

Christine Alewell,

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EDUCATION

Habilitation Soil Science, July 2001 University of Bayreuth
Ph.D. Soil Science, February 1995 University of Bayreuth
Diplom Biology, September 1991, Georg-August-University Göttingen

CURRENT AND PREVIOUS POSITIONS

since 2003 Full Professor in Environmental Geosciences, University of Basel
1995 – 2003 Assistant Professor, Chair of Soil Ecology, BITÖK, University of Bayreuth
1998 – 2000 Supervisor of the laboratories at Chair of Soil Ecology, BITÖK,
 University of Bayreuth
1996 – 2003 Coordinator of the BITÖK – Monitoring program Lehstenbach (Fichtelgebirge)

FOREIGN RESEARCH VISITS

1987 – 1988 Department of Forestry and Nature Conversation in Ciskei (South Africa)
1996 – 1998 Visiting researcher with Prof. Dr. Myron J. Mitchell, SUNY, Syracuse, NY, USA
 (Research stipend of the German Research Foundation)
2009 Visiting researcher at the Climate Impacts Research Center, Umeå University, Abisko,
 Northern Sweden

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

1995 – 2003 2 PhDs, 7 Master Students at University of Bayreuth, Germany
2003 – 2022 18 Post Docs/ 24 PhDs/ 57 Master and 75 Bachelor-Students at University of Basel,
 Switzerland

TEACHING ACTIVITIES

1995 – 2003 altogether (in semester hours): 21 h field classes and excursion, 5 h seminars, 10 h
 lectures, University of Bayreuth, Bayreuth, Germany
2003 – 2022 regularly 8-10 hours per week each semester at Bachelor and Master level including
 lectures and seminars in Soil Sciences, Soil remediation, Global Biogeochemical
 Cycles and field classes in Soil Science and Ecological Monitoring

PUBLICATIONS

As of Dezember 2022, 193 peer reviewed international papers, ISI Web of Science statistics: H-Index = 48, sum of citations = 9164; average citation per item: 49. Google Scholar Statistics: H-Index = 61, sum of citations = 14722; i10-index = 167.

For full list of publications, please see <https://duw.unibas.ch/en/persons/christine-alewell/>

GRANTS AND FUNDS

As of 2022 Total sum: 9.8 Million € since 2004, with 5.3 Million as PI and 5.4 Million in the last 5 years.

Research achievements Christine Alewell

General research areas are soil chemistry and soil degradation of natural and semi-natural ecosystems, ecosystem fluxes between soil, atmosphere and hydrosphere, biogeochemistry of soils, stable and radiogenic isotopes as indicators in soils. Specifically, the research is focused on

- sediment source attribution with compound specific stable isotopes
- stable isotopes as indicators of soil erosion in grassland soils

- use of radiogenic isotopes to determine soil erosion
- modelling and mapping of soil erosion
- reduction processes in soils and freshwater wetlands
- nutrient cycling and nutrient depletion of soils and forest ecosystems
- interaction of uplands and wetland soils within landscapes, with consideration of the influence of material leaching from the upland areas into wetlands and riparian zones as well as the buffering effects of wetlands and riparian zones to water bodies

AWARDS AND HONORS

2021/22 Listed as "World's 2% of Scientists" in 2021, 2022 list published by #StanfordUniversity (<https://elsevier.digitalcommonsdata.com/datasets/btchxktyw/4>)

2021 Editors Highlight Nature Communications: Global phosphorus

2004 Vice Chair Gordon Research Conference Catchment Science

2005 Chair Gordon Research Conference Catchment Science

1998/99 DAAD outgoing stipend as visiting researcher USA

1998 NATO outgoing stipend (declined)

INSTITUTIONAL RESPONSIBILITIES

At University of Basel:

Member of the department's management board (2006-2008 and since 2015 -2020);

Head of educational board of Geosciences (2004-2015) and member ongoing;

Member of the educational board of the faculty of Natural Sciences (2004-2015);

Gender representative of the Faculty of Natural Sciences (2007 – 2015);

Gender representative of the Department of Environmental Sciences (2009 - 2021);

Faculty of Natural Sciences delegate at the Commission for Equal Opportunity (2007 – 2015);

Confidential contact for the faculty of Natural Sciences (2007 – 2015);

University of Basel confidential contact in case of sexual harassment (2007 – 2015)

Other Obligations:

Member of the Swiss National Science Foundation evaluation panel for Ambizione (2019 ongoing);

Member of the Scientific Advisory Board of the Leibniz Center for Agricultural Research (ZALF;

2017 ongoing).

Peer during evaluation of Faculty of Earth Sciences, Geography and Astronomy, University of Vienna; Member of expert peer panel Agroscope Reckenholz, Switzerland (2009 - 2011), reviewer for Swiss Federal Institute for Forest, Snow and Landscape Research (restructuring process and search of research group leaders as well as internal proposal evaluations). Member of the expert panel for the implementation plan of the National Research Programme NRP 68 "Sustainable use of soil resources". Participation in Brainstorming „Future of Soil Information in Switzerland" for the Swiss Federal Office of Environment.

Participation in several activities with the International Atomic Energy Agency (IAEA, Vienna): contribution to their newsletter, chapter author of one of their official reports, participation in scientific missions and proposals funded by IAEA technical cooperation, participation in Coordinated Research Project (CRP) Nuclear Techniques for a Better Understanding of the Impact of Climate Change on Soil Erosion in Upland Agro-ecosystems

Search for professorship appointments: 14 at University of Basel, five of those as gender representative, 15 outside university of Basel: University of Freiburg (Germany); University of Göttingen (Germany); University of Vienna (Austria); University of Berlin; Desert Research Institute, Reno, USA; University of California, Riverside, USA; University of Potsdam, University of Bern, 2x ETH Zürich; University of Braunschweig.

KNOWLEDGE AND TRANSFER ACTIVITIES

Close cooperation with the soil section of the Federal Office of Environment with continuous funding since 2005 to investigate soil erosion processes in alpine and mountain grassland systems and to establish Swiss national soil erosion maps for grassland resulting in continuous, automatic monitoring on national scale.

Contribution to the development, improvement and transfer of nuclear techniques (e.g. ^{137}Cs , ^{210}Pb , Pu) as soil and sedimentation tracers in collaboration with United Nation Institutions (International Atomic Energy Agency (IAEA) and the Joint Research Center of the EU (JRC). Partnership with the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture in information dissemination on nuclear and stable isotopic techniques through the IAEA Soils Newsletter distributed to the 161 current IAEA Member States.

Dissemination of science to the public via my YouTube channel:

<https://www.youtube.com/channel/UCSYxOsjt9r2U3nc517PT8pA>

SELECTED PRESS AND MEDIA ACTIVITIES:

on phosphorus loss:

SRF: <https://www.srf.ch/audio/wissenschaftsmagazin/phosphor-vom-kreislauf-zum-recycling?id=12021723>;

Radio Deutsche Welle: <https://www.youtube.com/watch?v=daemKot0Jbw>;

on remote soil erosion mapping:

<https://youtu.be/yLl85PxXds8> and <https://bigdata-dialog.ch/tracking-soil-erosion-with-big-data/>

MAJOR CONTRIBUTIONS TO THE EARLY CAREER OF EXCELLENT RESEARCHERS

I have supervised 18 Post-Doctoral scientists so far. Three of them are today appointed as Full Professor (Prof. Dr. Daniel Obrist; Desert Research Institute, Reno, Nevada, USA; Prof. Dr. Kate Ballentine, Mount Holyoke College, Massachusetts, USA; Prof. Dr. Pasquale Borrelli, University of Rom). Further, Dr. Yu Xia was one of the science officers at the WGI AR5 Organization of the Intergovernmental Panel on Climate Change. Dr. Lionel Mabit was a senior soil scientist as well as a project and technical officer at the International Atomic Energy Agency. Dr. Panos Panagos, who did his PhD in my group, is very successful as a Research Scientific Officer at the European Soil Data Center (ESDAC) of the EU Joint Research Centre in Ispra, Italy. My team together with Dr. Panagos has published the new assessment of soil erosion in Europe in 2015 which has been recognized both by the scientific community and the policy makers (included in many Reports and documents from European Commission services such as DG ESTAT, DG AGRI, DG ENV, and UNEP).