

Curriculum Vitae
Douglas Jerome Gardner, Ph.D.
Professor and Program Leader of Forest Operations, Bioproducts & Bioenergy
University of Maine, School of Forest Resources and
Advanced Structures and Composites Center
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Orono, Maine 04469
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Personal: Date of Birth: April 5, 1958
Place of Birth: Lewiston, Maine
Marital Status: Married

Education:

Ph.D. Mississippi State University 1981 - 1985
Major: Wood Science and Technology
Minor: Chemistry

Certificate of Advanced Study: University of Maine at Orono 1980 - 1981
Major: Pulp and Paper Management

B. S. University of Maine at Orono 1976 - 1980
Major: Forestry (Wood Science Curriculum)

Qualifications and Areas of Study: Wood/paper Surface Chemistry Cellulose Nanocomposites
Wood-Polymer Composites Extrusion
Analytical Chemistry Wood Adhesion

Professional Work Experience:

Professor Sept. 2001-present
Associate Professor June 1998-Aug. 2001
University of Maine
Advanced Structures and Composites Center
School of Forest Resources
Orono, Maine

Interim Director October 1997-June 1998
Associate Professor January 1995-June 1998
Michigan Technological University
Institute of Wood Research
Houghton, Michigan

Associate Professor May 1994 - Dec. 1994
Assistant Professor Feb. 1988 - April 1994
West Virginia University
Division of Forestry
Morgantown, West Virginia

Post Doctoral Research Associate June 1986 - Jan. 1988
School of Forestry
Auburn University, Alabama

Graduate Research Assistant Mississippi Forest Products Utilization Laboratory Mississippi State, Mississippi	1981 - 1985
Research Technician Forest Products Laboratory University of Maine	1980 - 1981
Lab Technician/Maintenance Marcal Paper Company Mechanic Falls, Maine	Summers 1977 - 1979

Professional Activities

Memberships:

American Chemical Society, Northern West Virginia Section, Chairman 1992-1993
Forest Products Society
Society of Wood Science and Technology (SWST), Past President 2006-2007
Society of Plastic Engineers
University of Maine Pulp and Paper Foundation

Miscellaneous Professional Activities:

Certified Commercial Pesticide Applicator Wood Preservation and Products Treatment
Panel Review Member 1990, 2000 USDA Competitive Grants Program. Wood Utilization
Miscellaneous Wood Science Consulting Work
1993 Faculty Development Tour to Austria/Slovakia
1994 Faculty Exchange, The Technical University, Zvolen, Slovakia
1994 SWST Accreditation Team, North Carolina State University
1996 Faculty Visit, The Technical University, Zvolen, Slovakia
2005 SWST Accreditation Team, Virginia Tech

Teaching Responsibilities:

WSC 440/540 Adhesion and Adhesive Technology
WSC 550 Wood-Polymer Hybrid Composites
WSC 410 Mill Tour

Honors and Awards:

Mississippi State University
Department of Wood Science and Technology
Outstanding Graduate Student 1983-1984

University of Maine Pulp and Paper
Foundation Scholarship

Alpha Gamma Rho Fraternity Scholarship

Forest Products Research Society Award
University of Maine
Department of Forest Products

Outstanding Senior 1980

Senior Skulls - Highest Non-Academic
Honor Society at UMO

Xi Sigma Pi

Dean's List

Sigma Xi - The Scientific Research Society

1992 Cahn Award

1993 SWST Visiting Scientist, University of California, Berkeley

1994 SWST Visiting Scientist, Michigan Technological University

1997 Who's Who in Science and Engineering

2000 SWST Visiting Scientist, Mississippi State University

Named an Honorary Member of the Union of Wood Processing Manufacturers of the Slovak Republic on November 23, 2000.

2004-2005 University of Maine, G. Peirce and Florence Pitts Weber Outstanding Researcher in Forest Resources

2007 Director's Award AEWG Outstanding Faculty

2007-2008 Strathmore's Whos Who

2008 Forest Products Society L. J. Markwardt Engineering Award Co-Recipient

2009 Proceedings of American Composites Manufacturers Association (ACMA) Composites & Polycon 2009. Paper won the Best in Track Technical Paper Award: Green Composites.

2010 2nd Place George Marra Award of Excellence, Wood and Fiber Science Research Paper

2011-2012 University of Maine, G. Peirce and Florence Pitts Weber Outstanding Researcher in Forest Resources

2012 3rd Place George Marra Award of Excellence, Wood and Fiber Science Research Paper

2012 Elected SWST Fellow

2013 Honorable Mention George Marra Award of Excellence, Wood and Fiber Science Research Paper

Meetings Attended:

Annual Meeting, Northeast Section, Forest Products Research Society, Amherst, Massachusetts, 1978

International Annual Meeting, Forest Products Research Society, Boston, Massachusetts, 1980

Annual Meeting, Maine-New Hampshire Section, TAPPI, Durham, New Hampshire, 1981

Annual Meeting, Mid-South Section, Forest Products Research Society, Biloxi, Mississippi, 1982

International Annual Meeting, Forest Products Research Society, Norfolk, Virginia, 1983

Annual Meeting, American Chemical Society, Washington, 1983

International Annual Meeting, Forest Products Research Society, St. Louis, Missouri, 1984

Annual Meeting, TAPPI, New Orleans, Louisiana, 1985

International Annual Meeting, Forest Products Research Society, Orlando, Florida, 1985

Advanced Technology Applications to Utilization of Eastern Hardwoods, East Lansing, Michigan, 1987

International Meeting, Forest Products Research Society, Louisville, Kentucky, 1987

Stabilization of the wood cell wall, East Lansing, Michigan, 1987

Third Annual A. B. Brooks Memorial Forestry Symposium Lecture, Charleston, West Virginia, 1988

International Annual Meeting, Forest Products Research Society, Quebec City, P. Q. Canada, 1988

Advanced Technology Applications to Eastern Hardwood Utilization, East Lansing, Michigan, 1988

Section Meeting, Northern West Virginia Section, American Chemical Society, Morgantown, West Virginia, 1989

International Meeting, 1989 International Symposium on Wood and Pulping Chemistry, Raleigh, North Carolina, 1989

Annual Meeting, Mid-South Section, Forest Products Research Society, New Orleans, Louisiana, 1989

Annual Meeting, Carolinas-Chesapeake Section, Forest Products Research Society, Greensboro, North Carolina, 1989

Annual Meeting, American Chemical Society, Boston, Massachusetts, 1990

Wood Adhesives 1990, Forest Products Research Society, Madison, Wisconsin, 1990

Advanced Technology Applications to Eastern Hardwood Utilization, East Lansing, Michigan, 1990

Wood-Based Composite Consolidation Workshop, Blacksburg, Virginia, 1990.

6th International Wood and Pulping Chemistry Symposium, Melbourne, Australia, 1991.

ISWPC Post-Symposium Workshop, Rotorua, New Zealand, 1991.

International Annual Meeting, Forest Products Research Society, New Orleans, Louisiana, 1991.

Annual U. S. Forest Products Laboratory Research Conference, Madison, Wisconsin, 1991.

Cellulose '91, New Orleans, Louisiana, 1991.

66th Colloid and Surface Science Symposium, Morgantown, WV 1992.

International Annual Meeting, Forest Products Research Society, Charleston, SC, 1992.

International Annual Meeting, Society of Wood Science and Technology, Charleston, SC, 1992.

Pacific Rim Bio-Based Composites Symposium, Rotorua, New Zealand, 1992.

Annual Meeting, Carolinas-Chesapeake Section, Forest Products Society, Richmond, VA, 1993.

67th Colloid and Surface Science Symposium, Toronto, Canada, 1993.

Polymer Processing Society Meeting, Morgantown, WV, 1993.

Annual U. S. Forest Products Laboratory Research Conference, Madison, WI, 1993.

Hardwood Research Council Meeting, Cashiers, NC, 1994.

International Annual Meeting, Society Wood Science and Technology, Portland, ME, 1994

International Annual Meeting, Forest Products Society, Portland, ME, 1994

208th National ACS Meeting, Washington, DC, 1994
Second Pacific Rim Bio-based Composites Symposium, Vancouver, Canada, 1994
International Annual Meeting, Society Wood Science and Technology, Portland, OR, 1995
International Annual Meeting, Forest Products Society, Portland, OR, 1995
Wood Adhesives 1995, Forest Products Society, Portland, OR, 1995
Hemlock Ecology and Management, Regional Meeting, Iron Mountain, MI, 1995
International Annual Meeting, Society Wood Science and Technology, Minneapolis, MN, 1996
International Annual Meeting, Forest Products Society, Minneapolis, MN, 1996
International Annual Meeting, Society Wood Science and Technology, Vancouver, BC, 1997
International Annual Meeting, Forest Products Society, Vancouver, BC, 1997
Workshop on Utility Poles: Environmental Issues, Madison, WI, 1997.
5th North American Chemical Congress, Cancun, Mexico, 1997.
32nd International Particleboard/Composite Materials Symposium, Pullman, WA 1998.
Second International Symposium on Acid-Base Interactions: Relevance to Adhesion, Newark, NJ., 1998
International Annual Meeting, Society Wood Science and Technology, Boise, ID, 1999
First International Conference on Advanced Engineered Wood Composites, Bar Harbor, ME, 1999
218th National ACS Meeting, New Orleans, LA, 1999
23rd Adhesion Society Meeting, Myrtle Beach, South Carolina, 2000
International Annual Meeting, Society Wood Science and Technology, Lake Tahoe, NV, 2000
Wood Adhesives 2000, Forest Products Society, Lake Tahoe, NV, 2000
International Symposium on Interfaces in Polymer Composites, Newark, NJ, 2000
221st American Chemical Society National Meeting, San Diego, CA, 2001
6th International Conference on Woodfiber-plastic Composites, Madison, WI, 2001
International Annual Meeting, Society Wood Science and Technology, Baltimore, MD, 2001
Forest Products Society 55th Annual Meeting, Baltimore, MD, 2001
2nd International Conference on Advanced Engineered Wood Composites, Sunday River, ME, 2001
Durability and Disaster Mitigation in Wood-frame Housing, Madison, WI, 2001
Vinyltech 2001, Society of Plastic Engineers, Iselin, NJ, 2001
The Global Outlook for Natural Fiber Reinforcements, Intertech Orlando, FL, 2001
International Wood Composite Materials Symposium, Washington State University, Pullman, WA 2002
Progress in Woodfibre-Plastic Composites, Toronto, Canada 2002
International Annual Meeting, Society Wood Science and Technology, Madison, WI, 2002
Forest Products Society 56th Annual Meeting, Madison, WI, 2002
225th American Chemical Society National Meeting, New Orleans, LA March 24-26, 2003
7th International Conference on Woodfiber-plastic Composites, Madison, WI, May 19-20, 2003
International Annual Meeting, Society Wood Science and Technology, Bellevue, WA, 2003

Forest Products Society 57th Annual Meeting, Bellevue, WA, 2003

Characterization of the cellulosic cell wall, 25-27 August 2003, Grand Lake, Colorado

ISO/TC165 Working Group Meeting, September 3- 6, 2003, Istanbul, Turkey

Wood Composites Reciprocal Trip to Chile, Office of Naval Research, October 6-10, 2003, Santiago and Concepcion Chile

Forest Products Priorities for the Future”, NAPFASC-NPC Fall Meeting October 28-29, 2003, Madison, Wisconsin

The Global Outlook for Natural Fiber & Wood Composites 2003, December 3-5, 2003 New Orleans, LA

Progress in Woodfibre-plastic Composites, May 10-11, 2004 Toronto, Canada.

Northeast Section Forest Products Society Annual Meeting, May 14, 2004 Bar Harbor, ME.

International Annual Meeting, Society Wood Science and Technology, June 26-28, 2004 Grand Rapids, MI

International Symposium: Wood Science - Education and Research Programmes Stará Lesná, Slovakia, August 16-20, 2004

The Global Outlook for Natural Fiber & Wood Composites 2004, December 8-10, 2004 New Orleans, LA

Wood Polymer Composites Symposium 2005, March 24-25, 2005, Bordeaux, France.

8th International Conference on Woodfiber-Plastic Composites (and other natural fibers), Madison, Wisconsin May 23-25, 2005.

Forest Products Society- Eastern Canadian & U.S. Northeast Section Meeting, June 1, 2006, Fredericton, New Brunswick, Canada.

49th Annual Convention of the Society of Wood Science and Technology, June 25, 2006, Newport Beach, California.

First Latin American Congress on Biorefineries. , Nov. 21, 2006, Concepcion, Chile.

Durability in Wood Plastic & Natural Fiber Composites 2006: A catalyst for widespread market acceptance. December 4-5, 2006, San Antonio, Texas.

9th International Conference on Wood & Biofiber Plastic Composites, May 21-23, 2007, Madison, WI.

Society of Wood Science and Technology (SWST) - 50th Anniversary Annual Convention. Knoxville, Tennessee, USA. June 10, 2007.

1st International Symposium of Wood Plastic Composites: Development and Prospects, November 10-11, 2007, Xi An, China.

American Chemical Society 235th National Meeting, April 6-10, 2008, New Orleans, LA.

International Conference on Progress in Biofibre Plastic Composites, May 12-13, 2008, Toronto, Canada.

62nd Annual Forest Products Society International Convention, June 22-24, 2008, St. Louis, MO

4th International Conference on Advanced Engineered & Hybrid Wood Composites, Bar Harbor, ME
July 6-10, 2008.

6th International Symposium on Contact Angle Analysis, Wettability and Adhesion, July 14-16, 2008,
Orono, Maine.

Society of Wood Science and Technology 51st Annual Convention, November 10-12, 2008, Concepcion,
Chile.

10th International Conference on Wood & Biofiber Plastic Composites. Madison, WI. May 11-12, 2009.

Cellulose Nanocomposite Symposium. Madison, WI. May 13, 2009.

International Conference on Wood Adhesives, September 28-30, 2009, Lake Tahoe, NV.

Society of Plastic Engineers –Polymer Nanocomposites , March 8-10, 2010, Lehigh University,
Bethlehem, PA.

American Chemical Society 240th National Meeting, August 24, 2010, Boston, MA.

Society of Wood Science and Technology 53rd Annual Convention, October 11-14, 2010, Geneva,
Switzerland.

6th Annual Meeting of the Nordic-Baltic Network in Wood Material Science and Engineering, October
21-22, 2010, Tallinn, Estonia.

Society of Plastic Engineers –Polymer Nanocomposites Conference, March 7-9, 2011, Lehigh University,
Bethlehem, PA.

11th International Conference on Wood & Biofiber Plastic Composites, May 16 -18, 2011, Madison, WI

Nanotechnology in wood composites symposium, May 18, 2011, Madison, WI

TAPPI International Conference on Nanotechnology for Renewable Materials, June 6-8, 2011,
Washington, DC

SWST/ICBR International Convention, August 27-31, 2012, Beijing, China

20th Anniversary Celebration of The BioEnvironmental Polymer Society (BEPS) September 18-21, 2012,
Denton, Texas.

245th American Chemical Society National Meeting, New Orleans, LA April 7-11, 2013

Agenda 2020 Technology Alliance/TAPPI Industrial Liaison Committee Meeting USDA Forest Service,
Forest Products Laboratory, Madison, WI May 13-14, 2014

Papers Presented:

- Gardner, D. J., J. M. Genco, R. Jagels, and G. L. Simard. 1981. SEM-EDAX technique for measuring lignin distribution in pulp fibers. 31st Annual Pulp and Paper Open House. University of Maine at Orono.
- Gardner, D. J., and F. W. Taylor. 1983. A technique for observing the exterior morphology of intact vessel conduits. IAWA International Meeting, Madison, Wisconsin.
- Gardner, D. J., T. P. Schultz, and G. D. McGinnis. 1983. Lignin Pyrolysis. 186th American Chemical Society Meeting, Washington, D. C.
- Elder, T. J., D. E. Smith, and D. J. Gardner. 1987. Bonding surface activated hardwood flakeboard with phenol-formaldehyde resin. Advanced Technology Applications to Utilization of Eastern Hardwoods, East Lansing, Michigan.
- Gardner, D. J. and T. J. Elder. 1987. Surface activation treatments of wood and their effect on the gel time of phenol-formaldehyde resin. International Annual Meeting, Forest Products Research Society, Louisville, Kentucky.
- Gardner, D. J. and T. J. Elder. 1988. Properties of flakeboard from surface activated furnish bonded with phenol-formaldehyde resin. International Annual Meeting, Forest Products Research Society, Quebec City, P. Q. Canada.
- Gardner, D. J. 1988. Bonding flakeboard with phenol-formaldehyde resin in combination with fillers and extenders. Advanced Technology Applications to Eastern Hardwood Utilization, East Lansing, Michigan.
- Gardner, D. J. 1989. Evaluation of adhesives to bond Dymetrol fabric to wood substrates. "A look at a non-traditional spring support material". Adhesion in the Furniture Industry, Carolinas-Chesapeake Section, Forest Products Research Society, Greensboro, North Carolina.
- Gardner, D. J. 1989. Surface treatments and bonding of flakeboard. Wood Composites: Current Bonding Technology, Annual Meeting, Mid-south Section, Forest Products Research Society, New Orleans, Louisiana.
- Waage, S. K., D. J. Gardner and T. J. Elder. 1989. Thermal analysis of extended phenol-formaldehyde resins. 1989 International Symposium on Wood and Pulping Chemistry, Raleigh, North Carolina.
- Gardner, D. J. and D. Gunnells. 1990. Dynamic Wettability of Wood. Annual Meeting, American Chemical Society, Boston, Massachusetts.
- Gardner, D. J., J. C. Flowers, T. S. Elder and S. K. Waage. 1990. Bonding flakeboard with filled and extended phenol-formaldehyde resin. Wood Adhesives 1990, Forest Products Research Society, Madison, Wisconsin.
- Gardner, D. J., J. C. Flowers, T. J. Elder and S. K. Waage. 1990. Bonding flakeboard with filled and extended phenol-formaldehyde resin. Advanced Applications to Eastern Hardwood Utilization. East Lansing, Michigan.
- Gunnells, D., D. J. Gardner, and M. P. Wolcott. 1990. An improved adhesive system to bond dimensionally

- stabilized wood. Advanced Applications to Eastern Hardwood Utilization, East Lansing, Michigan.
- Wolcott, M. P., D. J. Gardner and S. Shaler. 1990. The role of cell wall cross linking in the dimensional stability of wood based composites. Advanced Applications to Eastern Hardwood Utilization, East Lansing, Michigan.
- Flowers, J. C., T. J. Elder and D. J. Gardner. 1990. Scanning electron microscopic investigation of clay, wheat flour and pecan shell flour filled phenol-formaldehyde resin-adhesives. International Annual Meeting, Forest Products Research Society, Salt Lake City, Utah.
- Gardner, D. J. 1991. Solid State Chemistry of Dimensionally Stabilized (Acetylated) Wood. 6th International Symposium on Wood and Pulping Chemistry, Melbourne, Australia.
- Gardner, D. J. and D. W. Gunnells. 1991. Dynamic Contact Angle Analysis of Wood. ISWPC Post-Symposium Workshop, Rotorua, New Zealand.
- Gardner, D. J. and D. W. Gunnells. 1991. Dynamic Contact Angle Analysis of Wood. International Annual Meeting, Forest Products Research Society, New Orleans, Louisiana.
- Englund, K. and D. J. Gardner. 1991. A study of waterborne preservative fixation in selected Appalachian hardwoods. International Annual Meeting, Forest Products Research Society, New Orleans, Louisiana.
- Gunnells, D. W., D. J. Gardner, and M. P. Wolcott. 1991. The effects of moisture content, temperature and aging on Dynamic Contact Angle analysis of wood. International Annual Meeting, Forest Products Research Society, New Orleans, Louisiana.
- Gardner, D. J., M. P. Wolcott, D. W. Gunnells and L. Amos. 1991. Structural changes in wood polymers during the pressing of wood composites. Cellulose '91, New Orleans, Louisiana.
- Gunnells, D. W., M. P. Wolcott and D. J. Gardner. 1992. Measuring the glass transition of wood using dynamic contact angle analysis. 66th Colloid and Surface Science Symposium. Morgantown, WV.
- Gunnells, D. W., D. J. Gardner, M. J. Chen and J. J. Meister. 1992. Alteration of the surface energy of wood using thermoplastic graft copolymers. ANTEC 1992, Detroit, MI.
- Gardner, D. J., M. P. Wolcott and D. W. Gunnells. 1992. Using dynamic contact angle analysis to study wood surface aging. International Annual Meeting, Forest Products Research Society.
- Liu, P. F., M. P. Wolcott and D. J. Gardner. 1992. Application of the microdebond test to lignocellulosic fibers. International Annual Meeting, Forest Products Research Society.
- Wolcott, M. P. D. J. Gardner, N. Generalla and S. Shaler. 1992. Diffusion of thermosetting adhesives in wood. International Annual Meeting Forest Products Research Society.
- Gardner, D. J. and M. Carpenter. 1992. Fixation/leaching behavior of CCA-C treated Appalachian hardwoods. International Annual Meeting, Forest Products Research Society.
- Gunnells, D. W., D. J. Gardner, M. J. Chen and J. J. Meister. 1992. Alteration of the surface energy of wood using thermoplastic graft copolymers. Fall Meeting, American Chemical Society, Washington, D. C.
- Gardner, D. J., M. P. Wolcott and D. W. Gunnells, 1992. Molecular response of wood surfaces to

- environmental influences. Pacific Rim Bio-based Composites Symposium, Rotorua, New Zealand.
- Gardner, D. J., M. P. Wolcott and U. Munipalle. 1992. Wood reinforced with pultruded fiber reinforced composites. Pacific Rim Bio-based Composites Symposium, Rotorua, New Zealand.
- Gardner, D. J. 1993. Fixation/Leaching Behavior of CCA Treated Wood. Environmental considerations in the use of pressure-treated wood products, Forest Products Society, Richmond, Virginia.
- Gardner, D. J., Z. Zhao, and J. J. Meister. 1993. Surface activity studies of lignin graft copolymers containing poly (methylmethacrylate) side chains. Fall Meeting, American Chemical Society, Chicago, IL.
- Gunnells, D. W., D. J. Gardner, M. J. Chen and J. J. Meister. 1993. Creating a hydrophobic surface by altering of the surface energy of wood using graft copolymers. Spring Meeting, American Chemical Society, Denver, CO.
- Chen, M.J., J.J. Meister, D. W. Gunnells and D. J. Gardner. 1993. Binding to a hydrophobic surface by altering of the surface energy of wood using graft copolymers. Spring Meeting, American Chemical Society, Denver, Co.
- Gardner, D. J., D. W. Gunnells, M. P. Wolcott. 1993. Chemical characteristics of short term aged wood surfaces. 67th Colloid and Surface Science Symposium, Toronto, Canada.
- Huang, Y. D. J. Gardner, and M. P. Wolcott. 1993. A study of the rate process of heat-induced inactivation of wood surface using dynamic contact angle analysis. 67th Colloid and Surface Science Symposium, Toronto, Canada.
- Wolcott, M. P. and D. J. Gardner. 1993. Recycled wood fiber-urethane composites. Polymer processing science meeting, Morgantown, WV.
- Gardner, D. J. and J. Slahor. 1994. Fixation of CCA in selected Appalachian hardwoods. Hardwood Research Council Meeting, Cashiers, NC.
- Gardner, D. J., and T. G. Rials. 1994. Inverse gas chromatography analysis of yellow-poplar wood. Forest Products Society, 48th Annual Meeting, Portland, ME.
- Knotts, D. F., J. P. Armstrong, D. J. Gardner. 1994. Assessment of water quality from dehumidification kilns. Forest Products Society, 48th Annual Meeting, Portland, ME.
- Wolcott, M. P., T. G. Rials, D. J. Gardner. 1994. Characterizing the interface in wood fiber/polymer composites. Forest Products Society, 48th Annual Meeting, Portland, ME.
- Liu, F. P., D. J. Gardner, M. P. Wolcott. 1994. A model for the prediction of polymer surface dynamic behavior Part I. Contact angle vs. polymer surface properties. 208th National ACS Meeting, Washington, DC.
- Liu, F. P., M. P. Wolcott, D. J. Gardner, T. G. Rials. 1994. Improving interfacial adhesion between wood fibers and thermoplastics: Study on examining chemically modified wood and polystyrene. 208th National ACS Meeting, Washington, DC.
- Gardner, D. J., F. P. Liu, M. P. Wolcott, and T. G. Rials. 1994. Improving interfacial adhesion between wood fibers and thermoplastics: a case study examining chemically modified wood and polystyrene.

- Second Pacific Rim Biobased Composites Symposium, Vancouver, Canada.
- Wolcott, M. P., J. Nassar, R. Ysbrandy, D. J. Gardner, and T. G. Rials. 1994. Recycled wood-fibre urethane composites. Second Pacific Rim Biobased Composites Symposium, Vancouver, Canada.
- Meister, J. J., M. J. Chen, F. F. Chang, A. Aranha, D. W. Gunnells, and D. J. Gardner. 1995. Surface activity and its determination in complex polymers of Forest Products. 209th National ACS Meeting, Anaheim, CA.
- Rials, T. G., M. P. Wolcott, F. P. Liu, and D. J. Gardner. 1995. Interfacial characteristics of wood fiber/polystyrene composites. 209th National ACS Meeting, Anaheim, CA.
- Gardner, D. J., M. P. Wolcott, L. Wilson, Y. Huang, and M. Carpenter. 1995. Our understanding of wood surface chemistry in 1995. Wood Adhesives 1995, Portland, OR.
- Gardner, D. J. and J. F. Diebel. 1995. Eastern Hemlock (*Tsuga canadensis*) Uses and Properties. Hemlock Ecology and Management Conference, Iron Mountain, MI.
- Gardner, D. J. 1996. Application of the Lifshitz-van der Waals/Acid-Base Approach to Determine Wood Surface Tension Components, Forest Products Society, 50th Annual Meeting, Minneapolis, MN.
- Wang, W. and D. J. Gardner. 1996. Investigation of Volatile Organic Compound Press Emissions From Wood Particleboard Furnish, Forest Products Society, 50th Annual Meeting, Minneapolis, MN.
- Shi, Q., D. J. Gardner, and J. Wang. 1997. Surface properties of automobile fluff particles characterized by inverse gas chromatography and contact angle analysis. 4th International Conference on Wood fiber-plastic composites, Madison, WI.
- Wang, W. and D. J. Gardner. 1997. Investigation of Volatile Organic Compound Press Emissions From Wood Particleboard Production, Forest Products Society, 51st Annual Meeting, Vancouver, BC
- McGinnis, G. D., J. Rughani, D. J. Gardner, J. R. Erickson, M. M. Bradley, and N. Stark. 1997. Webpage: Wood Processing air quality (WoodPAQ). Forest Products Society, 51st Annual Meeting, Vancouver, BC
- Gardner, D. J. 1997. Engineered wood composites for Naval waterfront facilities. Workshop on Utility Poles: Environmental Issues, Madison, WI.
- Gardner, D. J., W. T. Y. Tze, and Q. Shi. 1997. Surface energy characterization of wood particles by contact angle analysis and inverse gas chromatography. 5th North American Chemical Congress, Cancun, Mexico.
- Gardner, D. J. 1998. Emissions from hot-pressing. Pre-symposium Technical Workshop, The Science and Management of VOCs, 32nd International Particleboard/Composite Materials Symposium, Pullman, WA 1998.
- Mengeloglu, F., and D. J. Gardner. 1998. Flakeboard manufactured from CCA treated lumber: Evaluation of two different adhesives and comminution techniques. 32nd International Particleboard/Composite Materials Symposium, Pullman, WA..
- Walinder, M. and D. J. Gardner. 1998. Factors affecting contact angle measurements on wood particles by column wicking. International Symposium on Apparent and Microscopic Contact Angles. 216th American Chemical Society Meeting, Boston, MA.

- Shi, Q. and D. J. Gardner. 1998. Determination of contact angles for swelling polymer particles by the column wicking method. International Symposium on Apparent and Microscopic Contact Angles. 216th American Chemical Society Meeting, Boston, MA.
- Gardner, D. J., Q. Shi, and W. Tze. 1998. Comparison of acid-base characterization techniques on lignocellulosic surfaces. Which one is right? Second International Symposium on Acid-Base Interactions: Relevance to Adhesion, Newark, NJ.
- Gardner, D. J. 1999. Resin matrices used in fiber reinforced polymer composites. First International Conference on Advanced Engineered Wood Composites, Bar Harbor, ME, 1999.
- Wang, W., D. J. Gardner, and M. G. D. Baumann. 1999. Volatile organic compound hot-press emissions from southern pine furnish as a function of adhesive type. 1999 International Environmental Conference & Exhibit, Nashville, TN
- Gardner, D. J. 1999. Resin matrices used in fiber reinforced polymer (FRP) composites. 1st International Conference on Advanced Engineered Wood Composites, Bar Harbor, ME.
- Shi, S. Q., D. J. Gardner, and J. H. Zhao. 1999. Adhesion properties of components used in extruded wood fiber plastic composites. 1st International Conference on Advanced Engineered Wood Composites, Bar Harbor, ME.
- Tze, W. T. and D. J. Gardner. 1999. An attempt to predict bond strength of wood/polymer composites using surface energy data. 1st International Conference on Advanced Engineered Wood Composites, Bar Harbor, ME.
- Gardner, D. J., S. Q. Shi, W. T. Tze, and T. G. Rials. 1999. Contact angle determination of lignocellulosic fibers by column wicking measurements. 218th American Chemical Society Meeting, New Orleans, LA
- Shi, S. Q., and D. J. Gardner. 1999. Adhesive wettability of recycled creosote treated wood. 218th American Chemical Society Meeting, New Orleans, LA
- Tze, W. T. and D. J. Gardner. 1999. Effects of swelling treatments of fiber surface chemistry. 218th American Chemical Society Meeting, New Orleans, LA
- Hensley, J., R. Lopez-Anido, and D. J. Gardner. 2000. Adhesive Bonding of Wood with Vinyl Ester Resin. 23rd Annual Meeting of the Adhesion Society, Myrtle Beach, SC.
- Walinder, M. E. P. And D. J. Gardner. 2000. Factors influencing the determination of wood wettability: - extractives contamination, wicking, and bulk sorption effects. Second International Symposium on Contact Angle, Wettability and Adhesion, Newark, NJ.
- Zhao, J. H. and D. J. Gardner. 2000. Recycling creosote-treated wood in particleboard. Wood Adhesives 2000. Lake Tahoe, NV.
- Zhao, J. H. and D. J. Gardner. 2000. Volatile organic compounds from hot-pressing of particles containing creosote-treated wood. Wood Adhesives 2000. Lake Tahoe, NV.
- Gardner, D. J., W. T. Tze, and S. Q. Shi. 2000. Adhesive wettability of hydroxymethyl resorcinol (HMR) treated wood. Wood Adhesives 2000. Lake Tahoe, NV.

- Alexander, J. P., S. M. Shaler, and D. J. Gardner. 2000. Evaluating wood/FRP adhesive bond durability through chemical kinetics. Wood Adhesives 2000. Lake Tahoe, NV.
- Wood, K., E. Battles, D. J. Gardner, R. Lopez-Anido, and H. J. Dagher. 2000. Application of the short beam shear test for monitoring environmental aging effects on interfaces in fiber reinforced polymer composites. International Symposium on Interfaces in Polymer Composites, Newark, NJ.
- T. G. Rials, L. H. Groom, W. Tze, D. J. Gardner and R. Snell. 2001. Effect of refining on the surface characteristics of Loblolly pine fibers. 221st American Chemical Society National Meeting, San Diego, CA.
- Walinder, M and D. J. Gardner. 2001. Surface energy and acid-base properties of wood particles coated with styrene-acrylic acid copolymers. 221st American Chemical Society National Meeting, San Diego, CA.
- Tze, W. T., S. M. Shaler, D. J. Gardner, C. P. Tripp, and S. O'Neill. 2001. Interfacial adhesion studies of lignocellulose-fiber/polymer composites using the Raman microbond test. 6th International Conference on Woodfiber-plastic Composites, Madison, WI.
- Walinder, M and D. J. Gardner. 2001. Surface energy and acid-base characterization of components used for woodfiber-polymer composites. 6th International Conference on Woodfiber-plastic Composites, Madison, WI.
- Shi, S. Q., D. J. Gardner, D. E. Pendleton, and T. Hoffard. 2001. Timber production from reclaimed creosote-treated wood pilings: Economic analysis and quality evaluation. Forest Products Society 55th Annual Meeting, Baltimore, MD.
- Jiang, T., D. J. Gardner, and M. G. D. Baumann. 2001. Volatile organic compound emissions arising from the hot-pressing of mixed-hardwood particleboard. Forest Products Society 55th Annual Meeting, Baltimore, MD.
- Lopez-Anido, R., L. Muszynski, D. J. Gardner, and B. S. Goodell. 2001. Performance-based material evaluation methodology for FRP-glulam beams. Forest Products Society 55th Annual Meeting, Baltimore, MD.
- Elder, T. J., L. Groom, T. G. Rials, M. Davis, J. Bozell, W. Tze, D. J. Gardner, and T. E. Albrecht-Smith. 2001. Surface and material properties of medium density fiberboard furnish. Forest Products Society 55th Annual Meeting, Baltimore, MD.
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