Eirini Boleti, PhD
Curriculum Vitae

PERSONAL DETAILS

Address	73100, Chania, Greece
E-mail	eirini.boleti@gmail.com
Birth date	21 June 1982

WORK EXPERIENCE

Research associate - Postdoc August 2022-now

Technical University of Crete - Atmospheric Environment & Climate Change Group

Studying wildfire emissions and their effect on climate change and atmospheric composition

Aerosol-cloud interactions, effect of wildfire emissions (CERTAINTY project)

Analysis of satellite data for studying emissions and for model validation

Earth system modeling | EC-Earth

Supervision of bachelor and master students

Support and guidance to PhD students

Teaching master course "Air Pollution - Fundamentals and Practice"

Research associate - Postdoc July 2021-December 2021

Universität Bern — Mobiliar Lab for Natural Risks — Climate Impact Research Group

Prediction of car loss damages from hail with statistical modeling

Analysis of radar hail data

Define parameters for prediction of insurance hail losses

Implementation and communication of hail research (Mobiliar)

Natural Catastrophe analyst October 2020-March 2021

SCOR Zurich

Agriculture Pricing & Modeling

Risk Modeling for estimation of natural catastrophes risk on agriculture

Catastrophe models (AIR)

Calculation of expected losses and premiums either for potential new clients or renewing existing contracts

Restating of historical portfolio information

Handling and analysing client data (losses, claims etc) as well as meteorological data

Natural Catastrophe Models R&D

    Impact of climate change on key Natural Catastrophe perils: literature review and report

    Design of scenarios for climate change effect on hazards

    Adjustment of models for climate change effect

Consultant

TNO, the Netherlands Organisation for applied scientific research

Department of Climate, Air & Sustainability, Utrecht, the Netherlands

    Modeling studies for air quality assessments, forecasts, deposition and source apportionment with a chemistry transport model | LOTOS-EUROS

    Data analysis and visualization of model output and model validation

    Acquisition of new projects

    Compile and deliver project reports

    Represent the team in international conferences, forums and plenary meetings

    Provide stakeholders with research output as a guideline to derive strategies for improving air quality

Research Associate - PhD

Empa, Air Pollution/Environmental Technology Laboratory, Dübendorf, Switzerland

    Application of machine learning techniques for air quality

    Analysis of long-term air pollutants data sets

    Development of statistical methods for long-term and seasonal patterns recognition

    Application of clustering techniques to identify similar measuring stations in Europe

    Investigating the effect of policy making decisions on air quality

Physics tutor

Private, Switzerland

    Teaching physics and mathematics to Gymnasium students

    Teaching mathematics to university students

EDUCATION

PhD in Statistical Analysis of Air Pollutants Concentrations

Empa, Air Pollution/Environmental Technology Laboratory

EPFL, Air Particle Research Laboratory

    Long-term trends and seasonality of air pollutants concentrations

    Time scale decomposition of ozone concentrations time series

    Spatial and temporal analysis of large data sets

    Clustering techniques for identification of stations with similar behavior

MSc. Atmospheric and Climate Science

ETH Zürich,Institute of Atmosphere and Climate

    Quantitative understanding of climate processes and their interactions

    In depth understanding of the climate system, aspects of the atmosphere and weather phenomena

    Training in numerical modeling of weather and climate

MSc. Computational Physics

Aristoteles University of Thessaloniki (Greece), Department of Physics

    Training in various programming languages

    Computer simulations of physical phenomena

Degree (Diploma) in Physics

Aristoteles University of Thessaloniki (Greece), Department of Physics

    Specialization field: "Atmosphere and Environment Physics"

PUBLICATIONS

Rosu I.,A., Mourgela R. N., Kasoar M., Boleti E., Parrington M., Voulgarakis A. (2025) *Large-scale impacts of the 2023 Canadian wildfires on the Northern Hemisphere atmosphere*, `https://doi.org/10.1038/s44407-025-00022-9`

Boleti E., Hüglin C., and Takahama S. (2018). *Ozone time scale decomposition and trend assessment from surface observations in Switzerland* - Atmospheric Environment, `https://doi.org/10.1016/j.atmosenv.2018.07.039`

Boleti E., Hüglin C., and Takahama S. (2019). *Trends of ozone maximum concentrations in Switzerland based on meteorological adjustment during 1990-2015* - Atmospheric Environment, `https://doi.org/10.1016/j.atmosenv.2019.05.018`

Boleti E., Hüglin C., and Takahama S. (2020). *Temporal and spatial analysis of ozone concentrations in Europe based on time scale decomposition and a multi-clustering approach.* - Atmospheric Chemistry and Physics, `https://doi.org/10.5194/acp-20-9051-2020`

Boleti E.; Garas A.; Kyriakou A.; Lapatinas, A.(2021) *Economic Complexity and Environmental Performance: Evidence from a World Sample* - Environmental Modeling & Assessment, `https://doi.org/10.1007/s10666-021-09750-0`

Grange S., Carslaw D.C., Lewis A.C., Boleti E., Hueglin C. (2018). Random forest meteorological normalisation models for Swiss PM10 trend analysis - Atmospheric Chemistry and Physics, `https://doi.org/10.5194/acp-18-6223-2018`

TECHNICAL SKILLS

Data analysis: R(advanced), PYTHON(intermediate)
Climate models, Chemistry-transport models
Statistical modeling, Machine Learning
Risk Modeling (Catastrophe models, Loss models)
High-performance computing environments
OS: LINUX and WINDOWS
Typesetting: LATEX, WORD
Office suits: Open/Libre Office, Microsoft Office

PROJECTS

– "Cloud-aerosol interactions & their impacts in the earth system (CERTAINTY)", Technical University of Crete, group "Atmospheric Environment & Climate Change Group"

– "High-latitude Fires and the future of Earth's Climate", Technical University of Crete, AXA chair in the group "Atmospheric Environment & Climate Change Group"

– "Prediction of car loss damages from hail", Universität Bern - Oeschger Center & Mobiliar Lab for Natural Risks

– "Climate Change scenario impact study; A P&C study focusing on physical risks due to climate change"

– *Brightskies*, collaboration with Airbus Defense & Space for assimilation of satellite data in air quality model

– Source apportionment for quantifying contribution of sectors and countries on local concentrations of air pollutants (TOPAS, `https://topas.tno.nl/`)

– Nitrogen deposition in Germany (PINETI), study for the German government on deposition of nitrogen components over the last 10 years.

LANGUAGES

English (Professional level,C1)
German (Professional level,C1)
Greek (mother tongue)