

Within the project "*Links between local scale and catchment scale measurements and modelling of gas exchange processes over land surfaces*" funded by the German Research Foundation (Deutsche Forschungsgemeinschaft), we invite applications for



## 2 PhD Student positions

The positions are funded for 36 months, with a possible extension for 12 months. The working location will either be Jülich or Wageningen.

This new project, a collaboration between the [University of Bonn, Germany](#), [University of Wageningen, The Netherlands, Meteorology and Air Quality Department](#) and [the Research Centre Jülich](#), aims at bridging the gap between the local scale where exchange processes happen at the land surface, to the scales which are suitable to describe and model these transports in the atmospheric environment.

The project will approach this problem by an integrated methodology combining a set of different local measurement techniques with boundary layer scale estimates ranging from traditional techniques up to modern remote sensing tools and a suite of modelling approaches encompassing the atmospheric boundary layer. [A detailed description of the project can be found at http://www.meteo.uni-bonn.de.](http://www.meteo.uni-bonn.de)

The expected outcome will contribute advances to the methodology that should enable the scientific community to quantify the reaction of real-world ecosystems to Climate Change, which is currently often limited by the requirement of large homogeneous surfaces.

One candidate will mainly focus on the experimental aspects. She/he will analyze flux measurements (CO<sub>2</sub> and H<sub>2</sub>O) with Chamber, Eddy Covariance and Scintillometer systems in a patchy agricultural landscape. Outstanding experiments include the application of an enlarged chamber capable of measuring the canopy-scale flux of CO<sub>2</sub>, and an abroad campaign in a landscape where sharp contrasts in CO<sub>2</sub> and H<sub>2</sub>O fluxes are induced by spatial patterns of soil moisture (Spain or southern U.S.). The analysis of the data will focus on testing several approaches to correctly quantify the fluxes of the different patches, their interactions and the interactions with the boundary-layer. The other candidate will mainly focus on the modelling part by utilizing different SVAT models in combination with bulk-models of the atmospheric boundary layer.

The potential candidate should have a master or diploma in meteorology, physics, geography or related disciplines and good knowledge of the English language. A sound knowledge in statistics, micrometeorology or boundary-layer meteorology and related models, and one or more of the above measurement methods would be advantageous. In exceptional cases, we will also accept applications for a Post-Doc position.

Review of applications starts immediately and continues until the position is filled. Applicants should send a letter of motivation and a CV including, if applicable, a brief account of their research experience, a list of publications, and the contact information of up to three references to Dr. Dirk Schuettemeyer / Prof. Dr. C. Simmer, Meteorologisches Institut der Universitaet Bonn, dirk.schuettemeyer (@) uni-bonn.de (e-mail preferred).