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Dept. of Tropical Silviculture and Forest Ecology, University of Göttingen, Germany

## EDUCATION

Ph.D., Forest Sciences and Forest Ecology, October, 2016

University of Göttingen, Germany

M.Sc., Ecology, Northwest A&F University, China 2012

B.Sc., Biology, Mudanjiang Normal University, China 2009

## RESEARCH EXPERIENCE

*University of Göttingen* Germany

PhD study, advisor: Prof. Dr. Dirk Hölscher 2012 – 2016

Research title: Transpiration by oil palm and rubber plantations: refining methods and delineating differences

Establishing sap flux measurements on oil palm and rubber trees; assessing the plant water use from tree/palm to stand level; investigating the influence of environmental drivers

One year intensive field work in lowlands of Jambi, Sumatra, Indonesia, associated with interdisciplinary “[EFForTS](#)” project (A02 sub-project)

*Northwest A&F University* China

Master study, advisor: Prof. Dr. Bingcheng Xu 2009 – 2012

Research title: Eco-physiological responses of two dominant species to the precipitation pulse in a natural grassland community at loess hilly-gully region, China

In a natural grassland at Loess Plateau, China, the effect of artificial precipitation pulses on photosynthesis of two dominant species and community soil respiration were studied, moreover, the following changes of community structure and above-ground biomass were examined after one growing season

Four months field work at Ansai Research Station of Soil and Water Conservation, Chinese Academy of Sciences, China

## PUBLICATIONS

- Niu, F.**, Duan, D., Chen, J., Xiong, P., Zhang, H., Wang, Z., Xu, B. Eco-physiological responses of dominant species to watering in a natural grassland community on the semi-arid Loess Plateau of China. *Frontiers in Plant Science* (2016) 7: 663.
- Niu, F.\***, Röhl, A.\*, Hardanto, A., Meijide, A., Hendrayanto, Hölscher, D. Oil palm water use: calibration a sap flux method and a field measurement scheme. *Tree Physiology* (2015) 35: 563–573.
- Niu, F.\***, Röhl, A.\*, Meijide, A., Hendrayanto, Hölscher, D. Rubber tree transpiration in the lowlands of Sumatra. In revision for *Ecohydrology*.
- Röhl, A.\*, **Niu, F.\***, Meijide, A., Hardanto, A., Hendrayanto, Knohl, A., Hölscher, D. Transpiration in an oil palm landscape: effects of palm age. *Biogeosciences* (2015) 12: 5619–5633.
- Meijide, A., Röhl, A., Fan, Y., Herbst, M., **Niu, F.**, Tiedemann, F., June, T., Rauf, A., Hölscher, D., Knohl, A. Controls of water and energy fluxes in oil palm plantations: effect of environmental variables and oil palm age. *Agricultural and Forest Meteorology* (2017) 239: 71–85
- Hardanto, A., Röhl, A., **Niu, F.**, Meijide, A., Hendrayanto, Hölscher, D. Oil palm and rubber tree water use patterns: effects of topography and flooding. *Frontiers in Plant Science* (2017) 8: 452.
- Mei, T., Fang, D., Röhl, A., **Niu, F.**, Hendrayanto, Hölscher, D. Water use patterns of four tropical bamboo species assessed with sap flux measurements. *Frontiers in Plant Science* (2015) 6: 1202.
- Xu, B., **Niu, F.**, Duan, D., Xu, W., Huang, J. Root morphological characteristics of *Lespedeza davurica* (L.) intercropped with *Bothriochloa ischaemum* (L.) Keng under water stress and P application conditions. *Pakistan Journal of Botany*, (2012) 44: 1857–1864.
- Röhl, A., **Niu, F.**, Meijide, A., Ehbrecht, M., Guillaume, T., Gunawan, D., Hardanto, A., Hendrayanto, Kreft, H., Kuzyakow, Y., Nomura, M., Polle, A., Rembold, K., Sahrner, J., Seidel, D., Knohl, A., Hölscher, D. Patterns, controls of stand-scale transpiration after tropical rainforest transformation. In preparation.

\* Equal contribution

## CONFERENCE PRESENTATIONS

- Röll, A., **Niu, F.** (*presenter*), Hardanto, A., Mejjide, A., Hendrayanto, Knohl, A., Hölscher, D. Transpiration changes by transforming tropical rainforest to rubber and oil palm plantations. *Oral presentation*. "European Conference of Tropical Ecology" and the Annual Conference of the Society for Tropical Ecology (GTÖ), 2016, Göttingen, Germany
- Niu, F.**, Röll, A., Hardanto, A., Mejjide, A., Junedi, H., Herdhata, A., Hendrayanto, Knohl, A., Hölscher, D. Transpiration in an oil palm landscape: effects of palm age. *Oral presentation*. Annual Meeting of the Association for Tropical Biology and Conversation (ATBC), 2015, Honolulu, USA
- Niu, F.**, Röll, A., Hardanto, A., Hanf, A., Hendrayanto, Junedi, H., Köhler, M., Hölscher, D. Water use of oil palms: calibration of a sap flux method and first results. *Poster presentation*. Annual Meeting of the Ecological Society of Germany, Austria and Switzerland (GfÖ), 2014, Heidelberg, Germany

## SCIENTIFIC SKILLS

- Sap flux measurement (e.g., thermal dissipation probes, stem heat balance method, and heat field deformation method)
- Photosynthesis measurement by gas exchange analyzer (CIRAS-2 or Li-6400) or pulse-amplitude modulated chlorophyll fluorometer (IMAGING-PAM)
- Soil respiration measurement (EGM-4 connected to SRC-1 soil respiration chamber)
- Soil water content measurement (e.g., soil probe, neutron meter)
- Community survey and above-ground biomass measurement
- Proficient in statistical analysis software (Origin and R) and basic use of ArcGIS, QGIS, ImageJ, Photoshop, etc.

## GRANTS

- Fellowship of China Scholarship Council (2012 – 2016)
- Conference funding of the German Academic Exchange Service (July, 2015)

## LANGUAGES

- Chinese (native); English (proficient); German (beginner)

## MISCELLANEOUS

Chinese driver's license