

## List of publications Prof. Dr. Nicolas Brüggemann

### WoS-listed peer-reviewed journal articles

#### 2019

- Chen W, Zheng X, Wolf B, Yao Z, Liu C, Butterbach-Bahl K, **Brüggemann N**, 2019. Long-term grazing effects on soil-atmosphere exchanges of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O at different grasslands in Inner Mongolia: a soil core study. *Ecological Indicators* **105**, 316–328. doi:10.1016/j.ecolind.2017.09.035
- Gomes J, **Brüggemann N**, Dick DP, Pedroso GM, Veloso M, Bayer C. Urea and legume residues as <sup>15</sup>N-N<sub>2</sub>O sources in a subtropical soil. *Soil Research* **57**, 287–293. doi:10.1071/SR18300
- Kits KD, Jung MY, Vierheilig J, Pjevac P, Sedlacek CJ, Liu S, Herbold C, Stein LY, Richter A, Wissel H, **Brüggemann N**, Wagner M, Daims H, 2019. Low yield and abiotic origin of N<sub>2</sub>O formed by the complete nitrifier *Nitrospira inopinata*. *Nature Communications* **10**, 1836. doi:10.1038/s41467-019-09790-x
- Liu S, Schlöter M, Hu R, Vereecken H, **Brüggemann N**, 2019. Hydroxylamine contributes more to abiotic N<sub>2</sub>O production in soils than nitrite. *Frontiers in Environmental Sciences* **7**, art. 47. doi:10.3389/fenvs.2019.00047
- Klosterhalfen A, Graf A, **Brüggemann N**, Drüe C, Esser O, González-Dugo MP, Heinemann G, Jacobs CMJ, Mauder M, Moene AF, Ney P, Pütz T, Reibmann C, Ramos Rodríguez M, Scanlon TM, Schmidt M, Steinbrecher R, Thomas CK, Valler V, Zeeman MJ, Vereecken H, 2019. Source partitioning of H<sub>2</sub>O and CO<sub>2</sub> fluxes based on high-frequency eddy covariance data: a comparison between study sites. *Biogeosciences* **16**, 1111–1132. doi:10.5194/bg-16-1111-2019
- Meredith L, Ogée J, Boye K, Singer E, Wingate L, von Sperber C, Sengupta A, Whelan ME, Pang E, Keiluweit M, **Brüggemann N**, Berry JA, Welander PV, 2019. Soil exchange rates of COS and CO<sup>18</sup>O differ with the diversity of microbial communities and their carbonic anhydrase enzymes. *ISME Journal* **13**, 290–300. doi:10.1038/s41396-018-0270-2
- Quade M, Klosterhalfen A, Graf A, **Brüggemann N**, Hermes N, Vereecken H, Rothfuss Y, 2019. In-situ monitoring of soil water isotopic composition for partitioning of evapotranspiration during one growing season of sugar beet (*Beta vulgaris*). *Agricultural and Forest Meteorology* **266–267**, 53–64. doi:10.1016/j.agrformet.2018.12.002

#### 2018

- Quade M, **Brüggemann N**, Graf A, Vanderborght J, Vereecken H, Rothfuss Y, 2018. Investigation of kinetic isotopic fractionation of water during bare soil evaporation. *Water Resources Research* **54**, 6909–6928. doi:10.1029/2018WR023159
- Liu S, Schlöter M, **Brüggemann N**, 2018. Accumulation of NO<sub>2</sub><sup>-</sup> during periods of drying stimulates soil N<sub>2</sub>O emissions during subsequent rewetting. *European Journal of Soil Science* **69**, 936–946, doi:10.1111/ejss.12683
- Reichel R, Wei J, Islam MS, Schmid C, Wissel H, Schröder P, Schlöter M, **Brüggemann N**, 2018. Potential of wheat straw, spruce sawdust, and lignin as high organic carbon soil amendments to improve agricultural nitrogen retention capacity: an incubation study. *Frontiers in Plant Science* **9**, art. no. 900. doi:10.3389/fpls.2018.00900
- Wu D, Senbayram M, Zang H, Ugurlar F, Aydemir S, **Brüggemann N**, Kuzyakov Y, Bol R, Blagodatskaya E, 2018. Effect of biochar origin and soil pH on greenhouse gas emissions from sandy and clay soils. *Applied Soil Ecology* **129**, 121–127. doi:10.1016/j.apsoil.2018.05.009
- Stumpp C, **Brüggemann N**, Wingate L, 2018. Stable isotope approaches in vadose zone research. *Vadose Zone Journal* **17**, art. no. 180096. doi:10.2136/vzj2018.05.0096
- Wang J, Bogen H, Vereecken H, **Brüggemann N**, 2018. Characterizing redox potential effects on greenhouse gas emissions induced by water-level changes. *Vadose Zone Journal* **17**, art. no. 170152. doi:10.2136/vzj2017.08.0152
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- Fuhrmann I, He Y, Lehdorff E, **Brüggemann N**, Amelung W, Wassmann R, Siemens J, 2018. Nitrogen fertilizer fate after introducing maize and upland-rice into continuous paddy rice cropping systems. *Agriculture, Ecosystems & Environment* **258**, 162–171. doi:10.1016/j.agee.2018.02.021

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- Liu S, Han P, Hink L, Prosser JI, Wagner M, **Brüggemann N**, 2017. Abiotic conversion of extracellular  $\text{NH}_2\text{OH}$  contributes to  $\text{N}_2\text{O}$  emission during ammonia oxidation. *Environmental Science & Technology* **51**, 13122–13132. doi:10.1021/acs.est.7b02360
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- Wei J, Zhou M, Vereecken H, **Brüggemann N**, 2017. Large variability of  $\text{CO}_2$  and  $\text{N}_2\text{O}$  emissions and of  $^{15}\text{N}$  site preference of  $\text{N}_2\text{O}$  from reactions of nitrite with lignin and its derivatives at different pH. *Rapid Communications in Mass Spectrometry* **31**, 1333–1343. doi: 10.1002/rcm.7912
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balance of upland rice field in northern Benin. *Soil & Tillage Research* **163**, 152–159.

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## Invited talks

- Brüggemann N**, 2018. N<sub>2</sub>O production from reactive nitrification intermediates – A concerted action of biological and chemical processes. Institute Seminar, Institute of Mountain Hazard and Environment, Chinese Academy of Sciences, Chengdu, China, 17 September 2018.
- Brüggemann N**, 2017. How sustainable agricultural intensification can contribute to sustainable Bioeconomy. 2<sup>nd</sup> International Bioeconomy Congress, Hohenheim, Germany, 12-13 September 2017.
- Brüggemann N**, 2017. Chemical pathways of N<sub>2</sub>O production in soils – Controls and identification. Institute Seminar, Thünen Institute of Climate-Smart Agriculture, Braunschweig, Germany, 07 February 2017.
- Brüggemann N**, 2016. Naturschutz fängt im Boden an. Zukunftswerkshop 2016 „Integration des Naturschutzes in die agrarische Landnutzung“, Bundesamt für Naturschutz, Bonn, Germany, 6 July 2016.

- Brüggemann N**, 2016. The role of coupled biotic–abiotic reactions of nitrification intermediates in N cycling and N trace gas formation in soil. Institute Seminar, College of Resources and Environment, Huazhong Agricultural University, Wuhan, China, 30 June 2016.
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- Brüggemann N**, 2015. Recent advances in H<sub>2</sub>O, CO<sub>2</sub> and N<sub>2</sub>O stable isotope analysis in ecosystem research and its potential for long-term monitoring at Critical Zone Observatories. Seminar at the Institute of Geochemistry of the Chinese Academy of Sciences, Guiyang, PR China, 27 March, 2015.
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- Brüggemann N**, 2013. Use and fast detection of naturally and artificially stable-isotope-labeled compounds in ecosystem research. Seminar at the James Hutton Institute, Dundee, UK, 15 January 2013.
- Brüggemann N**, 2012. Isotopenuntersuchungen in der Biomasseforschung. “Sustainable Bioeconomy Colloquium”, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany, 28-29 November, 2012.
- Brüggemann N**, 2012. Use and fast detection of naturally and artificially stable-isotope-labeled compounds in ecosystem research. 11<sup>th</sup> International Symposium on the Synthesis and Applications of Isotopes and Isotopically Labelled Compounds, Heidelberg, Germany, 9-13 September, 2012.
- Brüggemann N**, 2012. Klimagasemissionen in der Landwirtschaft – „Brennpunkte“ und „heiße Phasen“. 27. Wissenschaftliche Fachtagung „Perspektiven in der Milchproduktion – Intensitäten, Ressourcennutzung, Umweltwirkungen“, Bonn, Germany, 29 February, 2012.
- Brüggemann N**, 2012. Carbon, oxygen and nitrogen isotope fluxes in the plant-soil-atmosphere system. Lecture at the King Saud University, College of Food and Agricultural Sciences, Riad, Saudi-Arabia, 25 February, 2012.
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## Dissertation

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