

## Frederick C. Meinzer

### Contact Information

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### Research Interests

Physiological plant ecology, biophysical ecology, environmental plant physiology, stress physiology, plant-water relations, photosynthetic gas exchange, stomatal physiology, energy balance, micrometeorology

### Education

B.S. Biology (1972) University of California, Irvine  
 M.S. Botany (1975) University of Washington  
 Ph.D. Botany (1981) University of Washington

### Professional Experience

2000-present Research Ecologist and Team Leader, Canopy Processes in Temperate Mesic Forests, USDA Forest Service  
 1990-2000 Plant Physiologist, Hawaii Agriculture Research Center (formerly Hawaiian Sugar Planters' Association)  
 1986-1990 Associate Plant Physiologist, Hawaiian Sugar Planters' Association  
 1983-1986 Assistant Research Biologist, University of California, Los Angeles  
 1981-1983 Professor, Tropical Ecology Group, Universidad de los Andes, Mérida, Venezuela

### Professional Appointments

2003-present Editor for **Environmental and Experimental Botany**  
 2001-present Editor for **Ecology/Ecological Monographs**  
 2000-present Editor for the journal **Tree Physiology**  
 1999-present Professor (courtesy), Department of Forest Science, Oregon State University  
 1987-present Graduate Faculty, University of Hawaii (Agronomy, Botany, Horticulture, Plant Molecular Physiology Departments)  
 1993-1999 Editorial review board member for the journal **Tree Physiology**  
 1993-1998 Associate Editor for the journal **Crop Science**  
 1995 Panel member, NSF-USDA-DOE-NASA Joint Program on Terrestrial Ecology and Global Change  
 1996 Panel member, USDA Plant Responses to the Environment Program

### Professional Service

Referee for the following journals:

Agronomy Journal, American Journal of Botany, Annales des Sciences Forestieres, Annals of Botany, Australian Journal of Botany, Australian Journal of Plant Physiology, Biotropica, Canadian Journal of Forest Research, Crop Science, Ecological Applications, Ecology, Ecosystems, Environmental and Experimental Botany, Functional Ecology,

Global Change Biology, Journal of Experimental Botany, Journal of Plant Physiology, Journal of the American Society for Horticultural Science, Journal of Theoretical Biology, Oecologia, Plant, Cell and Environment, Plant Physiology, Trees, Tree Physiology, Trends in Ecology and Evolution, Tropical Agriculture.

### **Selected Recent Scientific Publications (out of >125 total)**

- Woodruff, D.R., B.J. Bond and F.C. Meinzer. 2004. Does turgor limit growth in tall trees? **Plant, Cell and Environment** (in press).
- Bucci, S.J., F.G. Scholz, G. Goldstein and F.C. Meinzer. 2003. Dynamic changes in hydraulic conductivity in petioles of two savanna tree species: Factors and mechanisms contributing to the refilling of embolized vessels. **Plant, Cell and Environment** 26: 1633-1645.
- Ozanne, C.M.P., D. Anhof, S.L. Boulter, M. Keller, R.L. Kitching, C. Koerner, F.C. Meinzer, A.W. Mitchell, T. Nakashizuka, P.L. Silva Dias, N.E. Stork, S.J. Wright and M. Yoshimura. 2003. Biodiversity meets the atmosphere: A global view of forest canopies. **Science** 301: 183-186.
- James, S.A., F.C. Meinzer, G. Goldstein, D. Woodruff, T. Jones, T. Restom, M. Mejia, M. Clearwater and P. Campanello. 2003. Axial and radial water transport and internal water storage in tropical forest canopy trees. **Oecologia** 134: 37-45.
- Meinzer, F.C., S.A. James, G. Goldstein and D. Woodruff. 2003. Whole-tree water transport scales with sapwood capacitance in tropical forest canopy trees. **Plant Cell and Environment** 26: 1147-1155.
- Meinzer, F.C. 2003. Functional convergence in plant responses to the environment. **Oecologia** 134: 1-11.
- Brooks, J.R., F.C. Meinzer, R. Coulombe and J. Gregg. 2002. Hydraulic redistribution of soil water during summer drought in two contrasting Pacific Northwest forest types. **Tree Physiology** 22: 1107-1117.
- Meinzer, F.C. 2002. Coordination of vapor and liquid phase water transport properties in plants. **Plant Cell and Environment** 25: 265-274.
- James, S.A., M.J. Clearwater, F.C. Meinzer and G. Goldstein. 2002. Variable length heat dissipation probes for the measurement of sap flow in trees with deep sapwood. **Tree Physiology** 22: 277-283.
- Clearwater, M.J. and F.C. Meinzer. 2001. Relationships between hydraulic architecture and leaf photosynthetic capacity in nitrogen fertilized *Eucalyptus grandis* trees. **Tree Physiology** 21: 683-690.
- Meinzer, F.C., M. Clearwater and G. Goldstein. 2001. Water transport in trees: Current perspectives, new insights and some controversies. **Environmental and Experimental Botany** 45: 239-262.
- Melcher, P.J., G. Goldstein, F.C. Meinzer, D.E. Yount, T.J. Jones, N.M. Holbrook and C.X. Huang. 2001. Water relations of coastal and estuarine *Rhizophora mangle*: xylem pressure potential and dynamics of embolism formation and repair. **Oecologia** 126: 182-192.
- Meinzer, F.C., G. Goldstein and J.L. Andrade. 2001. Regulation of water flux through tropical forest canopy trees: Do universal rules apply? **Tree Physiology** 21: 19-26.
- Stratton, E., G. Goldstein and F.C. Meinzer. 2000. Stem water storage capacity and efficiency of water transport: their functional significance in a Hawaiian dry forest. **Plant, Cell and Environment** 23: 99-106.