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Personal Information

Birth date: April 12, 1949, Miami, Florida
Citizenship: USA
Married to: Dr. Silke Krömer

Education

B.S., Forest Management, University of Washington, Seattle, Washington, USA
1971
M.S., Major, Tree physiology; Minor, modeling University of Washington, Seattle,
Washington, 1974
Thesis title: Net photosynthesis as related to shoot hierarchy in a large dominant
Douglas-fir tree.
Ph.D., Thesis title: The effects of light intensity and direction on net
photosynthesis in Sitka spruce.
University of Aberdeen, Aberdeen, Scotland ,1979
Docent: University of Umeå, 1988

Professional Experience

1967-69 Forester, Snoqualmie National Forest, North Bend, Washington, U.S.A.
(summers only)
1970 Forester, Weyerhaeuser Co., Snoqualmie Falls Tree Farm, Snoqualmie,
Washington, USA (summer)
1971 Forester, Oregon State Forest Service, Klamath Falls, Oregon, USA
(summer)
1971-74 Research Assistant, International Biological Program, College of Forest
Resources, University of
Washington, USA
1975-78 Part time gardener for a large private home, 7 Newbattle Terrace,
Edinburgh, Scotland
1978-81 Postdoctoral research associate on the subject of stomatal conductance
in Sitka spruce and lodgepole
pine canopies. University of Edinburgh, Edinburgh, Scotland

1981-82 Co-principal investigator, National Science Foundation funded study: Shoot structure productivity and leaf area development in conifers. University of Washington, Seattle, Wash., USA

1984-85 Guest researcher funded by the Swedish Council for Forest and Agricultural Research, Department of Plant Physiology, University of Umeå, Umeå, Sweden

1986-94 Guest researcher or guest lecturer, Department of Plant Physiology, University of Umeå, Umeå, Sweden

1994-95 Research Associate Professor Department of Production Ecology Swedish University of Agricultural Sciences, Uppsala, Sweden

1995-present Research Associate Professor Department of Botany, Dendrology and Forest Genetics Arboretum, Royal Veterinary and Agricultural University Hørsholm, Denmark

Teaching Experience

1973 Teaching assistant in Forest Ecology, College of Forest Resources, University of Washington, Seattle, Washington, USA

1974-78 First year Botany laboratory demonstrator, University of Aberdeen, Aberdeen, Scotland, University of Edinburgh, Edinburgh, Scotland

1978-81 Tutor, 3-4 students per session, once per week, University of Edinburgh, Edinburgh, Scotland

1983 Eight week seminar series on photosynthesis as part of a tree physiology class, and various guest lectures. University of Washington, Seattle, Wash. USA

1986 Lecturer and running of laboratory for the Nordic Researcher course: Methods in Photosynthesis Research, University of Umeå, Umeå, Sweden

1986 External reviewer for thesis: Aphotosynthetic radiation regime and canopy structure in modeled forest stands. by Pauline Oker-Blom. Helsinki 1986.

1986-93 Lecturer and running of laboratories on photosynthesis, plant water relations and forest and agriculture production for undergraduate students in their first to fourth year as part of general plant biology and plant physiology classes. University of Umeå, Umeå, Sweden

1990 Organizer, and lecturer of a research preparation course for prospective research students in plant physiology (team teaching). University of Umeå, Umeå, Sweden

1991 Co-leader of a course for research students on the philosophy and methods of Science. Plant Physiology Department, University of Umeå, Sweden

1992 Teacher and organizer of course on the physiology of forest production comprising 30 hours of lectures and 20 hours in laboratories and discussion sessions.

1993 Leader of team-taught course, lecturer and organizer of laboratories for the Plant Physiology course for third-year students. Supervisor to Graduate student Mr. Tommy Olsson: thesis title: AEffects of leaf internal structure and non-uniform stomatal conductance on the photosynthetic response curve. (equivalent

to

M.Sc. degree). University of Umeå, Umeå, Sweden

1993-95 Teacher of three seminar courses for Ph.D. students on the books:

I. A Photosynthesis (by Lawlor 1993)

II. A Plant Physiological Ecology (Percy et al. 1989),

Swedish University of Agricultural Sciences, Uppsala Sweden

1994 Chairman for referee committee of Ph.D. thesis defense: ABiophysics of leaf extension in Salix. By Ingela Stadenberg, Uppsala Sweden.

1994-95 Lecturer/teacher for Nordic workshop courses for Ph.D. students

I. A Effects of elevated atmospheric concentrations of carbon dioxide on crop growth. (Uppsala Sweden)

II & III. Gas exchange measurements in trees using small portable cuvette systems. Flakaliden, Sweden (1994) and Hørsholm, Denmark (1995).

1995-present Co-supervisor for two Ph.D. students (Peter Roberntz and Ann-Sofie Morén) at Swedish University of Agricultural Sciences, Uppsala, Sweden.

Peter Roberntz successfully completed his degree in 1998.

-Co-supervisor for M.Sc. student Dan Bruhn at Botany Department University of Copenhagen Degree: completed in 1998 with highest possible grade.

-Mentor to 3 Ph.D. students (Anders Ræbild, Georg Plaudan-Müller, & Michael Freeman), at the Arboretum in Hørsholm Denmark, all successfully completed their degrees in 1998 or 1999.

-Teacher for seminar course for PhD students on the book: "Plant Physiological Ecology" (Lambers et al. 1998)

Professional Societies

Sigma Xi, USA

Scandinavian Society for Plant Physiology

Scientific Papers and Contributions

Leverenz, J.W. and P.G. Jarvis. 1979. Photosynthesis in Sitka spruce, VIII. The effects of light flux density and direction on the rate of net photosynthesis and the stomatal conductance of needles. *Journal of Applied Ecology* 16:919-932.

Leverenz, J.W. and P.G. Jarvis. 1980. Photosynthesis in Sitka spruce (*Picea sitchensis* (Bong.) Carr.) IX. The relative contribution made by needles at various positions on the shoot. *Journal of Applied Ecology* 17: 59-68.

Leverenz, J.W. and P.G. Jarvis. 1980. Photosynthesis in Sitka spruce (*Picea sitchensis* (Bong.) Carr.) X. Acclimation to quantum flux density within and between trees. *Journal of Applied Ecology* 17: 697-708.

Leverenz, J.W. 1981. Photosynthesis and transpiration in large forest-grown Douglas-fir: diurnal variation. *Canadian Journal of Botany* 59: 349-356.

Leverenz, J.W. 1981. Photosynthesis and transpiration in large forest-grown Douglas-fir: interactions with apical control. *Canadian Journal of Botany* 59: 2568-2576.

Leverenz, J.W., J.D. Deans, E.D. Ford, P.G. Jarvis, R. Milne, and D. Whitehead. 1982. Systematic spatial variation of stomatal conductance in a Sitka spruce plantation. *Journal of Applied Ecology* 19: 835-851.

Jarvis, P.G. and J.W. Leverenz. 1983. Productivity of temperate, deciduous and evergreen forests. pp 234-280. In: Encyclopedia of Plant Physiology vol 12D. Physiological Plant Ecology: Productivity and Ecosystem Processes. Springer-Verlag, Berlin.

Milne, R., J.D. Deans, E.D. Ford, P.G. Jarvis, J. Leverenz and D. Whitehead. 1985. A comparison of two methods of estimating transpiration rates from a Sitka spruce plantation. *Boundary-Layer Meteorology* 32:155-175.

Leverenz, J.W. and D.J. Lev. 1987. Effects of carbon dioxide-induced climate changes on the natural ranges of six major commercial tree species in the Western United States. pp 123-155. In: *The Greenhouse effect, Climate Change, and U.S. Forests*, ed. by W.E. Shands & J.S. Hoffman. The Conservation Foundation, Washington D.C.

Leverenz, J.W. and G. Öquist. 1987. Quantum yields of photosynthesis at temperatures between -2 oC and 35 oC in a cold-tolerant C3 plant (*Pinus sylvestris*) during the course of one year. *Plant Cell and Environment* 10: 287-295.

Leverenz, J.W. 1987. Chlorophyll content and the light response curve of shade-adapted conifer needles. *Physiologia Plantarum*, 71: 20-29.

Tucker, G.F., T.M. Hinckley, J.W. Leverenz, S. Jiang. 1987. Adjustments of foliar morphology in the acclimation of understory Pacific Silver Fir following clearcutting. *Forest Ecology and Management*: 21: 249-268.

Leverenz, J.W. 1988. The effects of illumination sequence, CO2 concentration, temperature and acclimation on the convexity of the photosynthetic light response curve. *Physiologia Plantarum*: 74: 332-341.

Leverenz, J.W. and T.M. Hinckley. 1990. Shoot structure, leaf area index and productivity of evergreen conifer-stands. *Tree Physiology*: 6: 135-149.

Leverenz, J.W., S. Falk, C.-M. Pilström, & G. Samuelsson. 1990. The effects of photoinhibition on the photosynthetic light-response curve of green plant cells (*Chlamydomonas reinhardtii*). *Planta* 182: 161-168.

Leverenz, J.W. and J.-E. Hällgren. 1991. Measuring photosynthesis and respiration of foliage. pp 303-328. In: *Techniques and Approaches in Forest Tree Ecophysiology*. Ed. by J.P. Lassoie and T.M. Hinckley. CRC Press, Boca Raton

Falk, S. J.W. Leverenz, G. Samuelsson & G. Öquist. 1992. Changes in photosystem II fluorescence in *Chlamydomonas reinhardtii* exposed to increasing levels of irradiance in relationship to the photosynthetic response to light. *Photosynthesis Res*: 31: 31-40.

Leverenz J.W. 1992. Shade shoot structure and productivity of evergreen conifer stands: Tests of three alternative hypotheses. *Scan. J. For. Res.* 7:345-353.

Leverenz, J.W., G. Öquist, & G. Wingsle. 1992. Photosynthesis and photoinhibition in leaves of chlorophyll b-less barley in relation to absorbed light. *Physiol. Plant.* 85: 495-502.

Leverenz, J.W. 1994. Factors determining the nature of the light dosage response curve of leaves. pp 239-254 In: *Photoinhibition of Photosynthesis from molecular mechanisms to the field*. (Ed. by N.R. Baker & J.R. Boyer) BioScientific Publishers Ltd. Oxford, UK

Olsson, T. & J.W. Leverenz. 1994. Non-uniform stomatal closure and the

apparent convexity of the photosynthetic photon flux density response curve. *Plant, Cell & Environ.* 17:701-710.

Leverenz, J.W. 1995. Shade shoot structure of conifers and the photosynthetic response to light at two CO₂ partial pressures. *Funct. Ecol.* 9: 413-421.

Leverenz, J.W. 1996. Shade-shoot structure, photosynthetic performance in the field, and photosynthetic capacity of evergreen conifers. *Tree Physiology* 16: 109-114.

Leverenz, J.W., G. Paludan-Müller, & H. Saxe. 1999. Response to three seasons of elevated ozone in the progeny of healthy and unhealthy Norway spruce from a plantation with the "top dying" syndrome". *New Phytologist*: in press.

Book Reviews

Leverenz, J.W. 1980. *Tree Growth and Environmental Stresses* by T.T. Kozlowski. *Journal of Applied Ecology* 17:517.

Hinckley, T.M. and J.W. Leverenz. 1983. *Biophysical Ecology*. by D.M. Gates. *Forest Science* 29: 179-180.

Leverenz, J.W. 1996 *Crassulacean Acid Metabolism. Biochemistry, Ecophysiology and Evolution.* by Winter, K. and Smith, J.A.C. (eds). *Acta Oecologia*:

Lectures

Given at other universities, private companies and presentations at professional meetings: more than 32.

Profile in

Who's Who in the World, Marquis Publisher, New Providence, NJ

Referee for the following

Canadian Journal of Forest Research.

Forest Ecology and Management

Forest Science.

Functional Ecology

Journal of Applied Ecology.

Journal of Experimental Botany

Journal of Tropical Forest Science

Physiologia Plantarum

Plant, Cell & Environment

Plant Physiology

Planta

Polar Research

Scandinavian Journal of Forest Research

Tree Physiology

Trees - Structure and Function

USDA competitive research grants program