

Curriculum vitae and list of publications

Name and academic title	Gerhard Gebauer, Prof. Dr.
Date of birth, sex	25.08.1956, male
Institution and department	University of Bayreuth BayCEER - Laboratory of Isotope Biogeochemistry,
Postal address	University of Bayreuth 95440 Bayreuth, Germany
Telephone at the institution	+49 (0)921 / 55 2060
E-mail-address	gerhard.gebauer@uni-bayreuth.de
Position and status	Akademic Director, extraordinary Professor

Academic Education

11/1977-09/1983 Studies of Biology, Chemistry and Geography (State Examination),
Technical University of Munich

Scientific Degrees

1987 Graduation (Dr. rer. nat. "summa cum laude"), Technical University of
Munich, Prof. Dr. H. Rehder

1995 Habilitation in Botany, University of Bayreuth, Prof. Dr. E.-D. Schulze

Scientific Career

10/1983-04/1987 Research Associate, Technical University of Munich

05/1987-05/1995 Research Associate, University of Bayreuth

06/1995-09/2005 Academic Supervisor and Lecturer at the Department of Plant Ecology,
University of Bayreuth

Since 05/2003 Extraordinary Professor, University of Bayreuth

Since 10/2005 Head of the BayCEER – Laboratory of Isotope Biogeochemistry,
University of Bayreuth

Scientific activities and awards

- Mattauch-Herzog Award by the German Association of Mass Spectrometry (DGMS) for "New Applications of Isotope Mass Spectrometry in Plant Ecophysiology" (1993)
- Speaker of the German Association of Stable Isotope Research (1993-1997)
- Editorial Board of the international scientific journal "Isotopes in Environmental and Health Studies" (since 1993)
- Reviewer for Nature, New Phytologist, Global Change Biology, Oecologia, Biogeochemistry and many other international journals
- Reviewer for several national and international funding agencies

Research grants

2008-2012: German Science Foundation (DFG GE 565/6-3) Quantification and process analysis of biogenic trace gas fluxes: PI

2009-2012: German Science Foundation (TERRECO WP 3-04) Comparisons of N₂O and CH₄ fluxes as affected by land use systems and climate in small catchments in Korea: PI

2006-2010: German Science Foundation (DFG GE 565/7-1) Partial mycoheterotrophy in orchids: PI

- 2008-2009: Bavarian Californian Technology Center (BaCaTeC) Nitrogen transport between mycorrhizal fungi and mycoheterotrophic plants: PI
- 2005-2009: German Science Foundation (DFG GE 565/6-2) Quantification and process distinction of biogenic trace gas fluxes: PI
- 2000-2003: European Union (EU-FORCAST) Forest carbon – nitrogen trajectories: PI
- 1998-2000: Bayreuth Institute of Terrestrial Ecology (BITÖK-A8) Above ground uptake of nitrogen: PI
- 1997-1999: European Union (EU-COGANOG) Controlling gaseous nitrogen oxide emissions from grassland farming systems in Europe: PI
- 1996-1999: European Union (EU-CANIF) Carbon and nitrogen cycling in forest ecosystems: Co-PI (PI E.-D. Schulze)
- 1997: German Science Foundation (DFG GE 565/5-1) Travel grant
- 1997-1998: German Science Foundation (DFG GE 565/4-1) Nitrate metabolism in trees with different wood anatomy (*Fagus sylvatica* L. and *Quercus petraea* [Matt.] Liebl.): PI
- 1996: German Science Foundation (DFG GE 565/3-1) Travel grant
- 1995-1997: Bayreuth Institute of Terrestrial Ecology (BITÖK-N4) Above ground uptake of nitrogen: Co-PI (PI E.-D. Schulze)
- 1995-1997: Bayreuth Institute of Terrestrial Ecology (BITÖK-N5) Uptake of ammonium and nitrate in forest trees: Co-PI (PI E.-D. Schulze)
- 1993-1996: European Union (EU-NIPHYS) Nitrogen physiology of forest plants and soils: Co-PI (PI E.-D. Schulze)
- 1989-1996: German Science Foundation (DFG GE 565/2-1, GE 565/2-2, GE 565/2-3) Nitrate reduction in *Fraxinus excelsior* L. and *Quercus robur* L. at different nitrogen supply: PI

Teaching and supervising experiences

Lectures on

- Plant Ecology
- Plant Ecophysiology
- Isotope Biogeochemistry
- Terrestrial Ecosystems and Global Change
- Mountain Vegetation

Courses on

- Plant Ecology
- Plant Ecophysiology
- Stable Isotope Applications
- Plant Functional Anatomy
- Gas Fluxes in Ecosystems

Botanical field excursions to

- Turkey
- Tenerife
- S California
- Arizona/Baja California
- Austrian Alps

Supervision of graduate students

- Jutta Stadler 1989: Diploma
- Gabriele Bruckner 1990: Diploma
- Frank Voß 1993: Diploma

- Christoph May 1995: Diploma
- Markus Meyer 1998: State Examination
- Martina Strobel 1998: State Examination
- Jutta Lauf 1998: PhD
- Nicole Wrage 1999: Diploma
- Christoph May 1999: PhD
- Jens Tilsner 1999: Diploma
- Andreas Bock 2003: State Examination
- Tobias Luschner 2003: State Examination
- Bastian Burghardt 2004: State Examination
- Stefanie Goldberg 2006: Diploma
- Jan Muhr 2006: Diploma
- Katja Zimmer 2006: Diploma
- Cornelia Meyer 2006: Diploma
- Marcus Stöckel 2007: State Examination
- Heiko Liebel 2007: Diploma
- Stefanie Goldberg 2009: PhD
- David Eichenberg 2009: Diploma
- Johanna Pausch 2009: Diploma
- Iris Adam 2009: Diploma
- Katja Preiß 2009: PhD
- Julia Köpp 2009: Diploma
- Janine Sommer 2010: Diploma
- Maria Podszus 2010: Diploma
- Sina Berger 2010: MSc.

Publications

Publications in peer reviewed journals

82. Menzel F., Staab M., Chung A.Y., Gebauer G., Blüthgen N. (2011): Trophic ecology of parabiocotic ants: Do the partners have similar food niches? **Austral Ecology** In press.
81. Girlanda M., Segreto R., Cafasso D., Liebel H., Rodda M., Cozzolino S., Gebauer G., Perotto S. (2011): Photosynthetic Mediterranean meadow orchids feature partial mycoheterotrophy and specific mycorrhizal associations. **American Journal of Botany** 98: 1148-1163.
80. Liebel H.T., Gebauer G. (2011): Stable isotope signatures confirm carbon and nitrogen gain through ectomycorrhizas in the ghost orchid *Epipogium aphyllum* Swartz. **Plant Biology** 13: 270-275.
79. Waterman R.J., Bidartondo M.I., Stofberg J., Combes J.K., Gebauer G., Savolainen V., Barraclough T.G., Pauw A. (2011): The effects of above and below ground mutualisms on orchid speciation and co-existence. **American Naturalist** 177: E54-E68.
78. Stöckel M., Meyer C., Gebauer G. (2011): The degree of mycoheterotrophic C gain in green, variegated and vegetative albino individuals of *Cephalanthera damasonium* is related to leaf chlorophyll concentrations. **New Phytologist** 189: 790-796.
77. Merckx V., Stöckel M., Fleischmann A., Bruns T.D., Gebauer G. (2010): ¹⁵N and ¹³C natural abundance of two mycoheterotrophic and a putative partially mycoheterotrophic species associated with arbuscular mycorrhizal fungi. **New Phytologist** 188: 590-596.
76. Liebel H.T., Bidartondo M.I., Preiss K., Segreto R., Stöckel M., Rodda M., Gebauer G. (2010): C and N stable isotope signatures reveal constraints to nutritional modes in orchids of the Mediterranean and Macaronesia. **American Journal of Botany** 97: 903-912.
75. Feldhaar H., Gebauer G., Blüthgen N. (2010): Stable isotopes: Past and future in exposing secrets of ant nutrition (Hymenoptera: Formicidae). **Myrmecological News** 13: 3-13.
74. Preiss K., Adam I.K.U., Gebauer G. (2010): Irradiance governs exploitation of fungi: Fine-tuning of carbon gain by partially myco-heterotrophic orchids. **Proceedings of the Royal Society London B** 277: 1333-1336.
73. Bihn J.H., Gebauer G., Brandl R. (2010): Loss of functional diversity of ant assemblages in secondary tropical forests. **Ecology** 91: 782-792.
72. Goldberg S.D., Knorr K.-H., Blodau C., Lischeid G., Gebauer G. (2010): Impact of altering the water table height of an acidic fen on N₂O and NO fluxes and soil concentrations. **Global Change Biology** 16: 220-233.
71. Goldberg S.D., Borken W., Gebauer G. (2010): N₂O emission in a Norway spruce forest due to soil frost – Concentration and isotope profiles shed a new light on an old story. **Biogeochemistry** 97: 21-30.
70. Goldberg S.D., Gebauer G. (2009): N₂O and NO fluxes between a Norway spruce forest soil and atmosphere as affected by prolonged summer drought. **Soil Biology and Biochemistry** 41: 1986-1995.
69. Cameron D.D., Preiss K., Gebauer G., Read D.J. (2009): The chlorophyll containing orchid *Corallorhiza trifida* derives little carbon through photosynthesis. **New Phytologist** 183: 358-364.

68. Hynson N.A., Preiss K., Gebauer G., Bruns T.D. (2009): Isotopic evidence of full and partial myco-heterotrophy in the plant tribe Pyroleae (Ericaceae). **New Phytologist** 182: 719-726.
67. Hynson N.A., Preiss K., Gebauer G. (2009): Is it better to give than receive? A stable isotope perspective to orchid-fungal carbon transport in the green orchid species *Goodyera repens* and *Goodyera oblongifolia*. **New Phytologist** 182: 8-11.
66. Goldberg S.D., Gebauer G. (2009): Drought turns a Central European Norway spruce forest soil from an N₂O source to a transient N₂O sink. **Global Change Biology** 15: 850-860.
65. Ogura-Tsujita Y., Gebauer G., Hashimoto T., Umata H., Yukawa T. (2009): Evidence for novel and specialised mycorrhizal parasitism: the orchid *Gastrodia confusa* gains carbon from saprotrophic *Mycena*. **Proceedings of the Royal Society London B** 276: 761-767.
64. Preiss K., Gebauer G. (2008): A methodological approach to improve estimates of nutrient gains by partially myco-heterotrophic plants. **Isotopes in Environmental and Health Studies** 44: 393-401.
63. Goldberg S.D., Knorr K.H., Gebauer G. (2008): N₂O concentration and isotope signature along profiles provide deeper insight into the fate of N₂O in soils. **Isotopes in Environmental and Health Studies** 44: 377-391.
62. Goldberg S.D., Muhr J., Borken W., Gebauer G. (2008): Fluxes of climate-relevant trace gases between a Norway spruce forest soil and atmosphere during repeated freeze/thaw cycles in mesocosms. **Journal of Plant Nutrition and Soil Science** 171: 729-739.
61. Muhr J., Goldberg S.D., Borken W., Gebauer G. (2008): Repeated drying/rewetting cycles and their effects on the emission of CO₂, N₂O, NO_x and CH₄ in a forest soil. **Journal of Plant Nutrition and Soil Science** 171: 719-728.
60. Zimmer K., Meyer C., Gebauer G. (2008): The ectomycorrhizal specialist orchid *Corallorhiza trifida* is a partial myco-heterotroph. **New Phytologist** 178: 395-400.
59. Fiedler K., Kuhlmann F., Schlick-Steiner B.C., Steiner F.M., Gebauer G. (2007): Stable N-isotope signatures of central European ants – assessing positions in a trophic gradient. **Insectes Sociaux** 54: 393-402.
58. Zimmer K., Hynson N.A., Gebauer G., Allen E.B., Allen M.F., Read D.J. (2007): Wide geographical and ecological distribution of nitrogen and carbon gains from fungi in pyroloids and monotropoids (Ericaceae) and in orchids. **New Phytologist** 175: 166-175.
57. Abadie J.-C., Püttsepp Ü., Gebauer G., Faccio A., Bonfante P., Selosse M.-A. (2006): *Cephalanthera longifolia* (Neottieae, Orchidaceae) is mixotrophic: a comparative study between green and non-photosynthetic individuals. **Canadian Journal of Botany** 84: 1462-1477.
56. Julou T., Burghardt B., Gebauer G., Berveiller D., Damesin C., Selosse M.-A. (2005): Mixotrophy in orchids: insights from a comparative study of green individuals and non-photosynthetic mutants of *Cephalanthera damasonium*. **New Phytologist** 166: 639-653.
55. Pinto M., Merino P., del Prado A., Estavillo J.M., Yamulki S., Gebauer G., Pietrzak S., Lauf J., Oenema O. (2004): Increased emissions of nitric oxide and nitrous oxide

- following tillage of a perennial pasture. **Nutrient Cycling in Agroecosystems** 70: 13-22.
54. Taylor A.F.S., Gebauer G., Read D.J. (2004): Uptake of nitrogen and carbon from double-labelled (^{15}N and ^{13}C) glycine by mycorrhizal pine seedlings. **New Phytologist** 164: 383-388.
 53. Bidartondo M.I., Burghardt B., Gebauer G., Bruns T.D., Read D.J. (2004): Changing partners in the dark: Isotopic and molecular evidence of ectomycorrhizal liaisons between forest orchids and trees. **Proceeding of the Royal Society London B** 271: 1799-1806.
 52. Wrage N., Lauf J., del Prado A., Pinto M., Pietrzak S., Yamulki S., Oenema O., Gebauer G. (2004): Distinguishing sources of N_2O in European grasslands by stable isotope analysis. **Rapid Communications in Mass Spectrometry** 18: 1201-1207.
 51. Blüthgen N., Gebauer G., Fiedler K. (2003): Disentangling rainforest food webs using stable isotopes: dietary diversity in a species-rich ant community. **Oecologia** 137: 426-435.
 50. Gebauer G., Meyer M. (2003): ^{15}N and ^{13}C natural abundance of autotrophic and myco-heterotrophic orchids provides insight into nitrogen and carbon gain from fungal association. **New Phytologist** 160: 209-223.
 49. Dinkelmeyer H., Lehmann J., Renck A., Trujillo L., Pereira da Silva Jr. J., Gebauer G., Kaiser K. (2003): Nitrogen uptake from ^{15}N -enriched fertilizer by four tree crops in an Amazonian agroforest. **Agroforestry Systems** 57: 213-224.
 48. Menyailo O.V., Hungate B.A., Lehmann J., Gebauer G., Zech W. (2003): Tree species of the Central Amazon and soil moisture alter stable isotope composition of nitrogen and oxygen in nitrous oxide evolved from soil. **Isotopes in Environmental and Health Studies** 39: 41-52.
 47. Tilsner J., Wrage N., Lauf J., Gebauer G. (2003): Emission of gaseous nitrogen oxides from an extensively managed grassland in NE Bavaria, Germany. II. Stable isotope natural abundance of N_2O . **Biogeochemistry** 63: 249-267.
 46. Tilsner J., Wrage N., Lauf J., Gebauer G. (2003): Emission of gaseous nitrogen oxides from an extensively managed grassland in NE Bavaria, Germany. I. Annual budgets of N_2O and NO_x emissions. **Biogeochemistry** 63: 229-247.
 45. Estavillo J.M., Merino P., Pinto M., Yamulki S., Gebauer G., Sapek A., Corré W. (2002): Short term effect of ploughing a permanent pasture on N_2O production from nitrification and denitrification. **Plant and Soil** 239: 253-265.
 44. Lehmann J., Gebauer G., Zech W. (2002): Nitrogen cycling assessment in a hedgerow intercropping system using ^{15}N enrichment. **Nutrient Cycling in Agroecosystems** 62: 1-9.
 43. Lauf J., Gebauer G. (2001): On-line analysis of nitrogen stable isotopes in NO from ambient air samples. **Analytical Chemistry** 73: 1126-1133.
 42. Lehmann J., Pereira da Silva Jr. J., Schroth G., Gebauer G., Ferreira da Silva L. (2000): Nitrogen use in mixed tree crop plantations with a legume cover crop. **Plant and Soil** 225: 63-72.
 41. Velthof G.L., van Groenigen J.W., Gebauer G., Pietrzak S., Jarvis S.C., Pinto M., Corré W., Oenema O. (2000): Temporal stability of spatial patterns of nitrous oxide fluxes from sloping grassland. **Journal of Environmental Quality** 29: 1397-1407.

40. Lehmann J., Weigl D., Peter I., Droppelmann K., Gebauer G., Goldbach H., Zech W. (1999): Nutrient interactions of alley-cropped *Sorghum bicolor* and *Acacia saligna* in a runoff irrigation system in Northern Kenya. **Plant and Soil** 210: 249-262.
39. Lehmann J., Feilner T., Gebauer G., Zech W. (1999): Nitrogen uptake of sorghum (*Sorghum bicolor* L.) from tree mulch and mineral fertilizer under high leaching conditions estimated by ¹⁵N enrichment. **Biology and Fertility of Soils** 30: 90-95.
38. Kalusche B., Verscht J., Gebauer G., Komor E., Haase A. (1999): Sucrose unloading in the hypocotyl of the *Ricinus communis* L. seedling measured by ¹³C nuclear magnetic resonance spectroscopy *in vivo*. **Planta** 208: 358-364.
37. Gebauer G., Taylor A.F.S. (1999): ¹⁵N natural abundance in fruit bodies of different functional groups of fungi in relation to substrate utilisation. **New Phytologist** 142: 93-101.
36. Lehmann J., Peter I., Steglich C., Gebauer G., Huwe B., Zech W. (1998): Below-ground interactions in dryland agroforestry. **Forest Ecology and Management** 111: 157-169.
35. Oenema O., Gebauer G., Rodriguez M., Sapek A., Jarvis S.C., Corré W.J., Yamulki S. (1998): Controlling nitrous oxide emissions from grassland livestock production systems. **Nutrient Cycling in Agroecosystems** 52: 141-149.
34. Setzer B., Gebauer G., Mohr H. (1998): Die Bedeutung der Kaliumversorgung für Aufnahme und Assimilation von [¹⁵N]-Nitrat und [¹⁵N]-Ammonium durch Keimpflanzen der Kiefer (*Pinus sylvestris*). **Allgemeine Forst- und Jagd-Zeitung** 169: 76-80.
33. Lauf J., Gebauer G. (1998): On-line analysis of stable isotopes of nitrogen in NH₃, NO and NO₂ at natural abundance levels. **Analytical Chemistry** 70: 2750-2756.
32. Gebauer G., Hahn G., Rodenkirchen H., Zuleger M. (1998): Effects of acid irrigation and liming on nitrate reduction and nitrate content of *Picea abies* (L.) Karst. and *Oxalis acetosella* L. **Plant and Soil** 199: 59-70.
31. Jung K., Gebauer G., Gehre M., Hofmann D., Weißflog L., Schüürmann G. (1997): Anthropogenic impacts on natural nitrogen isotope variations in *Pinus sylvestris* stands in an industrially polluted area. **Environmental Pollution** 97: 175-181.
30. May C., Schmidt G., Gebauer G., Schulze E.-D. (1996): The fate of [¹⁵N]ammonium and [¹⁵N]nitrate in the soil of a 140-year-old spruce stand (*Picea abies*) in the Fichtelgebirge (NE-Bavaria). **Isotopes in Environmental and Health Studies** 32: 149-158.
29. Schmidt G., May C., Gebauer G., Schulze E.-D. (1996): Uptake of [¹⁵N]ammonium and [¹⁵N]nitrate in a 140-year-old spruce stand (*Picea abies*) in the Fichtelgebirge (NE-Bavaria). **Isotopes in Environmental and Health Studies** 32: 141-148.
28. Buchmann N., Gebauer G., Schulze E.-D. (1996): Partitioning of ¹⁵N-labeled ammonium and nitrate among soil, litter, below- and above-ground biomass of trees and understory in a 15-year-old *Picea abies* plantation. **Biogeochemistry** 33: 1-23.
27. Buchmann N., Schulze E.-D., Gebauer G. (1995): ¹⁵N-ammonium and ¹⁵N-nitrate uptake of a 15-year-old *Picea abies* plantation. **Oecologia** 102: 361-370.
26. Schulze E.-D., Chapin F.S. III, Gebauer G. (1994): Nitrogen nutrition and isotope differences among life forms at the northern treeline of Alaska. **Oecologia** 100: 406-412.

25. Durka W., Schulze E.-D., Gebauer G., Voerkelius S. (1994): Effects of forest decline on uptake and leaching of deposited nitrate determined from ^{15}N and ^{18}O measurements. **Nature** 372: 765-767.
24. Gebauer G., Giesemann A., Schulze E.-D., Jäger H.-J. (1994): Isotope ratios and concentrations of sulfur and nitrogen in needles and soils of *Picea abies* stands as influenced by atmospheric deposition of sulfur and nitrogen compounds. **Plant and Soil** 164: 267-281.
23. Rehder H., Gökceoglu M., Gebauer G., Güteryüz G. (1994): Die Vegetation des Uludag-Gebirges (Anatolien). **Phytocoenologia** 24: 167-192.
22. Winkler E., Gebauer G. (1993): Investigations on the nitrogen metabolism of forest trees by mathematical modelling of natural isotope ratios. **Isotopenpraxis Environmental and Health Studies** 29: 199-214.
21. Stadler J., Gebauer G., Schulze E.-D. (1993): The influence of ammonium on nitrate uptake and assimilation in 2-year-old ash and oak trees - a tracer-study with ^{15}N . **Isotopenpraxis Environmental and Health Studies** 29: 85-92.
20. Koppisch D., Schulze E.-D., Gebauer G. (1993): ^{15}N -labelled ammonium and nitrate uptake by the grass *Calamagrostis villosa*. **Isotopenpraxis Environmental and Health Studies** 29: 77-84.
19. Bruckner G., Gebauer G., Schulze E.-D. (1993): Uptake of $^{15}\text{NH}_3$ by *Picea abies* in closed chamber experiments. **Isotopenpraxis Environmental and Health Studies** 29: 71-76.
18. Gebauer G., Dietrich P. (1993): Nitrogen isotope ratios in different compartments of a mixed stand of spruce, larch and beech trees and of understorey vegetation including fungi. **Isotopenpraxis Environmental and Health Studies** 29: 35-44.
17. Schmidt G., Gebauer G., Widmann K., Ziegler H. (1993): Influence of nitrogen supply and temperature on stable carbon isotope ratios in plants of different photosynthetic pathways (C_3 , C_4 , CAM). **Isotopenpraxis Environmental and Health Studies** 29: 9-13.
16. Widmann K., Gebauer G., Rehder H., Ziegler H. (1993): Fluctuations in nitrate reductase activity, and nitrate and organic nitrogen concentrations of succulent plants under different nitrogen and water regimes. **Oecologia** 94: 146-152.
15. Stadler J., Gebauer G. (1992): Nitrate reduction and nitrate content in ash trees (*Fraxinus excelsior* L.): Distribution between compartments, site comparison and seasonal variation. **Trees** 6: 236-240.
14. Buchmann N., Oren R., Gebauer G., Dietrich P., Schulze E.-D. (1992): The use of stable isotopes in ecosystem research. First results of a field study with ^{15}N . **Isotopenpraxis Environmental and Health Studies** 28: 51-59.
13. Schulze E.-D., Lange O.L., Ziegler H., Gebauer G. (1991): Carbon and nitrogen isotope ratios of mistletoes growing on nitrogen and non-nitrogen fixing hosts and on CAM plants in the Namib desert confirm partial heterotrophy. **Oecologia** 88: 457-462.
12. Schulze E.-D., Gebauer G., Ziegler H., Lange O.L. (1991): Estimates of nitrogen fixation by trees on an aridity gradient in Namibia. **Oecologia** 88: 451-455.
11. Schulze E.-D., Gebauer G., Schulze W., Pate J.S. (1991): The utilization of nitrogen from insect capture by different growth forms of *Drosera* from Southwest Australia. **Oecologia** 87: 240-246.

10. Gebauer G., Schulze E.-D. (1991): Carbon and nitrogen isotope ratios in different compartments of a healthy and a declining *Picea abies* forest in the Fichtelgebirge, NE Bavaria. **Oecologia** 87: 198-207.
9. Widmann K., Gebauer G., Rehder H., Ziegler H. (1990): Biomass production and nitrogen contents of the CAM plants *Kalanchoe daigremontiana* and *K. tubiflora* in cultures with different nitrogen and water supply. **Oecologia** 82: 478-483.
8. Gebauer G. (1988): Carbon, nitrogen and water use of C₃, C₄ and CAM plants. Comparative aspects. **Acta Horticulturae** 229: 73-84.
7. Gebauer G., Schulze E.-D. (1988): Forest decline of spruce as a result of nutrient imbalance and nutrient stress. **Aspects of Applied Biology** 17: 123-130.
6. Gebauer G., Rehder H., Wollenweber B. (1988): Nitrate, nitrate reduction and organic nitrogen in plants from different ecological and taxonomic groups of Central Europe. **Oecologia** 75: 371-385.
5. Gebauer G., Schuhmacher M.I., Krstic B., Rehder H., Ziegler H. (1987): Biomass production and nitrate metabolism of *Atriplex hortensis* L. (C₃ plant) and *Amaranthus retroflexus* L. (C₄ plant) in cultures at different levels of nitrogen supply. **Oecologia** 72: 303-314.
4. Gebauer G., Schubert B., Schuhmacher M.I., Rehder H., Ziegler H. (1987): Biomass production and nitrogen content of C₃- and C₄-grasses in pure and mixed culture with different nitrogen supply. **Oecologia** 71: 613-617.
3. Krstic B., Gebauer G., Saric M. (1986): Specific response of sugar beet cultivars to different nitrogen forms. **Zeitschrift für Pflanzenernährung und Bodenkunde** 149: 561-571.
2. Melzer A., Gebauer G., Rehder H. (1984): Nitrate content and nitrate reductase activity in *Rumex obtusifolius* L. II. Responses to nitrate starvation and nitrogen fertilization. **Oecologia** 63: 380-385.
1. Gebauer G., Melzer A., Rehder H. (1984): Nitrate content and nitrate reductase activity in *Rumex obtusifolius* L. I. Differences in organs and diurnal changes. **Oecologia** 63: 136-142.

Book chapters

12. Gebauer G. (2005) Partnertausch im dunklen Wald – Stabile Isotope geben neue Einblicke in das Ernährungsverhalten von Orchideen. In: Bayer. Akademie der Wissenschaften (ed) Auf Spurensuche in der Natur: Stabile Isotope in der ökologischen Forschung. Rundgespräche der Kommission für Ökologie Bd. 30,. Verlag Dr. Friedrich Pfeil, München, Germany, pp 55-67.
11. Bauer G.A., Gebauer G., Harrison A.F., Högberg P., Högbom L., Schinkel H., Taylor A.F.S., Novak M., Harkness D., Persson T., Schulze E.-D. (2000): Biotic and abiotic controls over ecosystem cycling of stable natural nitrogen, carbon and sulphur isotopes. In: E.-D. Schulze (ed) Carbon and Nitrogen Cycling in European Forest Ecosystems. Ecological Studies 142, Springer-Verlag, Heidelberg, Germany, pp 189-214.
10. Harrison A.F., Schulze E.-D., Gebauer G., Bruckner G. (2000): Canopy uptake and utilisation of atmospheric pollutant N. In: E.-D. Schulze (ed) Carbon and Nitrogen

- Cycling in European Forest Ecosystems. Ecological Studies 142, Springer-Verlag, Heidelberg, Germany, pp 171-188.
9. Gebauer G., Zeller B., Schmidt, G., May C., Buchmann N., Colin-Belgrand M., Dambrine E., Martin F., Schulze E.-D., Bottner P. (2000): The fate of ¹⁵N-labelled nitrogen inputs to coniferous and broadleaf forests. In: E.-D. Schulze (ed) Carbon and Nitrogen Cycling in European Forest Ecosystems. Ecological Studies 142, Springer-Verlag, Heidelberg, Germany, pp 144-170.
 8. Gebauer G., Lauf J., May C., Tilsner J., Sapek B., Sapek A. (2000): Effects of type and amount of nitrogen fertiliser application and of liming on ¹⁵N abundance and total nitrogen concentrations in the soil and vegetation of grassland in Poland. In: O. Oenema, A. Sapek (eds) Effects of Liming and Nitrogen Fertilizer Application on Soil Acidity and Gaseous Nitrogen Oxide Emissions in Grassland Systems. Institute for Land Reclamation and Grassland Farming, Falenty, Poland, pp 84-95.
 7. Gebauer G. (2000): The use of stable isotopes to study the fate of nitrogen inputs to forest ecosystems. In: M.A. Martins-Loucao, S.H. Lips (eds) Nitrogen in a Sustainable Ecosystem - From the Cell to the Plant. Backhuys Publishers, Leiden, The Netherlands, pp 317-327.
 6. Gebauer G., Schulze E.-D. (1997): Nitrate nutrition by Central European forest trees. In: H. Rennenberg, W. Eschrich, H. Ziegler (eds) Trees - Contributions to Modern Tree Physiology. Backhuys Publishers, Leiden, The Netherlands, pp 273-291.
 5. Gebauer G. (1996): Zum Stand der Waldschadensdiskussion. In: W. Barz, B. Brinkmann, H.-J. Ewers (eds) Umwelt und Verkehr. Ecomed Verlag, Landsberg, Germany, pp 43-60.
 4. Kisser-Priesack G.M., Gebauer G. (1991): Kinetics of ¹⁵NO_x uptake by plant cuticles. In: International Atomic Energy Agency (ed) Stable Isotopes in Plant Nutrition, Soil Fertility and Environmental Studies. IAEA-SM-313/18, Vienna, Austria, pp 619-625.
 3. Gebauer G. (1991): Natural nitrogen isotope ratios in different compartments of Norway spruce from a healthy and a declining stand. In: International Atomic Energy Agency (ed) Stable Isotopes in Plant Nutrition, Soil Fertility and Environmental Studies. IAEA-SM-313/56, Vienna, Austria, pp 131-138.
 2. Gebauer G., Stadler J. (1990): Nitrate assimilation and nitrate content in different organs of ash trees (*Fraxinus excelsior*). In: M.L. van Beusichem (ed) Plant Nutrition - Physiology and Applications. Kluwer Academic Publishers, Dordrecht, The Netherlands, pp 101-106.
 1. Gebauer G. (1990): Diurnal changes of nitrate content and nitrate reductase activity in different organs of *Atriplex hortensis* (C₃ plant) and *Amaranthus retroflexus* (C₄ plant). In: M.L. van Beusichem (ed) Plant Nutrition - Physiology and Applications. Kluwer Academic Publishers, Dordrecht, The Netherlands, pp 93-99.

Conference proceedings

10. Schmidt G., May C., Buchmann N., Gebauer G., Schulze E.-D. (1997): Aufnahme von Ammonium und Nitrat bei Waldbäumen. In: H. Mühle, S. Eichler (eds) Terrestrische ökosystemare Forschung in Deutschland - Stand und Ausblick. UFZ-Bericht 5/1997, Leipzig, pp 50-51.
9. Durka W., Schulze E.-D., Gebauer G., Voerkelius S. (1995): Nachweis von Nitrat im Abfluß aus Waldökosystemen mit Hilfe natürlicher Isotopenverhältnisse. In: Bayer. Landesamt f. Wasserwirtschaft (ed) Informationsberichte 3/95, München, pp 81-84.

8. Bruckner G., Schulze E.-D., Gebauer G. (1993): Atmosphärische Stickstoffeinträge und Stickstoffaufnahme in Fichtenbeständen Nordbayerns. In: M. Kirchner, K. Rösel, M. Reuther (eds) Stoffeinträge aus der Atmosphäre und Waldbodenbelastung in den Ländern von ARGE ALP und ALPEN-ADRIA. GSF-Bericht 39/93, Berchtesgaden, pp 284-293.
7. Bruckner G., Schulze E.-D., Gebauer G. (1993): ^{15}N labelled NH_3 uptake experiments and their relation to natural conditions. In: J. Slanina, G. Angeletti, S. Beilke (eds) General Assessment of Biogenic Emissions and Deposition of Nitrogen Compounds, Sulphur Compounds and Oxidants in Europe. Air Pollution Research Report 47, Commission of the European Communities, Aveiro, Portugal, pp 305-311.
6. Buchmann N., Gebauer G., Oren R., Schulze E.-D. (1993): ^{15}N application to a 12-year-old Norway spruce plantation in the Fichtelgebirge, NE-Bavaria, FRG - Pathways and dynamics. In: L. Rasmussen, T. Brydges, P. Mathy (eds) Experimental Manipulations of Biota and Biogeochemical Cycling in Ecosystems - Approach, Methodologies, Findings. Ecosystems Research Report 4, Commission of the European Communities, Brussels, Belgium, pp 173-181.
5. Gebauer G., Katz C., Schulze E.-D. (1991): Uptake of gaseous and liquid nitrogen depositions and influence on the nutritional status of Norway spruce. In: R. Hantschel, F. Beese (eds) Effects of Forest Management on the Nitrogen-Cycle with Respect to Changing Environmental Conditions. GSF-Bericht 43/91, Neuherberg, pp 83-92.
4. Gebauer G., Schulze E.-D. (1991): Natürliche C- und N-Isotopenverhältnisse in verschiedenen Kompartimenten gesunder und geschädigter Fichtenbestände. In: M. Reuther, M. Kirchner, K. Rösel (eds) 2. Statusseminar der PBWU zum Forschungsschwerpunkt "Waldschäden". GSF-Bericht 26/91, Neuherberg, pp 283-299.
3. Gebauer G. (1991): Waldschadensforschung im Fichtelgebirge. In: M. Reuther, M. Kirchner, E. Kirching, H. Reiter, K. Rösel, U. Pfeifer (eds) Expertentagung "Waldschadensforschung im östlichen Mitteleuropa und in Bayern". GSF-Bericht 24/91, Schloß Neuburg bei Passau, pp 154-167.
2. Katz C., Gebauer G., Schulze E.-D. (1990): Uptake of $^{15}\text{NO}_x$ in relation to the ambient gas concentration and the nutrition of *Picea abies* (L.) Karst. trees. In: H.D. Payer, T. Pfirrmann, P. Mathy (eds) Environmental Research with Plants in Closed Chambers. Air Pollution Research Report 26, Commission of the European Communities, Brussels, Belgium, pp 347-351.
1. Schulze E.-D., Gebauer G. (1989): Aufnahme, Abgabe und Umsatz von Stickoxiden, NH_4^+ und Nitrat bei Waldbäumen, insbesondere der Fichte. In: M. Reuther und M. Kirchner (eds) 1. Statusseminar der PBWU zum Forschungsschwerpunkt "Waldschäden". GSF-Bericht 6/89, München-Neuherberg, pp 119-133.

Other publications

4. Liebel H.T., Preiss K., Gebauer G. (2009): Parsiell mycoheterotrofi i norske vintergrønner – relevans for vernetiltak av truede vintergrønner (Partial mycoheterotrophy in Norwegian wintergreen species – Relevance for endangered species protection). *Blyttia – Journal of the Norwegian Botanical Society* 67: 138-143.
3. Liebel H.T., Stöckel M., Zimmer K., Gebauer G. (2008): Neue Erkenntnisse zur Lebensweise heimischer Orchideenarten – Relevanz für Artenschutzkonzepte. *Ber. Arbeitskrs. Heim. Orchid.* 25: 172-179.

2. Lauf J., Gebauer G. (1996): Verfahren zur on-line Bestimmung des Stickstoffisotopenverhältnisses von stickstoffhaltigen anorganischen Spurengasen. Patentanmeldung, Deutsches Patentamt, Az. 196 50 444.9.
1. Gebauer G. (1987): Vergleichende Untersuchungen zum Nitrathaushalt von Pflanzen unterschiedlicher ökologischer und systematischer Gruppen. Dissertation TU München, 171 p.