

RESEARCH EXPERIENCE

- 1997 – 1999 Faculty Research Assistant, Wood Science and Engineering, Oregon State University.
- 1994 – 1995 Graduate Research Assistant, Wood Science and Engineering, Oregon State University.
- 1992 – 1994 Research Assistant, Plant and Soil Science Department, University of Massachusetts at Amherst.

PUBLICATIONS

- Spicer, R.** (2005 *in press*) Senescence in secondary xylem: heartwood formation as an active developmental program. *In: Vascular Transport in Plants* (eds. N.M. Holbrook and M. Zwieniecki). Elsevier/Academic Press, Oxford.
- Olszyk, D., M. Apple, B. L. Gartner, **R. Spicer**, C. Wise, E. Buckner, A. Benson-Scott, and D. Tingey (2005 *in press*) Xeromorphy increases in shoots of *Pseudotsuga menziesii* (Mirb.) Franco seedlings with exposure to elevated temperature but not elevated CO₂. *Trees: Structure and Function*.
- Spicer, R.** and N.M. Holbrook (2005) Within-stem oxygen concentration and sap flow in four temperate tree species: does long-lived xylem parenchyma experience hypoxia? *Plant, Cell & Environment* 28:192-201.
- Spicer, R.** and B.L. Gartner. 2002. Compression wood has a minimal impact on the water relations of Douglas-fir (*Pseudotsuga menziesii*) seedlings despite a large effect on shoot hydraulic properties. *New Phytologist* 154:633-640.
- Spicer, R.** and B.L. Gartner. 2001. The effects of cambial age and position within the stem on specific conductivity in Douglas-fir (*Pseudotsuga menziesii*) sapwood. *Trees: Structure and Function* 15:222-229.
- Gartner, B.L., D.C. Baker and **R. Spicer**. 2000. Distribution and vitality of xylem rays in relation to tree leaf area in Douglas-fir. *IAWA Bulletin* 21:398-401.
- Spicer, R.**, B.L. Gartner and R. L. Darbyshire. 2000. Sinuous stem growth in a Douglas-fir (*Pseudotsuga menziesii*) plantation: growth patterns and wood quality effects. *Canadian Journal of Forest Research* 30:761-768.
- Gartner, B.L., J.J. Morrell, C.M. Freitag, **R. Spicer**. 1999. Heartwood decay resistance by vertical and radial position in Douglas-fir trees from a young stand. *Canadian Journal of Forest Research* 29:1993-1996.
- Spicer, R.** and B.L. Gartner. 1998. Hydraulic properties of Douglas-fir (*Pseudotsuga menziesii*) branches and branch halves with reference to compression wood. *Tree Physiology* 18:777-784.
- Spicer, R.** and B.L. Gartner. 1998. How does a gymnosperm branch assume the hydraulic status of a main stem when it takes over as leader? *Plant, Cell & Environment* 21:1063-1070.

PUBLISHED ABSTRACTS

- Spicer, R. and N.M. Holbrook. 2004. Evaluating possible causes of parenchyma cell death during the transition from sapwood to heartwood. Supplement to the *Bulletin of the Ecological Society of America*.
- Spicer, R. and N.M. Holbrook. 2003. Effects of within-stem gas concentrations on sapwood physiology: Implications for sapwood aging and senescence. Supplement to the *Bulletin of the Ecological Society of America*.
- Spicer, R. and N.M. Holbrook. 2002. Senescence of secondary xylem in angiosperms versus conifers: the aging and death of parenchyma cells during the transition from sapwood to heartwood. *American Journal of Botany*, Supplement.
- Gartner, B.L., J.C. Domec, M. Pruyn and R. Spicer. 2000. Age-related changes in sapwood area, leaf area, and xylem permeability in two coniferous species with contrasting sapwood areas. Presented at *Age-Related Change in Structure and Function of Forests in the Pacific Northwest: A synthesis of research*. Oct. 19, 2000, Corvallis, Oregon, USA.
- Spicer, R. and B.L. Gartner. 1999. Reduced specific conductivity in the sapwood of old (110+ yrs) Douglas-fir (*Pseudotsuga menziesii*) trees. Supplement to the *Bulletin of the Ecological Society of America*.
- Spicer, R. and B.L. Gartner. 1998. Hydraulic constraints of reaction wood and their effects on plant performance. *Proceedings of the Second Annual Functional-Structural Tree Models Workshop*, 11-15 Oct. 1998, Clermont-Ferrand, France.
- Gartner, B.L., R. Spicer, M.L. Pruyn, and J.C. Domec. 1998. Spatial and temporal patterns of hydraulic properties of Douglas-fir xylem. *Proceedings of the Second Annual Functional-Structural Tree Models Workshop*, 11-15 Oct. 1998, Clermont-Ferrand, France.
- Spicer, R. and B.L. Gartner. 1997. How does a gymnosperm branch assume the hydraulic status of a main stem when it takes over as leader? Supplement to the *Bulletin of the Ecological Society of America* 78:316.
- Gartner, B.L., R. Spicer, D.C. Baker and R.S. Hess. 1997. Sapwood in a thinned and unthinned stand: how much is there and why is it there? *Proceedings of the First Annual H.J. Andrews LTER Symposium*, Oregon State University.
- Spicer, R. and B.L. Gartner. 1996. Hydraulic conductivity of compression wood in branches of Douglas-fir (*Pseudotsuga menziesii*). *American Journal of Botany*, Supplement 83:53.

INVITED TALKS

2003 Smithsonian Environmental Research Center, College Park, Maryland. Spring Seminar Series, February, 2003. Host: Jeannine Cavendar-Barres.

2002 Sapwood senescence: parenchyma longevity and metabolic activity in aging secondary xylem. *Workshop on the Integration of Long-distance Transport Processes in Plants*. Oct.10 - 12, 2002, Harvard Forest, Petersham, Massachusetts, USA.

GRANTS & RESEARCH AWARDS

National Science Foundation DDIG in Integrative Biology. "The Role of Programmed Cell Death in Heartwood Formation". June 2003 - May 2005.

Deland Award, Arnold Arboretum. "Effects of within-stem gas composition on parenchyma metabolism". May 2002 - May 2005.

FIELD COURSES & EXPERIENCE, OUTREACH

- 2004 & 2005 *Cambridge Rindge and Latin Highschool*, Volunteer Instructor, Forestry and Tree ID.
- 2002 *Copper Canyon and the Sea of Cortez*. Lecturer, Harvard Museum of Natural History. January 7-15.
- 2000 *Tropical Botany*. Harvard University Summer Course, Fairchild Tropical Garden, Coral Gables, Florida. June 1-31.
- 2000 OTS 2000-9 *Tropical Plant Systematics*. Organization for Tropical Studies, Costa Rica. July 1-August 10.

HONORS / AWARDS

- 2004 Harvard University Merit Fellowship
- 2003 Certificate of Distinction in Teaching (OEB 106)
- 2002 Best Student Paper (Physiology Section at annual Botanical Society of America meeting)
- 2000 & 2001 Certificate of Distinction in Teaching (BS 51)
- 1994 – 1996 Walt A. Gruetter, Arnold and Vera Meier, and Alfred W. Moltke Fellowships
- 1993 Commonwealth Scholar, Hershel G. Abbot Award

PROFESSIONAL MEMBERSHIPS

American Society of Plant Biologists (ASPB)
International Association for Wood Anatomists (IAWA)
Ecological Society of America (ESA), Physiological Ecology Section