

The **Collaborative Research Center 1502 (SFB 1502) on Regional Climate Change: Disentangling the Role of Land Use and Water Management (DETECT)** has recently been awarded funding by the Deutsche Forschungsgemeinschaft (DFG) and is looking to recruit several

## PhD Students

starting as soon as possible. All positions are fixed-term, initially until December 31<sup>st</sup>, 2025, with the possibility of an extension.

DETECT is a research network of hydrologists, meteorologists, land-use modellers, geodesists, data assimilation and remote sensing specialists, data scientists, agricultural economists, and social scientists from the Faculties of Agriculture (LWF) and Mathematics and Natural Sciences (MNF) of the [Rheinische Friedrich Wilhelms University Bonn \(UB\)](#), the Universities of Cologne and Göttingen (UG), the [Forschungszentrum Jülich \(FZJ\)](#) and the Deutscher Wetterdienst (DWD).

Projects within DETECT will investigate how land-use and water management lead to persistent modifications in the coupled water and energy cycles of land and atmosphere ('drying' and 'wetting'); and thus disentangle the role of these drivers of regional climate change from radiative forcing. They will develop evidence-based sustainability criteria for climate-smart land and water use. The SFB 1502 is well embedded in the excellent research infrastructure of the participating institutions and offers access to state-of-the-art technologies and a vibrant scientific community.

### We are offering the following PhD positions

### Reference number

- PhD student (75%\*) at FZJ [\(IBG-3\)](#) in the **field of physical geography or soil science** for project A02, with an interest in soil hydrology, quantitative data analysis, laboratory as well as field work **02**  
(please apply for reference no 02 (2022D-008) [here](#))
- PhD student (75%\*) at FZJ [\(IBG-3\)](#) in the **field of micro-meteorology and water stable isotope ecohydrology** for project A03, with a background in soil-plant-atmosphere interactions and process-based modelling. **03**  
(please apply for reference no 03 (2022D-009) [here](#))
- PhD student (75%\*) at UB in the **field of agricultural economics** for project A05, with a background in production economics, econometrics, efficiency analysis, and interest in behavioral experiments **05**
- PhD student (75%\*) at UB trained in **applied or agricultural economics and related fields** for project A06. We look for expertise in theories of land system change, econometrics, spatial analysis. **06**
- PhD student (100%\*) at UB in the **field of geodesy** for project B01, with a background in geodesy, hydrological modelling and satellite altimetry, programming, GIS and modelling experience **07**
- PhD student (100%\*) at UB in **remote sensing and data science** for project B03, with a background in machine learning, and land use and land cover remote sensing **09**
- Two PhD students (75%\*) at UB in the **field of agricultural economics** for project B04, with some experience in quantitative analysis/data science and an interest in (Bayesian) Econometrics/Machine Learning **10**
- PhD student (75%\*) at UG in the **field of agronomy** for project B05, with a background in crop modeling, land surface modeling or irrigation science and skills in programming **11**
- PhD student (100%\*) at UB in the **field of remote sensing and subsurface hydrology** for project C01, with a background in hydrological modelling, data assimilation and strong programming skills **12**
- PhD student (75%\*) at FZJ [\(IBG-3\)](#) in the **field of remote sensing and surface hydrology** for project C01, with a background in hydrological modelling, and data assimilation with strong programming skills **13**  
(please apply for reference no 13 (2022D-010) [here](#))
- PhD student (75%\*) at UB in the **field of soil and crop modelling** for project C02, with a background in Crop Science or Agronomy and, ideally, experience in the use of crop models **14**
- PhD student (75%\*) at FZJ [\(IBG-3\)](#) in the **field of land surface modelling** for project C03, with a background in hydrology and/or ecology, modelling experience and a good background in statistics **16**  
(please apply for reference no 16 (2022D-011) [here](#))

- PhD student (75%\*) at UB in the **field of soil science** for project C03, with a background in soil ecology or soil biochemistry for analysing climatic and land-use effects on C-balance **17**
- PhD student (100%\*) at UB in the **field of geodesy** for project C03, with a background in GRACE data analysis. Skills in spatial statistics and/or machine learning techniques would be an asset **18**
- PhD student (75%\*) at FZJ ([IBG-3](#)) in the field of **remote sensing and snow hydrology** for project C04, with a background in remote sensing, hydrological modeling, data assimilation and strong programming skills **19**  
*(please apply for reference no 19 (2022D-012) [here](#))*
- PhD student (75%\*) at UB in the **field of long-run Computable General Equilibrium modelling** for project D01, with a background in agricultural economics or related fields and preferable modelling experience **20**
- PhD student (75%\*) at FZJ ([IBG-3](#)) in the field of terrestrial simulations for project D02, with a background in earth system modelling and strong programming skills **21**  
*(please apply for reference no 21 (2022D-013) [here](#))*
- PhD student (100%\*) at UB in the **field of physical oceanography and/or meteorology** in project D02. Strong programming skills (Python, Fortran) and a background in numerical modeling are desired **22**
- PhD student (75%\*) at FZJ ([IBG-3](#)) in the **field of data assimilation** for project D03, with a background in hydrology and/or ecology, modelling and programming experience and good background in statistics **23**  
*(please apply for reference no 23 (2022D-014) [here](#))*
- PhD student (75%\*) at UB in the **field of meteorology** for project D03, with a background in soil hydrology, earth system modelling and strong programming skills **24**
- PhD student (75%\*) at UB in the **field of meteorology** for project D04, with a solid background in dynamical meteorology and statistical modelling and good programming skills **26**
- PhD student (100%\*) at UB in the **field of computer vision** for project D05, with a background in deep learning **27**
- PhD student (100%\*) at UB in the **field of geodesy, meteorology, or hydrology**, for project D07, with a background in analysing remote sensing observations and modelling results **28**

*\* this refers to the possible salary grade, further information below*

#### Your responsibility

- Conducting an independent research project
- Acquisition and application of scientific methods
- Publications (e.g. of scientific results)
- Acquisition of skills and experiences in project/research management

#### Your profile

- Master degree or equivalent in a relevant discipline
- Excellent command of English language
- Flexible, team oriented player in an interdisciplinary and collaborative research network

#### We offer

- Integration and participation in a highly-motivated, interdisciplinary network
- The opportunity to conduct your PhD thesis
- Flexible, employee-friendly working hours
- Support for professional development and carrier management
- Institutional support for applicants with families and for women
- Pay in line with 75% or 100% of the Collective Agreement for the Public Service (TV-L for positions at UB and UG and TVöD-Bund for [positions at FZJ](#)).

To support your academic independence you will be entering the Integrated Research Training Group (IRTG) of the SFB 1502 established at Bonn International Graduate School (BIGS) "Land and Food".

Please find the detailed descriptions of the projects and positions on <https://www.lf.uni-bonn.de/en/research/crc-detect/crc-structure/positions>

The Universities of Bonn and Göttingen and the FZJ are committed to diversity and equal opportunities. Their goal is to increase the proportion of women in areas where women are underrepresented and to particularly promote their careers. Applications from women with relevant qualifications are therefore strongly encouraged. Applications are handled in accordance with the respective State Equal Opportunity Act. The application of suitable persons with proven severe disabilities and persons of equal status is particularly welcome.

If you have any **questions** about the job profiles, please contact Dr. Frank Siegismund, scientific coordinator of DETECT ([detect@geod.uni-bonn.de](mailto:detect@geod.uni-bonn.de)).

#### **How to apply**

Are you interested? Then please, **for the positions at UB and UG**, send your **complete** and **meaningful** application documents (with letter of motivation, curriculum vitae and work references), **by 09.02.2022** in a **PDF** file by e-mail to Dr. Frank Siegismund ([detect@geod.uni-bonn.de](mailto:detect@geod.uni-bonn.de)). **Please state the reference number(s)** of the position(s) you apply to (up to 3 applications are permitted.).

**For the positions at FZJ, please apply directly via the provided links above.**

We are looking forward to your application!