

Julius Albert — Curriculum Vitae

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 Julius-Albert



Education

- since 01/2019 **PhD, Environmental Sciences**
University of Kaiserslautern–Landau (RPTU), Landau, Germany
Thesis title: "Aflatoxins in the Soil Environment – Occurrence, Fate and Consequences for the Soil Microbiome and Associated Functions."
- 10/2015 – 12/2018 **M.Sc., Environmental Sciences (Final grade: 1.4)**
University of Koblenz–Landau (UKL), Landau, Germany
Thesis title: "Combined Strategy to Remediate a Lindane Polluted Soil with the White Rot Fungus *Pleurotus ostreatus* & Biochar." (Grade: 1.3)
- 10/2011 – 02/2016 **B.Sc., Environmental Sciences (Final grade: 2.2)**
University of Koblenz–Landau (UKL), Landau, Germany
Thesis title: "Auswirkungen von HTC-Biokohle auf die Mikrobielle Aktivität und Regenwürmer im Feldversuch." (Grade: 1.0)

Research Experience

- 11/2022 – 09/2023 **Research Associate and Project Management**
RLP AgroSciences GmbH, Neustadt / Weinstr., Germany
– Collaboration on the MycoPom project: "Development of a Fungal Preparation Based on Grape Marc for the Biological Remediation of Organically Polluted Soils".
– Preparation of research proposals.
– Participation in project-related conferences.
- 01/2019 – 09/2023 **Research Associate**
University of Kaiserslautern–Landau (RPTU), Landau, Germany
– Collaboration on the AflaZ project: "Zero Aflatoxin – A Multidisciplinary Cooperation Project Between German and African Research Institutions".
– Publication of research results with participation in (inter-)national conferences.
– Supervision of student theses and teaching in interdisciplinary research, environmental analysis, environmental chemistry, and ecology.
- 11/2018 – 12/2018 **Student Employee**
University of Kaiserslautern–Landau (RPTU), Landau, Germany
– Support in the organization of workshops.
– Coordination and procurement of orders.

- 02/2018 – 03/2018 **Intern**
RLP AgroSciences GmbH, Neustadt / Weinstr., Germany
 – Sampling, extraction and analysis as part of the plant protection product approval process.
- 04/2017 – 08/2017 **Intern**
University of Kaiserslautern–Landau (RPTU), Landau, Germany
 – Participation in the SOIL-PLAST project by performing respiration analyses on soil samples and contributing to a publication.
- 04/2015 – 06/2015 **Student Employee**
RLP AgroSciences GmbH, Neustadt / Weinstr., Germany
 – Development and optimization of the production of pellets from HTC biochar and implementation of quality control of the pellets.

Teaching Experience

- since 04/2021 **Ecological Chemistry – Seminar**
University of Kaiserslautern–Landau (RPTU), Landau, Germany
 – Co-Lecturer
- 01/2019 - 03/2022 **Laborübungen Umweltanalytik – Lab exercise**
University of Kaiserslautern–Landau (RPTU), Landau, Germany
 – Co-Supervisor
- 04/2021 - 10/2021 **Messung von Umweltparametern – Field exercise**
University of Kaiserslautern–Landau (RPTU), Landau, Germany
 – Co-Supervisor
- 10/2019 - 03/2021 **Interdisciplinary Case Study / Interdisziplinäre Fallstudie – Project seminar**
University of Kaiserslautern–Landau (RPTU), Landau, Germany
 – Co-Supervisor
- 10/2019 - 03/2020 **Projekt Organische Chemie – Project seminar**
University of Kaiserslautern–Landau (RPTU), Landau, Germany
 – Co-Supervisor

(Co-)supervision of final theses

- 10/2022 **Selina Morscheid, B.Sc. Mensch und Umwelt**
University of Koblenz–Landau (UKL), Landau, Germany
 Thesis title: "Development of energy-saving disinfection methods for agro-residues for the cultivation of *Pleurotus ostreatus*"
- 09/2021 **Sarah Morlock, B.Sc. Environmental Science**
University of Koblenz–Landau (UKL), Landau, Germany
 Thesis title: "Auswirkung verschiedener Hydrogelapplikationstechniken"

unter Nutzung von Xanthan auf Wachstum und trockenheits- und transplantationsschockbedingte Mortalität von Jungbäumen (*Castanea sativa* Mill.) im Pfälzerwald"

09/2021

Kay Seufferheld, B.Sc. Environmental Science

University of Koblenz–Landau (UKL), Landau, Germany

Thesis title: "Auswirkungen unterschiedlicher Konzentrationen von Hydrogelen in sandigem Boden auf das Maiswachstum (*Zea mays convar. saccharata*) unter verschiedenen Trockenszenarien"

06/2021

Katharina Hanten, B.Ed. Lehramt Biologie und Chemie

University of Koblenz–Landau (UKL), Landau, Germany

Thesis title: "Quantitative Bestimmung von Ergosterol (HPLC-UV) als Indikator für Pilzbiomasse Zusammenhang mit Bodenparametern am Beispiel von Maisfeldern"

04/2021

Maureen Roth, M.Ed. Lehramt Biologie und Chemie

University of Koblenz–Landau (UKL), Landau, Germany

Thesis title: "Auftreten von Mykotoxinen in Böden während der Maiswachstumsphase unter Berücksichtigung physikochemischer, klimatischer und mikrobieller Bodenparameter"

01/2021

Camilla More, M.Sc. Ecotoxicology

University of Koblenz–Landau (UKL), Landau, Germany

Thesis title: "Effects of synthetic and biogenic hydrogels on soil microbial activity and biomass under two contrasting soil moisture conditions"

07/2020

Niklaus Dahlke, B.Sc. Environmental Science

University of Koblenz–Landau (UKL), Landau, Germany

Thesis title: "Validierung einer analytischen Methode zur Bestimmung von Aflatoxinen (B1, B2, G1, G2) in landwirtschaftlichen Böden mittels HPLC-FLD"

04/2020

Henri Kurz, B.Ed. Lehramt Chemie und Französisch

University of Koblenz–Landau (UKL), Landau, Germany

Thesis title: "Fluoreszenzverstärkung von Mykotoxinen durch photochemische Derivatisierung und ihr Abbau in verschiedenen Medien"

09/2019

Camilla More, B.Ed. Lehramt Chemie und Geographie

University of Koblenz–Landau (UKL), Landau, Germany

Thesis title: "Entwicklung einer analytischen Methode zur Bestimmung von Aflatoxinen (B1, B2, G1, G2) in landwirtschaftlichen Böden mittels HPLC-FLD"

Continuing Education

since 10/2023

Data Science Bootcamp (16 weeks full time)

Data Science Institute, Berlin, Germany (Remote)

04/2018 – 02/2023	Specialist Consultant for Mycology <i>German Mycological Society (DGfM), Karlsruhe, Germany</i> Thesis title: "Ermittlung des Potenzials eines Enzymextraktes aus verbrauchtem Pilzkompost von <i>Pleurotus ostreatus</i> zum Abbau von Pharmazeutika in wässrigen Medien."
01/2021 – 12/2022	Data Analyst in R <i>DataCamp Inc., New York, USA (Remote)</i>
05/2022	Microscopy of the fungi <i>Schwarzwälder Pilzlehrschau, Hornberg, Germany</i>
01/2022	Creating Reports and Digital Apps for Dynamically Changing Data Using R-Studio and the Knitr and Shiny Packages <i>Interdisciplinary Graduate Center (IPZ), Landau, Germany</i>
10/2021	Metabolomics workshop: Analysis of mycotoxin metabolites in soil extracts using liquid chromatography with time-of-flight mass spectrometer (LC-TOF) and bioinformatics software <i>Max Rubner-Institut (MRI), Detmold, Germany</i>
06/2021	Introduction to L^AT_EX <i>Interdisciplinary Graduate Center (IPZ), Landau, Germany</i>
11/2018	IFG Workshop: In search for common ground to realize interdisciplinarity in environmental research - A workshop for interdisciplinary researchers <i>Interdisciplinary Graduate Center (IPZ), Landau, Germany</i>

Stays Abroad

10/2022	Nairobi und Kisumu, Kenya – Knowledge transfer & networking (AflaZ project) – Presentation of research results at conferences
11/2022 - 12/2022	Nairobi, Kenya – Knowledge transfer & networking (AflaZ project) – Ambassadorial Activity: Establishing a Collaboration between the University of Kaiserslautern-Landau and the University of Nairobi. – Preparation of field sampling and laboratory analysis as part of the AflaZ project

Fellowships

since 03/2021	German Soil Science Society (DBG), Berlin, Germany
since 09/2018	German Mycological Society (DGfM), Karlsruhe, Germany

Awards

07/2019 Research Award of the Department 7 (Natural and Environmental Sciences) for the best Master's thesis in in a scientific discipline
University of Koblenz–Landau (UKL), Landau, Germany

Skills

Languages **German:** Native
English: Proficient (10 school years, international teamwork, studying, lecturing, and publishing/presenting in english language)
French: Basics (5 school years)

Analytics **HPLC:** Proficient in HPLC-UV/VIS, HPLC-FLD & LC-HRMS
GC: Advanced in GC-FID & GC-MS
Radiochemistry: Basics in HPLC-Radio & LSC
Spectroscopy: Advanced in UV/VIS- & Fluorescence spectroscopy
Microbiology: Proficient in Respirometry (OxiTop, CarboBot & MicroResp), Chloroform-Fumigation-Extraction method, Phospholipid-derived fatty acids analysis, Cell culture & fermentation
Molecular Genetics: Basics in PCR, Sanger sequencing, phylogeny reconstruction, sequence editing via Geneious, sequence alignment via MEGA

Computational Skills **Office applications:** Proficient in Libre/MS
Operating Systems: Advanced in Linux (Manjaro) & Windows (98 – 12), basics in Apple operating systems
Writing and formatting: Advanced in Word, L^AT_EX & Authorea
Data analysis/science & Machine Learning: Proficient in R and Excel, advanced in Python & MySQL
Visualization: Proficient in R (e.g. ggplot), advanced in Python (e.g. seaborn, matplotlib) and Tableau
Programming languages: Proficient in R, advanced in T_EX, advanced in Python & SQL
GIS: Basics in R, QGIS, & GRASS for spatial data analysis & visualization
Artificial intelligence: Basics in OpenAI tools (ChatGPT, DALL-E)

Publications

Peer reviewed articles • **Albert, J.**, More, C., Korz, S., & Muñoz, K. (2023). Soil Microbial Responses to Aflatoxin Exposure: Consequences for Biomass, Activity and Catabolic Functionality. *Soil Systems*, 7(1), 23.
• **Albert, J.**, & Muñoz, K. (2022). Kinetics of microbial and photochemical degradation of aflatoxin B1 in a sandy loam and clay soil. *Scientific Reports*, 12(1), 16849.
• Kenngott, K. G., **Albert, J.**, Meyer-Wolfarth, F., Schaumann, G. & E., Muñoz, K. (2022). Fusarium Mycotoxins in Maize Field Soils: Method Validation and Implications for Sampling Strategy. *Toxins*,

14(2), 130.

- **Albert, J.**, More, C. A., Dahlke, N. R., Steinmetz, Z., Schaumann, G. E., & Muñoz, K. (2021). Validation of a Simple and Reliable Method for the Determination of Aflatoxins in Soil and Food Matrices. *ACS omega*, 6(29), 18684-18693.
- Steinmetz, Z., **Albert, J.** & Kenngott, K. (2020). Envalysis: Miscellaneous Functions for Environmental Analyses. University of Koblenz-Landau, Institute for Environmental Sciences, Landau. <https://doi.org/ft9p>
- Schirmel, J., **Albert, J.**, Kurtz, M. P., & Muñoz, K. (2018). Plasticulture changes soil invertebrate assemblages of strawberry fields and decreases diversity and soil microbial activity. *Applied Soil Ecology*, 124, 379-393.

Conferences

- **Albert, J.** (2022). Aflatoxins and soil quality (oral presentation). AflaZ Congress 2022, Nairobi, Kenya.
- **Albert, J.** & Muñoz, K. (2022). Contribution of soil properties to the biotic and abiotic degradation processes of aflatoxin B1 (poster). World Congress of Soil Science 2022, Glasgow, Scotland.
- **Albert, J.**, & Muñoz, K. (2022). Microbial and photodegradation of AFB1 in two contrasting soils (oral presentation). 43rd Mycotoxin Workshop, Toulouse, France.
- **Albert, J.**, More, C. A., Dahlke, N. R., Steinmetz, Z., Schaumann, G. E., & Muñoz, K. (2022). Validation of a Simple and Reliable Method for the Determination of Aflatoxins in Soil and Food Matrices (poster). 43rd Mycotoxin Workshop, Toulouse, France.
- **Albert, J.**, Steinmetz, Z., Fent, G., Schaumann, G.E. & Kubiak, R. (2019). Combined strategy to remediate a lindane polluted soil with the white rot fungus *Pleurotus ostreatus* and biochar (poster). SETAC GLB - Biodiversität im Wasser und am Land- Die Rolle chemischer Stressoren, Landau, Germany.