

BARBARA LACHENBRUCH

formerly Barbara L. Gartner

Professor Emeritus, Forest Tree Ecophysiology
Dept. of Forest Ecosystems and Society
College of Forestry, Oregon State University
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EDUCATION

Postdoc, UC Berkeley, Integrative Biology, 1990–1992
Ph.D., Stanford University, Biological Sciences, 1990
M.S., University of Alaska, Fairbanks, Biological Sciences, 1982
B.A., Swarthmore College, Biology, 1979

PROFESSIONAL WORK EXPERIENCE

Appointment in Forest Ecosystems and Society; adjunct in Wood Science and Engineering
Fall 2017–present, Professor Emeritus, Dept. of Forest Ecosystems and Society, OSU
2012–fall 2017, Professor, Dept. of Forest Ecosystems and Society, OSU
2012–2013, Sabbatical Leave, Dept. of Horticulture, OSU

Appointment in Wood Science and Engineering (formerly called Forest Products); adjunct in Forest Ecosystems and Society (formerly called Forest Science)
2004–2011, Professor, Dept. of Wood Science and Engineering, OSU
2006–2007, Sabbatical Leave, Fulbright Scholar, Univ. Austral de Chile, Valdivia
1998–2004, Associate Professor, Dept. of Wood Science & Engineering, OSU
1998–1999, Sabbatical Leave: Poste Rouge Fellow, Centre d'Ecologie Fonctionnelle et Evolutive, CNRS, Montpellier, France
1992–1998, Assistant Professor, Dept. of Forest Products, OSU

Before Graduate School and Postdoc
1983–1984, Peace Corps Volunteer, Soil Conservation, Guatemala
1983, Research Biologist, Cold Regions Research and Engineering Laboratory, Corps of Engineers, Hanover, NH
1981–1982, Restoration Specialist, Fluor Northwest, Fairbanks, AK and Houston, TX

AREAS OF SPECIALIZATION

Tree ecophysiology, especially biomechanics and drought effects on trees
 Wood anatomy and wood quality
 Eco-morphology at micro- and macroscopic levels, seedlings through mature trees
 Curriculum development
 Diversity, Equity, and Inclusion

FORMER PROFESSIONAL AFFILIATIONS

American Association for the Advancement of Science (1979–2016)
 Association of Women in Science (1992–1997)
 Association for Tropical Biology (1988–2004)
 Botanical Society of America (1989–2017)
 California Botanical Society (1993–1998)
 Ecological Society of America (1979–2017)
 Forest Products Society (1992–2011)
 International Academy of Wood Science (2000–present)
 International Association of Wood Anatomists (1988–2016)
 International Union of Forest Research Organizations (2003–2010)
 Society of Wood Science and Technology (1992–2014)

HONORS AND AWARDS

Oregon State University Libraries Open Access Hall of Fame, 2011
 Woman of Achievement Award, OSU Women’s Center, 2006
 Fulbright Scholar, 2005
 Fellow, International Academy of Wood Science, 2001
 Aufderheide Award for Excellence in Teaching, College of Forestry, 1998
 Emerging Scholar Award, OSU Chapter of Phi Kappa Phi, 1996
 Presidential Early Career Award for Scientists and Engineers (PECASE), Office of Science and
 Technology Policy, Executive Office of the President, Washington, DC, 1996
 Sigma Xi, elected to membership, 1979

CLASSES TAUGHT

Graduate

Sustainable Forest Management (FOR 550, 3 credits) 2014
 Curriculum Planning in Plant Physiology (FES 599, 1 credit) 2014
 Ecology and Evolution Seminar (FS 599, 1 credit, team-taught) 2011–2012
 Wood Quality (WSE 599, 1 credit) 2010
 Teaching Practicum (WSE 599, 2 credits), 2009

Wood Quality (WSE 565, 2 credits) 2007
 Wood Science 1 (WSE 521, 4 credits, team-taught) 2004–2005
 Hydraulic Architecture (WSE 506, 2 credits) 2004
 Wood Science 2 (WSE 522, 4 credits, team-taught) 2004
 Wood and Fiber Anatomy (FP 512, 4 credits) 1992–2002
 Wood Technology and Utilization (FP 210, 4 credits) 1998
 Seminar Class in Ecophysiology (FP/FS 605, 1 credit, 3 times/year) 1996–1997
 Seminar Class in Forest Physiology and Wood Quality (FP/FS 505, 1 credit) 1997
 Seminar Class in Stem Sinuosity (FP/FS 505, 1–3 credits) 1966
 Biology of Blackberries (BOT/FS 405/505/605, 1–3 credits, team-taught) 1995
 Seminar Class in Hydraulic Consequences of Xylem Variation (FP 605, 1 credit) 1994

Undergraduate

Forest Biology–FES 240 (4 credits, two terms/year) 2015–2017
 Forests, Wood, and Civilization for University Honors College (3 credits) 2012
 Forests, Wood, and Civilization (3 credits) 2005–2010
 Chemistry and Anatomy of Renewable Materials (WSE 321, 4 credits, team-taught) 2011
 Global Issues in Renewable Materials (WSE 390, 3 credits) 2011, two terms/year 2011
 Wood and Fiber Anatomy (WSE 312, 4 credits) 1993–2005

Guest Lectures, including

In FES: Forest Biology, Posing Researchable Questions, Natural Resource Research Planning, Current Topics in Research, Current Topics in Research, Wood Technology and Utilization, Wood and Fiber Anatomy
 In WSE and FP: Anatomy of Renewable Materials, Introduction to Wood Science, Advanced Wood Science
 In FOR: Forest Biology, Introduction to Forestry, American Forestry
 In BOT: Plant Structures
 In Chile: Ese Mar Tranquilo Nos Baña (This Ocean That Gently Bathes Us), Tree Genetics

GRADUATE STUDENTS ADVISED

PhD, Major Professor

Elizabeth Weisgerber-Swanson, 2018, Facilitation in a changing climate: Do shrubs mitigate impacts on key population processes of plant neighbors in severe weather years? (FES)
 Steven Voelker, 2009, Functional decreases in hydraulic and mechanical properties of field-grown transgenic poplar trees caused by modification of the lignin

synthesis pathway through downregulation of the 4-coumarate:coenzyme A Ligase gene (FS and WSE)

David Woodruff, 2008, Height-related trends in structure and function of Douglas-fir foliage (FS)

Adam Taylor, 2004, Environmental effects on heartwood extractive content and their consequences for natural durability in Douglas-fir and western redcedar (WSE)

Jose Antonio Silva-Guzman, 2003, Development of accelerated methods for assessing decay of wood plastic composites (WSE)

Jean-Christophe Domec, 2002, Structure and hydraulic function of xylem in two tree species with contrasting amounts of sapwood, *Pseudotsuga menziesii* and *Pinus ponderosa* (FS and WSE)

Michele Pruyn, 2002, Patterns of stem respiration within tree, with age, and among species in Pacific northwest trees (WSE and FS)

Jeff DeBell, 1998, Wood quality studies in second-growth western redcedar (*Thuja plicata* Donn.). (FP and FS)

Hua Lei, 1995, The effects of growth rate and cambial age on wood properties of red alder (*Alnus rubra* Bong.) and Oregon white oak (*Quercus garryana* Dougl.) (FP)

MS and MF, Major Professor

Elise Heffernan, 2017, Canopy microclimates and epiphytes: examining dynamic patterns and influences (FES)

Jamie Mosel, 2016, Physiological responses of loblolly pine and Douglas-fir seedlings from various provenances to timing and frequency of drought stress (FES)

David Barnard, 2010, Stem sapwood water transport and storage strategies in three conifers from contrasting climates (FES)

Sonya Dunham, 2006, Douglas-fir hydraulic architecture and relationships among xylem properties at multiple scales via a Bayesian analysis (WSE and FES) S

Heidi Renninger, 2005, Effects of release from suppression on hydraulic architecture, photosynthetic capacity and functional wood characteristics in Douglas-fir and western hemlock (FS and WSE)

Lotties Fallas-Cedeno, 2005, Water movement in the stem xylem in relation to xylem specific conductivity in four hardwood species (WSE and FS)

Hamish Marshall, 2005, The impact of bark thickness in the forestry supply chain. (Masters of Forestry in WSE)

Amy Grotta, 2002, Competitive interactions in young coastal Douglas-fir/red alder mixtures: implications for wood quality (WSE and FS)

James Robbins, 2002, Influence of spacing and crown recession on wood quality of intensively-managed young-growth Douglas-fir (FP and FS)

David Baker, 2000, Wood density patterns of young Costa Rican trees in planted and natural forests (FP and FS)

Rachel Spicer, 1995, Hydraulic properties of compression wood in branches and reoriented shoots of Douglas-fir (*Pseudotsuga menziesii*) (FP and FS)

Service as Member of Graduate Committee

Committee Member but not Major Professor (52 students in 14 departments)

Graduate College Representative (39 students in 20 departments)

VISITORS HOSTED

Sabbatical

Jia-Ping Zhao (2016–2017), Peter Kitin (2007–2011), Geir Vestol (2008–2009), Dean S. DeBell (2000–2001), Brayton F. Wilson (1999–2000)

Postdoctoral

Kate McCulloh, Seema Mangla, Peter Kitin, JC Domec, Michele Pruyne

International Graduate Students

Estelle Noyer, Alan Crivellaro, Katrin Zimmer, Paul-Emile Noirot-Cosson, Cecile Perrineau, Sylvain Du Peloux de Saint Romain, Myriam Loloum, Celine Berthier, Pierre Gourdon, Beatrice Galdi, Sylvain Rullier, Johann Housset, Clarisse Maton, Laurent Bouffier, Julie Vinson, Isabelle Formaux, Nicolas Lambert, Julie Gourlay, Arnelle Bonnet, John Bruneval, Ferdi Joose

International Undergraduate Students

Veni Goyal, Florian Leroux

UNDERGRADUATE STUDENTS ADVISED/MENTORED

Major Professor for Research Projects, Senior Thesis, and University Honors Theses

Herman Noe Flamenco, Jr., Alexandra Peterson, Laura Márquez-Loza, Noah Stilwell, Cristian Adolfo Alvarez Ocares, Christiian Wilhemsen

Mentor and Work Advisor

Morgan DeBeyer, Shannon Dunfee, Shawn Wilson, Herman Flamenco, Miguel Lopez, Kyler Jacobo, Hayley Girod, Claudia Andersen, Auna Godinez, Zera Roslee Syazana Binti

OUTREACH SUMMARY

On *Modern Marvels* documentary called “Wood” on the History Channel (H2) on Dec. 19, 2011.

Workshops (usually 1 hour to 1 day), including

Maple Syrup Workshop (2017)

Master Woodland Managers Mini College (2014)
 How to Dry Lumber for Quality and Profit (1999–2016)
 Plywood Manufacturing (1993–1998)
 How to Dry Hardwood Lumber (1993–1994)

PROFESSIONAL SERVICE

To OSU

Director, Instructional Services, College of Forestry (9 months)
 Member of the Forest Executive Committee (4 years)
 Chair, Review Team, Student Success in College of Forestry (1 year)
Head or Member, committees including

Faculty Senate Library Committee, Faculty Women's Network Steering Committee, committee to Develop a Museum and Teaching Facility, Women in Science, and OSU representative to Organization for Tropical Studies, Diversity, Equity and Inclusion Committee, College Forests Advisory Committee, WSE Graduate Affairs Committee, Program Review Committee, numerous curriculum committees

Head or Member, selection committees for numerous University and College positions
 Head or Member, numerous departmental Promotion and Tenure Committees
 Administrator, Qualifying Exam, Dept. of Wood Science and Engineering (2 years)

To Profession

Associate Editor

Canadian Journal of Forestry (3 years)
 International Association of Wood Anatomists (5 years)

Manuscript reviewer

American Journal of Botany, Annals of Forest Science, American Journal of Botany, Canadian Journal of Forest Science, Dendrochronologia, Ecology, European Journal of Forest Research, Forest Ecology and Management, Forest Science, Forest Products Journal, Functional Ecology, Holzforschung, International Association of Wood Anatomists Journal, Journal of Microscopy and Microanalysis, Madroño, New Phytologist, Oecologia, Open Forest Science Journal, Oxford Forestry Institute, Plant Disease, Plant Cell and Environment, Proceedings of the National Academy of Sciences, Scandinavian Journal of Forest Research, Tree Physiology, Tree Ring Bulletin, Trees, Wood and Fiber Science

Proposal Reviewer

DOE, Maine Agricultural Experiment Station, McEntire-Stennis Program of Virginia Tech, National Geographic, NSERC, NSF, USDA CSREES, Swiss National Science Foundation

Institutional Reviewer

Chair, Wood Quality Initiative (NZ and Australia; twice)
 Chair, Accreditation Review Team for Wood Science and Technology's review
 of undergrad Wood Science program at the Universidad de Bio-Bio, Chile,
 Chair of University of British Columbia's External Review Team of the Dept. of
 Wood Science

Gordon Research Conference

Chair of 2018 Conference
 Vice-chair and Co-instigator of 2015 Conference
 NSF-ADVANCE; Co-ran workshop for women
 External Reviewer for Professors elsewhere (14)
 External Examiner for PhDs and Habilitation theses (6)

To Community

Wood Magic presenter for five days per year (1999–2013) (reaching about 1100
 3rd graders/year)
 Provided technical information to phone inquiries and visitors
 Provided microscopic wood identifications

GRANT AND CONTRACT SUPPORT

Research and travel supported by Higher Education for Development—AID,
 Fulbright Scholar Program, Gordon Research Conference, NSF and NSF-ADVANCE
 Subcontract, USDA OSU Swiss Needle Cast Co-Operative, CNRS (France), Society of
 Wood Science and Technology, USDA Forest Products Lab, USDA National Research
 Initiative Competitive Grant Program, USDA Forest Service, Weyerhaeuser
 Foundation, Wood Quality Initiative (NZ), and internal OSU funding.

PUBLICATION SUMMARY (see publication list)

128 peer-reviewed papers
 Two edited books
 Nine book chapters
 Ten non-peer-reviewed publications
 75 other abstract and proceedings papers