Ana Lopez

Overview

- More than 5 years of experience developing and providing commercial climate services to different sectors with a strong focus on renewable energies. This includes
  - Identification and analysis of global data sets for the study of past climate variability and its impacts
  - Analysis of large climate modelling ensembles and implementation of climate modelling downscaling approaches
  - Identification of climate drivers of impacts for wind and solar technologies and implementation of risk metrics that allow for climate change risks assessments for these technologies
  - Development of comprehensive physical climate risk assessment to fulfil due diligence requirements, and different climate risks reporting requirements (Equator Principles, TCFD, EU Taxonomy, CSRD).
- 4 years of experience working in the energy and financial sectors providing energy demand forecasts, and developing climate predictions markets.
- More than 10 years of research experience in
  - Climate science, developing statistical models to provide robust probabilistic climate forecasts for decision support
  - Climate impacts and adaptation in water resources, floods and ecosystems.
  - Losses and damages of climate change.
  - Use of probabilistic forecast for Early warning systems and Forecast Based Financing of disasters.
- Consulted for the UK government, United Nations, World Bank and International Red Cross providing data analytics to inform climate policy and support decision-making in the areas of water resources, flooding, early warning systems for disaster risk management, an climate change adaptation.
- Over fifty publications in peer reviewed journals, chapters in books,and presentations in scientific conferences and invited lectures, in the areas of theoretical physics, climate sciences, impacts and adaptation to climate change studies.

Professional Experience

Science Director   **Sep 2019- Present**
Climate Scale SL   Oxford-Barcelona

- Leading the technical team that develops climate risks data and advisory for the analysis of physical risks associated to Climate Change.

Data Scientist   **Sep 2018- June 2020**
Opus Energy – Drax Group   Oxford

- Development of forecasting models for electricity consumption.

- Employed tools include clustering for customer segmentation, time series forecasting, linear and non-linear models for classification.

VP Research   **Jan 2016- Aug 2018**
Winton Group: Global Investment Management   Oxford

- Researched prediction models for investment systems, and prediction markets for information aggregation and decision support.
- Employed tools included linear and non-linear models, bootstrapping, hypothesis and sequential hypothesis testing.

Research Fellow   **2004-2015**
James Martin Research Fellow, Physics   Oxford University
Research Officer, Statistics   London School of Economics
Tyndall Research Fellow, Geography and Environment   Oxford University
Daphne Jackson Trust Research Fellow   Oxford University
College Lecturer, University College   Oxford University

- Published scientific papers in climate science journals and book chapters, and presented research in scientific conferences and invited lectures.
- Coordinated interdisciplinary projects and supervised junior researchers.
- Consulted for the UK government, United Nations, World Bank and International Red Cross providing data analytics to inform climate policy and support decision-making in the areas of water resources, flooding, early warning systems for disaster risk management, and climate change adaptation.
- Developed statistical models to provide robust probabilistic climate forecasts for decision support. Approaches included linear models, dimensionality reduction techniques, Bayesian modelling, signal to noise analysis, model evaluation and validation of statistical and dynamical forecasting models, uncertainty quantification, time series analysis.
- Performed data analysis using Matlab, Fortran and batch scripting.
- Taught undergraduate Physics students.

Researcher   **1991-2004**
Research scientist and lecturer, Physics   Centro Atomico Bariloche, Argentina
Glasstone Research Fellow, Theoretical Physics   Oxford University
Research assistant, Physics   University of Illinois at Urbana-Champaign

- Published scientific results in theoretical Condensed Matter Physics journals. Some of the publications became standard references and are highly cited.
- Developed field theoretical descriptions of strongly interacting systems in low dimensions, with applications in solid state and nanophysics, and quantum computation.
- Supervised master students and taught undergraduate Physics courses.

Education

- PhD (1994), Theoretical Physics, University of Illinois at Urbana-Champaign, USA.
- Master in Science (1991), Theoretical Physics, University of Illinois at Urbana-Champaign, USA.
- Licenciada en Física (1986), Universidad de Buenos Aires, Argentina.

- Postgraduate Diploma in Learning and Teaching in Higher Education (2008), University of Oxford.

Fellowships Awards

- Daphne Jackson Trust Fellow, Oxford University, May 2004-May 2006.
- Glasstone Research Fellowship, Oxford University, August 1994-October 1997.
- Wolfson College Junior Research Fellow, Oxford University, October 1994-February 1998.
- International Fellowship of the American Association of University Women, University of Illinois at Urbana-Champaign, 1993-1994.
- Organization of American States Fellowship, University of Illinois at Urbana-Champaign, 1989-1991.

Skills

Computing
R, Matlab, Latex (proficient), SQL, Fortran, Wolfram Mathematica (experienced user).

Languages
Spanish (native) and English (proficient).