

Arjan de Bruijn
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SUMMARY OF QUALIFICATIONS

- More than 8 years of experience in software development and GIS
- Fluent in most coding languages
- Developer of efficient code
- Hard-working
- Authorized to work in the USA
- Background in Bayesian and probabilistic statistics
- Spatial stochastic and deterministic biogeochemical simulation models
- Experienced in public speaking at international conferences and workshops
- Excellent communication, teamwork and problem solving skills
- Proven initiative in new approaches to forest demographic models
- Proficient in written and spoken English, German and Dutch

PUBLICATIONS

- De Bruijn, A.M.G., Gustafson, E.J., Sturtevant, B.R., Foster, J.R., Miranda, B.R., Lichti, N.I., Jacobs, D.F., 2014. Toward more robust projections of forest landscape dynamics under novel environmental conditions: Embedding PnET within LANDIS-II. *Ecological Modelling* 287: 44-57
- Gustafson, E.J., De Bruijn, A.M.G., Pangle, R.E., Limousin, J-M, McDowell, N.G., Pockman, W.T., Sturtevant, B.R., Muss, J.D., Kubiske, M.E., 2014. Integrating ecophysiology and forest landscape models to improve projections of drought effects under climate change. *Global Change Biology* 21 (2): 843-856
- Bruijn, A.M.G., Gustafson, E.J., Kashian, D.M., Dalglish, H.J., Sturtevant, B.R., Jacobs, D.F., 2014. Decomposition rates of American chestnut (*Castanea dentata*) wood and implications for coarse woody debris pools. *Canadian Journal of Forest Science* 44(12): 1575-1585.
- De Bruijn, A.M.G., Calanca, P., Ammann, C., Fuhrer, J., 2012. Differential long-term effects of climate change and management on stocks and distribution of soil organic carbon in productive grasslands. *Biogeosciences Discussions* 9: 1055-1096.
- De Bruijn, A.M.G., Grote, R., Butterbach-Bahl, K., 2011. An alternative modelling approach to predict emissions of N₂O and NO from forest soils. *European Journal of Forest Research*. 130: 755-773.
- De Bruijn, A.M.G., Butterbach-Bahl, K., 2010. Linking carbon and nitrogen mineralization with microbial responses to substrate availability—the DECONIT model. *Plant and Soil*. 328: 271-290
- De Bruijn, A.M.G., Butterbach-Bahl, K., Blagodatsky, S, Grote R, 2009. Model evaluation of different mechanisms driving freeze–thaw N₂O emissions. *Agriculture, ecosystems & environment*, 133: 196-207
- Braakhekke, W.G., De Bruijn, A.M.G., 2007. Modelling decomposition of standard plant material along an altitudinal gradient: A re-analysis of data of Couteaux et al.(2002). *Soil Biology and Biochemistry* 39: 99-105

PROFESSIONAL EXPERIENCE

PURDUE UNIVERSITY - West Lafayette, IN

2011- present

Post-doctoral Fellow

Purdue University, posted at USDA Forest Service Northern Research Station, Rhinelander, WI

- Developed a new simulation routine, “PnET-Succession,” using the programming language C# to simulate growth and spread of tree species and associated forest carbon sequestration.
- Submitted two manuscripts on models of forest competition and decomposition of coarse woody debris.

AGROSCOPE RECKENHOLZ TAENIKON – Zürich, Switzerland

2010-2011

ART tapped me for a short-term assignment because of my PhD research supported by the NitroEurope project in which my previous employers, ALTERRA B.V. and IMK-IFU, collaborated.

Post-doctoral Fellow

Agroscope Reckenholz-Tänikon Research Station, Zürich, Switzerland

- Simulated biomass and carbon dynamics in lowland grasslands in Switzerland.
- Published an article in the peer reviewed international journal Biogeosciences about interactions between grassland management and carbon and nitrogen cycling.

ALTERRA B.V. – Wageningen, Netherlands

2009-2010

Alterra B.V. is a research station specializing in animal population dynamics, agriculture, and sustainability with close ties to my alma mater, Wageningen University.

Scientific Programmer

Alterra B.V. Research Institute, Wageningen, Netherlands

Developed GIS applications for spatialecological models on dispersal patterns of plants and animal species in fragmented habitat according to metapopulation theory.

- Improved the Landscape ecological Analysis and Rules for the Configuration of Habitat (LARCH) model user interface which is a plug-in for ArcMap to analyse population viability given fragmented habitat.
- Expanded functionality of the metapopulation simulation model (METAPHOR) interface which operates as a standalone Windows program that uses GIS freeware to embed GIS capabilities into the program interface.

IMK-IFU - Garmisch-Partenkirchen, Germany

2006-2009

IMK-IFU is an internationally reclaimed research institute, with ties to several universities in Germany, amongst which the Albert-Ludwigs University in Freiburg im Breisgau, Germany where I obtained my PhD.

Research Assistant

2006-2009

- As part of EU's NitroEurope research project on nitrogen cycling, developed a model subroutine *DECONIT* that was published as an isolated program and later embedded in a larger modelling platform MoBiLE.
- Published three articles on simulation approaches to quantitative forest ecology and biogeochemical cycling in peer-reviewed international journals: Agriculture, Ecosystems and Environment, Plant and Soil, and the European Journal of Forestry Research.

EDUCATION

ALBERT LUDWIGS UNIVERSITY – Freiburg im Breisgau, Germany

2006-2009

PhD in Forest and Environmental Sciences, *magna cum laude*.

WAGENINGEN UNIVERSITY – Wageningen, Netherlands

1998-2005

MS. in Forestry and Environmental Sciences.

- Master's thesis on modelling decomposition kinetics published in Soil Biology and Biochemistry.

AMSTERDAM UNIVERSITY – Amsterdam, Netherlands

2001-2005

M.A. in Philosophy of Environmental Science.

- Master's thesis on the relationship between environmental science and public perception of environmental issues.

