

KM Florentine Weber



Education

PhD, Grantham Centre for Sustainable Futures, The University of Sheffield, UK

10/2017 – 05/2022

"Why is the atmosphere over land becoming drier? Exploring the roles of atmospheric and land-surface processes on relative humidity", in cooperation with the Met Office, UK

· Analysed drying trends around the globe on spatio-temporal scales through data assimilation of observation, reanalysis, remote sensing and climate model data · Made suggestions for climate models improvement concerning the representation of atmospheric humidity and its trends concerning dynamical and terrestrial drivers · Designed and executed a research plan

MSc Biophysics, Bielefeld University, Germany

10/2013 – 10/2016

Thesis: research group of Biomolecular Photonics in cooperation with Miele & Cie. KG in Innovation/R&D: Surfactant Chemistry and the "Influence of Disperse Systems on the Adsorption of Lipids on Plastic Surfaces"

Erasmus+ semester, University of Toulon, France; main focus: atmospheric and ocean biology and physics

· Experimentally elaborated the behaviour of disperse systems, emulsion and foam, concerning their absorption on solid surfaces via absorption measurements and tensiometry · Set up a Raman spectroscopy and further characterised absorbed lipids through Raman spectroscopy

BSc Physics, Bielefeld University, Germany

10/2010 – 11/2013

Thesis: research group of Thin Films and Physics of Nanostructures in cooperation with the research group of Plant Biochemistry and Physiology: "Persistence of Nanoparticles on Plant Surfaces"

· Extended the application areas of microscopy techniques (HIM, SEM) and measurement methods of material analysis (EDX) and their comparison concerning biological samples

Research experience

Postdoctoral researcher, The University of Sheffield, UK

06/2022 – Present

Scholarship to refine and reformat key findings from my PhD for publication

Research assistant, Institut Universitaire Européen de la Mer, France

06/2017 – 08/2017

"Passive acoustic monitoring of the ocean: data processing and bio-acoustic analysis"

· Manipulated and analysed acoustic data samples recorded in the Indian Ocean to catalogue the various noise sources and to characterise whale songs · Provided an overview of the limitations and advantages of the passive acoustic monitoring approach

Research assistant, Instituto Superior Técnico, University of Lisbon, Portugal

10/2016 – 05/2017

"Assessment of sustainability of sown pastures using remote sensing"

· Evaluated pasture productivity, species composition and soil sampling in the field and the lab · Assessed temporal changes in the spectral reflectance of vegetation, including the calculation of vegetation indices using satellite data

Research assistant, Miele & Cie. KG, Germany

05/2015 – 03/2016

· Experimentally found evidence of the dependencies of the distribution of different lipids of various cleaning agents in the rinsing solution to varying temperatures in the dishwasher concerning the national energy consumption labelling scheme

Teaching experience

Teaching assistant, The University of Sheffield, UK

02/2018 – 12/2019

Modules: "Atmospheres and Oceans" and "Geographies of Europe" field class in Berlin

Teaching assistant, Bielefeld University, Germany

04/2014 – 09/2015

"Best Tutor Award" at the department of Experimental Physics

Leadership and teamwork skills

- Chair, Environmental Sustainability Rotary Action Group (ESRAG) Great Britain & Ireland · Engaged members with responsibilities to coordinate regional and local projects and allow them to grow into focused initiatives for the region
- Mentor, The University of Sheffield
- DPG "Leading for Tomorrow" programme
- Sheffield Students' Union Departmental Councillor and various other representative roles and responsibilities at The University of Sheffield

Communication skills

- Hydrological Science Early Career Scientists representative, European Geosciences Union (EGU)
- Royal Meteorological Society (RMetS) ambassador, UK
- The University of Sheffield Delegate at the UNFCCC COP24
- Invited speaker at annual symposiums
- Female role model in STEM, 1MWIS

Management skills

- Program Coordinator, German Physical Society (DPG) Mentoring Program
- Event Manager for the Theme "Planet Earth", Pint of Science, UK
- Coordination of the Environmental Sustainability Rotary Action Group (ESRAG) COP26 delegation
- Convener at the Festival of Debate, UK
- Management group member and scholar, Grantham Centre for Sustainable Futures, UK
- Ambassador and Juror, Young Environmentalist Competition

Computer skills

Python, MATLAB, QGIS, NetCDF, ImageJ, DIAdem, LaTeX

Fluently spoken languages

German, English, French, Spanish, Portuguese

Selected publications

Weber et al. "Why is the atmosphere over land becoming drier? Exploring the roles of atmospheric and land-surface processes on relative humidity." EGU General Assembly 2022.

Weber et al. "Why is the atmosphere becoming drier? - An investigation of the role of dynamical drivers on recent trends in relative humidity." AGU Fall Meeting 2019.

Speaker at the House of Lords Chamber Debate, "Can we have sustainability alongside globalism and growth?", 2019.

Simionesei et al. "Modeling soil water dynamics and pasture growth in the montado ecosystem using MOHID land." Water 10.4 (2018): 489.