

Abel Guada Azze

Last update on September, 2023

Education

- 2018–2023 **PhD in Mathematical Engineering**, *Carlos III University of Madrid*.
PhD thesis: "Optimal Stopping of Gauss-Markov processes", supervised by professors Bernardo D'Auria and Eduardo García Portugués.
- 2016–2018 **MSc in Mathematical Engineering**, *Carlos III University of Madrid*.
MSc thesis: "Inferring the optimal stopping boundary for a Brownian bridge", supervised by professors Bernardo D'Auria and Eduardo García Portugués.
- 2010–2014 **BSc in Mathematics**, *University of Havana*.
BSc thesis: "Selección del ancho de banda en estimación por Kernel para colas pesadas", supervised by professor Luis A. Salomón.

Experience

Research

- 2023+ **Assistant Professor**, *Department of Quantitative Methods*, CUNEF University.
- 2018–2023 **Research Assistant**, *Department of Statistics*, Carlos III University of Madrid.
- 2022–2022 **Visiting PhD researcher**, *Department of Economics*, Università "G. d'Annunzio" Chieti-Pescara.

Teaching

- 2018+ **Research Assistant**, *Department of Statistics*, Carlos III University of Madrid.
- 2014–2016 **Graduate Teaching Assistant**, *Department of Mathematics*, Technological University of Havana José Antonio Echeverría.

Awards

- 2014 **Roberto Peña award**, *conceded by the Cuban Society of Mathematics and Computer Science for the work "Estimación por Kernel para Colas Pesadas"*.
- 2014 **Gran Premio**, *conceded by the Department of Mathematics and Computer Science of the University of Havana for the work "Estimación por Kernel para Colas Pesadas"*.
Top of my year in the *Jornada Científica Estudiantil 2014* of the University of Havana.
- 2013 **Relevante 3ro Matemática Aplicada**, *conceded by the Department of Mathematics and Computer Science of the University of Havana for the work "Estimación por Kernel en muestras pequeñas"*.
Top of my year in the category of applied mathematics in the *Jornada Científica Estudiantil 2013* of the University of Havana.

Positions and Grants

- 2018+ **Grant for PhD studies**, *given by Carlos III University of Madrid*.
- 2016–2018 **Grant for MSc studies**, *given by Carlos III University of Madrid*.
- 2014–2016 **Professor in training**, *Technological University of Havana José Antonio Echeverría*.
Typical teaching position in Cuba held by recently-graduated bachelor students, who receive guidance within two or three years and are only allowed to teach practices, for the sake of training qualified novel professors.

Publications

Refereed papers

D'Auria, Bernardo and García-Portugués, Eduardo and Guada, Abel. Discounted optimal stopping of a Brownian bridge, with application to American options under pinning. *Mathematics*. 2020; 8(7):1159. doi:10.3390/math8071159

Azze, Abel., D'Auria, Bernardo., and García-Portugués, Eduardo. Optimal stopping of an Ornstein–Uhlenbeck bridge. *Stochastic Processes and their Applications*. 2024; 172, Art. 104342. <https://doi.org/10.1016/j.spa.2024.104342>

Azze, Abel., D'Auria, Bernardo., and García-Portugués, Eduardo. Optimal exercise of American options under time-dependent Ornstein–Uhlenbeck processes. *Stochastics*. 2024; 96(1), 921-946. <https://doi.org/10.1080/17442508.2024.2325402>

Azze, Abel., D'Auria, Bernardo., and García-Portugués, Eduardo. Optimal stopping of Gauss–Markov bridges. *Advances in Applied Probability*. 2025; (To appear). <https://arxiv.org/abs/2211.05835>

Preprints

Teaching

Theory

- 2023/2024 **Estadística Empresarial II**, *Bachelor in Business Administration*, CUNEF Centro Adscrito.
- 2023/2024 **Econometría**, *Doble Grado en Administración y Dirección de Empresas e Ingeniería Informática*, CUNEF Universidad.
- 2023/2024 **Econometrics**, *Double Bachelor in Business Administration and Law*, CUNEF Universidad.
- 2023/2024 **Data Collection and Processing**, *Double Bachelor in Business Administration and Law*, CUNEF Universidad.
- 2023/2024 **Mathematics**, *Bachelor in Philosophy, Politics, and Economics*, CUNEF Universidad.
- 2022/2023 **Analysis of dynamic data**, *Bachelor in Finance and Accounting*, Carlos III University of Madrid.
- 2022/2023 **Statistical methods for social sciences: prevision techniques**, *Bachelor in International Studies and Business Administration*, Carlos III University of Madrid.

Practices

- 2022/2023 **Statistical methods for social sciences: prevision techniques**, *Bachelor in International Studies and Business Administration*, Carlos III University of Madrid.
- 2022/2023 **Statistical Learning**, *Bachelor in Data Science and Engineering*, Carlos III University of Madrid.
- 2021/2022 **Statistics for social sciences I**, *Bachelor in Political Science*, Carlos III University of Madrid.
- 2021/2022 **Probability and Data Analysis**, *Bachelor in Data Science and Engineering*, Carlos III University of Madrid.
- 2020/2021 **Procesos estocásticos**, *Bachelor in Statistics and Business*, Carlos III University of Madrid.
- 2020/2021 **Procesos estocásticos**, *Bachelor in Statistics and Business*, Carlos III University of Madrid.
- 2019/2020 **Procesos estocásticos**, *Bachelor in Statistics and Business*, Carlos III University of Madrid.
- 2018/2019 **Estadística**, *Bachelor in Electric Engineering*, Carlos III University of Madrid.
- 2018/2019 **Statistics**, *Bachelor in Communication Systems Engineering*, Carlos III University of Madrid.
- 2018/2019 **Statistics**, *Bachelor in Automatic and Industrial Engineering*, Carlos III University of Madrid.
- 2015/2016 **Probabilidades y estadística**, *Bachelor in Civil Engineering*, Technological University of Havana José Antonio Echeverría.
- 2015/2016 **Matemática III para arquitectos**, *Bachelor in Architecture*, Technological University of Havana José Antonio Echeverría.

- 2014/2015 **Probabilidades y estadística**, *Bachelor in Civil Engineering*, Technological University of Havana José Antonio Echeverría.
- 2014/2015 **Matemática I**, *Bachelor in Civil Engineering*, Technological University of Havana José Antonio Echeverría.

Conference contributions (speaker underlined)

Contributed talks

- 2024 **""Optimal stopping of Gauss-Markov bridges with applications to American options"**, *12th Bachelier World Congress of the Bachelier Finance Society*, FGV EMAP, Abel Azze, Bernardo D'Auria, and Eduardo García-Portugués.
- 2023 **"Optimal stopping of Gauss-Markov bridge"**, *Bringing Young Mathematicians Together (BY-MAT) 2023*, University of Leeds, Abel Azze, Bernardo D'Auria, and Eduardo García-Portugués.
- 2020 **"Optimal exercise for American options under pinning effect"**, *Theory and Practice of Optimal Stopping and Free Boundary Problems*, University of Leeds, Bernardo D'Auria, Eduardo García-Portugués, and Abel Guada.
- 2019 **"Optimal exercise for American options under stock pinning"**, *2nd Spanish Young Statisticians and Operational Researchers Meeting (SYSORM 2019)*, Bernardo D'Auria, Eduardo García-Portugués, and Abel Guada-Azze.
- 2018 **"Optimal stopping and Volterra type equations: application to the Brownian Bridge"**, *Mathematical and Statistical Methods for Actuarial Sciences and Finance (MAF 2018)*, Bernardo D'Auria, Eduardo García-Portugués, and Abel Guada-Azze.
- 2014 **"Bandwith selection for heavy-tailed distributions"**, *XXIV Encuentro de Estadísticos Cuba-México*, Havana, Cuba, Luis A. Salomón and Abel Guada Azze.
- 2014 **"Estimación por Kernel para Colas Pesadas"**, *Jornada Científica Estudiantil 2014 of the University of Havana*, Luis A. Salomón and Abel Guada Azze.
- 2013 **"Estimación por Kernel en muestras pequeñas"**, *Jornada Científica Estudiantil 2013 of the University of Havana*, Luis A. Salomón and Abel Guada Azze.

Posters

- 2018 **"Inferring the optimal stopping boundary for a Brownian bridge"**, *Statistical Methods for Big Data (SMBD 2018)*, Bernardo D'Auria, Eduardo García-Portugués, and Abel Guada-Azze.

Computer skills

Interpreted languages	R, Mathematica, MATLAB, Python
Compiled languages	TeX
Other softwares	RStudio, TeXstudio, GitHub, Mendeley, Zotero, JabRef

Languages

Spanish	Native	
English	Advanced (C1)	<i>Qualification: Cambridge English Level 2 Certificate in ESOL International</i>