

Judy Simon

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Education

2014	“Umhabilitation”, Department of Biology, University of Konstanz, Germany; <i>venia legendi</i> “Ecology and Botany”
2013	“Habilitation”, Chair of Tree Physiology, University of Freiburg, Germany; <i>venia legendi</i> “Ecosystem Physiology”
2003 – 2007	PhD (Botany), University of Melbourne, Australia, School of Botany
2002	Diploma (Geography, Biogeography), Saarland University, Saarbrücken, Germany
1998-2002	studies of Biogeography, Saarland University, Saarbrücken, Germany
1995-1998	studies of Biology / Geography, RWTH Aachen, Aachen, Germany
1993-1995	vocational training at the Rheinische Akademie e.V. Köln, Cologne, Germany (biological technical assistant)

Academic and Professional Career

2017 – 2022	Group leader “Plant Interactions Ecophysiology”, Department of Biology, University of Konstanz, Germany
2014 – 2016	Interim Leader “Plant Physiology and Biochemistry” and member of the Board of Directors of the Botanical Garden, Department of Biology, University of Konstanz, Germany
2014	Junior Group Leader, Plant Physiology and Biochemistry Group, Department of Biology, University of Konstanz, Germany (Apr-Sep)
2014	Lecturer at the Faculty of Environment and Natural Resources, University of Freiburg, Germany (Feb-Mar)
2013 – 2014	Guest Scientist at the Ecology Lab (Mark van Kleunen), University of Konstanz, Germany
2011 – 2014	Margarete von Wrangell Fellow, Chair of Tree Physiology, University of Freiburg, Germany
2006 – 2010	Postdoctoral Research Fellow, Institute of Forest Botany and Tree Physiology, Chair of Tree Physiology, University of Freiburg, Germany

Project coordination

- 2009 – 2010 coordinator of the set-up of the pre-proposal for the research training group (Graduiertenkolleg) “Adaptation of managed forests to regional climate change – model region Upper Rhine Valley”, Chair of Tree Physiology, University of Freiburg, Germany
- 2006 – 2009 coordinator (part-time) of the DFG research unit FOR 788, Chair of Tree Physiology, University of Freiburg, Germany

Functions in committees, representative

- 2020 – member of the Executive Board of the Graduate School Biological Sciences, University of Konstanz, Germany
- 2018 equal opportunities officer for the Faculty of Sciences, University of Konstanz, Germany (Apr-Sep)
- 2018 – 2019 equal opportunities officer for the appointment committee “Systems Toxicology” at the University of Konstanz, Germany
- 2017 – subject editor for the journal *European Journal of Forest Research*
- 2017 – 2019 guest editor for *Frontiers in Plant Science – Functional Plant Ecology*, Research Topic “Plant secondary compounds in forest ecosystems under global change: from defense to carbon sequestration”
- 2016 – 2017 equal opportunities officer for the appointment committee “Limnology (Aquatic Ecology)” at the University of Konstanz, Germany
- 2014 – associate editor for *Frontiers in Plant Science – Functional Plant Ecology*
- 2013 – member of the *Tree Physiology* Editorial Review Board
- 2013 – 2015 guest editor for *Frontiers in Plant Science – Functional Plant Ecology*, Research Topic “Plant competition in a changing world” (invited topic)
- 2012 – member of the BES (British Ecological Society) Review College
- 2011 – 2012 contact person of the faculty mentoring programme at the Faculty of Forest and Environmental Sciences, University of Freiburg
- 2010 – 2011 contact person for “FUTURA Mentoring” of the Faculty of Forest and Environmental Sciences, University of Freiburg
- 2010 representative of the University of Freiburg at the Worldwide Universities Network Global Challenge Workshop “Adapting to Climate Change”, Pennsylvania State University, State College, USA
- 2008 – 2010 mentor within “FUTURA Mentoring”, University of Freiburg
- 2004 – 2005 committee member (Treasurer), School of Botany postgraduate student group, University of Melbourne, Melbourne, Australia

Functions in committees, representative (cont.)

2004 – 2005 student representative on School of Botany Curriculum Committee and Postgraduate Studies Committee, University of Melbourne, Melbourne, Australia

Research grants

Total of c. 1,457,438€ as PI

2021 – 2022 Woody plants – Interactions and resource allocation strategies (PI, 195,600€) – DFG Heisenberg Fellowship extension

2020 – 2021 New mechanisms of organic nitrogen acquisition by woody plants (PI, 10,000€) – University of Konstanz, Germany, Blue Sky Research Endeavours 2020

2019 – 2022 Adaptation strategies of beech forests to changing environmental conditions at different management intensities (PI, 261,235€) – Waldklimafonds (FNR, BMEL, BMU), in collaboration with colleagues from the University of Göttingen (Germany) and the University of Freiburg (Germany)

2019 Rhizosphere processes in forests (PI, 12,000€) – University of Konstanz, Germany, Committee on Research

2018 – 2020 New transparent soil microcosms for live assessment of competition for nitrogen in the rhizosphere (PI, 108,200€) – VolkswagenStiftung (“Experiment!”), in collaboration with Lionel Dupuy (James Hutton Institute, Dundee, Scotland, UK)

2018 Soil organic matter decomposition in forest ecosystems under global change (PI, 4,041€) – University of Konstanz, start-up funding, in collaboration with Bartosz Adamczyk (Natural Resources Institute Finland, Helsinki, Finland)

2018 Woody Plants Interactions (PI, 10,000€) – University of Konstanz, Committee on Research

2018 Development of a “transparent soil” microcosm system (PI, 3,390€), University of Konstanz, International Office start-up funding, in collaboration with Lionel Dupuy (James Hutton Institute, Dundee, Scotland, UK)

2017 – 2020 Woody plants – Interactions and resource allocation strategies (PI, 181,255€), DFG Heisenberg Fellowship

2017 – 2021 Consequences of competition and abiotic stress on the acquisition and internal allocation of nitrogen in temperate woody species” (PI, 318,000€), DFG Individual Research Grant (“Sachbeihilfe”)

Research grants (cont.)

2017 – 2020	Belowground functional traits of plants as drivers of biodiversity and ecosystem functions”, associated investigator in collaboration with Mark van Kleunen (University of Konstanz, PI), Matthias Rillig (FU Berlin, co-PI), DFG Priority Programme 1374 – Biodiversity Exploratories
2017	Influence of mycorrhizae on the competition for different nitrogen sources in deciduous tree species (PI, 8,722€) – University of Konstanz, Young Scholar Fund
2016	Competition for nitrogen between woody species and invasive grasses (PI, 23,000€) – University of Konstanz, Young Scholar Fund
2016	Plant interactions (PI, 12,000€) – University of Konstanz, Committee on Research
2015	Intra- and interspecific competition for different nitrogen sources in a temperate forest community (PI, 9,955€) – University of Konstanz, Young Scholar Fund
2015	Plant interactions in temperate forest ecosystems (PI, 10,000€) – University of Konstanz, Committee on Research
2015	Plant interactions in the rhizosphere of forest ecosystems (PI, 17,420€) – University of Konstanz, EU start-up funding
2014 – 2015	Competition for nitrogen in (sub-) tropical forest ecosystems (PI, 57,120€) – University of Konstanz, Young Scholar Fund
2013 - 2014	Plant invasions – Competitive advantage due to higher N use efficiency or optimised N acquisition strategies (PI) (15,500€) – University of Freiburg, Research Innovation Fund grant
2011 – 2014	Effects of climate change on the competition for nitrogen in temperate forest ecosystems (PI) (200,000€) – Ministry of Science, Research and the Arts Baden-Württemberg / European Social Fund
2009 – 2012	Competition between plants and soil microorganisms for nitrogen in beech-dominated deciduous forests (associated Postdoctoral Research Fellow, co-supervision of 2 PhD students) (160,000€) – German Research Foundation (DFG) joint research consortium
2006 – 2009	Competitive mechanisms of water and nitrogen partitioning in beech-dominated deciduous forests (associated Postdoctoral Research Fellow, co-supervision of 2 PhD students) (170,000€) – German Research Foundation (DFG) research unit FOR 788

Advanced training

2018	EMBL course “Fundamentals of Widefield and Confocal Microscopy and Imaging”, EMBL Heidelberg, Germany (Jun)
2017	visiting researcher at the group of Bartosz Adamczyk, Department of Food and Environmental Sciences, University of Helsinki, Helsinki, Finland (Jun)
2015	Workshop “International Summer Sessions in Metabolomics”, West Coast Metabolomics Center, UC Davis, USA (Aug/Sep)
2012 – 2013	e-learning certificate, University of Freiburg, Freiburg, Germany (76 UE module basics, 28 UE module implementation)
2012 – 2013	participation in the programme “English Support for Lecturers”
2007 – 2010	„Hochschuldidaktik-Zertifikat“, Baden-Württemberg (20 ECTS), university teaching certificate
2007	visiting researcher at the Forest Molecular Biology and Genetics Research Group, Department of Forest and Ecosystem Science, University of Melbourne, Creswick, Australia (Nov)

Academic Awards, Achievements, Scholarships

2017 – 2022	Heisenberg Fellowship (DFG, German Research Foundation)
2011 – 2014	Margarete von Wrangell Fellowship (within the Margarete von Wrangell habilitation programme for women)
2003 – 2006	Melbourne International Research Scholarship, The University of Melbourne, Australia
	Melbourne International Fee Remission Scholarship, The University of Melbourne, Australia
2003	John S. Turner Postgraduate Scholarship, School of Botany, The University of Melbourne, Australia

Professional contributions

Scientific

memberships

British Ecological Society (BES), Ecological Society of Germany, Austria and Switzerland (GfÖ), Federation of the European Societies of Plant Biology (FESPB), German Association for Stable Isotope Research (GASIR), German Botanical Society (DBG), German Society for Mass Spectrometry (DGMS), International Association for Ecology (Intecol), International Society of Root Research (ISRR)

Professional contributions (cont.)

Reviewer The University of Melbourne, Melbourne, Australia
 National Sciences and Engineering Research Council of Canada
 LabEX ARBRE, INRA, Nancy, France

Acta Oecologica; Acta Physiologiae Plantarum; African Journal of Agricultural Research; Agriculture, Ecosystems & Environment; Catena; Allgemeine Forst- und Jagdzeitung; Ecological Entomology; Environmental and Experimental Botany; European Journal of Forest Research; Forests; Frontiers in Functional Plant Ecology; Frontiers in Plant Nutrition; Functional Ecology; Geoderma; International Journal of Biometeorology; New Phytologist; Oecologia; Perspectives in Plant Ecology, Evolution and Systematics; Physiologia Plantarum; Plant Biology; Plant Cell Reports; Plant & Soil; PLoS ONE; Soil Biology & Biochemistry; Soils; Tree Physiology; Trees – Structure & Function; Trees Genetics and Genomes

Conference / session organiser

2012 Organisation of the session “Soil ecology in a changing world” at the Annual Meeting of the Ecological Society of Germany, Austria and Switzerland. September 2012, Lüneburg, Germany

2007 Organisation of the satellite meeting of the Beech Research Group “Competitive mechanisms of water and nitrogen partitioning in beech-dominated deciduous forests” at the 4th International Symposium on Dynamics of Physiological Processes in Roots of Woody Plants. September 2007, Bangor, Wales, UK

Teaching

2019 Erasmus+ Teaching Staff Mobility at the Plant Ecophysiology Group, University of Copenhagen, Denmark (5 days in April)

2014 – Lecturer, University of Konstanz, Germany

2007 – 2014 Lecturer, University of Freiburg, Germany

2004 – 2005 Practical demonstrator (1st year Biology and Chemistry), University of Melbourne, Australia

Various basic and advanced lectures, seminars, practical courses in laboratory and field on plant ecology / ecophysiology / scientific soft skills at under- and postgraduate level in German and English

Mentoring and coaching

- 2011 – 2012 contact person of the faculty mentoring programme at the Faculty of Forest and Environmental Sciences, University of Freiburg
- 2010 – 2011 contact person for “FUTURA Mentoring” of the Faculty of Forest and Environmental Sciences, University of Freiburg
- 2008 – 2010 Mentor within “FUTURA Mentoring”, University of Freiburg

Oral Presentations

- 2020 **Simon J.** Plant-soil interactions and the significance of nitrogen form. Justus Liebig University Giessen (invited talk, interview for W2-professorship “Plant Nutrition”)
- 2020 **Simon J.** The relevance of nitrogen form for plant-soil interactions. Hochschule Geisenheim University (invited talk, interview for W3-professorship “Plant Nutrition and Soil Science”)
- 2020 **Simon J.** Significance of organic nitrogen for rhizosphere interactions in forest ecosystems under global change. Universität Hamburg, Germany (invited talk, interview for Heisenberg professorship (W3) “Functional Forest Ecology”)
- 2020 **Simon J.** The role of organic N sources in tree-tree interactions as a consequence of climate change and invasive species. OrgN 2020 – International workshop on organic nitrogen and plant nutrition – from molecular mechanisms to ecosystems, Ascona, Switzerland
- 2019 **Simon J.** “Transparent soil” – A new tool to study the competition for nitrogen in trees. VW Symposium “Forum Experiment! 2019”, Hannover, Germany (invited talk)
- 2019 **Simon J.** Forests under global change – Climate stress and invasions. Symposium “Was Frauen forschen – Ein wissenschaftliches Kaleidoskop”, Verband Baden-Württembergischer Wissenschaftlerinnen, Stuttgart, Germany (invited talk)
- 2019 **Simon J.** Responses of tree interactions to climate change and invasive species. Rhizosphere 5, Saskatoon, Canada
- 2018 **Simon J.** Influence of mycorrhiza on the competition for different N sources in deciduous tree species. Annual Meeting of the British Ecological Society, Birmingham, UK
- 2018 **Simon J.** Rhizosphere interactions – Significance of climate change and plant invasions. Goethe University Frankfurt, Frankfurt/Main, Germany (invited talk, interview for W2-professorship “Plant Ecology”)
- 2018 **Simon J.** Responses of woody seedlings to climate change and invasive species. James Hutton Institute, Dundee, Scotland, UK (invited talk)
- 2018 **Simon J.** Nitrogen acquisition in native tree communities is influenced by climate change and invasive tree species. Forstwissenschaftliche Tagung, Göttingen, Germany

Oral Presentations (cont.)

- 2018 **Simon J.** Plant interactions and the potential influence by invasive species on the competition for nitrogen. Annual Meeting of the American Society of Plant Biologists, Environmental and Ecological Plant Physiology (EPPP) Section, Montréal, Canada (invited talk)
- 2017 **Simon J.** Competition, avoidance, or facilitation? Regulation of nitrogen acquisition in woody species. University of Helsinki, Department of Food and Environmental Sciences, Helsinki, Finland (invited talk)
- 2017 **Simon J.** Competition for nitrogen in a native forest community and the potential influence by invasive species. PopBio 2017, Halle, Germany
- 2017 **Simon J.** Plant interactions in the rhizosphere. Experimental Ecology Interaction Group, German Centre for Integrative Biodiversity Research (iDiv), Halle-Jena-Leipzig, Germany (invited talk)
- 2017 **Simon J.** Woody plants: interactions and resource allocation strategies. University of Konstanz, Department of Biology, Ecology group seminar, Konstanz, Germany
- 2017 **Simon J.** Woody PIRATS. University of Konstanz, Department of Biology, Plant Physiology & Biochemistry group seminar, Konstanz, Germany
- 2017 **Simon J.** Plant interactions in the rhizosphere – Regulation of nitrogen acquisition. The Swedish OIKOS Meeting 2017, Lund, Sweden
- 2016 **Simon J.** The battle for nitrogen in the rhizosphere. 46th Annual Meeting of the Ecological Society of Germany, Austria and Switzerland, Marburg, Germany
- 2016 **Simon J.** Rhizosphere interactions – the battle for nitrogen? SLU, Umea, Sweden (invited talk)
- 2014 **Simon J.** The dark and evil side of plants. “Antrittsvorlesung”, University of Konstanz, Germany
- 2014 **Simon J.** Plant interactions – Regulation of nitrogen acquisition in temperate forest ecosystems. University of Queensland, Brisbane, Australia
- 2014 **Simon J.** Competition and environment regulate plant nitrogen acquisition. University of Wageningen, Wageningen, The Netherlands (invited talk)
- 2014 **Simon J.** Plant nitrogen acquisition is regulated by competition and environmental factors. Forschungszentrum Jülich, Jülich, Germany
- 2014 **Simon J.** Regulation of plant nitrogen acquisition in woody species: competition, avoidance, or facilitation? University of Freiburg, Freiburg, Germany (invited talk, interview for W3-professorship “Ecosystem Physiology”)
- 2014 **Simon J.** Cyanogenic glycosides as defence strategy of plants against herbivory. University of Konstanz, Konstanz, Germany
- 2013 **Simon J.** Plant interactions – Competition, avoidance or facilitation for growth-limiting nitrogen? University of Cologne, Cologne, Germany (invited talk, interview for W2-professorship “Botany”)

Oral Presentations (cont.)

- 2013 **Simon J.** Competition for nitrogen – Consequences of environmental factors on the strategies of plants. TU Darmstadt, Darmstadt, Germany (invited talk, interview for W2-professorship “Chemical Plant Ecology”)
- 2013 **Simon J.**, van Kleunen M. Plant invasions – Competitive advantage due to higher N use efficiencies or optimised N acquisition strategies? Intecol, London, UK
- 2013 **Simon J.** P acquisition of plants in semi-arid environments. Symposium “Agricultural and forestry strategies for regeneration of degraded soils on the loess plateau” (AgriFORGE), Yangling, China (invited talk)
- 2012 **Simon J.**, Dong F., Rienks M., Rennenberg H. Plant-microbial interactions controlling nitrogen partitioning in beech forests. 42nd Annual Meeting of the Ecological Society of Germany, Austria and Switzerland, Lüneburg, Germany
- 2011 **Simon J.**, Rennenberg H. Competition for nitrogen between adult European beech and its offspring is reduced by avoidance strategy, British Ecological Society (BES) Annual Symposium 2011: Forests and Global Change, Cambridge, UK
- 2009 **Simon J.**, Dannenmann M., Kögel-Knabner I., Mayer H., Polle A., Schloter M., Rennenberg H. Significance of N uptake in European beech (*Fagus sylvatica* L.) for the competition for N in the rhizosphere, 10th International Congress of Ecology, Brisbane, Australia
- 2007 **Simon J.** Girdling of beech trees – Effects on N uptake and N metabolism in roots, 4th International Symposium on Physiological Processes in Roots of Woody Plants, Bangor, Wales, UK

Supervision

Postgraduates

- (10) Influence of abiotic and biotic factors on tree nutrition and chemical defence (PhD student from Germany, start 05/2020, University of Konstanz)
- (9) Development of transparent soil microcosms for nitrogen acquisition in the rhizosphere (MSc student from Germany, 07/2019-02/2020, University of Konstanz)
- (8) Consequences of competition and abiotic stress on the acquisition and internal allocation of nitrogen in temperate woody species (PhD student from Germany, start 07/2017, University of Konstanz)
- (7) Belowground functional traits of plants as drivers of biodiversity and ecosystem functions (PhD student from France, start 04/2017, co-supervision, University of Konstanz)
- (6) Competition for nitrogen in (sub-) tropical and temperate forest ecosystems. (PhD student from Venezuela, 10/2014-12/2019, University of Konstanz)
- (5) Influence of water availability and temperature on the competition for nitrogen between European beech and soil microorganisms. (PhD student from Bosnia-Herzegovina, start 07/2010, co-supervision, University of Freiburg)

Supervision (cont.)

Postgraduates (cont.)

- (4) Influence of water and nitrogen availability on the competition between European beech and sycamore maple for soil nitrogen sources (PhD student from China, 03/2010-07/2015, co-supervision, University of Freiburg)
- (3) The significance of NO and CO₂ as signal substances in the competition for nitrogen between beech and soil microorganisms (PhD student from China, 09/2009-07/2015, co-supervision, University of Freiburg)
- (2) Influences of air warming and / or drought on different oak species and provenances (PhD student from China, 08/2009-02/2013, co-supervision, University of Freiburg)
- (1) Effects of drought stress on nitrogen uptake and metabolisms in European beech. (PhD student from China, 01/2008-02/2013, co-supervision, University of Freiburg)

Undergraduates

- (21) Consequences of water availability on soil degradation in unmanaged forests (BSc, 01/2021-04/2021, University of Konstanz)
- (20) Consequences of competition and N availability on the amino acid pools in different temperate tree species (BSc, 04/2019-07/2019, University of Konstanz)
- (19) Consequences of competition and nitrogen availability on nitrogen fluxes in the rhizosphere (BSc, 05/2018-08/2018, University of Konstanz)
- (18) Acquisition of inorganic and organic nitrogen in temperate tree species with varying soil nitrogen availability in response to competition (BSc, 05/2018-08/2018, University of Konstanz)
- (17) Consequences of competition on the acquisition of inorganic and organic nitrogen in temperate tree species with varying soil nitrogen availability (BSc, 05/2018-08/2018, University of Konstanz)
- (16) N pools in leaves of temperate woody species (BSc, 05/2017-07/2017, University of Konstanz)
- (15) Primary and secondary metabolites in leaf litter of different species (BSc, 05/2016-08/2016, University of Konstanz)
- (14) Drought influences on the competition between *Fagus sylvatica* and *Quercus petraea*. (BSc, 05/2014-09/2014, University of Konstanz)
- (13) Comparison of organic and inorganic nitrogen acquisition of potentially invasive and non-invasive plant species. (BSc, 04/2014-06/2014, University of Freiburg)
- (12) Consequences of herbivory on the nutritional status and chemical defence in willow and birch. (BSc, 06/2013-09/2013, University of Freiburg)
- (11) Consequences of herbivory on the nutritional status and chemical defence in poplar. (BSc, 04/2013-07/2013, University of Freiburg)
- (10) Consequences of abiotic stress on N uptake in plants. (BSc, 03/2013-06/2013, University of Freiburg)
- (9) Influence of drought on four beech (*Fagus sylvatica* L.) provenances. (Erasmus, 07/2012-03/2013, co-supervision, University of Freiburg)
- (8) Influence of drought on different geographical beech (*Fagus sylvatica* L.) provenances. (BSc, 06/2012-09/2012, University of Freiburg)

Supervision (cont.)

Undergraduates (cont.)

- (7) N uptake in degraded forest ecosystems in the Qinling Mountains, China. (BSc, 05/2012-07/2012, University of Freiburg)
- (6) Do high levels of phenolic compounds protect trees against herbivory by the beaver? (BSc, 11/2011-02/2012, University of Freiburg)
- (5) The significance of NO as signal substance in the competition for nitrogen between pine (*Pinus sylvestris*) and soil microorganisms. (BSc, 05/2011-08/2011, University of Freiburg)
- (4) Effects of light availability on the competition between European beech (*Fagus sylvatica* L.) and sycamore maple (*Acer pseudoplatanus* L.) for growth patterns and inorganic and organic N uptake. (Diploma, 10/2010-03/2011, co-supervision, University of Freiburg)
- (3) Effects of reduced water supply and competition on nitrogen uptake and partitioning in European beech (*Fagus sylvatica* L.) seedlings. (Diploma, 11/2009-07/2010, co-supervision, University of Freiburg)
- (2) Experimental analysis of N uptake by *Cenococcum geophilum* Fr. using stable isotopes. (Diploma, 10/2008-07/2009, co-supervision, University of Freiburg)
- (1) Competition between European beech (*Fagus sylvatica* L.) and sycamore maple (*Acer pseudoplatanus* L.) for inorganic and organic N sources. (BSc, 08/2008- 12/2008, co-supervision, University of Freiburg)