Julia David

Postdoctoral researcher | University of Helsinki | Julia.d.David@Helsinki.fi
https://orcid.org/0009-0000-9913-0611 | www.linkedin.com/in/julia-david-helsinki

Education

Goethe University Frankfurt — *Frankfurt, Germany*
PhD Environmental Sciences with a focus on Atmospheric and Climate Science — *11/2022–05/2026*
Thesis: Real-time characterization of organic aerosol using high-resolution Orbitrap mass spectrometry

University of Bayreuth — *Bayreuth, Germany*
M.Sc. Environmental Chemistry with a focus on Atmospheric Chemistry — *09/2020–10/2022*
Thesis: Urban ozone risks – Local vs. regional influences on atmospheric ozone mixing ratios

Trier University — *Trier, Germany*
B. Sc. Environmental Biosciences with focus on Toxicology and Chemistry — *09/2017–08/2020*
Thesis: The current state of research on novel halogenated flame retardants

Research Experience

Institute for Atmospheric and Earth system research (INAR), University of Helsinki — *Helsinki, Finland*
Working group Aerosol climate interaction — *since 07/2026*
Postdoctoral position

Institute for Atmospheric and Environmental Sciences, Goethe University Frankfurt — *Frankfurt, Germany*
Working group Atmospheric Environmental Analytics — *11/2022–05/2026*
PhD Position

Bayreuth Center of Ecology and Environmental Research (BayCEER) — *Bayreuth, Germany*
Working group Atmospheric Chemistry — *06/2021–10/2022*
Student Assistant

German Federal Institute of Hydrology — *Koblenz, Germany*
Working group Organic Trace Analysis — *07/2019–10/2019*
Scientific Intern

Scientific outreach

European Aerosol Conference 2023 — *Malaga, Spain*
Presentation title: “Resolving the sources of ambient organic aerosol in a one-year $PM_{2.5}$ dataset by the aerosolomics approach” — 09/2023

European Geoscience Union 2024 — *Vienna, Austria*
Presentation title: “Real-Time Measurements of Biomass-Burning and Secondary Organic Aerosol Composition in the Po Valley using Ultra-High Resolution (Orbitrap) Mass Spectrometry” — 05/2024

European Aerosol Conference 2024 — *Tampere, Finland*
Presentation title: “Investigating Secondary Organic Aerosol Composition and Biomass Burning in the Po Valley: Real-Time Monitoring with Ultra-High Resolution Mass Spectrometry” — 08/2024

MION & Orbitrap Workshop Vol.2 *Helsinki, Finland*

Presentation title: “Ambient Aerosol Measurements in Urban and Agricultural Environments Using APCI Orbitrap Mass Spectrometry” 11/2024

European Aerosol Conference 2025 *Lecce, Italy*

Poster title: “A mass-spectrometric study of the formation and aging of organic aerosol from vanillin oxidation” *09/2025*

European Geoscience Union 2026 *Vienna, Austria*

Session chair for the “Sources, Formation, and Properties of Organic Aerosols“ session *05/2026*

Presentation title: “Real-time chemical characterization of aviation based ultrafine particle using Orbitrap-MS”

Measurement campaigns

Heat stress-related VOC emissions from maize *Bayreuth, Germany*

Objective: Effect of heat stress on VOC emissions of different maize varieties.

Aerosol Loadings in the Future Atmosphere (ALFA) – Leg I: Urban background *Frankfurt, Germany*

Objective: Develop and assemble a mobile laboratory container for in-situ molecular characterization of aerosol composition at an urban background station. 05/2023–09/2023

Aerosol Loadings in the Future Atmosphere (ALFA) – Leg II: Agricultural *Schivenoglia, Italy*

Objective: Remote deployment of mobile laboratory container at agricultural field site to characterise the influence of agriculture and biomass burning on the chemical composition of aerosols. 09/2023–11/2023

TPChange – Instrumental intercomparison campaign *Frankfurt, Germany*

Objective: Comparative measurements of laboratory generated aerosol with different measurement techniques developed for ground based or aircraft measurements. 09/2024–10/2024

JuRieCa – Instrumental characterisation study *Frankfurt, Germany*

Objective: Investigating the influence of Frankfurt international airport on the ultrafine particle burden in the Greater Frankfurt area. Measurements were taken at a distance of 16 km. 06/2025–*09*/2025

A4Climate – Measurements at Terminal 2 of Frankfurt international airport *Frankfurt, Germany*

Objective: To characterise the chemical and physical properties of the aerosols emitted by Frankfurt International Airport. 03/2026–*05*/2026