

CURRICULUM VITAE

Personal Data

Russell Keith Monson
Department of Ecology and Evolutionary Biology and Laboratory of Tree Ring Research
University of Arizona, Tucson AZ

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University Education

B.S. (Botany, May 1976) Arizona State University, Tempe AZ
M.S. (Botany, Dec 1978) Arizona State University, Tempe AZ
Ph.D. (Botany, Jan 1982) Washington State University, Pullman WA

Academic Positions and Affiliations

2010-present Professor of Distinction, Emeritus, Department of Ecology and Evolutionary Biology,
University of Colorado, Boulder

2011-2020 Louise-Foucar Marshall Professor, Department of Ecology and Evolutionary Biology
and Laboratory of Tree-Ring Research, University of Arizona, Tucson

1994-2006 Professor, Department of Ecology and Evolutionary Biology, University of Colorado,
Boulder

2004-2005 Visiting Professor, Institut für Baumphysiologie und Forstbotanik, Albert-Ludwigs
Universität, Freiburg, Germany

2001-2004 Chair, Department of Ecology and Evolutionary Biology, University of Colorado

2000-2010 Fellow, Cooperative Institute for Research in Environmental Sciences (CIRES),
University of Colorado, Boulder

1998-1999 Visiting Professor, Max-Planck Institut für Chemie, Mainz, Germany

1998-2001 Director, Baker Residential Academic Program in Environmental Studies, University of
Colorado, Boulder

1990-1991 Visiting Professor, Lehrstuhl für Pflanzenökologie, Universität Bayreuth, Bayreuth,
Germany

1989-1994 Associate Professor, Department of Environmental, Population, and Organismic
Biology, University of Colorado, Boulder

1982-1989 Assistant Professor, Department of Environmental, Population, and Organismic
Biology, University of Colorado, Boulder

Research Interests

Forest biogeochemical cycles, evolution of C₄ photosynthesis, nitrogen relations of plants,
climate reconstruction and tree ecophysiology from tree rings, emission of volatile organic
compounds from plants and forests, tropospheric chemistry, stable isotope biogeochemistry

Selected Honors and Awards

Fellowship, Alexander von Humboldt Foundation (1990-1991)
Fellowship, John Simon Guggenheim Foundation (1998-1999)
Senior Fellowship, US Fulbright Foundation (Germany; 2004-2005)
Elected Fellow, American Geophysical Union (2013)
Elected Fellow, Ecological Society of America (2017)

Selected Professional Service

Editor-in-Chief, *Oecologia* (Germany), 2006-present
Editorial Board, *Plant Biosystems* (Italy), 2004-2006
Editorial Board, *Plant Biology* (Germany), 2003-2006
Editorial Board, *Tree Physiology* (USA), 1997- 1998
Editorial Board, *Ecology* and *Ecological Monographs* (USA), 1994-1997
Editorial Board, *Oecologia* (Germany), 1991-present; Editor, Review Articles, 1998-2003
Associate Editor, *American Midland Naturalist* (USA), 1986-1990

Co-Chair, Committee on the Integrative Role of Systematics in Physiology and Biochemistry, Systematics Agenda 2000, American Society of Plant Taxonomists, 1991-1993.
Research Advisory Committee, Columbia University Biosphere 2 Center, Oracle, Arizona, 2000-2003
Steering Committee for Terrestrial Ecology Research Facilities, US Department of Energy, 2000-2002
Steering Committee, Rocky Mountain Ecological Observatory Network, Member of National Ecological Observatory Network (NEON) Consortium (2000-2005); Chair, Science and Education Committee Domain 13, NEON, 2009-2012.
President, Physiological Ecology Section, Ecological Society of America, 2002-2004
Advisor, Maire Curie Program on Volatile Organic Compounds in Biological and Atmospheric Sciences (VOCBAS), European Union, 2006-2007.
Board of Directors, iPlant Consortium, NSF-funded (\$50 M for 5 years) initiative to establish cyberinfrastructure for the plant sciences, 2008-2011.
Founder and Organizer, Summer Course on Flux Measurements and Advanced Modeling, (two week summer course offered each summer), 2008-2013.
Science Advisory Committee, Earth and Sun Systems Laboratory, National Center for Atmospheric Research, 2008-2013.
Science Advisory Committee, Terrestrial Environmental Observatoria (TERENO), Helmholtz Association, 2008-2019.
Site Visit Team, Harvard Forest LTER, National Science Foundation, 2015.
Organizing Committee, National Science Foundation, Macrosystems PI Meeting, 2015.
Science Advisory Committee, Department of Energy Pacific Northwest National Laboratory, Integrated Plant, Atmosphere, Soil System (iPASS), 2016-2017.
Chair, External Program Review Committee, Department of Plant Biology, University of Illinois, Champagne-Urbana, 2016.
Member, Biogeosciences Fellows Selection Committee, American Geophysical Union, 2015-2017.

Books (authored)

1. Smith, S.D., Monson, R.K. and Anderson, J.E. (1997) *Physiological Ecology of North American Plants*. Springer-Verlag, Heidelberg, 286 pp. ISBN 9780387531137
2. Monson, R.K. and Baldocchi, D.D. (2014) *Terrestrial Ecosystem-Atmosphere Interactions*. Cambridge University Press, Cambridge, 507 pp. ISBN 9781107040656

Books (edited)

1. Sage, R. and Monson, R.K. (eds.) (1999) *C₄ Plant Biology*. Academic Press, San Diego. 596 pp. ISBN 9780126144406
2. Niinemets, U. and Monson, R.K. (eds.) (2013) *Biology, Controls and Models of Tree Volatile Organic Compound Emissions*. Series: Tree Physiology, Vol. 5., Springer, Heidelberg, 547 pp. ISBN 9789400766068
3. Monson, R.K. (ed.) (2014) *Ecology and the Environment*. Series: Plant Biology, Springer, Heidelberg, 659 pp. ISBN 978-1-4614-7500-2

Refereed Publications (oldest-to-newest): Google Scholar total citations = 30,800, h-index = 99, i10-index = 231 (updated, January 2021)

1. Monson, R.K. and Szarek, S.R. (1979) Ecophysiological studies of Sonoran Desert plants. V. Photosynthetic adaptations of *Machaeranthera gracilis*, a winter annual. *Oecologia* 41: 317-327.
2. Monson, R.K. and Szarek, S.R. (1981) Life cycle characteristics of *Machaeranthera gracilis* (Compositae) in desert habitats. *Oecologia* 49:59-65.
3. Williams, G.J. and Monson, R.K. (1981) Gas exchange in *Carex stenophylla* and its relationship to leaf anatomy. Proceedings of the 5th International Congress on Photosynthesis, Halkidiki, Greece VI: 11-21.
4. Monson, R.K. and Smith, S.D. (1982) Seasonal water potential components of Sonoran Desert plants. *Ecology* 63: 113-123.
5. Monson, R.K., Stidham, M.A., Williams, G.J., III, Edwards, G.E. and Uribe, E.G. (1982) The temperature dependence of photosynthesis in *Agropyron smithii* Rydb. I. Factors affecting net CO₂ uptake in intact leaves and contribution from ribulose-1,5-bisphosphate carboxylase measured *in vivo* and *in vitro*. *Plant Physiology* 69: 921-928.
6. Monson, R.K. and Williams, G.J., III. (1982) A correlation between photosynthetic temperature adaptation and seasonal phenology patterns in the shortgrass prairie. *Oecologia* 54: 58-62.
7. Monson, R.K., Littlejohn, R.O., Jr. and Williams, G.J., III. (1982) The quantum yield for CO₂ uptake in C₃ and C₄ grasses. *Photosynthesis Research* 3: 153-159.
8. Monson, R.K., Littlejohn, R.O. and Williams, G.J., III. (1983) Photosynthetic adaptation to temperature in four species from the Colorado shortgrass steppe: a physiological model for coexistence. *Oecologia* 58: 43-51.

Publications (contd.)

9. Ku, M.S.B., Monson, R.K., Littlejohn, R.O., Nakamoto, H., Fisher, D.B. and Edwards, G.E. (1983) Photosynthetic characteristics of C₃-C₄ intermediate *Flaveria* species. I. Leaf anatomy, photosynthetic response to O₂ and CO₂, and activities of key enzymes in the C₃ and C₄ pathways. *Plant Physiology* 71: 944-948.
10. Monson, R.K., Rumpho, M.E. and Edwards, G.E. (1983) The influence of inorganic phosphate on photosynthesis in intact chloroplasts from *Mesembryanthemum crystallinum* L. plants exhibiting C₃ photosynthesis or Crassulacean acid metabolism. *Planta* 159: 97-104.
11. Monson, R.K. (1984) A field study of photosynthetic temperature acclimation in *Carex eleocharis* Bailey. *Plant, Cell and Environment* 7: 301-308.
12. Monson, R.K., Edwards, G.E. and Ku, M.S.B. (1984) C₃-C₄ intermediate photosynthesis in plants. *BioScience* 34: 563-574.
13. Roessler, P.G. and Monson, R.K. (1985) Midday depression in net photosynthesis and stomatal conductance in *Yucca glauca*. Relative contributions of leaf temperature and leaf-to-air water vapor concentration difference. *Oecologia* 67: 380-387.
14. Edwards, G.E., Ku, M.S.B. and Monson, R.K. (1985) C₄ photosynthesis and its regulation. In: *Topics in Photosynthesis, Volume 6. Photosynthetic Mechanisms and the Environment*, (J. Barber and N.R. Baker, eds.), Elsevier Press, The Netherlands, pp. 287-327.
15. Williams, G.J., III., Monson, R.K. and Detling, J.K. (1986) Growth temperature effects on chlorophyll fluorescence yield in fifteen graminoid species. *American Midland Naturalist* 116: 197-201.
16. Monson, R.K., Sackschewsky, M.R. and Williams, G.J., III. (1986) Field measurements of photosynthesis, water-use efficiency, and growth in *Agropyron smithii* (C₃) and *Bouteloua gracilis* (C₄) in the Colorado shortgrass steppe. *Oecologia* 68: 400-409.
17. Monson, R.K., Moore, B.D., Ku, M.S.B. and Edwards, G.E. (1986) Co-function of C₃ and C₄ photosynthetic pathways in C₃, C₄ and C₃-C₄ intermediate *Flaveria* species. *Planta* 68: 493-502.
18. Percy, R.W., Bjorkman, O., Caldwell, M.M., Keeley, J.E., Monson, R.K. and Strain, B.R. (1987) Carbon gain in natural environments. *BioScience* 37: 21-29.
19. Smith, S.D., Patten, D.T. and Monson, R.K. (1987) Effects of artificially imposed shade on a Sonoran Desert ecosystem: microclimate and vegetation. *Journal of Arid Environments* 13: 65-82.
20. Monson, R.K., Schuster, W.S. and Ku, M.S.B. (1987) Photosynthesis in *Flaveria brownii* A.M. Powell. A C₄-like C₃-C₄ intermediate. *Plant Physiology* 85: 1063-1067.
21. Rainey, D.Y., Mitton, J.B. and Monson, R.K. (1987) Associations between enzyme genotype and dark respiration in perennial ryegrass, *Lolium perenne*. *Oecologia* 74: 335-338.

Publications (contd.)

22. Monson, R.K. (1987) Evidence for inefficient C₄-cycle function in C₃-C₄ intermediate *Flaveria* species: implications for C₄ evolution. In: *Progress in Photosynthesis Research, Volume 3*, (J. Biggins, ed.), Martinus Nijhoff Publishers, Dordrecht, pp. 641-644.
23. Monson, R.K., Teeri, J.A., Ku, M.S.B., Gurevitch, J., Mets, L.J. and Dudley, S. (1988) Carbon-isotope discrimination by leaves of *Flaveria* species exhibiting different amounts of C₃ and C₄-cycle co-function. *Planta* 174: 145-151.
24. Moore, B.D., Monson, R.K., Ku, M.S.B. and Edwards, G.E. (1988) Activities of principal photosynthetic and photorespiratory enzymes in leaf mesophyll and bundle-sheath protoplasts from the C₃-C₄ intermediate *Flaveria ramosissima*. *Plant and Cell Physiology* 29: 999-1066.
25. Monson, R.K. (1989) On the evolutionary pathways resulting in C₄ photosynthesis and Crassulacean acid metabolism. *Advances in Ecological Research* 19: 57-110.
26. Monson, R.K. and Fall, R. (1989) Isoprene emission from aspen leaves. The influence of environment and relation to photosynthesis and photorespiration. *Plant Physiology* 90: 267-274.
27. Grant, M.C., Linhart, Y. and Monson, R.K. (1989) Experimental studies of *Pinus ponderosa*. II. Quantitative genetics of morphological traits. *American Journal of Botany* 76: 1033-1040.
28. Monson, R.K. and Grant, M.C. (1989) Experimental studies of *Pinus ponderosa*. III. Differences in photosynthesis, stomatal conductance, and water-use efficiency between two genetic lines. *American Journal of Botany* 76: 1033-1040.
29. Monson, R.K. (1989) The relative contributions of reduced photorespiration, and improved water- and nitrogen-use efficiencies, to the advantages of C₃-C₄ intermediate photosynthesis in *Flaveria*. *Oecologia* 80: 215-221.
30. Monson, R.K. and Moore, B.D. (1989) On the significance of C₃-C₄ intermediate photosynthesis to the evolution of C₄ photosynthesis. *Plant, Cell & Environment* 12: 689-699.
31. Ennis, C.A., Lazrus, A., Zimmerman, P. and Monson, R.K. (1990) Flux determinations and physiological response in the exposure of red spruce to gaseous hydrogen peroxide, ozone, and sulfur dioxide. *Tellus* 42: 183-199.
32. Ennis, C.A., Lazrus, A.L., Kok, G.L., Zimmerman, P.R. and Monson, R.K. (1990) A branch chamber system and techniques for simultaneous pollutant exposure experiments and gaseous flux determinations. *Tellus* 42: 170-182.
33. Hewitt, C.N., Monson, R.K., and Fall, R.R. (1990) Isoprene emissions from the grass *Arundo donax* L. are not linked to photorespiration. *Plant Science* 66: 139-144.
34. Rainey, D.Y., Mitton, J.B., Monson, R.K., and Wilson, D. (1990) Effects of selection for dark respiration rate on enzyme genotypes in *Lolium perenne*. *Annals of Botany* 66: 649-653.
35. Schuster, W.S. and Monson, R.K. (1990) An examination of the advantages of C₃-C₄ intermediate photosynthesis in warm environments. *Plant, Cell & Environment* 13: 903-912.

Publications (contd.)

36. Monson, R.K., Hills, A.J., Zimmerman, P.R. and Fall, R. (1991) Studies of the relationship between isoprene emission rate and CO₂ or photon flux density using a real-time isoprene analyzer. *Plant, Cell & Environment* 14: 517-523.
37. Monson, R.K. and Jaeger, C.H. (1991) Photosynthetic characteristics of the C₃-C₄ intermediate *Flaveria floridana* J.R. Johnson measured in its natural habitat. Evidence of the advantages to C₃-C₄ photosynthesis at high leaf temperatures. *American Journal of Botany* 78: 795-800.
38. Monson, R.K., Guenther, A.B. and Fall, R. (1991) Physiological reality in relation to ecosystem-level and global estimates of isoprene emission. In: *Trace Gas Emissions by Plants* (T. Sharkey, E. Holland, and H. Mooney, eds.), Academic Press, NY, pp. 185-207.
39. Guenther, A.B., Monson, R.K. and Fall, R. (1991) Isoprene and monoterpene emission rate variability: observations and emission rate algorithm development. *Journal of Geophysical Research* 96: 10799-10808.
40. Monson, R.K., Jaeger, C.H., Adams, W.W., Driggers, E., Silver, G. and Fall, R. (1992) The relationships among isoprene emission rate, photosynthesis, and isoprene synthase activity as influenced by temperature. *Plant Physiology* 98: 1175-1180.
41. Jaeger, C.H. and Monson, R.K. (1992) The adaptive significance of nitrogen storage in *Bistorta bistortoides*, an alpine herb. *Oecologia* 92: 578-585.
42. Monson, R.K., Smith, S.D., Bowman, W.D., Gehring, J. and Szarek, S.R. (1992) Physiological differentiation within an *Encelia farinosa* population along a short topographic gradient in the Sonoran Desert. *Functional Ecology* 6: 751-759.
43. Monson, R.K., Grant, M.C., Jaeger, C.H. and Schoettle, A.W. (1992) The retention of wet precipitation in the crowns of alpine plants: implications for screening for susceptibility to acid rain. *Environmental and Experimental Botany* 32: 319-327.
44. Fall, R. and Monson, R.K. (1992) Response of isoprene emission to changes in stomatal conductance as influenced by abscisic acid. *Plant Physiology* 100: 987-992.
45. Hills, A.J., Fall, R.R. and Monson, R.K. (1992) Methods for the analysis of isoprene emission from leaves. In: *Modern Methods of Plant Analysis, New series, Volume 13, Plant Toxin Analysis*, (H.F. Linskens and J.F. Jackson, eds.), Springer-Verlag, Berlin, pp. 297-315.
46. Guenther, A.B., Zimmerman, P.R., Harley, P.C., Monson, R.K. and Fall, R. (1993) Isoprene and monoterpene emission rate variability: model evaluations and sensitivity analyses. *Journal of Geophysical Research* 98: 12609-12617.
47. Ehleringer, J.R. and Monson, R.K. (1993) Ecology and evolution of photosynthetic pathway variation. *Annual Review of Ecology and Systematics* 24: 411-439.
48. Gehring, J.L. and Monson, R.K. (1994) Sexual differences in gas exchange and response to environmental stress in dioecious *Silene latifolia* (Carophyllaceae). *American Journal of Botany* 81: 166-174.

Publications (contd.)

49. Lerdau, M.T., Litvak, M. and Monson, R.K. (1994) Supply and demand in plant chemical defense: monoterpenes and the growth-differentiation balance hypothesis. *Trends in Ecology and Evolution* 9: 58-61.
50. Heilmeyer, H., Freund, M., Steinlein, T., Schulze, E.-D. and Monson, R.K. (1994) Carbon and nitrogen storage in the biennial *Cirsium vulgare* L. as influenced by nitrogen availability. I. Storage capacity in relation to resource acquisition, allocation and recycling. *Plant, Cell and Environment* 17: 1125-1132.
51. Monson, R.K., Schulze, E.-D., Freund, M. and Heilmeyer, H. (1994) Carbon and nitrogen storage in the biennial *Cirsium vulgare* L. as influenced by nitrogen availability. II. The cost of nitrogen storage. *Plant, Cell and Environment* 17: 1133-1142.
52. Harley, P.C., Litvak, M., Sharkey, T. and Monson, R.K. (1994) Isoprene emission from velvet bean leaves. The influences of growth light intensity, nitrogen availability, and leaf development. *Plant Physiology* 105: 279-285.
53. Monson, R.K., Harley, P.C., Litvak, M., Wildermuth, M., Guenther, A., Zimmerman, P. and Fall, R. (1994) Environmental and developmental controls over the seasonal pattern of isoprene emission from aspen leaves. *Oecologia* 99: 260-270.
54. Heilmeyer, H. and Monson, R.K. (1994) Carbon and nitrogen storage in herbaceous plants. In: *A Whole Plant Perspective on Carbon-Nitrogen Interactions* (J. Roy and E. Garnier, eds.), SPB Academic Publishing, The Hague, pp. 149-171.
55. Monson, R.K., Lerdau, M.T., Sharkey, T.D., Schimel, D.S. and Fall R. (1995) Biological aspects of constructing biogenic hydrocarbon emission inventories. *Atmospheric Environment* 29: 2989-3002.
56. Lauder, G., Huey, R., Monson, R., Jensen, R. (1995) Systematics and the study of organismal function. *Bioscience* 45: 696-704.
57. Lerdau, M., Matson, P., Fall, R. and Monson, R. (1995) Ecological controls over monoterpene emissions from Douglas fir (*Pseudotsuga menziesii* Fran). *Ecology* 76: 2640-2647.
58. Monson, R.K. (1996) The use of phylogenetic perspective in comparative plant physiology and developmental biology. *Annals of the Missouri Botanical Garden* 83: 3-16.
59. Lipson, D.A., Raab, T.R., and Monson, R.K. (1996) δ -acetylornithine as a major nitrogen storage compound in *Bistorta bistortoides*. *Phytochemistry* 41: 29-30.
60. Lipson, D.A., Bowman, W.D. and Monson, R.K. (1996) Luxury consumption and storage of nitrogen in the alpine herb, *Bistorta bistortoides*. *Ecology* 77: 1277-1285.
61. Litvak, M.E., Loreto, F., Harley, P.C., Sharkey, T.D. and Monson, R.K. (1996) The response of isoprene emission rate and photosynthesis rate to growth photon flux density and nitrogen supply in aspen and white oak trees. *Plant, Cell & Environment* 19: 549-559.

Publications (contd.)

62. Fang, C.W., Monson, R.K., and Cowling, E.B. (1996) Isoprene emission, photosynthesis, and growth in sweetgum (*Liquidambar styraciflua* L.) seedlings exposed to repeated cycles of water stress. *Tree Physiology* 16: 441-446.
63. Raab, T.K., Lipson, D.A., and Monson, R.K. (1996) Non-mycorrhizal uptake of amino acids by roots of the alpine sedge, *Kobresia myosuroides*: implications for the alpine nitrogen cycle. *Oecologia* 108: 488-494.
64. Lerdau, M.T., Guenther, A.B., and Monson, R.K. (1997) Plant production and emission of volatile organic compounds. *BioScience* 47: 373-383.
65. Lerdau, M.T., Litvak, M.E., Palmer, P., and Monson, R.K. (1997) Controls over monoterpene concentration and emissions from boreal forest conifers. *Tree Physiology* 17: 563-569.
66. Lipson, D.A. and Monson, R.K. (1998) Plant-microbe competition for soil amino acids in the alpine tundra: effects of freeze-thaw and dry-rewet events. *Oecologia* 113: 406-414.
67. Litvak, M.T. and Monson, R.K. (1998) Patterns of constitutive and induced monoterpene production in coniferous needles in relation to herbivory. *Oecologia* 114: 531-540.
68. Bowling, D.R., Turnipseed, A.A., Delany, A., Baldocchi, D.D., Greenberg, J., and Monson, R.K. (1998) The use of relaxed eddy accumulation to measure biosphere-atmosphere exchange of isoprene and other biological trace gases. *Oecologia* 116: 306-315.
69. Monson, R.K. (1999) The origins of C₄ genes and evolutionary pattern in the C₄ metabolic phenotype. In: *C₄ Plant Biology* (R. Sage and R.K. Monson, eds.), Academic Press, San Diego, pp. 377-410.
70. Sage, R.F., Li, M., and Monson, R.K. (1999) The taxonomic distribution of C₄ photosynthesis. In: *C₄ Plant Biology* (R. Sage and R.K. Monson, eds.), Academic Press, San Diego, pp. 551-584.
71. Harley, P.C., Monson R.K., and Lerdau, M.T. (1999) Ecological and evolutionary aspects of isoprene emission from plants. *Oecologia* 118: 109-123.
72. Jaeger, C.H., Monson, R.K., Fisk, M., and Schmidt, S. (1999) Seasonal partitioning of nitrogen by plants and soil microorganisms in an alpine ecosystem. *Ecology* 80: 1883-1891.
73. Constable, J.V.H., Litvak, M.E., Greenberg, J.P., and Monson, R.K. (1999) Monoterpene emission from coniferous trees in response to elevated CO₂ concentration and climate warming. *Global Change Biology* 5: 255-267.
74. Baldocchi, D.D., Fuentes, J.D., Bowling, D.R., Turnipseed, A., and Monson, R.K. (1999) Scaling isoprene fluxes from leaves to canopies: test cases over a boreal aspen and a mixed-species temperate forest. *Journal of Applied Meteorology* 38: 885-898.
75. Litvak, M.E., Madronich, S., and Monson, R.K. (1999) Herbivore-induced monoterpene emissions from coniferous forests: potential impact on local tropospheric chemistry. *Ecological Applications* 9: 1147-1159.

Publications (contd.)

76. Raab, T.K., Lipson, D.A., and Monson, R.K. (1999) Soil amino acid utilization among species of the Cyperaceae: plant and soil processes. *Ecology* 80: 2408-2419.
77. Lipson, D.A., Schmidt, S.K., and Monson, R.K. (1999) Links between microbial population dynamics and nitrogen availability in an alpine ecosystem. *Ecology* 80: 1623-1631.
78. Bowling, D.B., Turnipseed, A.A., Baldocchi, D.D., Delany, A.C., and Monson, R.K. (1999) Modification of the relaxed eddy accumulation technique to maximize measured scalar mixing ratio differences in updrafts and downdrafts. *Journal of Geophysical Research* 104: 9121-9133.
79. Lipson, D.A., Schadt, C.W., Schmidt, S.K. and Monson, R.K. (1999) Ectomycorrhizal transfer of amino acid-nitrogen to the alpine sedge, *Kobresia myosuroides* (Vill.) Paol. & Fiori. *New Phytologist* 142: 163-167.
80. Lipson, D.A., Raab, T.K., Schmidt, S.K. and Monson, R.K. (1999) Variation in competitive abilities of plants and microbes for specific amino acids. *Biology of Fertile Soils* 29: 257-261.
81. Singsaas, E.L., Laporte, M.M., Shi, J.-Z., Monson, R.K., Bowling, D.R., Johnson, K., Lerdau, M., Jasentuliytana, A., and Sharkey, T.D. (1999) Leaf temperature fluctuation affects isoprene emission from red oak (*Quercus rubra* L.) leaves. *Tree Physiology* 19: 917-924.
82. Constable, J.V.H., Guenther, A.B., Schimel, D.S., and Monson, R.K. (1999) Modeling changes in volatile organic carbon (VOC) emission in response to climate change in the continental United States. *Global Change Biology* 5: 791-806.
83. Logan, B.A. and Monson, R.K. (1999) Thermotolerance of leaf discs from four isoprene-emitting species is not enhanced by exposure to exogenous isoprene. *Plant Physiology* 120: 821-825.
84. Bowling, D.R., Baldocchi, D.D. and Monson, R.K. (1999) Dynamics of isotopic exchange of CO₂ in a Tennessee deciduous forest. *Global Biogeochemical Cycles* 13: 903-922.
85. Logan, B.A., Anchodoquy, T.J., Monson, R.K. and Pan, R. (1999) The effect of isoprene on the properties of spinach thylakoids and phosphatidylcholine liposomes. *Plant Biology* 1: 602-606.
86. Lipson, D.A., Schmidt, S.K., and Monson, R.K. (2000) Carbon availability and temperature control the post-snowmelt decline in alpine soil microbial biomass. *Soil Biology and Biochemistry* 32: 441-447.
87. Monson, R.K. and S. Rawsthorne (2000) CO₂ assimilation in C₃-C₄ intermediate plants. In: *Photosynthesis: Physiology and Metabolism*, (R.C. Leegood, T.D. Sharkey, and S. von Caemmerer, eds.), Kluwer Academic Press, New York, pp. 533-550.
88. Anderson, L.J., Harley, P.C., Monson, R.K. and Jackson, R.B. (2000) Reduction of isoprene emissions from live oak (*Quercus fusiformis*) with oak wilt. *Tree Physiology* 20: 1199-1204.
89. Logan, B.A., Monson, R.K. and Potosnak, M.J. (2000) Biochemistry and physiology of foliar isoprene production. *Trends in Plant Science* 5: 477-481.

Publications (contd.)

90. Hereid, D.P. and Monson, R.K. (2001) Nitrogen oxide fluxes between corn (*Zea mays* L.) leaves and the atmosphere. *Atmospheric Environment* 35: 975-983.
91. Bowling, D.R., Tans P.P., and Monson, R.K. (2001) Partitioning net ecosystem carbon exchange with isotopic fluxes of CO₂. *Global Change Biology* 7: 127-145.
92. Sparks, J.P., Monson, R.K., Sparks, K. and Lerdau, M.T. (2001) The uptake of nitrogen dioxide (NO₂) by tropical forest trees: implications for atmospheric chemistry. *Oecologia* 127: 214-221.
93. McCutchan, C.L. and Monson, R.K. (2001) Night-time respiration rates and leaf carbohydrate concentrations are not coupled in two alpine perennial species. *New Phytologist* 149: 419-430.
94. Lipson, D.A., Raab, T.K., Schmidt, S.K. and Monson, R.K. (2001) An empirical model of amino acid transformations in an alpine soil. *Soil Biology and Biochemistry* 33: 189-198.
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