, France – Aug 25-29, 2014
12. 34th Intl. Symposium on Forecasting (ISF 2014), Rotterdam, Netherlands – Jun 29 - Jul 2, 2014
13. 7th Intl. Conference on Computational and Financial Econometrics, London, UK – Dec 14-16, 2013

B. Workshops & Thematic Events

(Focused Discussions and Policy-related Events)

1. EFAG Second Sustainability Symposium, Durham University Business School, UK – July 1-2, 2024
2. Sustainable Economy & Accounting for ESG Impact Symposium, Durham, UK – July 9-11, 2023
3. Network Models for Financial Contagion and Systemic Risk, Pavia, Italy – May 28, 2021
4. Special Suptech I Workshop on Fintech Challenges, Pavia, Italy – Nov 18, 2019
5. Fintech Risk Management Workshop, Bucharest, Romania – Nov 15, 2019
6. Regtech: Big Data Analytics, P2P Lending & Credit Risk, Frankfurt, Germany – Jun 28, 2019
7. Poverty Reduction, Equity and Growth Network (PEGNet 2018), Cotonou, Benin – Oct 11-12, 2018
8. Workshop on Networks in Economics and Finance, Louvain-la-Neuve, Belgium – Dec 5, 2014
9. 13th Intl. Conf., Credit Risk Evaluation Designed for Inst. in Finance, Venice, Italy – Sept 25-26, 2014
10. Statistics and Econometrics of Networks, Stats in Paris, ENSAE - Paris, France – Nov 21-22, 2013
11. 12th Intl. Conf., Credit Risk Evaluation Designed for Inst. in Finance, Venice, Italy – Sept 26-27, 2013
12. Multivariate Statistical Models for Risk Assessment (MISURA), Venice, Italy – Sept 25, 2013
13. 5th Intl. Conf., Math & Stats Methods for Actuarial & Finance, Venice, Italy – Apr 10-12, 2012

C. Seminars & Webinars

(University/Institutional Seminar & Online Presentations)

1. Black Heroes of Statistics Workshop – Dec 18-19, 2024
2. Seminar, University of Pavia, Italy – June 3-5, 2024
3. Seminar, University of Manchester, UK – Apr 17, 2024
4. Black Heroes of Statistics Workshop – Nov 1-3, 2023
5. European Network for Business & Industrial Statistics (ENBIS) Covid-19 – Apr 29, 2020
6. Duke Statistical Science Seminar, Duke University, Durham, USA – Oct 14, 2016
7. 6th Annual Workshop, Boston and Keio University (BU-KEIO), Boston, USA – Aug 15-19, 2016
8. 10th Annual Workshop, Bologna, Modena, Padova, and Venice, Modena, Italy – Mar 27, 2015
9. Quantitative Economics Doctorate (QED 2014) Conference, Bielefeld, Germany – May 2-3, 2014