Antonio Elías Fernández

Address: Málaga, Spain   Phone: +34 664 008 705
Personal web: aelias.netlify.com   email: aelias@uma.es

Positions

2021-2023	Postdoctoral researcher / Personal Investigador Doctor Applied Mathematics Dept., OASYS Group, **Universidad de Málaga** Junta de Andalucía, co-financed by the EU Social Fund, PAIDI 2020 Advisor: Prof. Juan Miguel Morales
2020-2021	Postdoctoral researcher, OASYS Group, **Universidad de Málaga** FlexAnalytics - Advanced Analytics to Empower the Small Flexible Consumers of Electricity. **European Research Council** (ERC), Starting Grant Advisor: Prof. Juan Miguel Morales

Education

2015-2020	Phd in Statistics (*cum laude*), **Universidad Carlos III de Madrid** Thesis: "Depth-based methods for functional data analysis" Advisor: Prof. Raúl Jiménez
2018-2019	Visiting Researcher, **Australian National University**, Australia Advisor: Hanlin Shang (6 months)
2017	Visiting Researcher, MOX Laboratory, **Politecnico di Milano**, Italy Advisor: Laura Sangalli (3 months)
2013-2015	Msc in Business and Quantitative Methods, **Universidad Carlos III de Madrid**, Spain Thesis: "Envelopes for functional data" Advisor: Prof. Raúl Jiménez
2009-2013	Bachelor Degree in Economics, **Universidad Carlos III de Madrid**, Spain Thesis: "Conditional Logit with Fixed Effects: Gretl Implementation"

Scientific Contributions

A. Elías, S. Pineda, J.M. Morales (2021). "Depth-based outlier detection for grouped smart meters: a functional data analysis toolbox", *Submitted*. ‹arXiv› ‹R package›.

A. Elías, R. Jiménez, H.L. Shang (2021). "Depth-based reconstruction method for incomplete functional data", *Submitted*.

A. Elías, R. Jiménez, H.L. Shang (2021). "On projection methods for functional time series forecasting", *In press, JMVA*. ‹arXiv› ‹R package›.

Y. Aleman-Gomez, A. Arribas-Gil, M. Desco, A. Elías and J. Romo (2021). "Visualizing Outliers in High Dimensional Functional Data for Task fMRI data exploration". *Submitted*. ‹arXiv› ‹CRAN R package›.

A. Caro, A. Elías, D. Peña and Ruey S. Tsay. (2021) "SLBDD: Statistical Learning for Big Dependent Data". ‹CRAN R package›.

A. Elías, R. Jiménez and J. Yukich (2021). "Localization processes for functional data". *Submitted*. ‹arXiv› ‹CRAN R package›.

A. Elías, R. Jiménez, A. M. Paganoni, L. M. Sangalli (2020). "Integrated depth for partially observed functional data", *Submitted*, ‹CRAN R package›.

A. Elías, R. Jiménez, A. M. Paganoni, L. M. Sangalli (2019). "A depth for censured functional data". Working paper. UC3M Working Papers. Statistics and Econometrics. 17 - 12, Universidad Carlos III de Madrid. ‹Working paper›.

A. Elías, R. Jiménez (2018). "A depth-based method for functional time series forecasting". ‹arXiv›.

A. Elías, R. Jiménez (2017). "Prediction bands for functional data based on depth measures". UC3M Working Papers. Statistics and Econometrics. 17 - 12, Universidad Carlos III de Madrid. Departamento de Estadística, 05/2017. ‹Working paper›.

Scientific Dissemination and Other Academic Activities

2015 - *Curr.*	Conferences and Talks	Detailed List
2015 - *Curr.*	Teaching	Detailed List
2016 - 2021	*Organizer* Coding Club UC3M Jointly with E. García-Portugués, D. Heredia and I. Úcar. See web.	
2016 - 2021	*Technical Editor* of BEIO The Journal of Statistics and Operational Research (BEIO) of the Spanish Society of Statistics and Operational Research (SEIO). See web.	
2016 - *Curr.*	*Member* of Functional Data and Non parametric Research Groups, SEIO see web 1 and web 2.	
	Teaching Innovation Projects (see web)	
2018	"Real Business Analytics" and "Real Data Journalism"	
2017	"Teaching statistics through case studies"	
2016	Data Science Summer Camp FECYT and UC3M	

Collaboration with industry

2020-2021 ORANGE ESPAGNE S.A.U.
Network Quality Evaluation (Art. 83)
Net Promoting Scores (NPS) data analysis and drivers.

2018 Kinequo - KNQ Technologies
Log files as a source of data insights (Art. 83)
Development of resources allocation tools, worker efficiency indexes and forecasting system errors.

2017 Orbitare A.G.
Space Loop Proof of Concept (Art. 83)
Qualitative research about the potential feasibility of the project, strengths, weaknesses, opportunities and threats.

2016 Instituto Flores de Lemus, Universidad Carlos III de Madrid
Programming Support and Maintenance
Integrated prediction system composed by R, Matlab, Tramo, Seats, Dbank and Excel.

2014-2015 Redkampus Press S.L.
Market Study (Art. 83)
Introduction and Acceptance of New Insurance Products for University Students. Final client Antares and Pléyade, Telefónica Group.

Other Professional Experiences

2020 Universidad Carlos III de Madrid - Comunidad de Madrid
International scientific collaboration: network analysis with a gender perspective.
Data harvesting of JCR publications through the API of Web of Science. Genderize data set and network analysis.

2015 - 2018 Integration and Disability Department, Universidad Carlos III de Madrid
Volunteering
Teaching support and materials adaptation

2016 AFANIAS
Volunteering
Supporting leisure activities for people with functional diversity

2013 FSL India
Volunteering
School sanitation and teaching. (One month)

2013 General Consulate of Spain in New York
Consulate Officer
Visa processing and interviewer (4 months)

2013 Bank of Spain, Department of Economics, Statistics and Research.
Fellowship
"Credibility of Fiscal Plans" (6 months)

2012-2013 Integration and Disability Department, Universidad Carlos III de Madrid.
Intern

2009 -2013 Converse All Star
Retail staff

Competitive Grants and Awards

2017 and 2018	Predoctoral Research Stay Grant (FPU), **Ministry of Education**
2016 - 2018	"Outstanding Teaching Recognition", **Universidad Carlos III de Madrid** Sampling Theory, Probability I, Probability II and Statistics for Journalism and Media Communication.
2016-2019	Predoctoral Research Grant (FPU), **Ministry of Education**
2015-2016	Research Grant (PIFP), **Universidad Carlos III de Madrid**
2013-2015	Grant for Master Studies, **Universidad Carlos III de Madrid**

Technical Skills

R, Rmarkdown, Python, Github, markdown, LaTeX, SQL, HTML, CSS, javaScript.

Languages

Spanish: Mothertongue   English: Fluent

Conferences and Talks

09/2020 [Contributed] International Symposium of Forecasting. Title of the talk: "On nearest neighbour projection methods for functional time series forecasting". **Rio de Janeiro**, Brazil. Online.

09/2019 [Invited Talk] *Y-BIS* Young Business and Industrial Statisticians Workshop on Recent Advances in Data Science and Business Analytics. Title of the talk: "A depth-based method for functional time series forecasting". Istanbul, **Turkey**.

09/2019 [Invited Talk] *XXXVIII National Congress of Statistics and Operational Research*, SEIO. Title of the talk: "A depth-based method for functional time series forecasting". Alcoi, Alacant, **Spain**.

07/2019 [Invited Talk] *European Meeting of Statisticians*. Title of the talk: "Depth measures for partially observed functional data". Palermo, Sicily, **Italy**.

11/2019 [Contributed Talk] *II SYSORM* 2019: Spanish Young Statisticians and Operational Researchers Meeting. "Embedding uncertainty to integrated depth measures for partially observed functional data". Madrid, **Spain**.

05/2019 [Organizing Committee] *III International Workshop on Advances in Functional Data Analysis*. Spanish Society of Statistics and Operational Research (SEIO), FDA Group. Centro de Encuentros Matemáticos, Cantabria, **Spain**.

12/2018 [Attended] *MATRIX 2018*. Functional Data and Beyond. 8-9 December, Melbourne, **Australia**.

12/2018 [Attended] Summer School and Conference, 2018. College of Business and Economics. December, Sidney, **Australia**.

12/2018 [Invited Speaker] *CMStatistics* 2018: Tenth Computational and Methodological Statistics. "Exploratory functional data analysis from depth-based neighborhoods ". 16-18 December, London, **UK**.

10/2018 [Contributed Talk] *Coding Club UC3M* "An introduction to Shiny II". Madrid, **Spain**.

06/2018 [Contributed Talk] *Coding Club UC3M*. "An introduction to Shiny as a teaching resource". Madrid, **Spain**.

12/2017 [Invited Speaker] *CMStatistics* 2017: Tenth Computational and Methodological Statistics. "Prediction bands for functional data based on depth measures". 16-18 December, London, **UK**.

11/2017 [Contributed Talk] *I SYSORM* 2017: Spanish Young Statisticians and Operational Researchers Meeting. "Prediction bands for functional data based on depth measures". Granada, **Spain**

05/2017 [Internal Seminar] *Laboratory for Modeling and Scientific Computing MOX*, Department of Mathematics. University of Politecnico di Milano. "Prediction bands for functional data based on depth measures". Milano, **Italy**.

06/2017 [Poster Session] *IWFOS* 2017: Fourth International Workshop on Functional and Operatorial Statistics. "Prediction bands for functional data based on depth measures". A Coruña, **Spain**.

02/2017 [Local Committee] *II International Workshop on Advances in Functional Data Analysis*. Spanish Society of Statistics and Operational Research (SEIO). Universidad Carlos III de Madrid, **Spain**.

09/2016 [Contributed Talk] *XXXVI National Congress of Statistics and Operational Research*. Title of the talk: "Plots for Functional Data Forecasting". Toledo, **Spain**.

02/2016 [Attended] *Small Area Estimation*. ICMAT, UC3M. Madrid, **Spain**.

02/2016 [Granted] *Statistical Learning Week.* Centre International de Recherche in Mathématiques (CIRM) in Marsella, **France**.

11/2015 [Local Committee] *I International Workshop on Advances in Functional Data Analysis.* Spanish Society of Statistics and Operational Research (SEIO). Universidad Carlos III de Madrid, **Spain**.

09/2015 [Attended] *Intensive Research Programme on Statistical Advances for Complex Data.* Mini course: Graph Theoretic Methods in Multivariate Statistics. Centre de Recerca Matemàtica (CRM). Universitat Autònoma de Barcelona, **Spain**.

Teaching

2019-2020 Statistics for Marketing and Media Communication. Master in Marketing and Media Communication, UC3M.

2018-2019 Statistics for Marketing and Media Communication. Master in Marketing and Media Communication, UC3M.

2017-2018 [Assistant] Statistics for Journalism and Media Communication. Double Degree in Journalism and Media Communication, UC3M.

2016-2017 [Assistant] Elemental Statistical Theory I, Statistics for Computer Engineer. Degree in Statistics and Business, UC3M.

2015-2016 [Assistant] Elemental Statistics Theory I and II. Degree in Business and Statistic, UC3M.

2014-2015 [Assistant] Statistics for Journalism. Degree in Journalism, UC3M. Material adaptation for student with functional diversity.

2013-2015 [Advisor Assistant] Final projects, Degree in Statistics and Business, UC3M. Topics on Text Mining and Statistical Learning.

2013-2015 [Assistant] Research Techniques, Statistical Inference Methods II, Sampling Methods. Degree in Business Administration, UC3M.