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# Ralf Conrad - Publications

**1973-1978**

1. Conrad, R. (1973) Wege des Hexoseabbaus in phototrophen Bakterien. Diplom thesis, Göttingen.

2. Conrad, R. and Schlegel, H. G. (1974) Different pathways for fructose and glucose utilization in *Rhodopseudomonas capsulata* and demonstration of 1-phosphofructokinase in phototrophic bacteria. Biochimica et Biophysica Acta 358, 221-225.

3. Conrad, R. (1976) Der Stoffwechsel von Glucose, Fructose und Saccharose in *Rhodopseudomonas capsulata* und *Rhodopseudomonas sphaeroides*. PhD thesis, Göttingen.

4. Conrad, R. and Schlegel, H. G. (1977) Influence of aerobic and phototrophic growth conditions on the distribution of glucose and fructose carbon into the Entner-Doudoroff and Embden-Meyerhof pathways in *Rhodopseudomonas sphaeroides*. Journal of General Microbiology 101, 277-290.

5. Conrad, R. and Schlegel, H. G. (1977) Different degradation pathways for glucose and fructose in *Rhodopseudomonas capsulata*. Archives of Microbiology 112, 39-48.

6. Conrad, R. (1978) Metabolism of fructose in *Thiocapsa roseopersicina*. Zeitschrift für Allgemeine Mikrobiologie 18, 309-320.

7. Conrad, R. and Schlegel, H. G. (1978) Regulation of glucose, fructose and sucrose catabolism in *Rhodopseudomonas capsulata*. Journal of General Microbiology 105, 315-322.

8. Conrad, R. and Schlegel, H. G. (1978) An alternative pathway for the degradation of endogenous fructose during the catabolism of sucrose in *Rhodopseudomonas capsulata*. Journal of General Microbiology 105, 305-313.

9. Seiler, W. and Conrad, R. (1978) Schaden Dünger der Atmosphäre?. Gartenpraxis 7, 322-324.

**1979**

10. Conrad, R. (1979) Beobachtungen zum Vorkommen der Lorbeertauben auf Teneriffa und La Palma (Kanarische Inseln). Vogelwelt 79, 155-156.

11. Conrad, R. (1979) Einfluß von Tageszeit und Gezeiten auf das Rastverhalten von Seeschwalben im Naturschutzgebiet Großer Knechtsand. Beiträge zur Naturkunde Niedersachsens 32, 144-148.

12. Conrad, R. and Seiler, W. (1979) The role of hydrogen bacteria during the decomposition of hydrogen by soil. FEMS Microbiology Letters 6, 143-145.

13. Conrad, R. and Seiler, W. (1979) Field measurements of hydrogen evolution by nitrogen-fixing legumes. Soil Biology and Biochemistry 11, 689-690.

14. Niepold, F., Conrad, R. and Schlegel, H. G. (1979) Evaluation of the efficiency of extraction for the quantitative estimation of hydrogen bacteria in soil. Antonie van Leeuwenhoek 45, 485-497.

**1980**

15. Bauer, K., Conrad, R. and Seiler, W. (1980) Photooxidative production of carbon monoxide by phototrophic microorganisms. Biochimica et Biophysica Acta 589, 46-55.

16. Conrad, R. and Seiler, W. (1980) Role of microorganisms in the consumption and production of atmospheric carbon monoxide by soil. Applied and Environmental Microbiology 40, 437-445.

17. Conrad, R. and Seiler, W. (1980) Contribution of hydrogen production by biological nitrogen fixation to the global hydrogen budget. Journal of Geophysical Research 85, 5493-5498.

18. Conrad, R. and Seiler, W. (1980) Die Bedeutung mikrobiologischer Prozesse für den Kreislauf des Wasserstoffs in der Atmosphäre. Forum Mikrobiologie 3, 219-225.

19. Conrad, R. and Seiler, W. (1980) Photooxidative production and microbial consumption of carbon monoxide in seawater. FEMS Microbiology Letters 9, 61-64.

20. Conrad, R. and Seiler, W. (1980) Field measurements of the loss of fertilizer nitrogen into the atmosphere as nitrous oxide. Atmospheric Environment 14, 555-558.

**1981**

21. Conrad, R., Meyer, O. and Seiler, W. (1981) Role of carboxydobacteria in consumption of atmospheric carbon monoxide by soil. Applied and Environmental Microbiology 42, 211-215.

22. Conrad, R. and Seiler, W. (1981) Decomposition of atmospheric hydrogen by soil microorganisms and soil enzymes. Soil Biology and Biochemistry 13, 43-49.

23. Seiler, W. and Conrad, R. (1981) Mikrobielle Bildung von N2O (Distickstoffoxyd) aus Mineraldüngern - Ein Umweltproblem?. Forum Mikrobiologie 4, 322-328.

24. Seiler, W. and Conrad, R. (1981) Field measurements of natural and fertilizer induced N2O release rates from soils. Journal of the Air Pollution Control Association 31, 767-772.

**1982**

25. Conrad, R. and Seiler, W. (1982) Utilization of traces of carbon monoxide by aerobic oligotrophic microorganisms in ocean, lake and soil. Archives of Microbiology 132, 41-46.

26. Conrad, R. and Seiler, W. (1982) Arid soils as a source of atmospheric carbon monoxide. Geophysyical Research Letters 9, 1353-1356.

27. Conrad, R., Seiler, W., Bunse, G. and Giehl, H. (1982) Carbon monoxid in seawater (Atlantic Ocean). Journal of Geophysical Research 87, 8839-8852.

28. Seiler, W. and Conrad, R. (1982) Global carbon monoxide fluxes: inappropriate measurement procedures. Science 216, 761.

**1983**

29. Conrad, R., Aragno, M. and Seiler, W. (1983) Production and consumption of hydrogen in a eutrophic lake. Applied and Environmental Microbiology 45, 502-510.

30. Conrad, R., Aragno, M. and Seiler, W. (1983) Production and consumption of carbon monoxide in a eutrophic lake. Limnology and Oceanography 28, 42-49.

31. Conrad, R., Aragno, M. and Seiler, W. (1983) The inability of hydrogen bacteria to utilize atmospheric hydrogen is due to threshold and affinity for hydrogen. FEMS Microbiology Letters 18, 207-210.

32. Conrad, R., Seiler, W. and Bunse, G. (1983) Factors influencing the loss of fertilizer-nitrogen into the atmosphere as N2O. Journal of Geophysical Research 88, 6709-6718.

33. Conrad, R. and Thauer, R. K. (1983) Carbon monoxide production by *Methanobacterium thermoautotrophicum*. FEMS Microbiology Letters 20, 229-232.

34. Conrad, R., Weber, M. and Seiler, W. (1983) Kinetics and electron transport of soil hydrogenases catalyzing the oxidation of atmospheric hydrogen. Soil Biology and Biochemistry 15, 167-173.

**1984**

35. Conrad, R. (1984) Mikrobiologie und Biogeochemie des H2 und CO Kreislaufes. Habilitation thesis, Mainz.

36. Conrad, R. (1984) Methanemission aus Termitennestern. Naturwissenschaftliche Rundschau 37, 412-413.

37. Conrad, R. (1984) Capacity of aerobic microorganisms to utilize and grow on atmospheric trace gases (H2, CO, CH4), in Current Perspectives in Microbial Ecology (Klug, M.G. and Reddy, C.A., Eds.), pp. 461-467. American Society for Microbiology, Washington D.C..

38. Conrad, R. and Seiler, W. (1984) Einfluß der Biosphäre auf die Freisetzung von N2O aus mineralischen Stickstoff-Düngern, Vol. 9. BPT-Bericht.

39. Diekert, G., Hansch, M. and Conrad, R. (1984) Acetate synthesis from 2 CO2 in acetogenic bacteria: is carbon monoxide an intermediate?. Archives of Microbiology 138, 224-228.

40. Lupton, F. S., Conrad, R. and Zeikus, J. G. (1984) CO metabolism of *Desulfovibrio vulgaris* strain Madison: physiological function in absence and presence of exogenous substrate. FEMS Microbiology Letters 23, 263-268.

41. Lupton, F. S., Conrad, R. and Zeikus, J. G. (1984) Physiological function of hydrogen metabolism during growth of sulfidogenic bacteria on organic substrates. Journal of Bacteriology 159, 843-849.

42. Seiler, W., Conrad, R. and Scharffe, D. (1984) Field studies of the CH4 emission from termite nests into the atmosphere and measurements of CH4 uptake by tropical soils. Journal of Atmospheric Chemistry 1, 171-186.

43. Seiler, W., Holzapfel-Pschorn, A., Conrad, R. and Scharffe, D. (1984) Methane emission from rice paddies. Journal of Atmospheric Chemistry 1, 241-268.

44. Slemr, F., Conrad, R. and Seiler, W. (1984) Nitrous oxide emissions from fertilized and unfertilized soils in a subtropical region (Andalusia, Spain). Journal of Atmospheric Chemistry 1, 159-169.

45. Thompson, T. E., Conrad, R. and Zeikus, J. G. (1984) Regulation of carbon and electron flow in *Propionispira arboris*: physiological function of hydrogenase and its role in homopropionate formation. FEMS Microbiology Letters 22, 265-271.

**1985**

46. Conrad, R., Bonjour, F. and Aragno, M. (1985) Aerobic and anaerobic microbial consumption of hydrogen in geothermal spring water. FEMS Microbiology Letters 29, 201-205.

47. Conrad, R., Phelps, T. J. and Zeikus, J. G. (1985) Gas metabolism evidence in support of juxtapositioning between hydrogen producing and methanogenic bacteria in sewage sludge and lake sediments. Applied and Environmental Microbiology 50, 595-601.

48. Conrad, R. and Seiler, W. (1985) Feldmessung von Emission und Deposition atmosphärischer Spurengase in Boden und Wasser. GIT-Supplement 3, 74-78.

49. Conrad, R. and Seiler, W. (1985) Destruction and production rates of carbon monoxide in arid soils under field conditions, in Planetary Ecology (Caldwell, D.E., Brierley, J.A. and Brierley, C.L., Eds.), pp. 112-119. Van Nostrand Reinhold, New York.

50. Conrad, R. and Seiler, W. (1985) Influence of temperature, moisture and organic carbon on the flux of H2 and CO between soil and atmosphere. Field studies in subtropical regions. Journal of Geophysical Research. 90, 5699-5709.

51. Conrad, R. and Seiler, W. (1985) Characteristics of abiological CO formation from soil organic matter, humic acids, and phenolic compounds. Environmental Science and Technology 19, 1165-1169.

52. Conrad, R. and Seiler, W. (1985) Localization of microbial activities relevant to the emission of nitrous oxide from the soil into the atmosphere. Soil Biology and Biochemistry 17, 893-895.

53. Holzapfel-Pschorn, A., Conrad, R. and Seiler, W. (1985) Production, oxidation and emission of methane in rice paddies. FEMS Microbiology Ecology 31, 343-351.

54. Phelps, T. J., Conrad, R. and Zeikus, J. G. (1985) Sulfate dependent interspecies H2 transfer between *Methanosarcina barkeri* and *Desulfovibrio vulgaris* during the co-culture metabolism of acetate or methanol. Applied and Environmental Microbiology 50, 589-594.

**1986**

55. Conrad, R. (1986) Evolution von Mikroorganismen und Erdatmosphäre. Forum Mikrobiologie 9, 71-75.

56. Conrad, R., Schink, B. and Phelps, T. J. (1986) Thermodynamics of H2-producing and H2-consuming metabolic reactions in diverse methanogenic environments under in-situ conditions. FEMS Microbiology Ecology 38, 353-360.

57. Conrad, R. and Seiler, W. (1986) Exchange of CO and H2 between ocean and atmosphere, in The Role of Air-Sea Exchange in Geochemical Cycling (Buat-Menard, P., Ed.), pp. 269-282. Reidel, Dordrecht.

58. Holzapfel-Pschorn, A., Conrad, R. and Seiler, W. (1986) Effects of vegetation on the emission of methane by submerged paddy soil. Plant and Soil 92, 223-233.

**1987**

59. Conrad, R. (1987) Der Kreislauf des Methans: Grundlagen der Bedeutung. Forum Mikrobiologie 10, 320-329.

60. Conrad, R., Goodwin, S. and Zeikus, J. G. (1987) Hydrogen metabolism in a mildly acidic lake sediment (Knaack Lake). FEMS Microbiology Ecology 45, 243-249.

61. Conrad, R., Lupton, F. S. and Zeikus, J. G. (1987) Hydrogen metabolism and sulfate-dependent inhibition of methanogenesis in a eutrophic lake sediment (Lake Mendota). FEMS Microbiology Ecology 45, 107-115.

62. Conrad, R., Schütz, H. and Babbel, M. (1987) Temperature limitation of hydrogen turnover and methanogenesis in anoxic paddy soil. FEMS Microbiology Ecology 45, 281-289.

63. Conrad, R. and Seiler, W. (1987) Biologische und abiologische Umsetzungsprozesse von atmosphärischem CO und H2 im Boden, in Atmosphärische Spurenstoffe (Jaenicke, R., Ed.), pp. 219-239. Verlag Chemie, Weinheim.

64. Krzycki, J. A., Morgan, J. B., Conrad, R. and Zeikus, J. G. (1987) Hydrogen metabolism during methanogenesis from acetate by *Methanosarcina barkeri*. FEMS Microbiology Letters 40, 193-198.

65. Seiler, W. and Conrad, R. (1987) Contribution of tropical ecosystems to the global budgets of trace gases, especially CH4, H2, CO and N2O, in The Geophysiology of Amazonia (Dickinson, R.E., Ed.), pp. 133-162. John Wiley, New York.

**1988**

66. Conrad, R. (1988) Biogeochemistry and ecophysiology of atmospheric CO and H2. Advances in Microbial Ecology 10, 231-384.

67. Conrad, R. and Schütz, H. (1988) Methods of studying methanogenic bacteria and methanogenic activities in aquatic environments, in Methods in Aquatic Bacteriology (Austin, B., Ed.), pp. 301-343. John Wiley, Chichester.

68. Conrad, R., Schütz, H. and Seiler, W. (1988) Emission of carbon monoxide from submerged rice fields into the atmosphere. Atmospheric Environment 22, 821-823.

69. Conrad, R. and Seiler, W. (1988) Influence of the surface layer on the flux of non-conservative trace gases (H2, CO, CH4, N2O) across the ocean-atmosphere interface. Journal of Atmospheric Chemistry 6, 83-94.

70. Cord-Ruwisch, R., Seitz, H. J. and Conrad, R. (1988) The capacity of hydrogenotrophic anaerobic bacteria to compete for traces of hydrogen depends on the redox potential of the terminal electron acceptor. Archives of Microbiology 149, 350-357.

71. Goodwin, S., Conrad, R. and Zeikus, J. G. (1988) Influence of pH on microbial hydrogen metabolism in diverse sedimentary ecosystems. Applied and Environmental Microbiology 54, 590-593.

72. Schmidt, J., Seiler, W. and Conrad, R. (1988) Emission of nitrous oxide from temperate forest soils. Journal of Atmospheric Chemistry 6, 95-115.

73. Schütz, H., Conrad, R., Goodwin, S. and Seiler, W. (1988) Emission of hydrogen from deep and shallow freshwater environments. Biogeochemistry 5, 295-311.

74. Seitz, J., Schink, B. and Conrad, R. (1988) Thermodynamics of hydrogen metabolism in methanogenic cocultures degrading ethanol or lactate. FEMS Microbiology Letters 55, 119-124.

**1989**

75. Conrad, R. (1989) Control of methane production in terrestrial ecosystems, in Exchange of Trace Gases Between Terrestrial Ecosystems and the Atmosphere. Dahlem Konferenzen (Andreae, M.O. and Schimel, D.S., Eds.), pp. 39-58. John Wiley, Chichester.

76. Conrad, R. (1989) Activity of methanogenic bacteria in anoxic sediments: Role of H2-syntrophic methanogenic bacterial associations, in Recent Advances in Microbial Ecology (Hattori, T., Ishida, Y., Maruyama, Y., Morita, R.I. and Uchida, A., Eds.), pp. 118-122. Japan Scientific Societies Press, Tokyo.

77. Conrad, R. and Babbel, M. (1989) Effect of dilution on methanogenesis, hydrogen turnover and interspecies hydrogen transfer in anoxic paddy soil. FEMS Microbiology Ecology 62, 21-27.

78. Conrad, R., Bak, F., Seitz, H. J., Thebrath, B., Mayer, H. P. and Schütz, H. (1989) Hydrogen turnover by psychrotrophic homoacetogenic and mesophilic methanogenic bacteria in anoxic paddy soil and lake sediment. FEMS Microbiology Ecology 62, 285-294.

79. Conrad, R., Mayer, H. P. and Wüst, M. (1989) Temporal change of gas metabolism by hydrogen-syntrophic methanogenic bacterial associations in anoxic paddy soil. FEMS Microbiology Ecology 62, 265-274.

80. Conrad, R. and Seiler, W. (1989) Methane and hydrogen in seawater (Atlantic Ocean). Deep-Sea Research 35, 1903-1917.

81. Remde, A., Slemr, F. and Conrad, R. (1989) Microbial production and uptake of nitric oxide in soil. FEMS Microbiology Ecology 62, 221-230.

82. Rosswall, R., Bak, F., Baldochi, D., Cicerone, R. J., Conrad, R., Ehhalt, D. H., Firestone, M. K., Galbally, I. E., Galchenko, V. F., Groffman, P., Papen, H., Reeburgh, W. S. and Sanhueza, E. (1989) What regulates production and consumption of trace gases in ecosystems: biology or physicochemistry?, in Exchange of Trace Gases Between Terrestrial Ecosystems and the Atmosphere (Andreae, M.O. and Schimel, D.S., Eds.), pp. 73-95. Dahlem Konferenzen.

83. Schütz, H., Holzapfel-Pschorn, A., Conrad, R., Rennenberg, H. and Seiler, W. (1989) A three years continuous record on the influence of daytime, season, and fertilizer treatment on methane emission rates from an Italian rice paddy field. Journal of Geophysical Research 94, 16405-16416.

84. Schütz, H., Seiler, W. and Conrad, R. (1989) Processes involved in formation and emission of methane in rice paddies. Biogeochemistry 7, 33-53.

**1990**

85. Baumgärtner, M., Remde, A., Bock, E. and Conrad, R. (1990) Release of nitric oxide from building stones into the atmosphere. Atmospheric Environment 24B, 87-92.

86. Conrad, R. (1990) Flux of NOx between soil and atmosphere: importance and soil microbial metabolism, in Denitrification in Soil and Sediment (Soerensen, J. and Revsbech, N.P., Eds.), pp. 105-128. Plenum Press, New York.

87. Conrad, R. and Schmidt, U. (1990) Produktion und Umsetzung von Spurengasen durch Bakterien in der Wassersäule, in Der Stoffhaushalt des Bodensees. Prozeßorientierte Ökosystemforschung am größten deutschen Binnensee (Tilzer, M.M., Gaedke, U., Giovanoli, F. and Geller, W., Eds.), pp. 36-91. Wasserkalender 1990.

88. Conrad, R. and Wetter, B. (1990) Influence of temperature on energetics of hydrogen metabolism in homoacetogenic, methanogenic, and other bacteria. Archives of Microbiology 155, 94-98.

89. Frenzel, P., Thebrath, B. and Conrad, R. (1990) Oxidation of methane in the oxic surface layer of a deep lake sediment (Lake Constance). FEMS Microbiology Ecology 73, 149-158.

90. Krämer, M., Baumgärtner, M., Bender, M. and Conrad, R. (1990) NO metabolism of methanotrophic bacteria in pure culture and in soil. FEMS Microbiology Ecology 73, 345-350.

91. Mayer, H. P. and Conrad, R. (1990) Factors influencing the population of methanogenic bacteria and the initiation of methane production upon flooding of paddy soil. FEMS Microbiology Ecology 73, 103-112.

92. Nägele, W. and Conrad, R. (1990) Influence of soil pH on the nitrate-reducing microbial populations and their potential to reduce nitrate to NO and N2O. FEMS Microbiology Ecology 74, 49-58.

93. Nägele, W. and Conrad, R. (1990) Influence of pH on the release of NO and N2O from fertilized and unfertilized soil. Biology and Fertility of Soils 10, 139-144.

94. Remde, A. and Conrad, R. (1990) Production of nitric oxide in *Nitrosomonas europaea* by reduction of nitrite. Archives of Microbiology 154, 187-191.

95. Schuler, S. and Conrad, R. (1990) Soils contain two different activities for oxidation of hydrogen. FEMS Microbiology Ecology 73, 77-84.

96. Schuler, S., Thebrath, B. and Conrad, R. (1990) Seasonal changes in methane, hydrogen, and carbon monoxide concentrations in a large and a small lake, in Large Lakes. Ecological Structure and Function (Tilzer, M.M. and Serruya, C., Eds.), pp. 503-510. Springer, Berlin.

97. Schütz, H., Seiler, W. and Conrad, R. (1990) Influence of soil temperature on methane emission from paddy fields. Biogeochemistry 11, 77-95.

98. Seitz, H. J., Schink, B., Pfennig, N. and Conrad, R. (1990) Energetics of syntrophic ethanol oxidation in defined chemostat cocultures. 2. Energy sharing in biomass production. Archives of Microbiology 155, 89-93.

99. Seitz, H. J., Schink, B., Pfennig, N. and Conrad, R. (1990) Energetics of syntrophic ethanol oxidation in defined chemostat cocultures. 1. Energy requirement for H2 production and H2 oxidation. Archives of Microbiology 155, 82-88.

100. Seitz, H. J., Sineriz, F., Schink, B. and Conrad, R. (1990) Hydrogen production during utilization of acetoin and acetylene in *Pelobacter acetylenicus*. FEMS Microbiology Letters 71, 83-88.

**1991**

101. Baumgärtner, M., Sameluck, F., Bock, E. and Conrad, R. (1991) Production of nitric oxide by ammonium-oxidizing bacteria colonizing building stones. FEMS Microbiology Ecology 85, 95-100.

102. Conrad, R., Remde, A., Krämer, M., Baumgärtner, M. and Nägele, W. (1991) Mechanisms of NO exchange between soil and atmosphere, in Transport and Transformation of Pollutants in the Troposhere (Borell, P., Borell, P.M and Seiler, W., Eds.), pp. 123-126. SPB Academic Publishing bv, Den Hague.

103. Conrad, R. and Rothfuss, F. (1991) Methane oxidation in the soil surface layer of a flooded rice field and the effect of ammonium. Biology and Fertility of Soils 12, 28-32.

104. Häring, V. and Conrad, R. (1991) Kinetics of H2 oxidation in respiring and denitrifying *Paracoccus denitrificans*. FEMS Microbiology Letters 78, 259-264.

105. Kalkowski, I. and Conrad, R. (1991) Metabolism of nitric oxide in denitrifying *Pseudomonas aeruginosa* and nitrate-respiring *Bacillus cereus*. FEMS Microbiology Letters 82, 107-112.

106. Kraffzik, B. and Conrad, R. (1991) Thymidine incorporation into lake water bacterioplankton and pure cultures of chemolithotrophic (CO, H2) and methanotrophic bacteria. FEMS Microbiology Ecology 86, 7-14.

107. Krämer, M. and Conrad, R. (1991) Influence of oxygen on production and consumption of NO in soil. Biology and Fertility of Soils 11, 38-42.

108. Krumböck, M. and Conrad, R. (1991) Metabolism of position-labelled glucose in anoxic methanogenic paddy soil and lake sediment. FEMS Microbiology Ecology 85, 247-256.

109. Remde, A. and Conrad, R. (1991) Role of nitrification and denitrification for NO metabolism in soil. Biogeochemistry 12, 189-205.

110. Remde, A. and Conrad, R. (1991) Metabolism of nitric oxide in soil and denitrifying bacteria.. FEMS Microbiology Ecology 85, 81-93.

111. Remde, A. and Conrad, R. (1991) Production and consumption of nitric oxide by denitrifying bacteria under anaerobic and aerobic conditions. FEMS Microbiology Letters 80, 329-332.

112. Schuler, S. and Conrad, R. (1991) Hydrogen oxidation activities in soil as influenced by pH, temperature, moisture and season. Biology and Fertility of Soils 12, 127-130.

113. Schuler, S. and Conrad, R. (1991) Hydrogen oxidation in soil with rhizobial H2 production due to N2 fixation by *Vicia faba* - *Rhizobium leguminosarum* symbiosis. Biology and Fertility of Soils 11, 190-195.

**1992**

114. Baumgärtner, M., Bock, E. and Conrad, R. (1992) Processes involved in uptake and release of nitrogen dioxide from soil and building stones into the atmosphere. Chemosphere 24, 1943-1960.

115. Baumgärtner, M. and Conrad, R. (1992) Role of nitrate and nitrite for production and consumption of nitric oxide during denitrification in soil. FEMS Microbiology Ecology 101, 59-65.

116. Baumgärtner, M. and Conrad, R. (1992) Effects of soil variables and season on the production and consumption of nitric oxide in oxic soils. Biology and Fertility of Soils 14, 166-174.

117. Bender, M. and Conrad, R. (1992) Kinetics of CH4 oxidation in oxic soils exposed to ambient air or high CH4 mixing ratios. FEMS Microbiology Ecology 101, 261-270.

118. Blösl, M. and Conrad, R. (1992) Influence of an increased pH on the composition of the nitrate-reducing microbial populations in an anaerobically incubated acidic forest soil. Systematic and Applied Microbiology 15, 624-627.

119. Frenzel, P., Rothfuss, F. and Conrad, R. (1992) Oxygen profiles and methane turnover in a flooded rice microcosm. Biology and Fertility of Soils 14, 84-89.

120. Sass, R., Denmead, O. T., Conrad, R., Freney, J., Klug, M., Minami, K., Mosier, A., Neue, H. U., Rennenberg, H., Su, W. H. and Wang, M. X. (1992) Exchange of methane and other trace gases in rice cultivation. Ecological Bulletin (Copenhagen) 42, 199-206.

121. Schuster, M. and Conrad, R. (1992) Metabolism of nitric oxide and nitrous oxide during nitrification and denitrification in soil at different incubation conditions. FEMS Microbiology Ecology 101, 133-143.

122. Thebrath, B., Mayer, H. P. and Conrad, R. (1992) Bicarbonate-dependent production and methanogenic consumption of acetate in anoxic paddy soil. FEMS Microbiology Ecology 86, 295-302.

**1993**

123. Bender, M. and Conrad, R. (1993) Kinetics of methane oxidation in oxic soils. Chemosphere 26, 687-696.

124. Bosse, U., Frenzel, P. and Conrad, R. (1993) Inhibition of methane oxidation by ammonium in the surface layer of a littoral sediment. FEMS Microbiology Ecology 13, 123-134.

125. Conrad, R. (1993) Mechanisms controlling methane emission from wetland rice fields, in The Biogeochemistry of Global Change: Radiative Trace Gases (Oremland, R.S., Ed.), pp. 317-335. Chapman & Hall, New York.

126. Conrad, R. (1993) Microbial metabolism of nitric oxide in soil, in Trends in Microbial Ecology (Guerrero, R. and Pedros-Alio, C., Eds.), pp. 67-70. Spanish Society for Microbiology, Barcelona.

127. Conrad, R. and Rasmussen, R. A. (1993) Measurement and research techniques, in Atmospheric Methane: Sources, Sinks, and Role in Global Change. NATO ASI Series (Khalil, M.A.K., Ed.), pp. 7-37. Springer, Berlin.

128. Fetzer, S., Bak, F. and Conrad, R. (1993) Sensitivity of methanogenic bacteria from paddy soil to oxygen and desiccation. FEMS Microbiology Ecology 12, 107-115.

129. Fetzer, S. and Conrad, R. (1993) Effect of redox potential on methanogenesis by *Methanosarcina barkeri*. Archives of Microbiology 160, 108-113.

130. Klüber, D. and Conrad, R. (1993) Ferric iron-reducing *Shewanella putrefaciens* and N2-fixing *Bradyrhizobium japonicum* with uptake hydrogenase are unable to oxidize atmospheric H2. FEMS Microbiology Letters 111, 337-342.

131. Koschorreck, M. and Conrad, R. (1993) Oxidation of atmospheric methane in soil: measurements in the field, in soil cores and in soil samples. Global Biogeochemical Cycles 7, 109-121.

132. Krämer, H. and Conrad, R. (1993) Measurement of dissolved H2 concentrations in methanogenic environments with a gas diffusion probe. FEMS Microbiology Ecology 12, 149-158.

133. Remde, A., Ludwig, J., Meixner, F. X. and Conrad, R. (1993) A study to explain the emission of nitric oxide from a marsh soil. Journal of Atmospheric Chemistry 17, 249-275.

134. Rothfuss, F. and Conrad, R. (1993) Vertical profiles of CH4 concentrations, dissolved substrates and processes involved in CH4 production in a flooded Italian rice field. Biogeochemistry 18, 137-152.

135. Rothfuss, F. and Conrad, R. (1993) Thermodynamics of methanogenic intermediary metabolism in littoral sediment of Lake Constance. FEMS Microbiology Ecology 12, 265-276.

136. Saad, O. A. L. O. and Conrad, R. (1993) Temperature dependence of nitrification, denitrification, and turnover of nitric oxide in different soils. Biology and Fertility of Soils 15, 21-27.

137. Saad, O. A. L. O. and Conrad, R. (1993) Adaption to temperature of nitric oxide-producing nitrate-reducing bacterial populations in soil. Systematic and Applied Microbiology 16, 120-125.

138. Schäfer, F. and Conrad, R. (1993) Metabolism of nitric oxide by *Pseudomonas stutzeri* in culture and soil. FEMS Microbiology Ecology 102, 119-127.

139. Schmidt, U. and Conrad, R. (1993) Biogeochemistry of hydrogen, carbon monoxide and methane in Lake Constance, Germany. Limnology and Oceanography 38, 1214-1222.

140. Thebrath, B., Rothfuss, F., Whiticar, M. J. and Conrad, R. (1993) Methane production in littoral sediment of Lake Constance. FEMS Microbiology Ecology 102, 279-289.

**1994**

141. Bender, M. and Conrad, R. (1994) Microbial oxidation of methane, ammonium and carbon monoxide, and turnover of nitrous oxide and nitric oxide in soils. Biogeochemistry 27, 97-112.

142. Bender, M. and Conrad, R. (1994) Methane oxidation activity in various soils and freshwater sediments. Occurrence, characteristics, vertical profiles and distribution on grain fractions. Journal of Geophysical Research 99, 16531-16540.

143. Conrad, R. (1994) Compensation concentration as critical variable for regulating the flux of trace gases between soil and atmosphere. Biogeochemistry 27, 155-170.

144. Häring, V. and Conrad, R. (1994) Demonstration of two different H2-oxidizing activities in soil using a H2 consumption and a tritium exchange assay. Biology and Fertility of Soils 17, 125-128.

145. Häring, V., Klüber, D. and Conrad, R. (1994) Localization of atmospheric H2-oxidizing soil hydrogenases in different grain fractions of soil. Biology and Fertility of Soils 18, 109-114.

146. Rothfuss, F. and Conrad, R. (1994) Development of a gas diffusion probe for determination of methane concentrations and diffusion characteristics in flooded paddy soil. FEMS Microbiology Ecology 14, 307-318.

147. Rothfuss, F., Frenzel, P. and Conrad, R. (1994) Gas diffusion probe for measurement of CH4 gradients, in Microbial Mats. Structure, Development and Environmental Significance. NATO ASI Series, Vol.G35 (Stal, L.J. and Caumette, P., Eds.), pp. 167-172. Springer, Berlin.

**1995**

148. Achtnich, C., Bak, F. and Conrad, R. (1995) Competition for electron donors among nitrate reducers, ferric iron reducers, sulfate reducers and methanogens in anoxic paddy soil. Biology and Fertility of Soils 19, 65-72.

149. Achtnich, C., Schuhmann, A., Wind, T. and Conrad, R. (1995) Role of interspecies H2 transfer to sulfate and ferric iron-reducing bacteria in acetate consumption in anoxic paddy soil. FEMS Microbiology Ecology 16, 61-70.

150. Bender, M. and Conrad, R. (1995) Effect of methane concentrations and soil conditions on the induction of methane oxidation activity. Soil Biology and Biochemistry 27, 1517-1527.

151. Bollmann, A., Koschorreck, M. and Conrad, R. (1995) Zwei Methoden zur Messung des NO-Umsatzes in Böden. Mitteilungen der Deutschen Bodenkundlichen Gesellschaft 76, 513-516.

152. Chin, K. J. and Conrad, R. (1995) Intermediary metabolism in methanogenic paddy soil and the influence of temperature. FEMS Microbiology Ecology 18, 85-102.

153. Conrad, R. (1995) Soil microbial processes and the cycling of atmospheric trace gases. Philosophical Transactions of the Royal Society London A 351, 219-230.

154. Conrad, R. (1995) Soil microbial processes involved in production and consumption of atmospheric trace gases. Advances in Microbial Ecology 14, 207-250.

155. Conrad, R., Frenzel, P. and Cohen, Y. (1995) Methane emission from hypersaline microbial mats: lack of aerobic methane oxidation activity. FEMS Microbiology Ecology 16, 297-306.

156. Klüber, H. D., Lechner, S. and Conrad, R. (1995) Characterization of populations of aerobic hydrogen-oxidizing soil bacteria. FEMS Microbiology Ecology 16, 167-175.

157. Peters, V. and Conrad, R. (1995) Methanogenic and other strictly anaerobic bacteria in desert soil and other oxic soils. Applied and Environmental Microbiology 61, 1673-1676.

158. Schulz, S. and Conrad, R. (1995) Effect of algal deposition on acetate and methane concentrations in the profundal sediment of a deep lake (Lake Constance). FEMS Microbiology Ecology 16, 251-260.

159. Wind, T. and Conrad, R. (1995) Sulfur compounds, potential turnover of sulfate and thiosulfate, and numbers of sulfate-reducing bacteria in planted and unplanted paddy soil. FEMS Microbiology Ecology 18, 257-266.

**1996**

160. Baumgärtner, M., Koschorreck, M. and Conrad, R. (1996) Oxidative consumption of nitric oxide by heterotrophic bacteria in soil. FEMS Microbiology Ecology 19, 165-170.

161. Conrad, R. (1996) Metabolism of nitric oxide in soil and soil microorganisms and regulation of flux into the atmosphere, in The Microbiology of Atmospheric Trace Gases; Sources, Sinks and Global Change Processes. NATO ASI Series (Murrell, J.C. and Kelly, D.P., Eds.), pp. 167-203. Springer, Berlin.

162. Conrad, R. (1996) Anaerobic hydrogen metabolism in aquatic sediments, in Cycling of Reduced Gases in the Hydrosphere. Mitt. Internat. Verein. Limnol., Vol. 25 (Adams, D.D., Seitzinger, S.P. and Crill, P.M., Eds.), pp. 15-24. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart.

163. Conrad, R. (1996) Soil microorganisms as controllers of atmospheric trace gases (H2, CO, CH4, OCS, N2O, NO). Microbiological Reviews 60, 609-640.

164. Koschorreck, M., Moore, E. and Conrad, R. (1996) Oxidation of nitric oxide by a new heterotrophic *Pseudomonas* sp.. Archives of Microbiology 166, 23-31.

165. Lehmann, S. and Conrad, R. (1996) Characteristics of turnover of carbonyl sulfide in four different soils. Journal of Atmospheric Chemistry 23, 193-207.

166. Peters, V. and Conrad, R. (1996) Sequential reduction processes and initiation of methane production upon flooding of oxic upland soils. Soil Biology and Biochemistry 28, 371-382.

167. Rothfuss, F., Bijnen, F. G. C., Conrad, R., Harren, J. F. M. and Reuss, J. (1996) Combination of photoacoustic detector with gas diffusion probes for the measurement of methane concentration gradients in submerged paddy soil. Chemosphere 33, 2487-2504.

168. Rudolph, J. and Conrad, R. (1996) Flux between soil and atmosphere, vertical concentration profiles in soil, and turnover of nitric oxide: 2. Experiments with naturally layered soil cores. Journal of Atmospheric Chemistry 23, 275-300.

169. Rudolph, J., Koschorreck, M. and Conrad, R. (1996) Oxidative and reductive microbial consumption of nitric oxide in a heathland soil. Soil Biology and Biochemistry 28, 1389-1396.

170. Rudolph, J., Rothfuss, F. and Conrad, R. (1996) Flux between soil and atmosphere, vertical concentration profiles in soil, and turnover of nitric oxide: 1. Measurements on a model soil core. Journal of Atmospheric Chemistry 23, 253-273.

171. Saad, O. A. L. O., Lehmann, S. and Conrad, R. (1996) Influence of thiosulfate on nitrification, denitrification and production of nitric oxide and nitrous oxide in soil. Biology and Fertility of Soils 21, 152-159.

172. Schulz, S. and Conrad, R. (1996) Influence of temperature on pathways to methane production in the permanently cold profundal sediment of Lake Constance. FEMS Microbiology Ecology 20, 1-14.

**1997**

173. Bollmann, A. and Conrad, R. (1997) Enhancement by acetylene of the decomposition of nitric oxide in soil. Soil Biology and Biochemistry 29, 1057-1066.

174. Bollmann, A. and Conrad, R. (1997) Recovery of nitrification and production of NO and N2O after exposure of soil to acetylene. Biology and Fertility of Soils 25, 41-46.

175. Bollmann, A. and Conrad, R. (1997) Acetylene blockage technique leads to underestimation of denitrification rates in oxic soils due to scavenging of intermediate nitric oxide. Soil Biology and Biochemistry 29, 1967-1077.

176. Conrad, R. (1997) Production and consumption of methane in the terrestrial biosphere, in Biogenic Volatile Organic Compounds in the Atmosphere (Helas, G., Slanina, S. and Steinbrecher, R., Eds.), pp. 27-44. SPB Academic Publ., Amsterdam.

177. Conrad, R. (1997) Mechanisms of release of NOx and COS from soil and soil micro-organisms, in Biosphere-Atmosphere Exchange of Pollutants and Trace Substances (Slanina, S., Ed.), pp. 420-425. Springer, Heidelberg.

178. Dannenberg, S., Wudler, J. and Conrad, R. (1997) Agitation of anoxic paddy soil slurries affects the performance of the methanogenic microbial community. FEMS Microbiology Ecology 22, 257-263.

179. Kesselmeier, J., Bode, K., Schjoerring, J. K. and Conrad, R. (1997) Biological mechanisms controlling exchange of trace gases between plants and the atmosphere, in Biosphere-Atmosphere Exchange of Pollutants and Trace Substances (Slanina, S., Ed.), pp. 117-133. Springer, Heidelberg.

180. Koschorreck, M. and Conrad, R. (1997) Kinetics of nitric oxide consumption in tropical soils under oxic and anoxic conditions. Biology and Fertility of Soils 25, 82-88.

181. Krylova, N. I., Janssen, P. H. and Conrad, R. (1997) Turnover of propionate in methanogenic paddy soil. FEMS Microbiology Ecology 23, 107-117.

182. Lechner, S. and Conrad, R. (1997) Detection in soil of aerobic hydrogen-oxidizing bacteria related to *Alcaligenes eutrophus* by PCR and hybridization assays targeting the gene of the membrane-bound (NiFe) hydrogenase. FEMS Microbiology Ecology 22, 193-206.

183. Rothfuss, F., Bender, M. and Conrad, R. (1997) Survival and activity of bacteria in a deep, aged lake sediment (Lake Constance). Microbial Ecology 33, 69-77.

184. Roy, R., Klüber, H. D. and Conrad, R. (1997) Early initiation of methane production in anoxic rice soil despite the presence of oxidants. FEMS Microbiology Ecology 24, 311-320.

185. Schulz, S., Matsuyama, H. and Conrad, R. (1997) Temperature dependence of methane production from different precursors in a profundal sediment (Lake Constance). FEMS Microbiology Ecology 22, 207-213.

186. Wind, T. and Conrad, R. (1997) Localization of sulfate reduction in planted and unplanted rice field soil. Biogeochemistry 37, 253-278.

**1998**

187. Arth, I., Frenzel, P. and Conrad, R. (1998) Denitrification coupled to nitrification in the rhizosphere of rice. Soil Biology and Biochemistry 30, 509-515.

188. Bollmann, A. and Conrad, R. (1998) Influence of O2 availability on NO and N2O release by nitrification and denitrification in soils. Global Change Biology 4, 387-396.

189. Chin, K. J., Rainey, F. A., Janssen, P. H. and Conrad, R. (1998) Methanogenic degradation of polysaccharides and the characterization of polysaccharolytic clostridia from anoxic rice field soil. Systematic and Applied Microbiology 21, 185-200.

190. Gödde, M. and Conrad, R. (1998) Simultaneous measurement of nitric oxide production and consumption in soil using a simple static incubation system, and the effect of soil water content on the contribution of nitrification. Soil Biology and Biochemistry 30, 433-442.

191. Henckel, T. and Conrad, R. (1998) Characterization of microbial NO production, N2O production and CH4 oxidation initiated by aeration of anoxic rice field soil. Biogeochemistry 40, 17-36.

192. Klüber, H. D. and Conrad, R. (1998) Effects of nitrate, nitrite, NO and N2O on methanogenesis and other redox processes in anoxic rice field soil. FEMS Microbiology Ecology 25, 301-318.

193. Klüber, H. D. and Conrad, R. (1998) Inhibitory effects of nitrate, nitrite, NO and N2O on methanogenesis by *Methanosarcina barkeri* and *Methanobacterium bryantii*. FEMS Microbiology Ecology 25, 331-339.

194. Krylova, N. I. and Conrad, R. (1998) Thermodynamics of propionate degradation in methanogenic paddy soil. FEMS Microbiology Ecology 26, 281-288.

195. Peters, V., Janssen, P. H. and Conrad, R. (1998) Efficiency of hydrogen utilization during unitrophic and mixotrophic growth of *Acetobacterium woodii* on hydrogen and lactate in the chemostat. FEMS Microbiology Ecology 26, 317-324.

196. Ratering, S. and Conrad, R. (1998) Effects of short-term drainage and aeration on the production of methane in submerged rice field soil. Global Change Biology 4, 397-407.

197. Rothfuss, F. and Conrad, R. (1998) Effect of gas bubbles on the diffusive flux of methane in anoxic paddy soil. Limnology and Oceanography 43, 1511-1518.

198. Stubner, S., Wind, T. and Conrad, R. (1998) Sulfur oxidation in rice field soil : activity, enumeration, isolation and characterization of chemolithotrophic thiosulfate-oxidizing bacteria. Systematic and Applied Microbiology 21, 569-578.

**1999**

199. Asman, W. A. H., Andreae, M. O., Conrad, R., Denmead, O. T., Ganzeveld, L. N., Helder, T., Kaminski, T., Sofiev, M. A. and Trumbore, S. E. (1999) Working group report: How can fluxes of trace gases be validated between different scales, in Approaches to Scaling of Trace Gas Fluxes in Ecosystems (Bouwman, A.F., Ed.), pp. 85-97. Elsevier, Amsterdam.

200. Bollmann, A., Koschorreck, M., Meuser, K. and Conrad, R. (1999) Comparison of two different methods to measure the nitric oxide turnover in soils. Biology and Fertility of Soils 29, 104-110.

201. Chidthaisong, A., Rosenstock, B. and Conrad, R. (1999) Measurement of monosaccharides and conversion of glucose to acetate in anoxic rice field soil. Applied and Environmental Microbiology 65, 2350-2355.

202. Chin, K. J., Lukow, T. and Conrad, R. (1999) Effect of temperature on structure and function of the methanogenic archaeal community in an anoxic rice field soil. Applied and Environmental Microbiology 65, 2341-2349.

203. Chin, K. J., Lukow, T., Stubner, S. and Conrad, R. (1999) Structure and function of the methanogenic archaeal community in stable cellulose-degrading enrichment cultures at two different temperatures (15oC and 30oC). FEMS Microbiology Ecology 30, 313-326.

204. Conrad, R. (1999) Soil microorganisms oxidizing atmospheric trace gases (CH4, CO, H2, NO). Indian Journal of Microbiology 39, 193-203.

205. Conrad, R. (1999) Contribution of hydrogen to methane production and control of hydrogen concentrations in methanogenic soils and sediments. FEMS Microbiology Ecology 28, 193-202.

206. Conrad, R. and Dentener, F. J. (1999) The application of compensation point concepts in scaling of fluxes, in Approaches to Scaling of Trace Gas Fluxes in Ecosystems (Bouwman, A.F., Ed.), pp. 205-216. Elsevier, Amsterdam.

207. Conrad, R. and Klose, M. (1999) How specific is the inhibition by methyl fluoride of acetoclastic methanogenesis in anoxic rice field soil ?. FEMS Microbiology Ecology 30, 47-56.

208. Conrad, R. and Klose, M. (1999) Anaerobic conversion of carbon dioxide to methane, acetate and propionate on washed rice roots. FEMS Microbiology Ecology 30, 147-155.

209. Dannenberg, S. and Conrad, R. (1999) Effect of rice plants on methane production and rhizospheric metabolism in paddy soil. Biogeochemistry 45, 53-71.

210. Dunfield, P. F., Liesack, W., Henckel, T., Knowles, R. and Conrad, R. (1999) High-affinity methane oxidation by a soil enrichment culture containing a type II methanotroph. Applied and Environmental Microbiology 65, 1009-1014.

211. Gödde, M. and Conrad, R. (1999) Immediate and adaptational temperature effects on nitric oxide production and nitrous oxide release from nitrification and denitrification in two soils. Biology and Fertility of Soils 30, 33-40.

212. Henckel, T., Friedrich, M. and Conrad, R. (1999) Molecular analysis of the methane-oxidizing microbial community in rice field soil by targeting the genes of the 16S rRNA, particulate methane monooxygenase, and methanol dehydrogenase. Applied and Environmental Microbiology 65, 1980-1990.

213. Lehmann-Richter, S., Großkopf, R., Liesack, W., Frenzel, P. and Conrad, R. (1999) Methanogenic archaea and CO2-dependent methanogenesis on washed rice roots. Environmental Microbiology 1, 159-166.

214. Peters, V., Janssen, P. H. and Conrad, R. (1999) Transient production of formate during chemolithotrophic growth of anaerobic microorganisms on hydrogen. Current Microbiology 38, 285-289.

215. Roy, R. and Conrad, R. (1999) Effect of methanogenic precursors (acetate, hydrogen, propionate) on the suppression of methane production by nitrate in anoxic rice field soil. FEMS Microbiology Ecology 49, 49-61.

216. Wind, T., Stubner, S. and Conrad, R. (1999) Sulfate-reducing bacteria in rice field soil and on rice roots. Systematic and Applied Microbiology 22, 269-279.

217. Yao, H. and Conrad, R. (1999) Thermodynamics of methane production in different rice paddy soils from China, the Philippines, and Italy. Soil Biology and Biochemistry 31, 463-473.

1. Yao, H., Conrad, R., Wassmann, R. and Neue, H. U. (1999) Effect of soil characteristics on sequential reduction and methane production in sixteen rice paddy soils from China, the Philippines, and Italy. Biogeochemistry 47, 269-295.

**2000**

1. Chidthaisong, A. and Conrad, R. (2000) Specificity of chloroform, 2-bromoethanesulfonate and fluoroacetate to inhibit methanogenesis and other anaerobic processes in anoxic rice field soil. Soil Biology and Biochemistry 32, 977-988.
2. Chidthaisong, A. and Conrad, R. (2000) Pattern of methanogenic and non-methanogenic degradation of cellulose in anoxic rice field soil. FEMS Microbiology Ecology 31, 87-94.
3. Chidthaisong, A. and Conrad, R. (2000) Turnover of glucose and acetate coupled to reduction of nitrate, ferric iron and sulfate, and to methanogenesis in anoxic rice field soil. FEMS Microbiology Ecology 31, 73-86.
4. Conrad, R. (2000) Methoden der *in situ*-Messung von Spurengas-Flüssen. Biospektrum 6, 122-124.
5. Conrad, R. (2000) Microbes and the atmosphere, in Encyclopaedia of Microbiology, Vol. 3 (Lederberg, J., Ed.), pp. 256-263. Academic Press, San Diego (CA).
6. Conrad, R., Bollmann, A., Yao, H. and Roy, R. (2000) Effect of water management on soil microbial communities and atmospheric trace gases, in Microbial Biosystems: New Frontiers (Bell, C.R., Brylinsky, M. and Johnson-Green, P., Eds.), pp. 805-812. Atlantic Canada Society for Microbiology, Halifax.
7. Conrad, R. and Klose, M. (2000) Selective inhibition of reactions involved in methanogenesis and fatty acid production on rice roots. FEMS Microbiology Ecology 34, 27-34.
8. Conrad, R., Klose, M. and Claus, P. (2000) Phosphate inhibits acetotrophic methanogenesis on rice roots. Applied and Environmental Microbiology 66, 828-831.
9. Conrad, R. and Meuser, K. (2000) Soils contain more than one activity consuming carbonyl sulfide. Atmospheric Environment 34, 3635-3639.
10. Dunfield, P. F. and Conrad, R. (2000) Starvation alters the apparent half-saturation constant for methane in the type II methanotroph *Methylocystis* strain LR1. Applied and Environmental Microbiology 66, 4136-4138.
11. Fey, A. and Conrad, R. (2000) Effect of temperature on carbon and electron flow and on the archaeal community in methanogenic rice field soil. Applied and Environmental Microbiology 66, 4790-4797.
12. Glissmann, K. and Conrad, R. (2000) Fermentation pattern of methanogenic degradation of rice straw in anoxic paddy soil. FEMS Microbiology Ecology 31, 117-126.
13. Gödde, M. and Conrad, R. (2000) Influence of soil properties on the turnover of nitric oxide and nitrous oxide by nitrification and denitrification at constant temperature and moisture. Biology and Fertility of Soils 32, 120-128.
14. Gödde, M., Meuser, K. and Conrad, R. (2000) Hydrogen consumption and carbon monoxide production in soils with different properties. Biology and Fertility of Soils 32, 129-134.
15. Henckel, T., Jäckel, U., Schnell, S. and Conrad, R. (2000) Molecular analysis of novel methanotrophic communities in forest soil oxidizing atmospheric methane. Applied and Environmental Microbiology 66, 1801-1808.
16. Henckel, T., Roslev, P. and Conrad, R. (2000) Effects of O2 and CH4 on presence and activity of the indigenous methanotrophic community in rice field soil. Environmental Microbiology 2, 666-679.
17. Lüdemann, H. and Conrad R. (2000) Molecular retrieval of large 16S rRNA fragments from an Italian rice paddy soil affiliated with the class *Actinobacteria*. Systematic and Applied Microbiology 23, 582-584.
18. Nüsslein, B. and Conrad, R. (2000) Methane production in eutrophic Lake Plußsee: seasonal change, temperature effect and metabolic processes in the profundal sediment. Archiv für Hydrobiologie 149, 597-623.
19. Ramakrishnan, B., Lueders, T., Conrad, R. and Friedrich, M. (2000) Effect of soil aggregate size on methanogenesis and archaeal community structure in anoxic rice field soil. FEMS Microbiology Ecology 32, 261-270.
20. Scholten, J. C. M., Conrad, R. and Stams, A. J. M. (2000) Effect of 2-bromo-ethane sulfonate, molybdate and chloroform on acetate consumption by methanogenic and sulfate-reducing communities in a freshwater sediment. FEMS Microbiology Ecology 32, 35-42.
21. Scholten, J. C. M. and Conrad, R. (2000) Energetics of syntrophic propionate oxidation in defined batch and chemostat cocultures. Applied and Environmental Microbiology 66, 2934-2942.
22. Yao, H. and Conrad, R. (2000) Effect of temperature on reduction of iron and production of CO2 and CH4 in anoxic wetland rice soils. Biology and Fertility of Soils 32, 135-141.
23. Yao, H. and Conrad, R. (2000) Electron balance during steady state production of CH4 and CO2 in anoxic rice soil. European Journal of Soil Science 51, 369-378.

**2001**

1. Conrad, R. (2001) Evaluation of data on the turnover of NO and N2O by oxidative versus reductive microbial processes in different soils. Phyton (Austria) 41, 61-72.
2. Dan, J., Krüger, M., Frenzel, P. and Conrad, R. (2001) Effect of urea fertilization on methane emission from an rice field in Italy. Agriculture, Ecosystems & Environment 83, 191-199.
3. Fey, A., Chin, K. J. and Conrad, R. (2001) Thermophilic methanogens in rice field soil. Environmental Microbiology 3, 295-303.
4. Glissmann, K., Weber, S. and Conrad, R. (2001) Localization of processes involved in methanogenic degradation of rice straw in anoxic paddy soil. Environmental Microbiology 3, 502-511.
5. Henckel, T., Jäckel, U. and Conrad, R. (2001) Vertical distribution of the methanotrophic community after drainage of rice field soil. FEMS Microbiology Ecology 34, 279-291.
6. Jäckel, U., Schnell, S. and Conrad, R. (2001) Effect of moisture, texture and aggregate size of paddy soil on production and consumption of CH4. Soil Biology and Biochemistry 33, 965-971.
7. Kotsyurbenko, O. R., Glagolev, M. V., Nozhevnikova, A. N. and Conrad, R. (2001) Competition between homoacetogenic bacteria and methanogenic archaea for hydrogen at low temperature. FEMS Microbiology Ecology 38, 153-159.
8. Krüger, M., Frenzel, P. and Conrad, R. (2001) Microbial processes influencing methane emission from rice fields. Global Change Biology 7, 49-64.
9. Lueders, T., Chin, K. J., Conrad, R. and Friedrich, M. (2001) Molecular analyses of methyl-coenzyme M reductase -subunit (*mcrA*) genes in rice field soil and enrichment cultures reveal the methanogenic phenotype of a novel archaeal lineage. Environmental Microbiology 3, 194-204.
10. Nüsslein, B., Chin, K. J., Eckert, W. and Conrad, R. (2001) Evidence for anaerobic syntrophic acetate oxidation during methane production in the profundal sediment of subtropical Lake Kinneret (Israel). Environmental Microbiology 3, 460-470.
11. Ramakrishnan, B., Lueders, T., Dunfield, P. F., Conrad, R. and Friedrich, M. W. (2001) Archaeal community structures in rice soils from different geographical regions before and after initiation of methane production. FEMS Microbiology Ecology 37, 175-186.
12. Weber, S., Stubner, S. and Conrad, R. (2001) Bacterial populations colonizing and degrading rice straw in anoxic paddy soil. Applied and Environmental Microbiology 67, 1318-1327.
13. Weber, S., Lueders, T., Friedrich, M. W. and Conrad, R. (2001) Methanogenic populations involved in the degradation of rice straw in anoxic paddy soil. FEMS Microbiology Ecology 38, 11-20.
14. Wu, X. L. and Conrad, R. (2001) Functional and structural response of a cellulose-degrading methanogenic microbial community to multiple aeration stress at two different temperatures. Environmental Microbiology 3, 355-362.
15. Wu, X. L., Chin, K. J., Stubner, A. and Conrad, R. (2001) Functional patterns and temperature response of cellulose-fermenting microbial cultures containing different methanogenic communities. Applied Microbiology and Biotechnology 56, 212-219.
16. Yao, H. and Conrad, R. (2001) Thermodynamics of propionate degradation in anoxic paddy soil from different rice-growing regions. Soil Biology and Biochemistry 33, 359-364.

**2002**

1. Avrahami, S., Conrad, R. and Braker, G. (2002) Effect of soil ammonium concentration on N2O release and the community structure of ammonia oxidizers and denitrifiers. Applied and Environmental Microbiology 68, 5685-5692.
2. Conrad, R. (2002) Control of microbial methane production in wetland rice fields. Nutrient Cycling in Agroecosystems 64, 59-69.
3. Conrad, R. (2002) Microbiological and biochemical background of production and consumption of NO and N2O in soil, in Trace Gas Exchange in Forest Ecosystems (Gasche, R., Papen, H. and Rennenberg, H., Eds.), pp. 3-33. Kluwer, Dordrecht (NL).
4. Conrad, R. and Frenzel, P. (2002) Flooded soils, in The Encyclopedia of Environmental Microbiology (Bitton, G., Ed.), pp. 1316-1333. Wiley, New York.
5. Conrad, R., Klose, M. and Claus, P. (2002) Pathway of CH4 formation in anoxic rice field soil and rice roots determined by 13C-stable isotope fractionation. Chemosphere 47, 797-806.
6. Glissmann, K. and Conrad, R. (2002) Saccharolytic activity and its role as a limiting step in methane formation during the anaerobic degradation of rice straw in rice paddy soil. Biology and Fertility of Soils 35, 62-67.
7. Hoffmann, T., Horz, H. P., Kemnitz, D. and Conrad, R. (2002) Diversity of the particulate methane monooxygenase gene in methanotrophic samples from different rice fields in China and the Philippines. Systematic and Applied Microbiology 25, 267-274.
8. Horz, H. P., Raghubanshi, A., Heyer, J., Kammann, C., Conrad, R. and Dunfield, P. (2002) Activity and community structure of methane-oxidising bacteria in a wet meadow soil. FEMS Microbiology Ecology 41, 247-257.
9. Krüger, M., Eller, G., Conrad, R. and Frenzel, P. (2002) Seasonal variation in pathways of CH4 production and in CH4 oxidation in rice fields determined by stable isotopes and specific inhibitors. Global Change Biology 8, 265-280.
10. Wu, X. L., Chin, K. J. and Conrad, R. (2002) Effect of temperature stress on structure and function of the methanogenic archaeal community in a rice field soil. FEMS Microbiology Ecology 39, 211-218.

**2003**

1. Avrahami, S. and Conrad, R. (2003) Patterns of community change among ammonia oxidizers in meadow soils upon long-term incubation at different temperatures. Applied and Environmental Microbiology 69, 6152-6164.
2. Avrahami, S., Liesack, W. and Conrad, R. (2003) Effects of temperature and fertilizer on activity and community structure of soil ammonia oxidizers. Environmental Microbiology 5, 691-705.
3. Fey, A. and Conrad, R. (2003) Effect of temperature on the rate-limiting step in the methanogenic degradation pathway in rice field soil. Soil Biology and Biochemistry 35, 1-8.
4. Kolb, S., Knief, C., Stubner, S. and Conrad, R. (2003) Quantitative detection of methanotrophs in soil by novel pmoA-targeted real time PCR assays. Applied and Environmental Microbiology 69, 2423-2429.
5. Nüsslein, B., Eckert, W. and Conrad, R. (2003) Stable isotope biogeochemistry of methane formation in profundal sediments of Lake Kinneret (Israel). Limnology and Oceanography 48, 1439-1446.
6. Scheid, D., Stubner, S. and Conrad, R. (2003) Effects of nitrate- and sulfate-amendment on the methanogenic populations in rice root incubations. FEMS Microbiology Ecology 43, 309-315.
7. Simankova, M. V., Kotsyurbenko, O. R., Lueders, T., Nozhevnikova, A. N., Wagner, B., Conrad, R. and Friedrich, M. W. (2003) Isolation and description of new strains of methanogens from different cold habitats. Systematic and Applied Microbiology 26, 312-318.

**2004**

1. Chin, K. J., Lueders, T., Friedrich, M. W., Klose, M. and Conrad, R. (2004) Archaeal community structure and pathway of methane formation on rice roots. Microbial Ecology 47, 59-67.
2. Conrad, R. (2004) Methanogenic microbial communities associated with aquatic plants, in Plant Surface Microbiology (Varma, A., Abbott, L., Werner, D. and Hampp, R., Eds.), pp. 35-50. Springer, Berlin.
3. Fey, A., Claus, P. and Conrad, R. (2004) Temporal change of 13C-isotope signatures and methanogenic pathways in rice field soil incubated anoxically at different temperatures. Geochimica et Cosmochimica Acta 68, 293-306.
4. Glissmann, K., Chin, K. J., Casper, P. and Conrad, R. (2004) Methanogenic pathway and archaeal community structure in the sediment of eutrophic Lake Dagow: effect of temperature. Microbial Ecology 48, 389-399.
5. Jäckel, U., Schnell, S. and Conrad, R. (2004) Microbial ethylene production and inhibition of methanotrophic activity in a deciduous forest soil. Soil Biology and Biochemistry 36, 835-840.
6. Kemnitz, D., Chin, K. J., Bodelier, P. and Conrad, R. (2004) Community analysis of methanogenic archaea within a riparian flooding gradient. Environmental Microbiology 6, 449-461.
7. Kotsyurbenko, O. R., Chin, K. J., Glagolev, M. V., Stubner, S., Simankova, M. V., Nozhevnikova, A. N. and Conrad, R. (2004) Acetoclastic and hydrogenotrophic methane production and methanogenic populations in an acidic West-Siberian peat bog. Environmental Microbiology 6, 1159-1173.
8. Scheid, D., Stubner, S. and Conrad, R. (2004) Identification of rice root associated nitrate, sulfate and ferric iron reducing bacteria during root decomposition. FEMS Microbiology Ecology 50, 101-110.

**2005**

1. Avrahami, S. and Conrad, R. (2005) Cold-temperate climate: a factor for selection of ammonia oxidizers in upland soil? Can. J. Microbiol., 51, 709-714.
2. Chan, O. C., Claus, P., Casper, P., Ulrich, A., Lueders, T., and Conrad, R. (2005) Vertical distribution of structure and function of the methanogenic archaeal community in Lake Dagow sediment. Environ. Microbiol., 7, 1139-1149.
3. Conrad, R. (2005) Quantification of methanogenic pathways using stable carbon isotopic signatures: a review and a proposal. Org. Geochem., 36, 739-752.
4. Conrad, R. and Claus, P. (2005) Contribution of methanol to the production of methane and its 13C-isotopic signature in anoxic rice field soil. Biogeochem., 73, 381-393.
5. Conrad, R. and Klose, M. (2005) Effect of potassium phosphate fertilization on production and emission of methane and its 13C-stable isotope composition. Soil Biol. Biochem., 37, 2099-2108.
6. Erkel, C., Kemnitz, D., Kube, M., Ricke, P., Chin, K. J., Dedysh, S., Reinhardt, R., Conrad, R., and Liesack, W. (2005) Retrieval of first genome data for rice cluster I methanogens by a combination of cultivation and molecular techniques. FEMS Microbiol. Ecol., 53, 187-204.
7. Galand, P. E., Fritze, H., Conrad, R., and Yrjälä, K. (2005) Pathways for methanogenesis and diversity of methanogenic archaea in three boreal peatland ecosystems. Appl. Environ. Microbiol., 71, 2195-2198.
8. Glissmann, K., Hammer, E., and Conrad, R. (2005) Production of aromatic compounds during methanogenic degradation of straw in rice field soil. FEMS Microbiol. Ecol., 52, 43-48.
9. Graff, A. and Conrad, R. (2005) Impact of flooding on soil bacterial communities associated with poplar (*Populus* sp.) trees. FEMS Microbiol. Ecol., 53, 401-415.
10. Kemnitz, D., Kolb, S., and Conrad, R. (2005) Phenotypic characterization of Rice Cluster III archaea without prior isolation by applying quantitative polymerase chain reaction to an enrichment culture. Environ. Microbiol., 7, 553-565.
11. Knief, C., Vanitchung, S., Harvey, N. W., Conrad, R., Dunfield, P. F., and Chidthaisong, A. (2005) Diversity of methanotrophic bacteria in tropical upland soils under different land uses. Appl. Environ. Microbiol., 71, 3826-3831.
12. Kolb, S., Knief, C., Dunfield, P. F., and Conrad, R. (2005) Abundance and activity of uncultured methanotrophic bacteria involved in the consumption of atmospheric methane in two forest soils. Environ. Microbiol., 7, 1150-1161.
13. Kolb, S., Carbrera, A., Kammann, C., Kämpfer, P., Conrad, R., and Jäckel, U. (2005) Quantitative impact of CO2 enriched atmosphere on abundances of methanotrophic bacteria in a meadow soil. Biol. Fertil. Soils, 41, 337-342.
14. Krüger, M., Frenzel, P., Kemnitz, D., and Conrad, R. (2005) Activity, structure and dynamics of the methanogenic archaeal community in a flooded Italian rice field. FEMS Microbiol. Ecol., 51, 323-331.
15. Lu, Y. H. and Conrad, R. (2005) In situ stable isotope probing of methanogenic archaea in the rice rhizosphere. Science, 309, 1088-1090.
16. Lu, Y. H., Lueders, T., Friedrich, M. W., and Conrad, R. (2005) Detecting active methanogenic populations on rice roots using stable isotope probing. Environ. Microbiol., 7, 326-336.
17. Penning, H., Plugge, C. M., Galand, P. E., and Conrad, R. (2005) Variation of carbon isotope fractionation in hydrogenotrophic methanogenic microbial cultures and environmental samples at different energy status. Global Change Biol., 11, 2103-2113.

**2006**

1. Conrad, R. and Klose, M. (2006) Dynamics of the methanogenic archaeal community in anoxic rice soil upon addition of straw. Eur. J. Soil Sci., 57, 476-484.
2. Conrad, R., Erkel, C., and Liesack, W. (2006) Rice Cluster I methanogens, an important group of *Archaea* producing greenhouse gas in soil [Review]. Curr. Opinion Biotechnol., 17, 262-267.
3. Kusmin, A., Bazhin, N. M., and Conrad, R. (2006) Experimental test of a mechanistic model of production, flux and gas bubble zonation in non-vegetated flooded rice field soil. Biogeochem., 78, 315-342.
4. Leybo, A. I., Netrusov, A. I., and Conrad, R. (2006) Effect of hydrogen concentration on the community structure of hydrogenotrophic methanogens studied by T-RFLP analysis of 16S rRNA gene amplicons. Microbiology - Engl. Trans., 75, 683-688.
5. Lu, Y. H., Rosencrantz, D., Liesack, W., and Conrad, R. (2006) Structure and activity of bacterial community inhabiting rice roots and the rhizosphere. Environ. Microbiol., 8, 1351-1360.
6. Mohanty, S. R., Bodelier, P. L. E., Floris, V., and Conrad, R. (2006) Differential effects of nitrogenous fertilizers on methane-consuming microbes in rice field and forest soils. Appl. Environ. Microbiol., 72, 1346-1354.
7. Penning, H., Claus, P., Casper, P., and Conrad, R. (2006) Carbon isotope fractionation during acetoclastic methanogenesis by *Methanosaeta concillii* in culture and a lake sediment. Appl. Environ. Microbiol., 72, 5648-5652.
8. Penning, H. and Conrad, R. (2006) Carbon isotope effects associated with mixed.acid fermentation of saccharides by *Clostridium papyrosolvens*. Geochim. Cosmochim. Acta, 70, 2283-2297.
9. Penning, H., Tyler, S. C., and Conrad, R. (2006) Determination of isotope fractionation factors and quantification of carbon flow by stable carbon isotope signatures in a methanogenic rice root model system. Geobiology, 4, 109-121.
10. Penning, H. and Conrad, R. (2006) Effect of inhibition of acetoclastic methanogenesis on growth of archaeal populations in an anoxic model environment. Appl. Environ. Microbiol., 72, 178-184.
11. Wu, X. L., Friedrich, M. W., and Conrad, R. (2006) Diversity and ubiquity of thermophilic methanogenic archaea in temperate anoxic soils. Environ. Microbiol., 8, 394-404.

**2007**

1. Conrad, R., Chan, O. C., Claus, P., and Casper, P. (2007) Characterization of methanogenic archaea and stable isotope fractionation during methane production in the profundal sediment of an oligotrophic lake (Lake Stechlin, Germany). Limnol. Oceanogr., 52, 1393-1406.
2. Conrad, R. (2007). Microbial ecology of methanogens and methanotrophs.Adv.Agron. 96, 1-63.
3. Conrad, R. (2007) Soil microbial communities and global climate change - methanotrophic and methanogenic communities as paradigms. In: Modern Soil Microbiology: Second Edition, (VanElsas, J. D., Jansson, J., and Trevors, J. T., Eds.), pp. 263-282. CRC Press, Boca Raton (FL).
4. Eckert, W. and Conrad, R. (2007) Sulfide and methane evolution in the hypolimnion of a subtropical lake: a three-year study. Biogeochem., 82, 67-76.
5. Erkel, C., Conrad, R., and Liesack, W. (2007) Rice Cluster I - Archaea: Methanproduzierende Mikroorganismen im Reisfeldboden. Biospektrum, 13, 617-619.
6. Hori, T., Noll, M., Igarashi, Y., Friedrich, M. W., and Conrad, R. (2007) Identification of acetate-assimilating microorganisms under methanogenic conditions in anoxic rice field soil by comparative stable isotope probing of RNA. Appl. Environ. Microbiol., 73, 101-109.
7. Kemnitz, D., Kolb, S., and Conrad, R. (2007) High abundance of *Crenarchaeota* in a temperate acidic forest soil. FEMS Microbiol. Ecol., 60, 442-448.
8. Kotsyurbenko, O. R., Friedrich, M. W., Simankova, M. V., Nozhevnikova, A. N., Golyshin, P. N., Timmis, K. N., and Conrad, R. (2007) Shift from acetoclastic to H2-dependent methanogenesis in a West Siberian peat bog at low pH and isolation of an acidophilic *Methanobacterium* strain. Appl. Environ. Microbiol., 73, 2344-2348.
9. Lu, Y. H., Abraham, W. R., and Conrad, R. (2007) Spatial variation of active microbiota in the rice rhizosphere revealed by in situ stable isotope probing of phospholipid fatty acids. Environ. Microbiol., 9, 474-481.
10. Mohanty, S.R., Bodelier, P. L. E., and Conrad, R. (2007) Effect of temperature on composition of the methanotrophic community in rice field and forest soil.FEMS Microbiol.Ecol*.* 62, 24-31, 2007.
11. Schwarz, J. I. K., Eckert, W., and Conrad, R. (2007) Community structure of *Archaea* and *Bacteria* in a profundal sediment, Lake Kinneret (Israel). Syst. Appl. Microbiol., 30, 239-254.
12. Schwarz, J. I. K., Lueders, T., Eckert, W., and Conrad, R. (2007) Identification of acetate-utilizing *Bacteria* and *Archaea* in methanogenic profundal sediments of Lake Kinneret (Israel) by stable isotope probing of rRNA. Environ. Microbiol., 91, 223-237.

**2008**

1. Conrad, R. (2008) Temperature effects on methanogenic microbial communities. In: Microbes and the Environment: Perspectives and Challenges, (Liu, S. J. and Drake, H. L., Eds.), pp. 35-40. Science Press, Beijing.
2. Conrad, R., Klose, M., Noll, M., Kemnitz, D., and Bodelier, P. L. E. (2008) Soil type links microbial colonization of rice roots to methane emission. Global Change Biol., 14, 657-669.
3. Goevert, D. and Conrad, R. (2008) Carbon isotope fractionation by sulfate-reducing bacteria using different pathways for the oxidation of acetate. Environ. Sci. Technol., 42, 7813-7817.
4. Guo, R. and Conrad, R. (2008) Extraction and characterization of soil hydrogenases oxidizing atmospheric hydrogen. Soil Biol. Biochem., 40, 1149-1154.
5. Menyailo, O. V., Hungate, B. A., Abraham, W. R., and Conrad, R. (2008) Changing land use reduces soil CH4 uptake by altering biomass and activity but not composition of high-affinity methanotrophs. Global Change Biol., 14, 2405-2419.
6. Noll, M., Frenzel, P., and Conrad, R. (2008) Selective stimulation of Type I methanotrophs in a rice paddy by urea fertilization revealed by RNA-based stable isotope probing. FEMS Microbiol. Ecol., 65, 125-132.
7. Qiu, Q. F., Noll, M., Abraham, W. R., Lu, Y. H., and Conrad, R. (2008) Applying stable isotope probing of phospholipid fatty acids and rRNA in a Chinese rice field to study activity and composition of the methanotrophic bacterial communities in situ. ISME J., 2, 602-614.
8. Schwarz, J. I. K., Eckert, W., and Conrad, R. (2008) Response of the methanogenic microbial community of a profundal lake sediments (Lake Kinneret, Israel) to algal deposition. Limnol. Oceanogr., 53, 113-121.
9. Shrestha, M., Abraham, W. R., Shrestha, P. M., Noll, M., and Conrad, R. (2008) Activity and composition of methanotrophic bacterial communities in planted rice soil studied by flux measurements, analyses of *pmoA* gene and stable isotope probing of phospholipid fatty acids. Environ. Microbiol., 10, 400-412.

**2009**

1. Angel, R. and Conrad, R. (2009) *In situ* measurement of methane fluxes and analysis of transcribed particulate methane monooxygenase in desert soils. Environ. Microbiol., 11, 2598-2610.
2. Bremer, C., Braker, G., Matthies, D., Beierkuhnlein, C., and Conrad, R. (2009) Plant presence and species combination but not diversity influence denitrifier activity and the composition of *nirK*-type denitrifier communities in grassland soil. FEMS Microbiol. Ecol., 70, 377-387.
3. Conrad, R. (2009) The global methane cycle: Recent advances in understanding the microbial processes involved [review]. Environ. Microbiol. Reports, 1, 285-292.
4. Conrad, R., Klose, M., and Noll, M. (2009) Functional and structural response of the methanogenic microbial community in rice field soil to temperature change. Environ. Microbiol., 11, 1844-1853.
5. Conrad, R., Claus, P., and Casper, P. (2009) Characterization of stable isotope fractionation during methane production in the sediment of a eutrophic lake, Lake Dagow, Germany. Limnol. Oceanogr., 54, 457-471.
6. Conrad, R., Klose, M., Claus, P., and Dan, J. (2009) Activity and composition of the methanogenic archaeal community in soil vegetated with wild rice versus cultivated rice. Soil Biol. Biochem., 41, 1390-1395.
7. Goevert, D. and Conrad, R. (2009) Effect of substrate concentration on carbon isotope fractionation during acetoclastic methanogenesis by *Methanosarcina barkeri*, *M. acetivorans* and in rice field soil. Appl. Environ. Microbiol., 75, 2605-2612.
8. Jia, Z. and Conrad, R. (2009) *Bacteria* rather than *Archaea* dominate microbial ammonia oxidation in an agricultural soil. Environ. Microbiol., 11, 1658-1671.
9. Qiu, Q., Conrad, R., and Lu, Y. (2009) Cross feeding of methane carbon among bacteria on rice roots revealed by DNA-stable isotope probing. Environ. Microbiol. Reports, 1, 355-361.
10. Yuan, Y., Conrad, R., and Lu, Y. (2009) Responses of methanogenic archaeal community to oxygen exposure in rice field soil. Environ. Microbiol. Reports, 1, 347-354.

**2010**

1. Braker, G., Schwarz, J. I. K., Conrad, R. (2010) Influence of temperature on the composition and activity of denitrifying soil communities. FEMS Microbiol. Ecol. 73, 134-148.
2. Chowdhury, S. P. and Conrad, R. (2010) Thermal deactivation of high affinity H2 uptake activity in soils. Soil Biol. Biochem. 42, 1574-1580.
3. Conrad, R., Claus, P., Casper, P. (2010) Stable isotope fractionation during the methanogenic degradation of organic matter in the sediment of an acidic bog lake, Lake Grosse Fuchskuhle. Limnol. Oceanogr. 55, 1932-1942.
4. Conrad, R., Klose, M., Claus, P., Enrich-Prast, A. (2010) Methanogenic pathway, 13C isotope fractionation, and archaeal community composition in the sediment of two clearwater lakes of Amazonia. Limnol. Oceanogr. 55, 689-702.
5. Constant, P., Chowdhury, S. P., Pratscher, J., Conrad, R. (2010) Streptomycetes contributing to atmospheric molecular hydrogen soil uptake are widespread and are encoding for a putative high affinity [NiFe]-hydrogenase. Environ. Microbiol. 12, 821-829.
6. Galand, P. E., Yrjälä, K., Conrad, R. (2010) Stable carbon isotope fractionation during methanogenesis in three boreal peatland ecosystems. Biogeosciences 7, 3893-3900.
7. Goevert, D. and Conrad, R. (2010) Stable isotope fractionation by acetotrophic sulfur-reducing bacteria. FEMS Microbiol. Ecol. 71, 218-225.
8. Hori, T., Müller, A., Igarashi, Y., Conrad, R., Friedrich, M. W. (2010) Identification of iron-reducing microorganisms in anoxic rice paddy soil by 13C-acetate probing. ISME J. 4, 267-278.
9. Jia, Z., Weng, J., Lin, X., Conrad, R. (2010) Microbial ecology of archaeal ammonia oxidation - a review (in Chinese). Acta Microbiologica Sinica 50, 431-437.
10. Liu, F. and Conrad, R. (2010) *Thermoanaerobacteriaceae* oxidize acetate in methanogenic rice field soil at 50oC. Environ. Microbiol. 12, 2341-2364.
11. Martinson, G. O., Werner, F. A., Scherber, C., Conrad, R., Corre, M. D., Flessa, H., Wolf, K., Klose, M., Gradstein, S. R., Veldkamp, E. (2010) Methane emission from tank bromeliads in neotropical forests. Nature Geoscience 3, 766-769.
12. Menyailo, O. V., Abraham, W. R., Conrad, R. (2010) Tree species affect atmospheric CH4 oxidation without altering community composition of soil methanotrophs. Soil Biol. Biochem. 42, 101-107.
13. Noll, M., Klose, M., Conrad, R. (2010) Effect of temperature change on the composition of the bacterial and archaeal community potentially involved in the turnover of acetate and propionate in methanogenic rice field soil. FEMS Microbiol. Ecol. 73, 215-225.
14. Sakai, S., Conrad, R., Liesack, W., Imachi, H. (2010) *Methanocella arvoryzae* sp.nov., a hydrogenotrophic methanogen, isolated from Italian rice field soil. Int. J. Syst. Evol. Microbiol. 60, 2918-2923.
15. Shrestha, M., Shrestha, P. M., Frenzel, P., Conrad, R. (2010) Effect of nitrogen fertilization on methane oxidation, abundance, community structure, and gene expression of methanotrophs in the rice rhizosphere. ISME J. 4, 1545-1556.

**2011**

1. Angel, R., Matthies, D., Conrad, R. (2011) Activation of methanogenesis in arid biological soil crusts despite the presence of oxygen. PloS ONE 6, e20453, doi:10.1371/journal.pone.0020453.
2. Avrahami, S., Jia, Z., Neufeld, J., Murrell, J. C., Conrad, R., Küsel, K. (2011) Active autotrophic ammonia oxidizing bacteria in biofilm enrichments from simulated creek ecosystems at two ammonium concetrations respond to temperature manipulation. Appl. Environ. Microbiol. 77, 7329-7338.
3. Botsch, K. C. and Conrad, R. (2011) Fractionation of stable carbon isotopes during anerobic production and degradation of propionate in defined microbial cultures. Org. Geochem. 42, 289-295.
4. Braker, G. and Conrad, R. (2011) Diversity, structure, and size of N2O-producing microbial communities in soil - What matters for their functioning? Adv. Appl. Microbiol. 75, 33-70.
5. Conrad, R. and Klose, M. (2011) Stable carbon isotope discrimination in rice field soil during acetate turnover by syntrophic acetate oxidation or acetoclastic methanogenesis. Geochim. Cosmochim. Acta 75, 1531-1539.
6. Conrad, R. (2011) Mikrobielle Methanproduktion: Treibhausgas aus Archaeen. Biospektrum 17, 144-145.
7. Conrad, R., Noll, M., Claus, P., Klose, M., Bastos, W. R., Enrich-Prast, A. (2011) Stable carbon isotope discrimination and microbiology of methane formation in tropical anoxic lake sediments. Biogeosciences 8, 795-814.
8. Constant, P., Chowdhury, S. P., Hesse, L., Conrad, R. (2011) Co-localization of atmospheric H2 oxidation activity and high affinity H2-oxidizing bacteria in non-axenic soil and sterile soil amended with *Streptomyces* sp. PCB7. Soil Biol. Biochem. 43, 1888-1893.
9. Constant, P., Chowdhury, S. P., Hesse, L., Pratscher, J., Conrad, R. (2011) Genome data mining and soil survey for the novel *group 5* [NiFe]-hydrogenase to explore the diversity and ecological importance of presumptive high affinity H2-oxidizing bacteria. Appl. Environ. Microbiol. 77, 6027-6035.
10. Dumont, M. G., Pommerenke, B., Casper, P., Conrad, R. (2011) DNA, rRNA and mRNA-based stable isotope probing of aerobic methanotrophs in lake sediment. Environ. Microbiol. 13, 1153-1167.
11. Hernandez, M., Jia, Z., Conrad, R., Seeger, M. (2011) Simazine application inhibits nitrification and changes the ammonia-oxidizing bacterial communities in a fertilized agricultural soil. FEMS Microbiol. Ecol. 78, 511-519.
12. Hunger, S., Schmidt, O., Hilgarth, M., Horn, M. A., Kolb, S., Conrad, R., Drake, H. L. (2011) Competing formate- and carbon dioxide-utilizing prokaryotes in an anoxic methane-emitting fen soil. Appl. Environ. Microbiol. 77, 3773-3785.
13. Liu, F. and Conrad, R. (2011) Chemolithotrophic acetogenic H2/CO2 utilization in Italian rice field soil. ISME J. 5, 1526-1539.
14. Lu, Y. and Conrad, R. (2011) Stable isotope probing and plants. In: Murrell, J. C., Whiteley, A. (Eds.), Stable Isotope Probing and Related Technologies, ASM Press, Washington, 151-163.
15. Pratscher, J., Dumont, M. G., Conrad, R. (2011) Assimilation of acetate by the putative atmospheric methane oxidizers belonging to the USC clade. Environ. Microbiol. 13, 2692-2701.
16. Pratscher, J., Dumont, M. G., Conrad, R. (2011) Ammonia oxidation coupled to CO2 fixation by *Archaea* and *Bacteria* in an agricultural soil. Proc. Natl. Acad. Sci. USA 108, 4170-4175.
17. Shrestha, M., Shrestha, P. M., Conrad, R. (2011) Bacterial and archaeal communities involved in the *in situ* degradation of 13C labelled straw in the rice rhizosphere. Environ. Microbiol. Reports 3, 587-596.
18. Vanitchung, S., Conrad, R., Harvey, N. W., Chidthaisong, A. (2011) Fluxes and production pathways of nitrous oxide in different types of tropical forest soils in Thailand. Soil Sci. Plant Nutr. 57, 650-658.
19. Yuan, Y., Conrad, R., Lu, Y. (2011) Transcriptional response of methanogen *mcrA* genes to oxygen exposure of rice field soil. Environ. Microbiol. Reports 3, 320-328.

**2012**

1. Angel, R., Claus, P., Conrad, R. (2012) Methanogenic archaea are globally ubiquitous in aerated soils and become active under wet anoxic conditions. ISME J. 6, 847-862.
2. Angel, R., Kammann, C., Claus, P., Conrad, R. (2012) Effect of long-term free-air CO2 enrichment on the diversity and activity of soil methanogens in a periodically waterlogged grassland. Soil Biol. Biochem. 51, 96-103.
3. Conrad, R., Klose, M., Yuan, Q., Lu, Y., Chidthaisong, A. (2012) Stable carbon isotope fractionation, carbon flux partitioning and priming effects in anoxic soils during methanogenic degradation of straw and soil organic matter. Soil Biol. Biochem. 49, 193-199.
4. Conrad, R., Klose, M., Lu, Y., Chidthaisong, A. (2012) Methanogenic pathway and archaeal communities in three different anoxic soils amended with rice straw and maize straw. Frontiers Microbiol. 3, 4; doi: 10.3389/fmicb.2012.00004.
5. Fröhlich-Nowoisky, J., Burrows, S. M., Xie, Z. Q., Engling, G., Solomon, P. A., Fraser, M. P., Mayol-Bracero, O.L., Artaxo, P., Begerow, D., Conrad, R., Andreae, M.O., Despres, V., Pöschl, U. (2012) Biogeography in the air: fungal diversity over land and oceans. Biogeosciences 9, 1125-1136.
6. Ma, K., Conrad, R., Lu, Y. (2012) Responses of methanogen *mcrA* genes and their transcripts to alternate dry wet cycle of paddy field soil. Appl. Environ. Microbiol. 78, 445-454.
7. Menyailo, O. V., Stepanov, A. L., Makarov, M. I., Conrad, R. (2012) Effect of nitrogen on methane oxidation in the soils under different tree species. Doklady Biol. Sci 447, 335-3.
8. Penger, J., Conrad, R., Blaser, M. (2012) Stable carbon isotope fractionation by methylotrophic methanogenic archaea. Appl. Environ. Microbiol. 78, 7596-7602.
9. Yuan, Q., Pump, J., Conrad, R. (2012) Partitioning of CH4 and CO2 production originating from rice straw, soil and root organic carbon in rice microcosms. PloS ONE 7: e49073; doi:10.1371/journal.pone.0049073.

**2013**

1. Angel, R., Paternak, Z., Soares, M. I. M., Conrad, R., Gillor, O. (2013) Active and total prokaryotic communities in dryland soils. FEMS Microbiol. Ecol. 86, 130-138.
2. Angel, R. and Conrad, R. (2013) Elucidating the microbial resuscitation cascade in biological soil crusts following a simulated rain event. Environ. Microbiol., 15, 2799-2815.
3. Aschenbach, K., Conrad, R., Rehakova, K., Dolezal, J., Janatkova, K., Angel, R. (2013) Methanogens at the top of the world: occurrence and potential activity of methanogens in newly deglaciated soils in high-altitude cold deserts in the Western Himalayas. Frontiers Microbiol. 4, 359; doi:10.3389/fmicb.2013.00359.
4. Blaser, M. B., Dreisbach, L. K., Conrad, R. (2013) Carbon isotope fractionation of 11 acetogenic strains grown on H2 and CO2. Appl. Environ. Microbiol. 79, 1787-1794.
5. Conrad, R. and Lu, Y. (2013) Applying stable isotope probing of phospholipid fatty acids and ribosomal RNA in rice fields to study the composition of the active methanotrophic bacterial community in situ. In: Molecular Microbial Ecology of the Rhizosphere, vol. 2, (DeBruijn, F. J., Eds.), pp. 1075-1080. Wiley, Hoboken, NJ.
6. Fernandez Scavino, A., Ji, Y., Pump, J., Klose, M., Claus, P., Conrad, R. (2013) Structure and function of the methanogenic microbial communities in Uruguayan soils shifted between pasture and irrigated rice fields. Environ. Microbiol. 15, 2588-2602.
7. Görres, C. M., Conrad, R., Petersen, S. (2013) Effect of soil properties and hydrology on Archaeal community composition in three temperate grasslands on peat. FEMS Microbiol. Ecol. 85, 227-240.
8. Ke, X., Angel, R., Lu, Y., and Conrad, R. (2013) Niche differentiation of ammonia oxidizers and nitrite oxidizers in rice paddy soil. Environ. Microbiol. 15, 2275-2292.
9. Liu, Y., Yao, T., Gleixner, G., Claus, P., Conrad, R. (2013) Methanogenic pathways, 13C isotope fractionation, and archaeal community composition in lake sediments and wetland soils on the Tibetan Plateau. J. Geophys. Res. Biogeosci. 118, 650-664.
10. Ma, K., Conrad, R., Lu, Y. (2013) Dry/wet cycles change the activity and population dynamics of methanotrophs in rice field soil. Appl. Environ. Microbiol. 79, 4932-4939.
11. Wu, Y., Ke, X., Hernandez, M., Wang, B., Dumont, M. G., Jia, Z., Conrad, R. (2013) Autotrophic growth of bacterial and archaeal ammonia oxidizers in freshwater sediment microcosms incubated at different temperatures. Appl. Environ. Microbiol. 79, 3076-3084.

**2014**

1. Barreto, D. P., Conrad, R., Klose, M., Claus, P., and Enrich-Prast, A. (2014) Distance-decay and taxa-area relationships for Bacteria, Archaea and methanogenic archaea in a tropical lake sediment. PloS ONE, 9, e110128, doi:10.1371/journal.pone.0110128 .
2. Berney, M., Greening, C., Conrad, R., Jacobs Jr., W. R., and Cook, G. M. (2014) An obligately aerobic soil bacterium activates fermentative hydrogen production to survive reductive stress during hypoxia. Proc. Natl. Acad. Sci. USA, 111, 11479-11484.
3. Brandt, F. B., Breidenbach, B., Brenzinger, K., and Conrad, R. (2014) Impact of short term storage temperature on microbial community composition and abundance in aerated forest soil and anoxic pond sediment samples. Syst. Appl. Microbiol., 37, 570-577.
4. Conrad, R., Ji, Y., Noll, M., Klose, M., Claus, P., and Enrich-Prast, A. (2014) Response of the methanogenic microbial communities in Amazonian oxbow lake sediments to desiccation stress. Environ. Microbiol., 16, 1682-1694.
5. Conrad, R., Claus, P., Chidthaisong, A., Lu, Y., Fernandez Scavino, A., Liu, Y., Angel, R., Galand, P. E., Casper, P., Guerin, F., and Enrich-Prast, A. (2014) Stable carbon isotope biogeochemistry of propionate and acetate in methanogenic soils and lake sediments. Org. Geochem., 73, 1-7.
6. Fröhlich-Nowoisky, J., Nespoli, C. R., Pickersgill, D. A., Galand, P. E., Müller-Germann, I., Nunes, T., Cardoso, J. G., Almeida, S. M., Pio, C., Andreae, M. O., Conrad, R., Pöschl, U., and Despres, V. R. (2014) Diversity and seasonal dynamics of airborne *Archaea*. Biogeosciences, 11, 6067-6079.
7. Greening, C., Berney, M., Hards, K., Cook, G. M., and Conrad, R. (2014) A soil actinobacterium scavenges atmospheric H2 using two membrane-associated, oxygen-dependent [NiFe]-hydrogenases. Proc. Natl. Acad. Sci. USA, 111, 4257-4261.
8. Hernandez, M., Dumont, M. G., Calabi, M., Basualto, D., and Conrad, R. (2014) Ammonia-oxidizers are pioneer microorganisms in the colonization of new acidic volcanic soils from South of Chile. Environ. Microbiol. Reports, 6, 70-79.
9. Ke, X., Lu, Y., and Conrad, R. (2014) Different behavior of methanogenic archaea and Thaumarchaeota in rice field microcosms. FEMS Microbiol. Ecol., 87, 18-29.
10. Penger, J., Conrad, R., and Blaser, M. (2014) Stable carbon isotope fractionation of six strongly fractionating microorganisms is not affected by growth temperature under laboratory conditions. Geochim. Cosmochim. Acta, 140, 95-105.
11. Pump, J. and Conrad, R. (2014) Rice biomass production and carbon cycling in 13CO2 pulse-labeled microcosms with different soils under submerged conditions. Plant and Soil, 384, 213-229.
12. Sakai, S., Conrad, R., and Imachi, H. (2014) The family *Methanocellaceae*. In: *The Prokaryotes* (E. Rosenberg, E. F. DeLong, S. Lory, E. Stackebrandt, F. Thompson, Eds.), pp. 210-214. Springer, Berlin.
13. Wu, Y. and Conrad, R. (2014) Ammonia oxidation dependent growth of group I.1b thaumarchaeota in acidic red soil microcosms. FEMS Microbiol. Ecol., 89, 127-134.
14. Yuan, Q., Pump, J., and Conrad, R. (2014) Straw application in paddy soil enhances methane production also from other carbon sources. Biogeosciences, 11, 237-246.
15. Yvon-Durocher, G., Allen, A. P., Bastviken, D., Conrad, R., Gudasz, C., St-Pierre, A., Thanh-Duc, N., and DelGiorgio, P. A. (2014) Methane fluxes show consistent temperature dependence across microbial to ecosystem scales. Nature, 507, 488-491.

**2015**

1. Blaser, M. B., Dreisbach, L. K., and Conrad, R. (2015) Carbon isotope fractionation of *Thermoanaerobacter kivui* in different growth media and at different total inorganic carbon concentrations. Org Geochem 81, 45-52.
2. Brandt, F. B., Martinson, G. O., Pommerenke, B., Pump, J., and Conrad, R. (2015) Drying effects on archaeal community composition and methanogenesis in bromeliad tanks. FEMS Microbiol Ecol 91, fiu021-doi:10.1093/femsec/fiu021.
3. Breidenbach, B. and Conrad, R. (2015) Seasonal dynamics of bacterial and archaeal methanogenic communities in flooded rice fields and effect of drainage. Frontiers Microbiol 5, 752-doi:10.3389/fmicb.2014.00752.
4. Greening, C., Constant, P., Hards, K., Morales, S., Oakeshott, J. G., Russell, R. J. et al. (2015) Atmospheric hydrogen scavenging: from enzymes to ecosystems [review]. Appl Environ Microbiol 81, 1190-1199.
5. Hernandez, M., Dumont, M. G., Yuan, Q., and Conrad, R. (2015) Different bacterial populations associated with the roots and rizosphere of rice incorporate plant-derived carbon. Appl Environ Microbiol 81, 2244-2253.
6. Hori, T., Aoyagi, T., Itoh, H., Narihiro, T., Oikawa, A., Suzuki, K. et al. (2015) Isolation of microorganisms involved in reduction of crystalline iron(III) oxides in natural environments. Frontiers Microbiol 6, 386-doi:10.3389/fmicb.2015.00386.
7. Ji, Y., Fernandez Scavino, A., Klose, M., Claus, P., and Conrad, R. (2015) Functional and structural responses of methanogenic microbial comunities in Uruguayan soils to intermittent drainage. Soil Biol Biochem 89, 238-247.
8. Kanaparthi, D. and Conrad, R. (2015) Role of humic substances in promoting autotrophic growth in nitrate-dependent iron-oxidizing bacteria. Syst Appl Microbiol 38, 184-188.
9. Ke, X., Lu, W., and Conrad, R. (2015) High oxygen concentration increases the abundance and activity of bacterial rather than archaeal nitrifiers in rice field soil. Microb Ecol 70, 961-970.
10. Pump, J., Pratscher, J., and Conrad, R. (2015) Colonization of rice roots with methanogenic archaea controls photosynthesis-derived methane emission. Environ Microbiol 17, 2254-2260.
11. Schulz, K., Hunger, S., Brown, G. G., Tsai, S. M., Cerri, C. C., Conrad, R., and Drake, H. L. (2015) Methanogenic food web in gut contents of the methane-emitting earthworm *Eudrilus eugeniae* from Brazil. ISME J 9, 1778-1792.

**2016**

1. Angel, R., Conrad, R., Dvorsky, M., Kopecky, M., Kotilinek, M., Hiiesalu, I. et al. (2016) The root-associated microbial community of the world´s highest growing vascular plants. Microb Ecol 72, 294-406.
2. Blaser, M. and Conrad, R. (2016) Stable carbon isotope fractionation as tracer of carbon cycling in anoxic soil ecosystems. Curr Opinion Biotechnol 41, 122-129.
3. Breidenbach, B., Blaser, M. B., Klose, M., and Conrad, R. (2016) Crop rotation of flooded rice with upland maize impacts the resident and active methanogenic microbial community. Environ Microbiol 18, 2868-2885.
4. Cai, Y., Zheng, Y., Bodelier, P. L. E., Conrad, R., and Jia, Z. (2016) Conventional methanotrophs are responsible for atmospheric methane oxidation in paddy soils. Nature Commun 7, 11728-DOI: 10.1038/ncomms11728.
5. Ji, Y., Angel, R., Klose, M., Claus, P., Marotta, H., Pinho, L. et al. (2016) Structure and function of methanogenic microbial communities in sediments of Amazonian lakes with different water types. Environ Microbiol 18, 5082-5100.
6. Liu, Y., Priscu, J. C., Xiong, J., Conrad, R., Vick-Majors, T., Chu, H., and Hou, J. (2016) Salinity drives archaeal distribution patterns in high altitude lake sediments on the Tibetan Plateau. FEMS Microbiol Ecol 92, fiw033-doi: 10.1093/femsec/fiw033.
7. Malghani, S., Reim, A., VonFischer, J., Conrad, R., Kuebler, K., and Trumbore, S. E. (2016) Soil methanotroph abundance and community composition are not influenced by substrate availability in laboratory incubations. Soil Biol Biochem 101, 184-194.
8. Wörner, S., Zecchin, S., Dan, J., Todorova, N. H., Loy, A., Conrad, R., and Pester, M. (2016) Gypsum amendment to rice paddy soil stimulated bacteria involved in sulfur cycling but largely preserved the phylogenetic composition of the total bacterial community. Environ Microbiol Reports 8, 413-423.

**2017**

1. Brandt FB, Martinson GO, Conrad R (2017) Bromeliad tanks are unique habitats for microbial communities involved in methane turnover. Plant and Soil 410: 167-179
2. Breidenbach B, Brenzinger K, Brandt FB, Blaser MB, Conrad R (2017) The effect of crop rotation between wetland rice and upland maize on the microbial communities associated with roots. Plant and Soil 419: 435-445
3. Deng Y, Liu.Y, Dumont M, Conrad R (2017) Salinity affects the composition of the aerobic methanotrophic community in alkaline lake sediments from the Tibetan Plateau. Microb Ecol 73: 101-110
4. Hernandez M, Conrad R, Klose M, Ma K, Lu Y (2017) Structure and function of methanogenic microbial communities in soils from flooded rice and upland soybean fields from Sanjiang Plain, NE China. Soil Biol Biochem 105: 81-91
5. Herrmann E, Young W, Rosendale D, Conrad R, Riedel CU, Egert M (2017) Determination of resistant starch assimilating bacteria in fecal samples of mice by in vitro RNA-based stable isotope probing. Frontiers Microbiol 1331-doi: 10.3389/fmicb.2017.01331
6. Herrmann E, Young W, Rosendale D, Reichert-Grimm V, Riedel CU, Conrad R, Egert M (2017) RNA-based stable isotope probing suggests *Allobaculum* spp. as particularly active glucose-assimilators in a complex murine microbiota cultured in vitro. BioMed Res Int 2017: 1829685-doi:10.1155/2017/182985
7. Kanaparthi D, Reim A, Martinson GO, Pommerenke B, Conrad R (2017) Methane emission from feather moss stands. Global Change Biol 23: 4884-4895
8. Liu P and Conrad R (2017) *Syntrophobacteraceae*-affiliated species are major propionate-degrading sulfate reducers in paddy soil. Environ Microbiol 19: 1669-1686
9. Liu Y, Conrad R, Yao T, Gleixner G, Claus P (2017) Change of methane production pathway with sediment depth in a lake on the Tibetan plateau. Palaeogeogr Palaeoclimatol Palaeoecol 474: 279-286
10. Reim A, Hernandez M, Klose M, Chidthaisong A, Yuttiham M, Conrad R (2017) Response of methanogenic microbial communities to desiccation stress in flooded and rain-fed paddy soil from Thailand. Frontiers Microbiol 8: 785-doi: 10.3389/fmicb.2017.00785
11. Vavilin V, Rytov S, Conrad R (2017) Modeling methane formation in sediments of tropical lakes, focusing on syntrophic acetate oxidation: dynamics and static isotope equations. Ecol Modeling 363: 81-95

**2018**

1. Dong X, Greening C, Brüls T, Conrad R, Guo K, Blaskowski S, Kaschani F, Kaiser M, AbuLaban N, Meckenstock RU (2018) Fermentative Spirochaetes mediate necromass recycling in anoxic hydrocarbon-contaminated habitats. ISME J. 12: 2039-2050.
2. Fu B, Conrad R, Blaser M (2018) Potential contribution of acetogenesis to anaerobic degradation in methanogenic rice field soils. Soil Biol. Biochem. 119: 1-10.
3. Ji Y, Liu P, Conrad R (2018) Change of the pathway of methane production with progressing anoxic incubation of paddy soil. Soil Biol. Biochem. 121: 177-184.
4. Ji Y, Liu P, Conrad R (2018) Response of fermenting bacterial and methanogenic archaeal communities in paddy soil to progressing rice straw degradation. Soil Biol. Biochem. 124: 70-80.
5. Liu P, Klose M, Conrad R (2018) Temperature effects on structure and function of the methanogenic microbial communities in two paddy soils and one desert soil. Soil Biol. Biochem. 124: 236-244.
6. Liu P, Pommerenke B, Conrad R (2018) Identification of *Syntrophobacteraceae* as major acetate-degrading sulfate reducing bacteria in Italian paddy soil. Environ. Microbiol. 20: 337-354.
7. Martinson GO, Pommerenke B, Brandt FB, Hohmeier J, Bruneo JI, Conrad R (2018) Hydrogenotrophic methanogenesis is the dominant methanogenic pathway in neotropical tank bromeliad wetlands. Environ. Microbiol. Reports 10: 33-39.
8. Valle J, Gonsior M, Harir M, Enrich-Prast A, Schmitt-Kopplin P, Conrad R, Hertkorn N (2018) Extensive processing of sediment pore water dissolved organic matter during anoxic incubation as observed by high-field mass spectrometry (FTICR-MS). Water Res. 129: 252-263.
9. Yuan Q, Hernandez M, Dumont MG, Rui J, Fernandez Scavino A, Conrad R (2018) Soil bacterial community mediates the effect of plant material on methanogenic decomposition of soil organic matter. Soil Biol. Biochem. 116: 99-109.

**2019**

1. Deng Y, Che R, Wang F, Conrad R, Dumont M, Yun J, Wu Y, Hu A, Fang J, Xu Z, Cui X & Wang Y (2019) Upland Soil Cluster Gamma dominates methanotrophic communities in upland grassland soils. *Sci. Total Environ.* **670:** 826-836.
2. Deng Y, Liu P & Conrad R (2019) Effect of temperature on the microbial community responsible for methane production in alklaine NamCo wetland soil. *Soil Biol. Biochem.* **132:** 69-79.
3. Fu B, Jin X, Conrad R, Liu H & Liu H (2019) Competition between chemolithotrophic acetogenesis and hydrogenotrophic methanogenesis for exogenous H2/CO2 in anaerobically digested sludge: impact of temperature. *Frontiers Microbiol.* **10:** 2418-doi: 10.3389/fmicb.2019.02418.
4. Hernandez M, Klose M, Claus P, Bastviken D, Marotta H, Figueiredo V, Enrich-Prast A & Conrad R (2019) Structure, function and resilience to desiccation of methanogenic microbial communities in temporarily inundated soils of the Amazon rainforest (Cunia Reserve, Rondonia). *Environ. Microbiol.* **21:** 1702-1717.
5. Liu P, Klose M & Conrad R (2019) Temperature-dependent network modules of soil methanogenic bacterial and archaeal communities. *Frontiers Microbiol.* **10:** 496-doi:10.3389/fmicb.2019.00496.
6. Yuan H, Zhang Z, Qin S, Zhou S, Hu C, Clough T, Wrage-Mönnig N, Luo J, Conrad R (2019) Effects of nitrate and water content on acetylene inhibition technique bias when analysing soil denitrification rates under an aerobic atmosphere. Geoderma 334: 33-36.

**2020**

1. Conrad, R. (2020) Methane production in soil environments - anaerobic biogeochemistry and microbial life between flooding and desiccation [review]. Microorganisms, 8, 881-doi:10.3390/microorganisms8060881.
2. Conrad, R., Klose, M., and Enrich-Prast, A. (2020) Acetate turnover and methanogenic pathways in Amazonian lake sediments. Biogeosciences, 17, 1063-1069.
3. Conrad, R. (2020) Importance of hydrogenotrophic, aceticlastic, and methylotrophic methanogenesis for methane production in terrestrial, aquatic and other anoxic environments: a mini review. Pedosphere, 30, 25-39.
4. Hernandez, M., Calabi, M., Conrad, R., and Dumont, M. G. (2020) Analysis of the microbial communities in soils of different ages following volcanic eruptions. Pedosphere, 30, 126-134.
5. Hernandez, M., Vera-Gargallo, B., Calabi-Floody, M., King, G. M., Conrad, R., and Tebbe, C. C. (2020) Reconstructing genomes of carbon monoxide oxidisers in volcanic deposits including members of the class Ktedonobacteria. Microorganisms, 8, 1880-doi:10.3390/microorganisms8121880.
6. Ji, Y., Conrad, R., and Xu, H. (2020) Responses of archaeal, bacterial and functional microbial communities to growth season and nitrogen fertilization in rice fields. Biol. Fertil. Soils, 56, 81-95.
7. Jia, Z., Myrold, D. D., and Conrad, R. (2020) Soil biodiversity in a rapidly changing world [preface]. Pedosphere, 30, 1-4.
8. Yuan, Q., Huang, X., Rui, J., Qiu, S., and Conrad, R. (2020) Methane production from rice straw carbon in five different methanogenic rice soils: rates, quantities and microbial communities. Acta Geochim., 39, 181-191.

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