

Douglas J. Gardner, Ph.D.
Professor of Wood Science
Department of Forest Management and
Advanced Engineered Wood Composites Center
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Professional Preparation:

University of Maine, B. S., Forestry, 1980
University of Maine, Certificate of Advanced Study, Pulp and Paper Management, 1981
Mississippi State University, Ph.D., Wood Science and Technology, 1985

Appointments:

Professor of Wood Science and Technology, University of Maine (2001-present)
Associate Professor of Wood Science and Technology, University of Maine (1998 – 2001)
Associate Professor, Institute of Wood Research, Michigan Technological University (1995-1998)
Associate Professor of Forestry, West Virginia University (1988 – 1994)

Publications (of 111 total; 71 refereed)

Publications Most Closely Related to the Proposed Work: (significant undergraduate involvement denoted with **)

1. *Lopez-Anido R, Gardner DJ, Hensley JL. 2000. Adhesive bonding of eastern hemlock glulam panels with E-glass/vinyl ester reinforcement. *Forest Products Journal*. 50(11/12):43-47.
2. *Lopez-Anido R, Gardner DJ, Hensley JL. 2000. New methods for bonding wood to E-glass/vinyl ester composites. *Adhesives Age*, November, 25-34.
3. Walinder MEP, Gardner DJ. 2002. Acid-base characterization of wood and selected thermoplastics. *Journal of Adhesion Science and Technology* 16(12):1625-1649.
4. Tze WT, Gardner DJ. 2001. Contact angle and IGC measurements for probing surface-chemical changes in the recycling of wood pulp fibers. *Journal of Adhesion Science and Technology* 15(2):223-241.
5. Tze WTY, Bernhardt G, Gardner DJ, Christiansen AW. 2006. X-ray photoelectron spectroscopy of wood treated with hydroxymethylated resorcinol. *International Journal of Adhesion & Adhesives* 26:550–554.

Other Significant Publications: (significant undergraduate involvement denoted with **)

1. *O'Neill S, Gardner DJ, Stephens KL. 2005. Reutilization of polyolefin float rope from lobster fisheries into wood-plastic composites. In: *Proceedings of The Eighth International Conference on Woodfiber-Plastic Composites*, Forest Products Society, Proceedings No. 7233 pp. 71-76.
2. Stokke D, Gardner DJ. 2003. Fundamental aspects of wood as a component of thermoplastic composites. *Journal of Vinyl and Additive Technology* Vol. 9, no 2, pp. 96-104.
3. Liu FP, Wolcott MP, Gardner DJ, Rials TG. 1994. Characterization of the interface between cellulose fibers and a thermoplastic matrix. *Journal of Composite Interfaces* 2(6):419-432.
4. Gardner DJ, O'Neill S, Peterson M, Robinson J. 2005. Application of flame treatment to promote structural adhesive bonds in wood-plastic composite laminates. In: *Proceedings of The Eighth International Conference on Woodfiber-Plastic Composites*, Forest Products Society, Proceedings No. 7233 pp. 173-178.
5. Lopez-Anido R, Muszyński L, Gardner DJ, Goodell B, Herzog B. 2005. Performance-based material evaluation of frp-wood interfaces in reinforced glulam members, *Journal of Testing and Evaluation*, ASTM Int., 33(6):1-10.

Synergistic Activities:

Co-developer of a graduate certificate program in Advanced Engineered Wood Composites at the University of Maine.

Participant in the development of outcomes based assessment accreditation standards and procedures for the Society of Wood Science and Technology. These standards are being used to accredit wood science programs in the United States.

Dr. Douglas J. Gardner
Professor of Wood Science and Technology
University of Maine

Taught a short course on wood-FRP composites at Beijing Forestry University, Beijing, China in December 2005.

Taught a short course on wood polymer composites at the University of Bodenkultur in Vienna, Austria in June 2006.

Collaborators:

Amirbahman, A., University of Maine
Bauman, Melissa, U.S. Forest Products Lab
Bernhardt, George, University of Maine
Christiansen, Alfred, U.S. Forest Products Lab
Dagher, Habib, University of Maine
Davids, William, University of Maine
Eisenheld, Leopold, Funder, Austria
Frazier, Charles, Virginia Tech
Goodell, Barry, University of Maine
Halteman, William, University of Maine
Herzog, Ben, APA, Tacoma, WA
Hofford, Theresa, U.S. Navy-NFESC
Hong, Yong
Jiang, Ting
Lopez-Anido, Roberto, University of Maine
Metaxas, Costas, BP Amoco, Illinois
Muszynski, Lech, Oregon State University
Pendleton, Dave, U.S. Navy-NFESC

Pirvu, A., Vancouver, British Columbia, CA
Qian, Yuhui, University of Maine
Shaler, Stephen, University of Maine
Shi, Sheldon, Mississippi State University
Son, Jungil, LG Chem, South Korea
Stehr, Michael, KTH Royal Institute, Stockholm, Sweden
Stokke, Doug, Iowa State University
Tascioglu, Cihat, Turkey
Tripp, Carl, University of Maine
Tze, William, University of Minnesota
Wallinder, Magnus, Tratek, Stockholm, Sweden
Wang, Wenlong, Vicor, Andover, MA
Wimmer, Rupert, Univesity fur Bodenkultur, Austria
Winistorfer, Paul, Virginia Tech
Wolcott, Michael, Washington State University
Yelle, Daniel, U.S. Forest Products Lab

Graduate and Postdoctoral Advisors:

Terry Sellers, Jr., Professor Emeritus, Department of Forest, Products, Box 9820, MS State, MS
Gary D. McGinnis, Assoc Vp, Res, Grad & Int , Illinois State University, Normal, Illinois
Thomas Elder , Research Forest Products Technologist, USDA-Forest Service, Southern Research Station, 2500 Shreveport Highway, Pineville, LA 71360

Thesis Advisor and Postgraduate-Scholar Sponsor:

Baptista, Diogo, J.M. Huber
Chen, Jianmin, University of Maine
Eisenheld, Leopold, Austria
Mills, Ryan, current student, UMaine
O'Neill, Shane, LDI Composites
Oporto, Gloria, current student, UMaine
Pirvu, Ciprian, Vancouver, British Columbia

Son, Jungil, Korea
Stehr, Micael, Stockholm, Sweden
Wallinder, Magnus, Stockholm Sweden
Tze, William, University of Minnesota
Zhang, Ting, Manchester, NH
Zhang, Zuelian, current student, UMaine

Total number of graduate students advised: 8

Total number of postdoctoral scholars sponsored: 5